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# PHASE II GROUNDWATER AND SOIL INVESTIGATION REPORT AT POLARIS PARK HOUSING SITES NSB NEW LONDON CT

1/1/2012

TETRA TECH

# PHASE II GROUNDWATER AND SOIL INVESTIGATION REPORT

**AT**

**POLARIS PARK HOUSING SITES**

**NAVAL SUBMARINE BASE - NEW LONDON**
**GROTON, CONNECTICUT**

**COMPREHENSIVE LONG-TERM**
**ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT**

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# 1.0 INTRODUCTION

This soil and groundwater investigation report was prepared under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract No. N62470-08-D-1001, Contract Task Order (CTO) WE56. The Statement of Work (SOW) for CTO WE56 directed Tetra Tech to develop a work plan to install a groundwater monitoring network to evaluate groundwater flow patterns and further refine the horizontal delineation of impacted groundwater from No. 2 fuel oil related constituents in soil and groundwater. Data collected during this investigation were compared to the applicable Connecticut Department of Energy and Environmental Protection (CT DEEP) Remediation Standard Regulations (RSRs) - Residential Direct Exposure Criteria (DEC) and Pollutant Mobility Criteria (PMC) for soil; and Ground Water Protection Criteria (GWPC), Surface Water Protection Criteria (SWPC), and Volatilization Criteria (VC) for groundwater at the Polaris Park Housing Sites near the Naval Submarine Base New London (NSB NLON) in Groton, Connecticut. This report presents a summary of the sampling data and provides recommendations for further action based on the data collected during sampling completed in June, July, and October 2011.

The purpose of this soil and groundwater investigation report is to present the findings of the soil boring and monitor well installation, and soil and groundwater sampling activities conducted in June, July and October 2011 at Polaris Park. This report includes the following sections:

- Section 1.0 provides an introduction and a description of the subject property.

- Section 2.0 provides a summary of all soil boring and well installation and groundwater sampling activities that were completed in June, July and October 2011.

- Section 3.0 presents the findings and analytical results from soil and groundwater samples collected in June, July and October 2011, with a comparison of results to the applicable Connecticut RSR criteria; and a preliminary risk screening evaluation, which includes an analysis of fate and transport and migration pathways and potential receptors.

- Section 4.0 provides conclusions based on the data collected during sampling, with recommendations for future action based on the requirements of Connecticut regulations.

Appendices are included to support the text of this monitoring report. **Appendix A** contains soil boring logs prepared during monitor well drilling activities; **Appendix B** contains monitor well construction logs; **Appendix C** contains monitor well development logs; **Appendix D** contains groundwater sampling log

sheets; **Appendix E** contains sample chain-of-custody forms; **Appendix F** contains full laboratory reports; **Appendix G** contains investigation derived waste (IDW) characterization and disposal paperwork; and **Appendix H** contains the data validation packages.

## 1.1 SITE DESCRIPTION

This section provides background information on the Polaris Park Site 6 area (hereafter referred to as "Polaris Park" or the "site"), a summary of previous environmental activities conducted at the site, a summary of the current environmental setting, and a discussion of the applicable regulatory guidelines that are applicable to the site.

### 1.1.1 Site Background Information

NSB NLON is located in Groton, Connecticut, on the east bank of the Thames River approximately 6 miles north of Long Island Sound (**Figure 1-1**). NSB NLON is the home port for attack submarines with the main base occupying more than 687 acres. An additional 530 acres are used for housing Navy families.

Polaris Park is located in Groton, Connecticut, approximately 54 miles southeast of Hartford, Connecticut. It is situated approximately 3,000 feet east of the Thames River along the west side of State Route 12 and approximately 0.5 mile south of the main NSB NLON complex (**Figure 1-1**). Thirty base housing structures within Polaris Park were demolished in 2009. As part of the demolition work, 21 underground storage tanks (USTs) were removed. The USTs were used to store No. 2 fuel oil (residential home heating oil). Evidence of residual petroleum hydrocarbons was detected in soil and observed in groundwater during the removal of the USTs at 4 of the 21 UST locations. These four locations include three former USTs from housing locations along Andrew Jackson Drive and one former UST from housing locations along Lafayette Drive (**Figure 1-2**).

Historically, the Site 6 area served as base housing. This area is currently at grade and unused since the residential related structures were demolished in 2009. However, the area surrounding Site 6 continues to serve as base housing. Future use plans for the Site 6 area include residential housing-related uses.

### 1.1.2 Previous Environmental Investigations at Subject Properties

In this section, a more detailed description of the removal actions performed to date at the four subject properties is provided.

Under contract to the Navy, Balfour Beatty Company retained Charter Environmental, Inc. (Charter Environmental) in 2009 to demolish selected housing units and to remove associated USTs. As previously stated, evidence of petroleum hydrocarbons were detected in soil and observed in groundwater at four of the excavated UST locations. The first impacted location where a UST was removed was 46-47 Lafayette Drive. This location slopes steeply to the east. This UST, a 2,000-gallon single wall steel tank that supplied fuel oil to the houses was removed in November 2008. Extractable total petroleum hydrocarbons (ETPH) were detected in the soil at concentrations exceeding the CT DEEP Residential DEC (500 parts per million [ppm]). The contractor removed approximately 1,200 cubic yards of soil and 20,000 gallons of oily water (believed to be groundwater seepage from the tank field). Under the existing contract, soil excavation was terminated and the excavation backfilled; however, residual contaminated soil was presumably left in place at that time.

In addition to this location, three other 1,000-gallon No. 2 fuel oil USTs were excavated from three locations along Andrew Jackson Drive. These USTs were located at 8, 11, and 12 Andrew Jackson Drive, respectively. A release of petroleum hydrocarbons was detected at each of these locations. Soil from each UST area was subsequently over-excavated of any apparent impacted soil and then backfilled to bring the area to grade. No detailed information regarding the excavation of the UST areas was provided in the Charter Environmental Report (2009). The report states only that the excavated UST areas were backfilled with crushed concrete (which was recycled during the demolition activities) in order to bring the areas back to grade level.

In 2010 a soil and groundwater investigation was conducted by Tetra Tech at the Site 6 area. Twenty soil borings and five monitor wells were installed to evaluate the presence and distribution of petroleum hydrocarbons in the previously excavated areas. The findings of the 2010 investigation indicated that the vast majority of impacted soils were removed during the excavation work and that the remaining residual levels of petroleum hydrocarbons in soils did not present a risk.

The findings of the 2010 groundwater investigation suggest that ETPH, benzene, and naphthalene concentrations measured in groundwater samples collected from these sites represent dissolved-phase contamination remaining from residual petroleum impacted soil that was not previously excavated back in 2009. However, given the limited area of impact and likely degradation of petroleum constituents, additional removal activities are not warranted at this time. Moreover, groundwater at these sites is not in compliance with Connecticut regulations. It was determined that additional groundwater monitoring and an evaluation of groundwater geochemistry would be needed to ascertain the potential amenability to biodegradation/natural attenuation of contaminants at the site.

Although groundwater at the site is not in compliance with the CTDEEP GWPC, the adjacent base housing units are all on a public water supply and not on private wells. Therefore, this risk pathway is not

complete and can be eliminated. However, any future redevelopment of the site for base housing would require connecting into the current public waterline. As discussed previously, the site is located greater than one mile from the nearest “contributing to public water supply” (wellhead protection zone), which is located approximately 1.25 mile to the north near Flat Brook Pond.

The previous well network installed as part of the 2010 soil and groundwater investigation was biased toward specific UST areas; consequently no groundwater contour map could be prepared due the geographic spacing of the wells. Therefore, eight additional monitor wells were installed in June 2011 so that a comprehensive site wide groundwater monitoring network could be established that will allow for the evaluation of groundwater flow patterns at the site and to further refine the horizontal delineation of any impacted groundwater.

## 1.2 ENVIRONMENTAL SETTING

This general description of the site’s environmental setting is based on the findings of this field investigation, a review of topographic maps, geological and hydrogeological literature available for the site and vicinity, and information obtained from review of other environmental investigations previously conducted nearby the site. Geological data collected during boring advancement and well installation activities conducted in May 2010 and June 2011 are described in Section 2.3.1.

### 1.2.1 Site Topography

The general topography of UST areas 8, 11 and 12 is relatively level with a gentle slope to the east toward CT Route 12. The topography of the UST area located along Lafayette Drive is more steeply sloping to the east toward Andrew Jackson Drive and Route 12. Surface water runoff in the site area is expected to coincide with topography and flow to the east toward CT State Route 12. Previous environmental documents reviewed for this project do not indicate any sensitive surface water receptors near Site 6, other than the Thames River. However, given the proximity of the site to the river, the existence of sensitive receptors cannot be ruled out based on the lack of available information.

### 1.2.2 Surficial Geology

According to the Geologic Map of the Uncasville Quadrangle, Connecticut: Surficial Geology (Goldsmith, 1960), the native surficial materials within the area occupied by the Polaris Park Housing Sites consist of glacial materials, specifically moraine deposits consisting of till varying from light-grey sandy gravelly till to a compact, gray fissile till containing more silt and clay size particles. See Section 2.3.1 for a detailed description of materials observed during this investigation.

### 1.2.3 Bedrock Geology

According to the Bedrock Geological Map of Connecticut, the Mamacoke Formation underlies the Polaris Park area. The Mamacoke Formation consists of inter-layered light to dark gray, medium-grained gneiss and Potter Hill Granite Gneiss, a light-pink to gray, tan weathering, fine- to medium-grained, well-foliated granitic gneiss (CGNHS, 1990). Bedrock was not encountered during the UST removal in 2009, or during the 2010 and 2011 subsurface investigation.

### 1.2.4 Site Hydrology

Groundwater elevation measurements were collected by Tetra Tech during the 2010 and 2011 groundwater monitoring events at Polaris Park. The elevation data suggest that groundwater flow at the site is generally eastward toward CT Route 12, consistent with the topographic contours of the site. Groundwater depths were observed to range from 3 to 15 feet below ground surface. Groundwater levels measured in October were shallower than the measurements collected in July, most likely due to heavy rains in Connecticut during the late summer and early autumn of 2011. These data are discussed further in Section 3.0 of this report.

#### 1.2.4.1 Groundwater Classification

Groundwater beneath a small section of Polaris Park located along the southern part of Jackson Drive is classified by CT DEEP as GAA. The remainder of the Polaris Park Site 6 area is classified as GA. The GAA classification applies to groundwater that may be used as a current or future public water supply suitable for drinking without treatment, or that is hydraulically connected to a surface water body that is used as a drinking water supply. Class GA designated uses apply to existing private and potential public or private supplies of water suitable for drinking without treatment; base flow for hydraulically connected surface water bodies.

The CT DEEP has developed risk-based numerical criteria for the remediation of contaminated soil and groundwater. These criteria were promulgated in the CT DEEP Remediation Standard Regulations (RSRs) (CTDEP, 1996, 2007(Draft). The RSRs provide numerical threshold concentrations for selected environmental contaminants (termed “polluting substances”) below which soil and groundwater are considered sufficiently remediated.

The analytical results for the soil and groundwater samples collected as part of this investigation were compared against the CT DEEP RSRs (Residential Direct Exposure Criteria [DEC] and Pollutant Mobility

Criteria [PMC] for soil samples; and the Groundwater Protection Criteria [GWPC], Surface Water Protection Criteria [SWPC], and Volatilization Criteria [VC] for groundwater samples). A brief description of each of these RSRs follows.

- DEC (Residential) – These criteria are intended to be protective of residential activity that takes place in an area where there is polluted soil as a result of a release. At the Polaris Park Housing Sites, the DEC applies to soil less than 15 feet below ground surface since there are currently no Environmental Land Use Restrictions on the sites.

- PMC – These criteria are intended to be protective of groundwater and drinking water within a specific groundwater classification area with respect to the type(s) and quantity of pollutants present within the classification area. PMCs are only applicable to soils above the seasonal low water table.

- GWPC (GAA/GA) – These criteria are intended to be protective of groundwater that is used as a drinking water source and for other domestic uses.

- SWPC – These criteria are intended to be protective of surface water that is subjected to discharges from groundwater plumes.

- VC (Residential) – These criteria are intended to protect the occupants of buildings or future buildings from the migration of volatile organic compounds (VOCs) from contaminated groundwater into indoor air of a building or other permanent structure. The specific criteria used for this site are the 2003 Volatilization Criteria for residential sites (Residential VC). There is no VC for ETPH; however, there is VC for BTEX and Methyl Tert Butyl Ether (MTBE), which are part of the volatile petroleum hydrocarbons (VPH) analysis for groundwater.

In Section 3.0 the data collected during soil and groundwater sampling in 2010 are compared to these RSR criteria.

#### 1.2.4.2 Surface Water Classification

The surface water classification of Beaverdam Brook, the nearest surface water body located approximately 0.5 mile to the south and southeast (downgradient) of the Polaris Park, is AA. The AA classification indicates that the surface water present in this area may be used as an existing or proposed drinking water supply, a fish and wildlife habitat, for recreation, or as a supply for agricultural and industrial applications.

Surface water quality standards are intended to protect the existing use of a surface water body, wetland, or intermittent stream into which groundwater discharges. These criteria apply to the surface water found where the site abuts the Beaverdam Brook wetlands to the east and southeast. The CT DEEP SWPC criteria applied to the data collected during surface water monitoring are the human health standards for consumption of organisms only (HH COO) and for the consumption of water and organisms (HH COWAO) provided in Appendix D of the Connecticut Water Quality Standards (CTDEP, 2009 Draft).

# 2.0 FIELD INVESTIGATION

This section describes the field investigation activities performed by Tetra Tech at the Polaris Park site during the period of June, July and October 2011. The investigation was conducted in a manner consistent with the requirements of the Site CT DEEP Characterization Guidance Document.

## 2.1 MOBILIZATION

Tetra Tech and the drilling subcontractor, Geosearch, Inc. mobilized to the site on June 13, 2011. Geosearch constructed a decontamination pad prior to advancing any soil borings. Geosearch also mobilized a vacuum truck on June 13, 2011, to assist with utility clearance at all boring locations. The procedure, also referred to as 'soft dig' removes the first several feet of ground via a hose or pipe under a high vacuum. This procedure is less invasive and can help to prevent digging or drilling through existing utilities. Tetra Tech and Geosearch demobilized from the site on June 23, 2011.

## 2.2 DRILLING ACTIVITIES

Tetra Tech advanced a total of 8 soil borings at the Polaris Park Site 6 during June 2011 to evaluate soil conditions and install a groundwater monitoring network at the site. These borings (SB-21 through SB-28) were advanced to depths between 15 and 33 feet below ground surface (ft bgs) using truck-mounted hollow-stem auger (HSA) drilling rigs. Three of the borings were completed using a Rollerbit because the hollow-stem augers encountered refusal. Refusal was encountered between 9 feet and 26 feet bgs at these locations. All of the soil borings were completed as 2-inch monitor wells.

Soil samples were collected at each boring in order to classify the lithology, obtain an estimated depth to the water table and provide general environmental observations (discoloration, odors, elevated photo-ionization detector [PID] screening levels, etc.,). All soil samples were collected from 2-foot length stainless steel split-spoons and were screened by jar headspace methods.

Monitor well locations are depicted on **Figure 1-2.**

## 2.3 SUBSURFACE SOIL SAMPLING

### 2.3.1 Methods, Materials, Equipment

Samples were collected during boring advancement at selected intervals between the ground surface and the top of the water table (encountered at depths ranging from less than 5 to 24 feet bgs across the site) using a 24-inch long, 2-inch inside diameter (I.D.) split-barrel sampler. Two samples were collected for laboratory analysis from each boring; one at or near the water table and the other from the zone with the greatest evidence of apparent impact based upon PID readings, visual and/or olfactory indicators. For non-volatile samples (ETPH) the samples were composited from each 2-foot interval using a disposable soil spatula and then homogenized/mixed on pieces of aluminum foil or in a disposable aluminum pan (both disposed of between sample intervals) prior to adding to the laboratory glassware. Samples for volatiles analysis were collected as grab samples from discrete zones within the split-spoon sample.

Each soil sample was field screened for the presence of organic vapors immediately upon collection using the jar headspace technique in accordance with the Polaris Park Site 6 Implementation Plan (TtNUS, 2009). The field screening results indicated organic vapor concentrations ranging from between 0.0 parts per million by volume (ppm/v) to 2,957 ppm/v. Field screening readings above 5.0 ppm/v were detected in at least one depth interval in soil borings SB-21, SB-23, SB-24, SB-25, and SB-26. The highest field screening readings were detected in soil samples collected from the 14 to 16 and 24 to 26-foot bgs intervals at location SB-26. A summary of the field screening readings greater than 5.0 ppm/v is provided as **Table 2-1**.

Physical characteristics of soil samples collected from each depth interval were described consistent with the Universal Soil Classification System (USCS) and recorded on soil boring log sheets. Inspection of soil samples collected from soil borings advanced during this investigation indicate that materials underlying the four sites along Andrew Jackson Drive consist primarily of fine to coarse sands with varying amounts of weathered granite and gravel, which is generally consistent with surficial geologic maps published for the area. All four sites along Andrew Jackson Drive were similar in nature. Materials underlying the four sites along Lafayette Drive were observed to consist primarily of fine to medium sands with varying amounts of weathered granite and gravel. The sites along both Andrew Jackson Drive and Lafayette Drive were very similar with high blow counts and weathered rock observed throughout the site. Soil boring log sheets (including all field screening readings) are provided in **Appendix A**. A summary of the lithology by boring location is provided as **Table 2-2**.

### 2.3.2 Sample Handling, Lab Methods, QA / QC

Eighteen soil samples (including two field duplicates) were collected during boring installation. The samples were analyzed for ETPH by the Connecticut DEEP Method, and BTEX and MTBE by EPA Method 8260B. All soil samples were chilled to 4$^{o}$C. In addition, BTEX samples were preserved with methanol and sodium bisulfate or deionized water (and frozen). All samples were submitted under chain-of-custody to Mitkem Laboratories in Warwick, Rhode Island, a Navy and state approved laboratory. Proper chain-of-custody procedures were adhered to throughout the investigation.

## 2.4 MONITOR WELL INSTALLATION AND CONSTRUCTION

All of the soil borings were completed as groundwater monitor wells. Monitor wells were constructed of 2-inch inside diameter (I.D.) Schedule-40 polyvinyl chloride (PVC) screen and riser. Monitor well screens ranged from 10 feet to 15 feet in length with a slot size of 0.020-inch. All well screens were fitted with a PVC end plug. Initial determination of the depth to water table was made by visual observation of soil moisture content in the split-spoon samples recovered from the soil borings. All monitor wells were installed so that approximately 2 to 3 feet of the well screen was placed above the water table.

A sand filter pack was placed into each borehole to a depth of approximately 1 or 2 feet above the top of the well screen. A 1- to 2-foot thick bentonite seal was placed above the filter pack. All monitor wells were completed with flush-mounted steel protective casings surrounded by 2-foot square concrete surface seals. Details pertaining to well construction are documented on the monitor well construction log sheets attached in **Appendix B**. A summary of monitor well construction details is provided as **Table 2-3**.

## 2.5 MONITOR WELL DEVELOPMENT

After installation, each new monitor well was developed by over-pumping methods using a submersible pump. Temperature, pH, turbidity, and specific conductivity were monitored during well development using a Horiba U-52 water quality indicator. These measurements were monitored to assess stabilization and ensure that the well has been sufficiently developed. Monitor wells MW-06, MW-07, MW-08, MW-12 and MW-13 were developed until the turbidity measurements were less than 50 NTU and the water was observed to be clear and colorless. Wells MW-10 and MW-11 went dry after several pumping attempts, and MW-09 development stopped after 1-3/4 hours (~100 gallons) because the groundwater remained silty. Temperature, pH, and conductivity were all stable during MW-09 development. Well development data sheets providing the volume of water extracted and water quality measurements are provided in **Appendix C**.

## 2.6 SURVEYING

After the installation of monitor wells was complete, Tetra Tech contracted CME Associates, Inc. of Woodstock, CT, to conduct a survey of the horizontal coordinates of all soil borings and vertical elevation of the eight monitor wells. The horizontal coordinate location (i.e., northing and easting) of each monitor well was surveyed to the nearest 0.1 foot. Monitor wells were surveyed for horizontal location in the center of the protective casing for the flush-mount lid. Horizontal locations were referenced to the Connecticut State Plane Coordinate System (SPCS), North American Datum of 1983 (SPCS NAD 83). Vertical elevations of each monitor well were surveyed to the nearest 0.01 foot. Vertical locations (elevations) were referenced to North American Vertical Datum of 1988 (NAVD 88).

## 2.7 GROUNDWATER SAMPLING

Tetra Tech completed two groundwater monitoring events — one in July 2011 and the second in October 2011. During each event, groundwater level measurements were collected and groundwater samples were collected for laboratory analysis. A summary of the groundwater elevation data for each event is provided as **Table 2-4**.

### 2.7.1 Methods, Materials, and Equipment

Groundwater samples were collected from the new and previously installed monitor wells using the EPA "low flow" purging and sampling procedure (EPA SOP No. GW-001 [EPA, 1996]), as described in the project Sampling and Analysis Plan (Tetra Tech, 2010). The samples were collected using a peristaltic pump. Water quality data was collected using an YSI water quality meter or the InSitu TROLL 9500 water quality meter. A summary of the water quality data during well purging activities at each well is provided on the groundwater sample log sheets in **Appendix D**. Groundwater quality parameters measured immediately prior to sample collection are summarized on **Table 2-5**.

### 2.7.2 Sample Handling, Lab Methods, QA / QC

Fourteen groundwater samples (including one field duplicate groundwater sample) were collected during each groundwater sampling event. All groundwater samples were chilled to 4°C; in addition, VPH samples were preserved with hydrochloric acid and submitted under chain-of-custody to Mitkem Laboratories in Warwick, Rhode Island, using the Massachusetts DEP (MA DEP) Method for analysis of VPH and using the Connecticut DEEP (CT DEEP) Method for analysis of ETPH. A copy of the chain-of-custody forms is provided as **Appendix E**. A copy of the laboratory analytical data packages is provided as **Appendix F**.

## 2.8 INVESTIGATION DERIVED WASTE MANAGEMENT

Investigation derived waste (IDW) generated during subsurface investigation and groundwater monitoring activities completed between June and October 2011 included soil cuttings and decontamination fluids, well development water, and purge water generated during groundwater sampling. Solid and liquid IDW was collected and containerized into 55-gallon steel drums and staged at the site. Samples were collected from the drums in order to characterize the wastes for off-site disposal. Once characterized, the waste liquids were disposed of in accordance with state and federal requirements.

Tetra Tech contracted with New England Disposal Technologies, Inc., (NEDT), a licensed hazardous waste transportation and disposal subcontractor, to collect samples of the IDW for characterization and disposal. Laboratory analytical results of waste characterization samples indicated that all IDW generated during the investigation was suitable for disposal as non-hazardous waste. A total of 15 drums of solid IDW and 11 drums of liquid IDW were characterized and disposed for this project. The drums were removed from the site on October 12, 2011 for final disposition. Waste characterization profiles and non-hazardous waste manifests for IDW drums generated during the project are provided in **Appendix G**.

# 3.0 FINDINGS

This section presents the analytical results for the soil and groundwater samples collected during the investigation and compares these results to the applicable CT DEEP RSRs. The analytical data results were specifically compared against the CT DEEP Soil DEC, the GWPC, the SWPC and VC in order to assess potential risks to human health associated with contamination detected in soil and groundwater samples.

## 3.1 QUALITY ASSURANCE/QUALITY CONTROL

An EPA Region I Tier 3 data validation was performed on the soil and groundwater analytical data obtained during the investigation. The data validation procedures include checking chain-of-custody records for sampling, shipping, analyses, and reporting information for completeness.

The data validation of the soil and groundwater analytical data generated as part of this investigation was performed by Tetra Tech. Data validation was completed on September 9, 2011, for soil samples (Sample Delivery Groups [SDG] K1059 and K1100). Data validation was completed on September 9, 2011, for July groundwater data (SDG K1283). Data validation for the October groundwater samples was completed on December 23, 2011 (SDG 2139). Based upon the validation results, there are no usability issues concerning the soil or groundwater data. A copy of the laboratory analytical data packages is provided as **Appendix F**. A copy of the data validation packages is provided as **Appendix H**.

The data obtained during this investigation also comply with the CT DEEP 2007 Reasonable Confidence Protocols (RCP) and are determined to be of sufficient quality to be used to evaluate compliance with the applicable regulatory criteria:

- Soil and groundwater samples were collected from all planned locations, resulting in 100 percent completeness for the proposed sampling.

- Quality assurance/quality control (QA/QC) samples collected during the sampling included four field duplicate samples (two soil and two groundwater), six trip blanks, and one equipment rinseate.

- Field duplicate samples were collected to assess the precision of the overall sampling and analysis process. The following conditions indicate acceptable field precision for aqueous samples:

(1) When both results are positive and their relative percent difference is less than 30 percent;
(2) When both results are positive and the results are less than twice the quantitation limit;
(3) When one result is positive the other is non-detect, and the positive result is less than twice the quantitation limit; and
(4) When both results are non-detects.

The positive results for ETPH in the soil sample field duplicate pair 06SB24-1921-20110615 and 06SBDUP02-20110615 were qualified with a “J” due to field duplicate imprecision of more than 50% for ETPH.

The positive VOC results for soil samples 06SB26-1416-20110617 and 06SB26-2426-20110617 were qualified as estimated (“J”) due to high surrogate recovery of bromofluorobenzene.

All ETPH soil results for 06SB27 and 06SB25 were qualified as estimated (“J”) or (“UJ”) due to re-analysis results outside of acceptable holding time.

- An equipment rinseate sample was collected to assess the accuracy and contamination bias of the overall sampling and analysis process. The acceptable condition for field accuracy is no target compounds greater than or equal to quantitation limits.

- The four trip blanks collected during this investigation were analyzed for VOCs. There were no detections in the trip blank analytical results.

- For groundwater samples collected in July 2011, all positive results for the aliphatic and aromatic hydrocarbons were qualified as non-detected (U) due to blank contamination. Positive results reported below the quantitation limit but above the method detection limit were qualified as estimated (J). All VPH samples except the sample collected from MW03 were analyzed at 5X dilution; the sample collected from MW03 was analyzed at 10X dilution. It should be noted that, due to elevated laboratory dilution, the detection limit for the VPH samples was 5 ug/L, which is above the RSR of 1 ug/L.

- For groundwater samples collected in October 2011, all positive results for C5-C8 Aliphatic Hydrocarbons and C9-C10 Aromatic Hydrocarbons less than the blank action level were qualified as not detected (U) due to blank contamination. All VPH results were diluted 5X. It should be noted that, due to elevated laboratory dilution, the detection limit for the VPH samples was 5 ug/L, which is above the RSR of 1 ug/L. All positive results reported below the quantitation limit but

above the method detection limit (MDL) were qualified as estimated (J). Non-detected ETPH results were reported to the limit of detected (LOD), and VPH target analytes were reported to the MDL.

## 3.2 SOIL ANALYTICAL RESULTS

Eighteen samples were collected and analyzed for ETPH and BTEX during the 2011 investigation. The compounds detected in the soil samples collected during the investigation are summarized in **Table 3-1**. Compounds detected at concentrations greater than the applicable CT DEEP RSR criteria are highlighted in black. Sampling locations for both the 2010 and 2011 investigation are depicted on **Figure 3-1.** Figure 3-1 also includes data collected during the 2010 investigation.

The analytical results from the 2011 drilling event indicate that four samples from three boring locations exceed the CT DEEP RSR DEC (500 milligrams per kilogram [mg/kg]) and PMC (500 mg/kg) for ETPH. The results are discussed in the following sections.

A copy of the laboratory analytical data packages is provided as **Appendix F**.

### 3.2.1 Jackson Drive Results (SB-21 thru SB-23; SB-28; MW-06 through MW-08 and MW-13)

ETPH was detected above the action level from one sample in the 4 borings installed along Jackson Drive in 2011. ETPH was detected at a concentration of 1,900 mg/kg in the sample from SB-21 at a depth of 17 to 19 ft bgs. Depth to water was measured at 13.83 ft bgs during boring installation and 14.69 ft bgs during the July 2011 groundwater sampling. A figure with highlighted exceedances is provided as **Figure 3-1.**

Samples collected from SB-28, SB-22, and SB-23 ranged from depths of 5 to 25 ft bgs. All analytical results for these samples were non-detect.

### 3.2.2 Lafayette Drive Results (SB-24 thru SB-27; MW-09 thru MW-12)

ETPH was detected above the applicable RSRs in three samples collected from two locations along Lafayette Drive in June 2011. ETPH was detected above the RSR in soil samples collected from SB-26 at depths of 14 to 16 ft bgs and 24 to 26 ft bgs, and in boring SB-25 at a depth of 18 to 20 ft bgs. In addition, three VOCs (ethylbenzene, xylenes and toluene) were detected at levels below the RSRs from SB-26 at depths of 14 to 16 ft bgs and 24 to 26 ft bgs. On July 20, 2011, depth to water was measured at

27.13 ft bgs for MW-10 (SB-25) and 18.98 ft bgs from MW-11 (SB-26). All other analytical results for all other samples were non-detect (less than the laboratory RQL or the applicable CT DEEP RSR).

## 3.3 GROUNDWATER INVESTIGATION RESULTS

Groundwater samples were collected from the five existing monitor wells and eight new monitor wells in July and October 2011. Groundwater samples were analyzed for VPH and ETPH. The compounds detected in the groundwater samples collected during the investigation are summarized in **Table 3-2**. Compounds detected at concentrations greater than the applicable CT DEEP RSR criteria are highlighted in black. Sampling locations are depicted on **Figure 3-2**. In addition, groundwater sample results collected in June 2010 are also depicted on Figure 3-2.

Groundwater contour maps were constructed to depict the approximate groundwater flow directions at the Polaris Park Site 6 area during the two 2011 groundwater sampling events. Based upon groundwater elevation measured on July 20, 2011, and October 24, 2011, the apparent groundwater flow is from the west to east. The wells added in 2011 were used to enhance the overall interpretation of groundwater flow across the site. In addition, it is clear that when factoring in the surface topographic contours of the site (USGS Uncasville, CT Quadrangle map) the shallow groundwater flow is to the east toward CT Route 12 (away from the Thames River). Groundwater contour maps for the July and October sampling events are provide as **Figures 3-3** and **Figure 3-4**, respectively.

### 3.3.1 July 2011 sampling Event Results

During the July 2011 groundwater sampling event, the most frequently detected constituent in the groundwater samples collected from the Polaris Park Site was ETPH (11 of 13 well locations). VOCs (part of VPH analysis) were detected in two of the thirteen wells sampled at levels above RSR criteria. There is no CT DEEP RSR for VPH; however, the specific individual compounds were compared to applicable criteria.

Groundwater sampling results were compared against the CT DEEP RSR GWPC, SWPC, and Residential VC. There were no exceedances of the Residential VC. Compounds detected in groundwater samples at concentrations exceeding the CT DEEP GWPC included ETPH and benzene. Naphthalene was detected at concentrations exceeding the CT DEEP Residential VC.

#### 3.3.1.1 Jackson Drive Results

ETPH was detected at concentrations above the GWPC criteria (0.1 mg/L) in groundwater samples from all wells located along Jackson Drive (MW01, MW02, MW03, MW06, MW07, and MW13).

Benzene was detected above the RSR (1 ug/L) at one location (MW-03) at a concentration of 24.3 ug/L. The remaining samples were less than the laboratory detection limit for benzene. However, the detection limit in the remaining samples was 5 ug/L, which is higher than the RSR of 1 mg/L. The elevated detection limit is a result of 5X laboratory dilutions.

Naphthalene was detected at concentrations exceeding its SWPC (24 µg/L) in the groundwater samples collected from MW-01 and MW-03. Additionally C9-C12 chain aliphatics were also detected in these wells. There is no RSR for C9-C12 chain aliphatics.

#### 3.3.1.2 Lafayette Drive Results

ETPH was detected at concentrations exceeding the GWPC (0.1 mg/L) in the groundwater samples collected from wells MW04, MW08, MW09, MW10, and MW11.

Benzene and naphthalene were not detected above criteria in groundwater from any of the wells located on Lafayette Drive. Please note that the detection limit for benzene is higher than the RSR due to laboratory dilutions.

The location of monitor wells in which ETPH, benzene, and naphthalene concentrations were detected at levels exceeding CT DEEP regulatory criteria are highlighted on **Figure 3-2**. No other compounds detected in groundwater samples exceeded the CT DEEP GWPC, SWPC, or VC.

A copy of the laboratory analytical data packages is provided as **Appendix F**.

### 3.3.2 October 2011 Sampling Event Results

During the October groundwater sampling event, the most frequently detected analyte in the groundwater samples collected from the Polaris Park Site was ETPH (12 of 13 well locations). VOCs (part of VPH analysis) were detected in two of the thirteen wells sampled at levels above RSR criteria. As mentioned previously, there is no CT DEEP RSR for VPH; however, the specific individual compounds were compared to applicable criteria.

Groundwater sampling results were compared against the CT DEEP RSR GWPC, SWPC, and Residential VC. There were no exceedances of the Residential VC. Compounds detected in groundwater samples at concentrations exceeding the CT DEEP GWPC included ETPH and benzene. Naphthalene was detected at concentrations exceeding the CT DEEP Residential VC.

#### 3.3.2.1 Jackson Drive Results

ETPH was detected at concentrations exceeding the GWPC (0.1 mg/L) in the groundwater samples collected from all 6 monitor wells along Jackson Drive (MW01, MW02, MW03, MW06, MW07, and MW13).

Benzene was detected above the RSR (1 ug/L) at one location (MW-03) at a concentration of 34.5 ug/L. However, it should be noted that the detection limit (1.3 ug/L) during this sampling event was higher than the RSR (1 ug/L).

Naphthalene was detected at concentrations exceeding its SWPC (24 µg/L) in the groundwater samples collected from MW-01 (128 ug/L) and MW-03 (155 ug/L). Additionally C9-C12 chain aliphatics were also detected in these wells. There is no criterion for C9-C12 chain aliphatics.

#### 3.3.2.2 Lafayette Drive Results

ETPH was detected at concentrations exceeding the GWPC (0.1 mg/L) in the groundwater samples collected from wells MW04, MW05, MW08, MW09, MW10, and MW11.

Benzene and naphthalene were not detected above criteria in groundwater samples from monitor wells along Lafayette Drive. Please note that the detection limit for benzene is higher than the RSR due to laboratory dilutions.

The location of monitor wells in which ETPH, benzene, and naphthalene concentrations were detected at levels exceeding CT DEEP regulatory criteria are highlighted on **Figure 3-2**. No other compounds detected in groundwater samples exceeded the CT DEEP GWPC, SWPC, or VC.

## 3.4 PRELIMINARY RISK CHARACTERIZATION

Based upon the additional data acquired during the 2010 soil and groundwater investigation, the original Conceptual Site Model (CSM) was updated to reflect this newly acquired information and is discussed below. This updated CSM was used to develop the preliminary risk characterization for the site in 2010.

The data acquired during the 2011 soil and groundwater sampling confirms that the revised 2010 CSM prepared for the Polaris Park site is still valid. A depiction of the CSM is provided as **Figure 3-5**.

### 3.4.1 Sources and Potential Contaminants

The objective of this soil and groundwater investigation was to assess the extent of environmental impact associated with the historic release of No. 2 fuel oil-related constituents to the subsurface. The nature of the contamination was previously documented as No. 2 fuel oil used to heat the former residential structures located in the Site 6 area that were demolished in 2009. The horizontal and vertical extent of soil contamination had not been fully delineated at that time. The findings of the 2010-2011 field and analytical data support the premise that the residual soil and groundwater contamination at the site appears to be limited to petroleum hydrocarbon constituents associated with the No 2 fuel oil and that these constituents appear to be limited in extent. No product staining was observed in any of the soil borings or soil samples collected; however, strong petroleum-like odors and elevated PID readings were observed at several borings. A slight sheen indicative of residual contamination was also observed at each of the UST locations, where monitor wells were installed in 2010 and 2011.

The USTs excavated as part of the previous work were documented to be 1,000- and 2,000-gallon capacity, single wall steel USTs with associated piping. The 2009 Demolition Completion Report prepared by Charter Environmental documented the removal of these tanks and the associated piping. However, no specific information was available in the report relating to the size of the tank excavations and the degree of over-excavation (for any petroleum-impacted soils encountered); the presence of groundwater within the excavations is also not discussed. The results of the 2010 soil and groundwater investigation indicate that the vast majority of impacted soils were excavated from the site, but that there remain several areas limited in extent in which some residual petroleum impacted soils remains (8, 11 and 12 Andrew Jackson Drive, respectively).

Impacted groundwater at the site monitor wells appears to be associated with partitioning of residual soil contamination of the vadose (unsaturated zone) most likely associated with fluctuating groundwater levels. Groundwater exceedances detected in the monitor wells installed in 2010 were located within former UST excavations (MW01 through MW05).

### 3.4.2 Contamination Migration Pathways

Soil at the site consists primarily of widely-graded sand and gravel historically used to develop the base housing area. At locations drilled in 2010 and 2011, soil also consisted of material used to backfill the UST post-excavation areas in 2009. A review of soil boring logs generated during this investigation indicates that the “native” subsurface geologic materials at the site (beneath the fill) consist of glacial till-like materials composed of poorly-graded sands and silts with angular to sub-angular gravels overlying

weathered granite grading to competent bedrock. A review of the boring logs indicates that the materials encountered during the soil boring installation appear to exhibit a relatively low permeability. This is based partly on the high blow counts encountered during the split-spoon sampling at the majority of the boring locations along with a review of the lithology which suggest that the materials are glacial till like in appearance and composition consistent with published reports on the local geology. Further, the concentrations of site constituents detected in soil appear to decrease with depth.

Contaminated soil within the saturated zone appears to be partitioning off of soil and traveling by advective forces with the groundwater gradient. Any light non-aqueous phase liquids (LNAPL), such as floating oil, are expected to rise to the potentiometric surface and fluctuate with groundwater levels over time creating a smear zone that could serve as ongoing source for dissolved phase contaminant migration. Although LNAPL was not observed during the groundwater sampling, sheen was observed in the water purged from several of the wells sampled during the investigation. However, any contamination in the soil above the groundwater interface would likely be limited in mobility and thus unlikely to migrate. Additionally, based on the chemical concentrations, it is unlikely that LNAPL is present.

*Other Groundwater Pathways*

Although there are several exceedances of the CT DEEP GWPC, the groundwater analytical results for BTEX and MTBE (part of the VPH analysis) are all below the CT DEEP Volatilization Criteria, and thus this pathway is eliminated from future investigation. There is no VC Criteria for ETP. Furthermore, the depth to water in wells located in the vicinity of underground utilities was generally greater than 5 ft bgs, which is deeper than the typical depths that utilities are installed.

Additionally, although naphthalene was detected at a concentration greater than CT DEEP SWPC at MW-01 and MW-03, the distance of these wells to the nearest likely surface water discharge point associated with Beaverdam Brook is far enough away (greater than a 0.25 mile) to eliminate this pathway from further investigation.

Further, MTBE was not detected in any of the soil or groundwater samples collected and, therefore, are not considered to be a contaminant present at the site.

### 3.4.3 Receptors, Exposure Pathways, and Land Use

The site is currently at grade and has been unoccupied and unused since the buildings were demolished in 2009. The anticipated exposure for future land use scenarios includes residential receptor scenarios. The site has historically been used for residential housing, and the Navy has no plans to change the use of the site to a non-residential scenario. Humans engaged in activities associated with future exposure scenarios are unlikely to contact groundwater through ingestion or dermal adsorption given the depth to

groundwater and the zone of impacted soils. Although there is a potential risk for construction worker exposure to deeper soils given the concentrations detected in soil and groundwater, it is likely to be low and could be addressed through proper soil handling management.

Based upon the apparent limited extent of impacted subsurface materials, ecological receptors at the site would appear to be limited to deeper subsurface receptors (e.g., such as burrowing organisms). Terrestrial users would be unlikely to be a receptor since they would not be exposed to contaminated soil. Furthermore, given the site development history, the lack of any apparent sensitive habitats (wetlands, etc.,) and the distance to either Beaverdam Brook or the Thames River, any risks to ecological receptors risks are likely to be very low.

Residents in the adjacent Polaris Park housing units do not get their water from a supply source located on the Polaris Park Site, thus the direct ingestion of contaminated groundwater can be eliminated as a pathway. Furthermore, according to the CT DEEP Water Classifications Map (August 2010), the site is located greater than one mile from the nearest “contributing to public water supply” (wellhead protection zone), which is located approximately 1.25 mile to the north near Flat Brook Pond.

# 4.0 CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the findings of the soil and groundwater investigation, and presents conclusions regarding the need for additional work at these sites to bring them into compliance with the Connecticut RSRs.

## 4.1 CONCLUSIONS

Nature and Extent of Contamination

*Soil*

The results of the investigation indicate that the vast majority of petroleum-impacted soils appear to have been excavated from the site back in 2009. However, there remain several areas, limited in horizontal and vertical extent, in which residual petroleum impacted soil remains. This includes very limited areas (small residual hot spots) associated with former USTs located at 8, 11 and 12 Andrew Jackson Drive, respectively. No exceedances of the CT DEEP RSRs for soil were detected in soil samples from the UST area located at 46-47 Lafayette Drive, although a low-level ETPH exceedance of the GWPC was detected at monitor well MW-4 installed in this area (see following section). This lack of exceedances for soils from this area is most likely associated with the extensive over-excavation activities performed at this area in 2009.

The analytical data collected during the soil boring and well installation activities at the subject properties indicate that the sources of petroleum contamination have been sufficiently delineated both horizontally and vertically. This is based on the findings that the analytical results for soil borings located both downgradient and outside of the UST excavation borings in which exceedances of the CT DEEP RSRs did not occur.

As discussed in Section 3.4, the materials encountered during the soil boring installation appear to be glacial till and exhibit a relatively low permeability. Further, the concentrations of site constituents detected in soil appear to decrease with depth. This suggests that the vertical extent of impacted soils is limited and has been sufficiently delineated. The highest field screening readings are associated with soil located near the groundwater interface (i.e., the “smear zone”).

*Groundwater*

No free product was observed during soil boring installation or soil sampling. A petroleum-like sheen was initially observed in the groundwater from monitor wells MW01, MW03, MW04, MW06, MW10, and MW11

during initial well development and purging, but was observed to be clear and colorless by the completion of well development.

Benzene and naphthalene concentrations decreased in groundwater at MW03 between the July and October events while EPH concentrations remained the same. Naphthalene was detected above criteria at only two locations at the site. Naphthalene was detected in groundwater from MW01 during all three sampling events, with concentrations decreasing from 183 ug/L in June 2010 to 128 ug/L in October 2011. Naphthalene was detected in groundwater from MW03 with concentrations increasing from June 2010 (111 ug/L) to October 2011 (155 ug/L). Analytes detected from MW10 decreased between the July and October groundwater sampling with all concentrations below applicable CT DEEP RSR. ETPH was detected above criteria in groundwater from MW09 with concentrations of 0.78 ug/L (July 2011) and 0.97 ug/L (October 2011).

The concentrations of ETPH detected in groundwater samples during the October sampling event from all monitor wells except MW12 exceed the RSR GWPC; and concentrations of naphthalene measured in groundwater samples from MW01 and MW03 exceed the RSR SWPC. Concentrations of benzene exceed the RSR GWPC in MW03 during all three groundwater sampling events. However, based on the relatively low concentrations of contaminants present and the overall observed improvement of water quality during development and sampling, it is unlikely that LNAPL is present.

ETPH, benzene, and naphthalene concentrations measured in groundwater samples collected from these locations most likely represent dissolved-phase contamination remaining from residual petroleum impacted soil that was not previously excavated in 2009. Therefore, given the limited area of impact and likely degradation of petroleum constituents, additional removal activities are not warranted at this time. However, groundwater at these sites is not in compliance with select Connecticut RSRs. Additional groundwater monitoring and an evaluation of groundwater geochemistry will be needed to ascertain the potential amenability to biodegradation/natural attenuation of contaminants at the site.

Although groundwater at the site is not in compliance with the CTDEEP GWPC, the adjacent base housing units are all on a public water supply and not on private wells. Therefore, this risk pathway is not complete and can be eliminated. However, any future redevelopment of the site for base housing would require connecting into the current public waterline. As discussed previously, the site is located greater than one mile from the nearest “contributing to public water supply” (wellhead protection zone), which is located approximately 1.25 mile to the north near Flat Brook Pond.

The groundwater elevation contour map constructed for the site indicates that the apparent groundwater flow is from the west to east toward CT Route 12 (and Beaverdam Creek) and not toward the Thames

River. Groundwater levels were 0.71 feet to 2.57 feet deeper in July than October although the overall contours were very similar. However, it should be noted that trends cannot be fully assessed with only two data sets. However, the groundwater flow is consistent with the topographic contours of the site and the lithology of the shallow subsurface materials evaluated as part of this investigation.

## 4.2 RECOMMENDATIONS

Based upon the evaluation of the 2010 and 2011 sampling analytical results and field data collected during this investigation, continued groundwater monitoring for the site is recommended. A groundwater monitoring program should be implemented at the site in order to verify that ETPH and benzene concentrations in on-site monitor wells eventually attenuate to comply with the GWPC, and that the naphthalene concentrations in on-site monitor wells also continue to attenuate and comply with the SWPC.

The goals of the monitoring program should be to monitor the concentrations of ETPH in key locations at each site to verify that natural degradation/attenuation of petroleum constituents is occurring. It is recommended that semi-annual monitoring be conducted for a period of one year, followed by two years of annual sampling, after which time the ETPH, benzene, and naphthalene concentration trends should be re-evaluated. All thirteen monitor wells (MW-1 through MW-13) would be included in the initial two sampling events of the first year. Based upon the results of these two sampling events, the number of wells could be adjusted downward in order to focus on specific areas that might be non-compliant with the RSRs for groundwater.

Given the low-level residual concentrations detected in the groundwater samples, the Navy is evaluating measures to expedite closure. Specifically, the Navy proposes to address some of the “hot spot” wells with some form of localized treatment (e.g., bio-stimulation/bio-augmentation or addition of passive oxidant delivery system). Even a small reduction in concentrations could be sufficient to decrease the site COCs and move forward with the closure monitoring. Some additional field data will need to be collected to identify the most appropriate approach to reducing levels of site COCs.

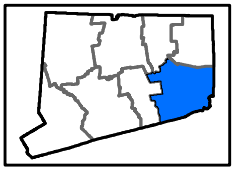

**Figure 1-1**
Site Location Map
Polaris Park - Site 6
NSB New London
Groton, New London County, Connecticut

0 1,000 2,000 Feet

N W E S

TETRA TECH
240 Continental Drive, Suite 200
Newark, Delaware 19713
Phone: 302.738.7551 Fax: 302.454.5980

This map is provided by Tetra Tech solely for display and reference purposes and is subject to change without notice. No claims, either real or assumed, as to the absolute accuracy or precision of any data contained herein are made by Tetra Tech, nor will Tetra Tech be held responsible for any use of this document for purposes other than which it was intended. Source: USGS Topographic Map, 1997

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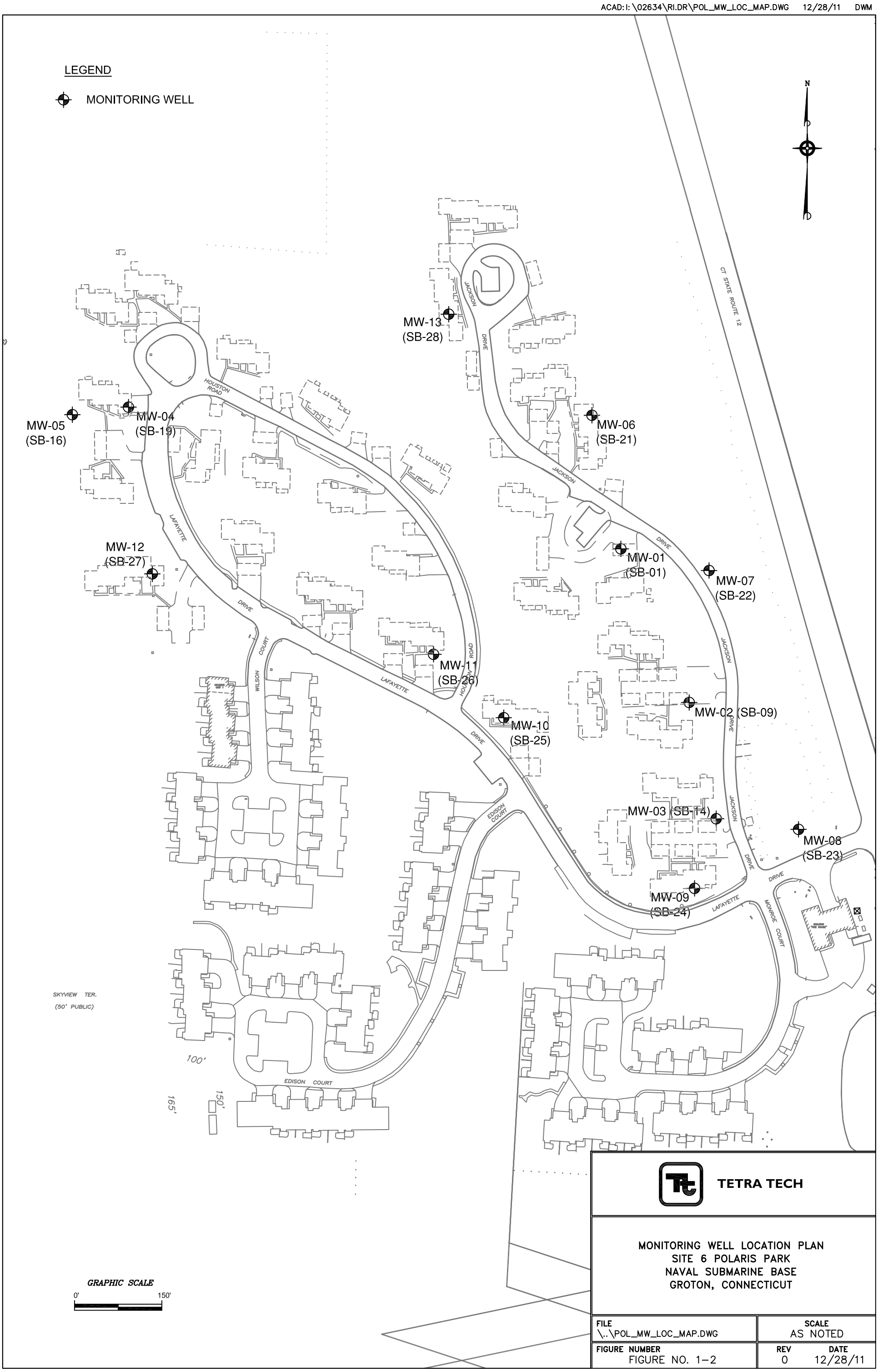



TETRA TECH

MONITORING WELL LOCATION PLAN
SITE 6 POLARIS PARK
NAVAL SUBMARINE BASE
GROTON, CONNECTICUT

| FILE | SCALE |
|---|---|
| \..\POL_MW_LOC_MAP.DWG | AS NOTED |

| FIGURE NUMBER | REV | DATE |
|---|---|---|
| FIGURE NO. 1-2 | 0 | 12/28/11 |

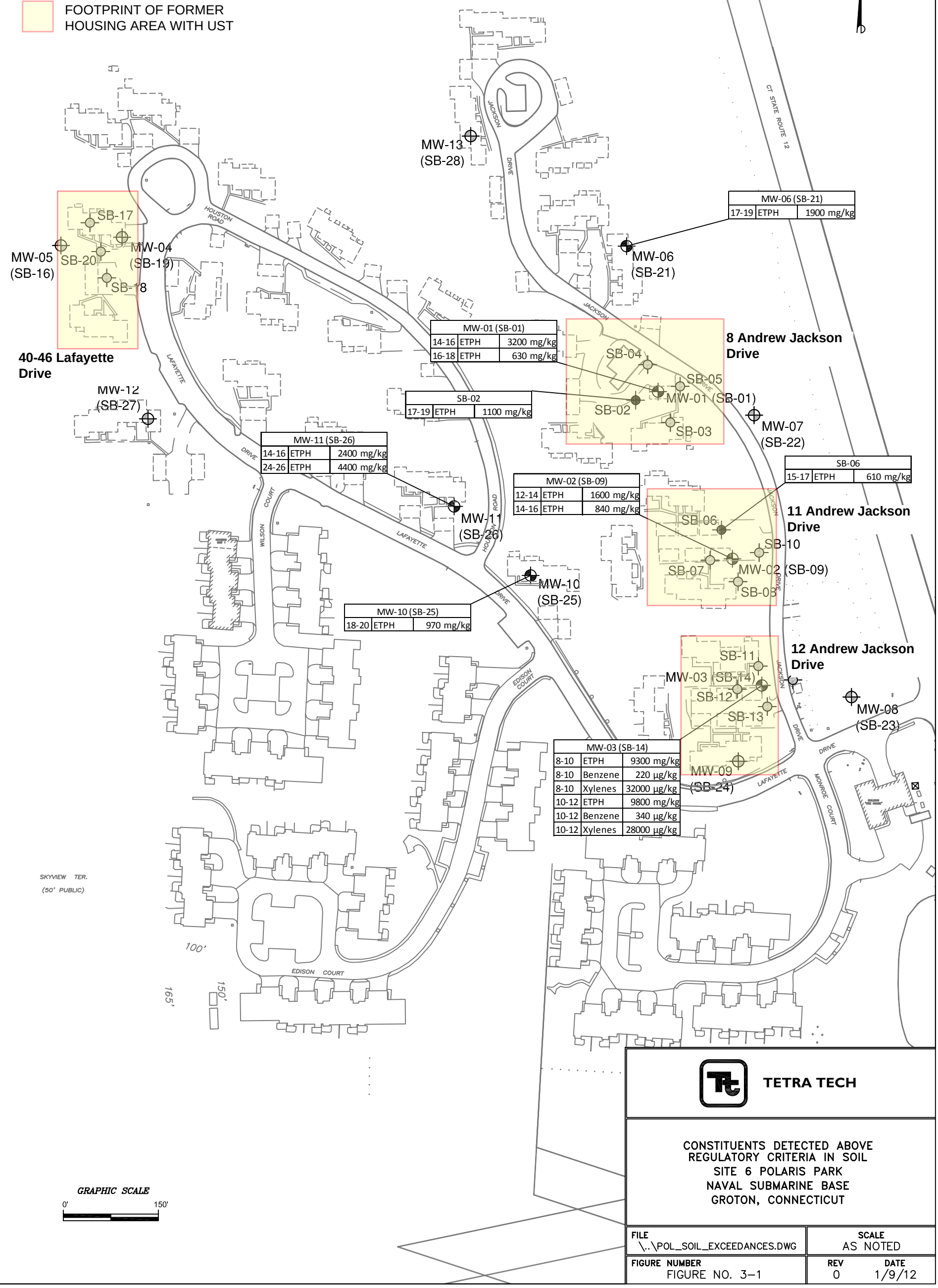
ACAD:I:\02634\RI.DR\POL_SOIL_EXCEEDANCES.DWG 1/9/12 DWM

LEGEND

- MONITOR WELL
- SOIL BORING LOCATION
- MONITOR WELL WITH NO CONSTITUENTS ABOVE CRITERIA
- SOIL BORING WITH NO CONSTITUENTS ABOVE CRITERIA
- FOOTPRINT OF FORMER HOUSING AREA WITH UST

ETPH CRITERIA IN SOIL
RESIDENTIAL DIRECT EXPOSURE CRITERIA (DEC): 500 mg/kg
POLLUTANT MOBILITY CRITERIA (PMC): 500 mg/kg
BENZENE CRITERIA IN SOIL
POLLUTANT MOBILITY CRITERIA (PMC): 20 µg/kg
XYLENES CRITERIA IN SOIL
POLLUTANT MOBILITY CRITERIA (PMC): 19,500 µg/kg

SB01 through SB20 installed 2010
SB21 through SB28 installed 2011




| MW-06 (SB-21) | | |
|---|---|---|
| 17-19 | ETPH | 1900 mg/kg |

| MW-01 (SB-01) | | |
|---|---|---|
| 14-16 | ETPH | 3200 mg/kg |
| 16-18 | ETPH | 630 mg/kg |

| SB-02 | | |
|---|---|---|
| 17-19 | ETPH | 1100 mg/kg |

| MW-11 (SB-26) | | |
|---|---|---|
| 14-16 | ETPH | 2400 mg/kg |
| 24-26 | ETPH | 4400 mg/kg |

| MW-02 (SB-09) | | |
|---|---|---|
| 12-14 | ETPH | 1600 mg/kg |
| 14-16 | ETPH | 840 mg/kg |

| SB-06 | | |
|---|---|---|
| 15-17 | ETPH | 610 mg/kg |

| MW-10 (SB-25) | | |
|---|---|---|
| 18-20 | ETPH | 970 mg/kg |

| MW-03 (SB-14) | | |
|---|---|---|
| 8-10 | ETPH | 9300 mg/kg |
| 8-10 | Benzene | 220 µg/kg |
| 8-10 | Xylenes | 32000 µg/kg |
| 10-12 | ETPH | 9800 mg/kg |
| 10-12 | Benzene | 340 µg/kg |
| 10-12 | Xylenes | 28000 µg/kg |

TETRA TECH

CONSTITUENTS DETECTED ABOVE REGULATORY CRITERIA IN SOIL
SITE 6 POLARIS PARK
NAVAL SUBMARINE BASE
GROTON, CONNECTICUT

| FILE | SCALE |
|---|---|
| \..\POL_SOIL_EXCEEDANCES.DWG | AS NOTED |
| FIGURE NUMBER: FIGURE NO. 3-1 | REV: 0 / DATE: 1/9/12 |

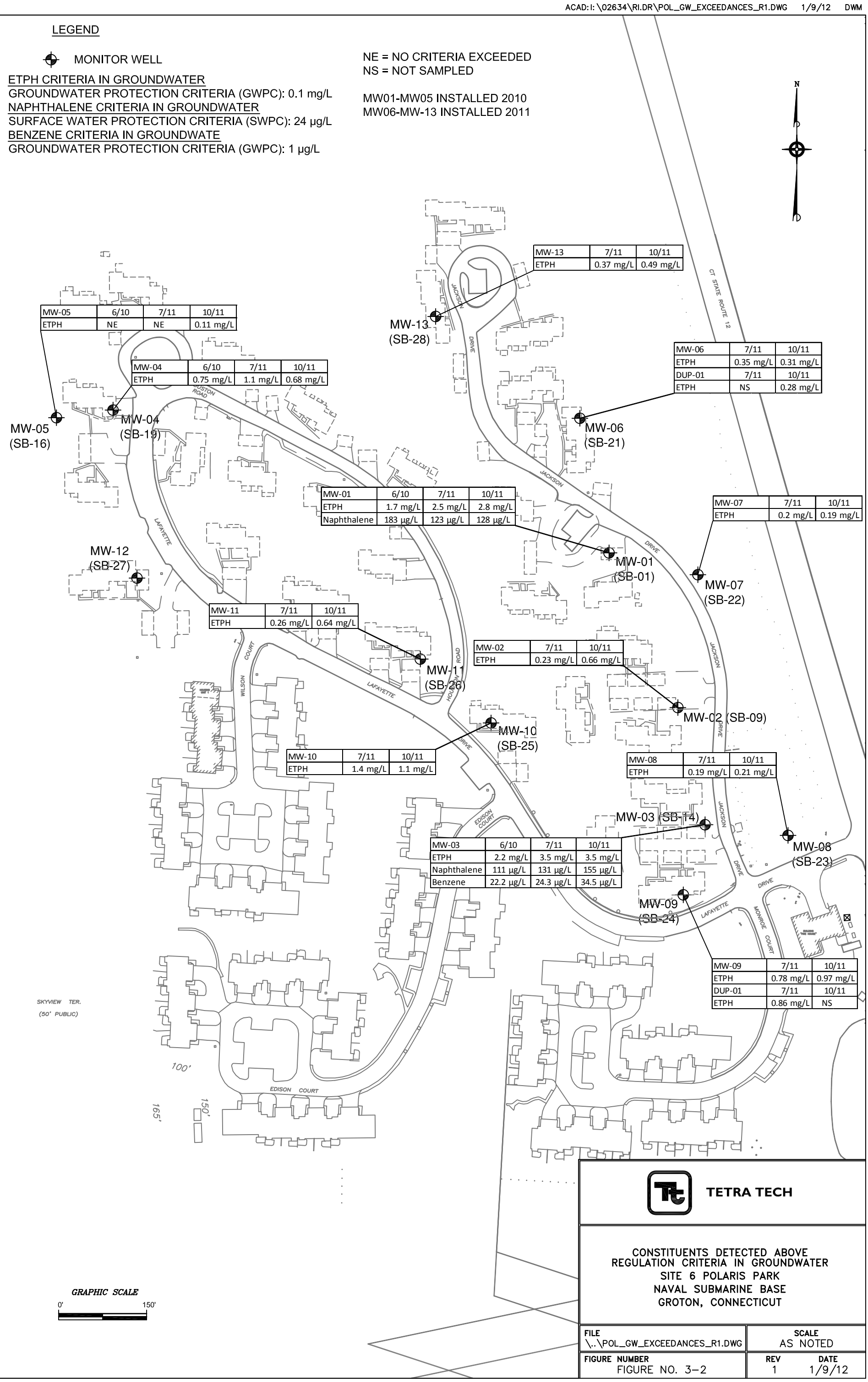
LEGEND

MONITOR WELL

ETPH CRITERIA IN GROUNDWATER
GROUNDWATER PROTECTION CRITERIA (GWPC): 0.1 mg/L
NAPHTHALENE CRITERIA IN GROUNDWATER
SURFACE WATER PROTECTION CRITERIA (SWPC): 24 µg/L
BENZENE CRITERIA IN GROUNDWATE
GROUNDWATER PROTECTION CRITERIA (GWPC): 1 µg/L

NE = NO CRITERIA EXCEEDED
NS = NOT SAMPLED

MW01-MW05 INSTALLED 2010
MW06-MW-13 INSTALLED 2011




| MW-13 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 0.37 mg/L | 0.49 mg/L |

| MW-05 | 6/10 | 7/11 | 10/11 |
|---|---|---|---|
| ETPH | NE | NE | 0.11 mg/L |

| MW-04 | 6/10 | 7/11 | 10/11 |
|---|---|---|---|
| ETPH | 0.75 mg/L | 1.1 mg/L | 0.68 mg/L |

| MW-06 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 0.35 mg/L | 0.31 mg/L |
| DUP-01 | 7/11 | 10/11 |
| ETPH | NS | 0.28 mg/L |

| MW-01 | 6/10 | 7/11 | 10/11 |
|---|---|---|---|
| ETPH | 1.7 mg/L | 2.5 mg/L | 2.8 mg/L |
| Naphthalene | 183 µg/L | 123 µg/L | 128 µg/L |

| MW-07 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 0.2 mg/L | 0.19 mg/L |

| MW-11 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 0.26 mg/L | 0.64 mg/L |

| MW-02 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 0.23 mg/L | 0.66 mg/L |

| MW-10 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 1.4 mg/L | 1.1 mg/L |

| MW-08 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 0.19 mg/L | 0.21 mg/L |

| MW-03 | 6/10 | 7/11 | 10/11 |
|---|---|---|---|
| ETPH | 2.2 mg/L | 3.5 mg/L | 3.5 mg/L |
| Naphthalene | 111 µg/L | 131 µg/L | 155 µg/L |
| Benzene | 22.2 µg/L | 24.3 µg/L | 34.5 µg/L |

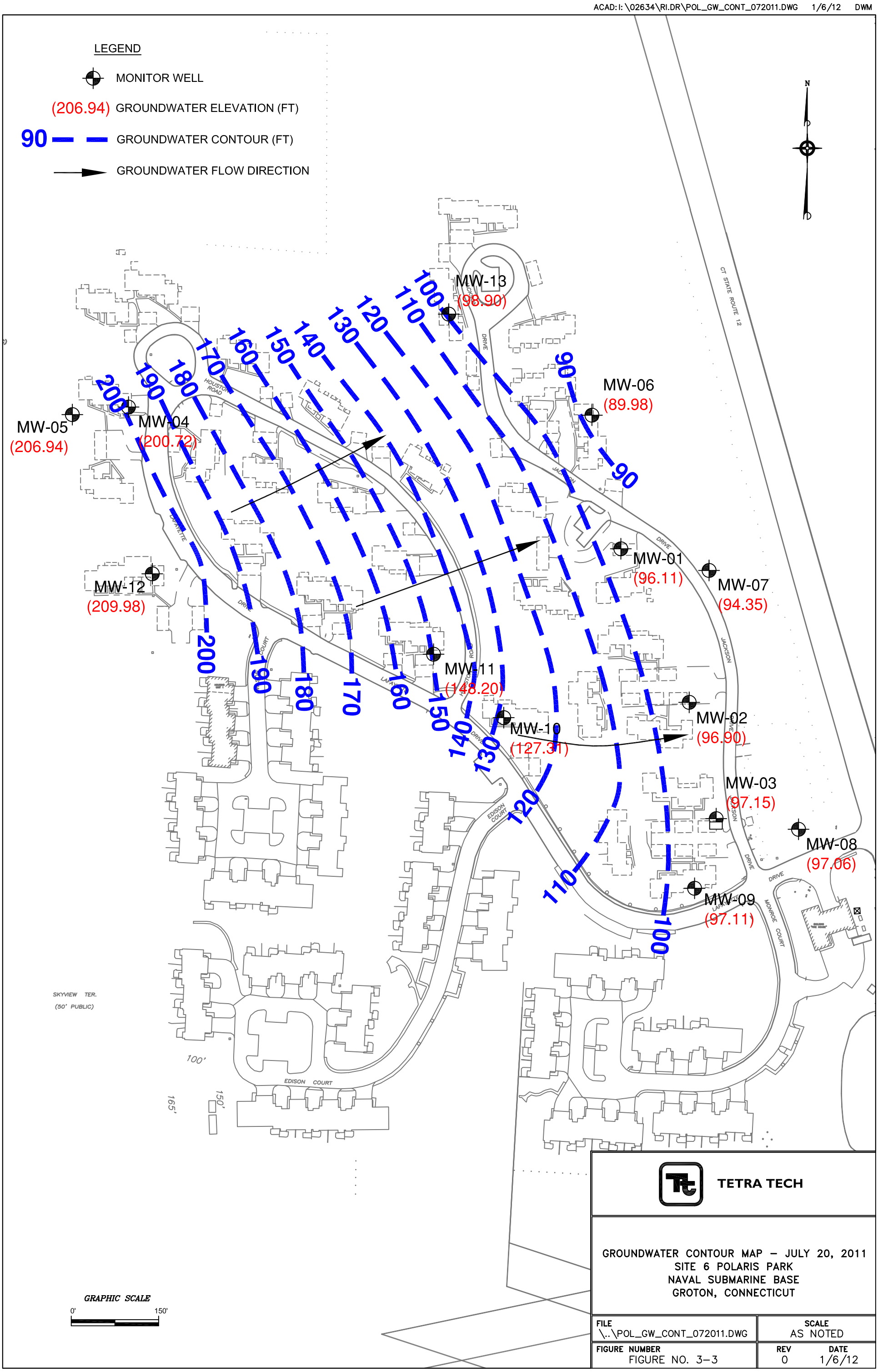
| MW-09 | 7/11 | 10/11 |
|---|---|---|
| ETPH | 0.78 mg/L | 0.97 mg/L |
| DUP-01 | 7/11 | 10/11 |
| ETPH | 0.86 mg/L | NS |

TETRA TECH

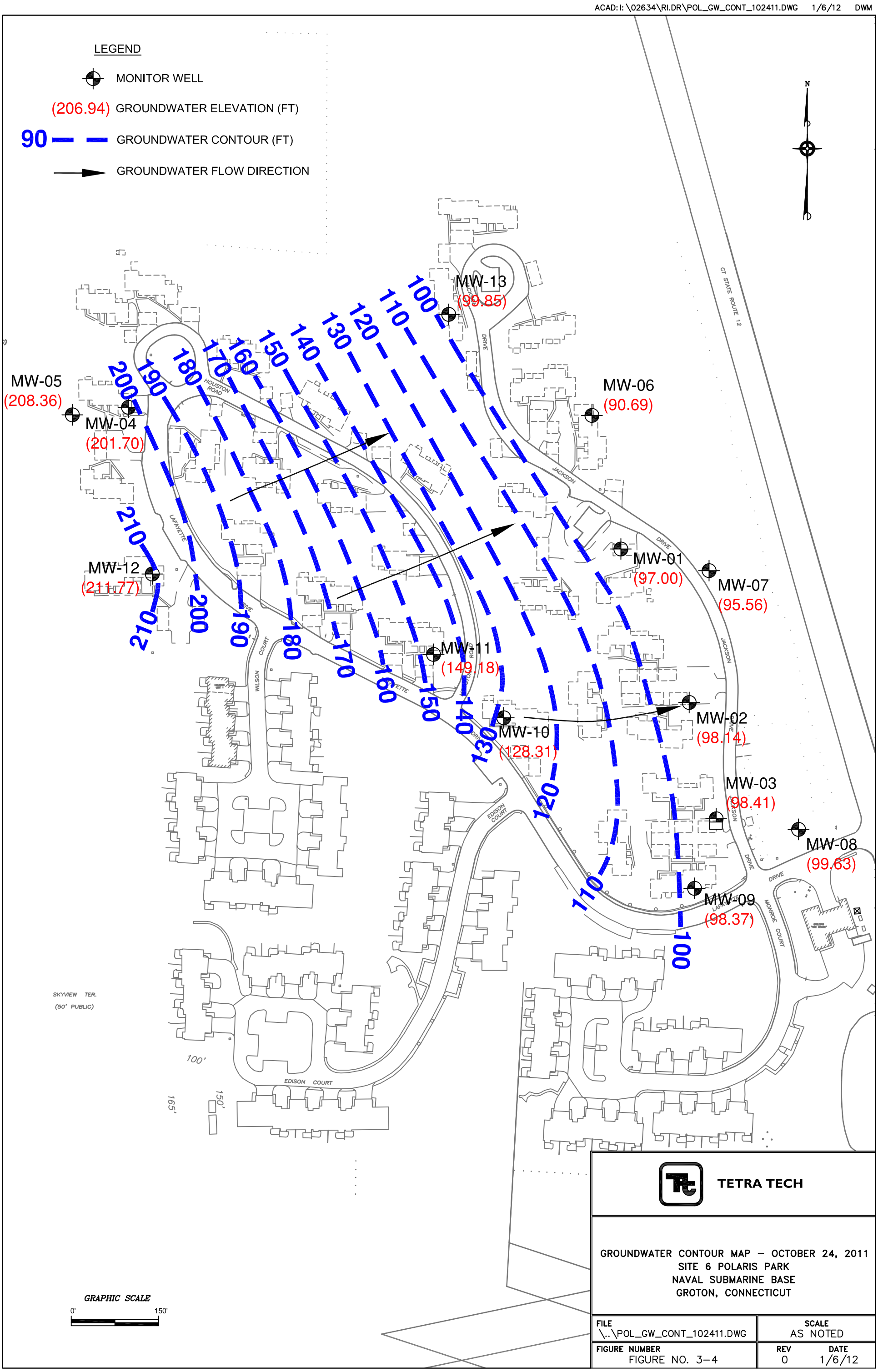
CONSTITUENTS DETECTED ABOVE
REGULATION CRITERIA IN GROUNDWATER
SITE 6 POLARIS PARK
NAVAL SUBMARINE BASE
GROTON, CONNECTICUT

| FILE | SCALE |
|---|---|
| \..\POL_GW_EXCEEDANCES_R1.DWG | AS NOTED |
| FIGURE NUMBER | REV / DATE |
| FIGURE NO. 3-2 | 1 / 1/9/12 |

ACAD:I:\02634\RI.DR\POL_GW_CONT_072011.DWG 1/6/12 DWM



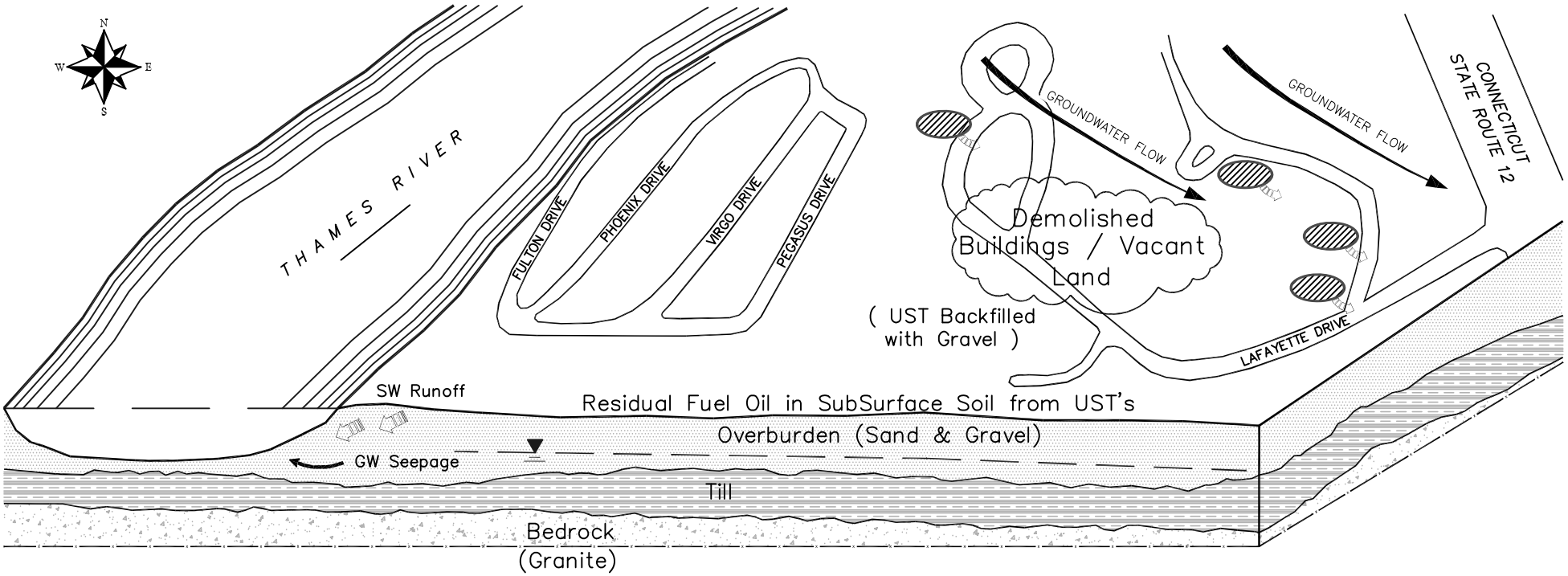
ACAD:I:\02634\RI.DR\POL_GW_CONT_102411.DWG 1/6/12 DWM




TETRA TECH

GROUNDWATER CONTOUR MAP – OCTOBER 24, 2011
SITE 6 POLARIS PARK
NAVAL SUBMARINE BASE
GROTON, CONNECTICUT

| FILE | SCALE |
|---|---|
| \..\POL_GW_CONT_102411.DWG | AS NOTED |
| FIGURE NUMBER | REV / DATE |
| FIGURE NO. 3–4 | 0 / 1/6/12 |




## LEGEND:

- APPROX. POTENTIOMETRIC SURFACE
- SUBSURFACE SOIL CONTAMINATION UST EXCAVATION
- FILL / OVERBURDEN
- TILL
- BEDROCK

## POTENTIAL EXPOSURE PATHWAYS

- *On Site Resident – GW Ingestion, Ingestion, Dermal Contact w/ Surface Soil, Ingestion of Terrestrial Food.*
- *On Site Construction Worker – Inhalation/Ingestion of and/or Dermal Contact w/ Surface or Sub–Surface Soil.*
- *On Site Community Worker – GW Ingestion, Inhalation/Ingestion of and/or Dermal Contact w/ Surface or Sub–Surface Soil.*

| DRAWN BY | DATE |
|---|---|
| JDE | 03/10/2010 |
| CHECKED BY | DATE |
| CSG/DK | 08/12/2010 |
| REVISED BY | DATE |
| - | - |
| SCALE | |
| N.T.S. | |

NAVFAC

NAVAL SUBMARINE BASE GROTON, CT

SITE INVESTIGATION FOR USTs
SITE 6 POLARIS PARK

**CONCEPTUAL SITE MODEL**

| CONTRACT NO. | |
|---|---|
| WE–56 | |
| OWNER NO. | |
| 0000 | |
| APPROVED BY | DATE |
| DRAWING NO. | REV. |
| Figure 3-5 | 0 |

K:\112G02634 – Navy Clean Lant CTO WE56 – Dave Kane\Drawings\CAD\Figure3-7_Conceptual-Site-Model.dwg 08/12/2010 17:28

**Table 2-1**
**PID Field Screening Readings Above 5.0 ppm**
**CTO WE56 - Polaris Park**
**June 2011**

| [1]Location | Depth (ft) | Maximum Organic Vapor [2]Concentration ([3]ppm/v) |
|---|---|---|
| SB-21 | 7-9 | 7.4 |
| SB-21 | 15-17 | 352 |
| SB-21 | 17-19 | 381 |
| SB-23 | 7-9 | 6 |
| SB-23 | 9-11 | 6.8 |
| SB-24 | 17-19 | 71.1 |
| SB-24 | 19-21 | 58.3 |
| SB-25 | 5-7 | 9.1 |
| SB-25 | 19-21 | 535 |
| SB-26 | 7-9 | 8.4 |
| SB-26 | 10-12 | 278 |
| SB-26 | 12-13 | 638 |
| SB-26 | 14-16 | 2957 |
| SB-26 | 18-20 | 56 |
| SB-26 | 24-26 | 1334 |

[1]SB = soil boring
[2]Concentrations were measured using PID: MiniRAE model, 10.6 eV lamp
[3]ppm = parts per million

PID = Photo ionization detector

**Table 2-2**
**Summary of Lithology**
**CTO WE56 Polaris Park**
**Groton, CT**

| Boring ID | Location | Total Depth (ft bgs) | Sand/Silt (ft bgs) | Sand/Gravel (ft bgs) | Bedrock (ft bgs) | Auger refusal (ft bgs) | Groundwater (ft bgs) |
|---|---|---|---|---|---|---|---|
| SB-1/MW-01 | 8 Jackson Drive | 24' | 4' - 7' | 7' - 24' | N/A | NO | 15.1' |
| SB-2 | 8 Jackson Drive | 24' | 4' - 8' | 8' - 24' | N/A | NO | 15.9' |
| SB-3 | 8 Jackson Drive | 23' | - | 14' - 23' | N/A | NO | 14' |
| SB-4 | 8 Jackson Drive | 18' | - | 10' - 18' | N/A | 5' | Boring collapse |
| SB-5 | 8 Jackson Drive | 18' | 14' - 18' | 12' - 14' | N/A | 10' | 15' |
| | | | | | | | |
| SB-6 | 11 Jackson Drive | 24' | - | 16' - 24' | N/A | 14' | 13.5' |
| SB-7 | 11 Jackson Drive | 18' | - | 12' - 18' | N/A | 10' | 14' |
| SB-8 | 11 Jackson Drive | 16' | - | 10' - 16' | N/A | 5' | 10' |
| SB-9/MW-02 | 11 Jackson Drive | 20' | 10' -13' / 18' -20' | 13' - 18' | N/A | 5' | 11.5' |
| SB-10 | 11 Jackson Drive | 12' | | 8' - 12' | N/A | NO | 7.9' |
| | | | | | | | |
| SB-11 | 12 Jackson Drive | 14' | 8' - 12' | 12' - 14' | N/A | 5' | 10' |
| SB-12 | 12 Jackson Drive | 16' | - | 10' - 16' | N/A | 4' | 11.5' |
| SB-13 | 12 Jackson Drive | 14' | - | 8' - 14' | N/A | NO | 10' |
| SB-14/MW-03 | 12 Jackson Drive | 18' | 5' - 11' | 11' - 18' | N/A | NO | 10' |
| SB-15 | 12 Jackson Drive | 29' | 8' - 16' | 16' - 29' | N/A | NO | 7.9' |
| | | | | | | | |
| SB-16/MW-05 | 46-47 Lafayette Drive | 27' | 20' - 27' | - | N/A | NO | 9.8' |
| SB-17 | 46-47 Lafayette Drive | 12' | 8' - 12' | - | N/A | NO | 8.5' |
| SB-18 | 46-47 Lafayette Drive | 28' | 8' - 28' | Trace gravel | N/A | 7' | 10.5' |
| SB-19/MW-04 | 46-47 Lafayette Drive | 10' | 4' - 10' | - | N/A | NO | 2.5' |
| SB-20 | 46-47 Lafayette Drive | 10' | 4' - 10' | 1' - 10' | N/A | NO | < 1' |

**Table 2-2**
**Summary of Lithology**
**CTO WE56 Polaris Park**
**Groton, CT**

| Boring ID | Location | Total Depth (ft bgs) | Sand/Silt (ft bgs) | Sand/Gravel (ft bgs) | Bedrock (ft bgs) | Auger refusal (ft bgs) | Groundwater (ft bgs) |
|---|---|---|---|---|---|---|---|
| SB-21/MW06 | north of MW01 | 21 | - | 6-19 | N/A | 18.3 | 13.91 |
| SB-22/MW07 | east of MW01 | 19 | 5-12.5 | 15-19 | N/A | 19 | 11.02 |
| SB-23/MW08 | east of MW03 | 15 | - | 7-15 | N/A | 15 | 5.56 |
| SB-24/MW09 | south of MW03 | 21 | 5-21 | - | N/A | 21 | 13.21 |
| SB-25/MW10 | west of MW02 | 33 | - | 5-20 | N/A | 20 | 26.57 |
| SB-26/MW11 | southwest of MW01 | 32 | - | 5-26 | N/A | 26 | 18.52 |
| SB-27/MW12 | south of MW04 | 17.4 | - | 5-16 | N/A | 15 | 5.06 |
| SB-28/MW13 | west northwest of MW04 | 25 | 5-6 | 6-25 | N/A | 24.3 | 18.00 |

**Table 2-3**
**Monitor Well Construction Details**
**CTO WE56 - Polaris Park**
**Groton, CT**

| Monitor Well I.D. | Total Well Depth (ft) | Screened Interval (ft) | Approx. Screened Interval Elev. | Screen Length | Top of PVC Casing Elev (Measuring Point) |
|---|---|---|---|---|---|
| **MW01** | 22.40 | 12.40 - 22.40 | 98.67 - 88.67 | 10 | 111.07 |
| **MW02** | 19.26 | 9.26 - 19.26 | 100.34 - 90.34 | 10 | 109.60 |
| **MW03** | 17.49 | 7.49 - 17.49 | 100.71 - 90.71 | 10 | 108.20 |
| **MW04** | 12.84 | 2.84 - 12.84 | 201.79 - 191.79 | 10 | 204.63 |
| **MW05** | 21.48 | 6.48 - 21.48 | 211.90 - 196.90 | 15 | 218.38 |
| **MW06** | 20.90 | 10.9-20.9 | 93.77-83.77 | 10 | 104.67 |
| **MW07** | 18.40 | 8.4-18.4 | 97.90-87.90 | 10 | 106.30 |
| **MW08** | 13.10 | 3.1-13.1 | 100.78-90.78 | 10 | 103.88 |
| **MW09** | 20.80 | 10.8-20.8 | 100.51-90.51 | 10 | 111.31 |
| **MW10** | 32.00 | 17-32 | 137.44-122.44 | 15 | 154.44 |
| **MW11** | 31.00 | 21-31 | 146.18-136.18 | 10 | 167.18 |
| **MW12** | 17.00 | 7-17 | 209.20-199.20 | 10 | 216.20 |
| **MW13** | 25.90 | 15.9-25.9 | 101.54-91.54 | 10 | 117.44 |

**Table 2-4**
**Groundwater Elevation Summary Table**
**CTO WE56 - Polaris Park**
**Groton, CT**

| Monitor Well I.D. | Top of PVC Casing Elevation (ft MSL NAVD88) | DEPTH TO GW (ft bgs) 20 July 2011 | Elevation of GW 20 July 2011 (ft MSL NAVD88) | DEPTH TO GW (ft bgs) 24 October 2011 | Elevation of GW 24 October 2011 (ft MSL NAVD88) |
|---|---|---|---|---|---|
| **MW01** | 111.07 | 14.96 | 96.11 | 14.07 | 97.00 |
| **MW02** | 109.60 | 12.70 | 96.90 | 11.46 | 98.14 |
| **MW03** | 108.20 | 11.05 | 97.15 | 9.79 | 98.41 |
| **MW04** | 204.63 | 3.91 | 200.72 | 2.93 | 201.70 |
| **MW05** | 218.38 | 11.44 | 206.94 | 10.02 | 208.36 |
| **MW06** | 104.67 | 14.69 | 89.98 | 13.98 | 90.69 |
| **MW07** | 106.30 | 11.95 | 94.35 | 10.74 | 95.56 |
| **MW08** | 103.88 | 6.82 | 97.06 | 4.25 | 99.63 |
| **MW09** | 111.31 | 14.20 | 97.11 | 12.94 | 98.37 |
| **MW10** | 154.44 | 27.13 | 127.31 | 26.13 | 128.31 |
| **MW11** | 167.18 | 18.98 | 148.20 | 18.00 | 149.18 |
| **MW12** | 216.20 | 6.22 | 209.98 | 4.43 | 211.77 |
| **MW13** | 117.44 | 18.54 | 98.90 | 17.59 | 99.85 |

**Table 2-5**
**Monitor Well Sampling**
**Water Quality Parameters**
**CTO WE-56 Polaris Park**

| Monitor Well Location | Temp. °C July 2011 | Temp. °C Oct 2011 | Specific Conductance (mS/cm) June 2011 | Specific Conductance (mS/cm) Oct 2011 | pH July 2011 | pH Oct 2011 | ORP (mV) July 2011 | ORP (mV) Oct 2011 | DO (mg/L) July 2011 | DO (mg/L) Oct 2011 | Turbidity (NTU) July 2011 | Turbidity (NTU) Oct 2011 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW-01 | 14.85 | 17.06 | 0.336 | 0.319 | 6.15 | 6.38 | -64 | -83 | 0.21 | 0.08 | 2.47 | 0.19 |
| MW-02 | 14.44 | 16.70 | 0.359 | 0.413 | 5.72 | 5.95 | 106.9 | 131 | 0.52 | 0.22 | 1.42 | 15.3 |
| MW-03 | 14.94 | 16.48 | 0.516 | 0.311 | 6.13 | 6.26 | -24.7 | -61 | 0.09 | 0.07 | 3.0 | 0.25 |
| MW-04 | 18.64 | 17.48 | 1.614 | 2.453 | 12.33 | 12.09 | -141.5 | -174 | 0.24 | 0.19 | 2.72 | 0.73 |
| MW-05 | 13.97 | 15.38 | 0.252 | 0.167 | 5.29 | 5.52 | 516.7 | 261 | 7.22 | 0.19 | 1.20 | 4.87 |
| MW-06 | 14.94 | 15.91 | 0.234 | 0.230 | 5.55 | 6.01 | 134.5 | 114.0 | 0.60 | 2.19 | 0.40 | 1.78 |
| MW-07 | 17.11 | 19.03 | 0.224 | 0.196 | 5.46 | 5.57 | 214.3 | 225 | 0.46 | 1.15 | 0.65 | 0.0 |
| MW-08 | 18.57 | 18.35 | 0.656 | 0.383 | 6.38 | 6.56 | 9.6 | 94 | 0.20 | 0.16 | 1.22 | 2.31 |
| MW-09 | 13.89 | 15.39 | 0.554 | 0.483 | 5.98 | 6.12 | -115.9 | -98 | 0.28 | 0.07 | 2.12 | 0.0 |
| MW-10 | 16.73 | 15.75 | 0.506 | 0.396 | 5.95 | 6.23 | -9.6 | -110 | 0.37 | 0.17 | 1.72 | 0.07 |
| MW-11 | 15.76 | 15.52 | 0.840 | 0.607 | 6.31 | 6.37 | 70.0 | -17.0 | 1.51 | 1.31 | 16.1 | 0.74 |
| MW-12 | 15.97 | 17.10 | 0.157 | 0.117 | 5.71 | 5.97 | 186.3 | 185 | 8.42 | 0.46 | 0.72 | 0.37 |
| MW-13 | 14.03 | 14.01 | 0.417 | 0.310 | 6.11 | 6.25 | 154.2 | 176 | 0.39 | 0.28 | 1.36 | 0.0 |

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB01-1416 | | 06SB01-1618 | | 06SB09-1214 | | 06SB09-1416 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 5/12/10 | | 5/12/10 | | 5/14/2010 | | 5/14/2010 | |
| location | | | | | | MW-01/SB-01 | | MW-01/SB-01 | | MW-02/SB-09 | | MW-02/SB-09 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB01-1416 | | 06SB01-1618 | | 06SB09-1214 | | 06SB09-1416 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 14 | | 16 | | 12 | | 14 | |
| bottom_dep | | | | | | 16 | | 18 | | 14 | | 16 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 1 | | 3 | | 5 | | 7 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | 46000 | | 47000 | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 3.6 | U | 3.5 | U | 250 | U | 4 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 120 | J | 160 | J | 1200 | | 2 | J |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 1400 | | 510 | | 3000 | | 6.1 | J |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 3.6 | U | 3.5 | U | 250 | U | 4 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 760 | | 200 | J | 1700 | | 3.1 | J |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 2.1 | J | 5.5 | J | 250 | U | 4 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 2200 | | 710 | | 4700 | | 9.2 | J |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | **3200 [RES] [GAA]** | | **630 [RES] [GAA]** | J | **1600 [RES] [GAA]** | | **840 [RES] [GAA]** | |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB14-0810 | | 06SB14-1012 | | 06SB19-0406 | | 06SB19-0810 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 5/17/2010 | | 5/17/2010 | | 5/19/2010 | | 5/19/2010 | |
| location | | | | | | MW-03/SB-14 | | MW-03/SB-14 | | MW-04/SB-19 | | MW-04/SB-19 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB14-0810 | | 06SB14-1012 | | 06SB19-0406 | | 06SB19-0810 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 8 | | 10 | | 4 | | 8 | |
| bottom_dep | | | | | | 10 | | 12 | | 6 | | 10 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 9 | | 11 | | 13 | | 15 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | **220 [GAA]** | J | **340 [GAA]** | | 3 | U | 2 | J |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 6800 | | 6900 | | 3 | U | 4.6 | |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 21000 | | 19000 | | 3 | U | 14 | |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 290 | U | 260 | U | 3 | U | 3.4 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 10000 | | 9000 | | 3 | U | 7 | |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 2800 | | 2300 | | 3 | U | 3.8 | |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | **32000 [GAA]** | | **28000 [GAA]** | | 3 | U | 21 | |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | **9300 [RES] [GAA]** | | **9800 [RES] [GAA]** | | 27 | UJ | 26 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB16-2022 | | 06SB16-2628 | | 06TBSO-051310 | | 06TBSO-051910 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 5/17/2010 | | 5/17/2010 | | 5/13/2010 | | 5/19/2010 | |
| location | | | | | | MW-05/SB-16 | | MW-05/SB-16 | | QC | | QC | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB16-2022 | | 06SB16-2628 | | **06TBSO-051310** | | 06TBSO-051910 | |
| qc_type | | | | | | NM | | **MSD** | | TB | | TB | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 20 | | 26 | | - | | - | |
| bottom_dep | | | | | | 22 | | 28 | | - | | - | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | NA | | NA | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 17 | | 19 | | 21 | | 27 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 3.3 | U | 3.6 | U | 5 | U | 5 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 3.3 | U | 3.6 | U | 5 | U | 5 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 3.3 | U | 3.6 | U | 5 | U | 5 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 3.3 | U | 3.6 | U | 5 | U | 5 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 3.3 | U | 3.6 | U | 5 | U | 5 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 3.3 | U | 3.6 | U | 1.1 | J | 5 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 3.3 | U | 3.6 | U | 5 | U | 5 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 28 | UJ | 26 | UJ | | | | |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB02-1719 | | 06SB02-2325 | | 06SB03-1416 | | 06SB03-2224 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 5/12/2010 | | 5/12/2010 | | 5/12/2010 | | 5/12/2010 | |
| location | | | | | | SB-02 | | SB-02 | | SB-03 | | SB-03 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB02-1719 | | 06SB02-2325 | | 06SB03-1416 | | 06SB03-2224 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 17 | | 23 | | 14 | | 22 | |
| bottom_dep | | | | | | 19 | | 25 | | 16 | | 24 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 31 | | 33 | | 35 | | 37 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 4 | U | 3.8 | U | 3.6 | U | 3.6 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 1.9 | J | 3.8 | U | 3.6 | U | 3.6 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 2.1 | J | 1 | J | 3.6 | U | 3.6 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 4 | U | 3.8 | U | 3.6 | U | 3.6 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 4 | U | 3.8 | U | 3.6 | U | 3.6 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 4 | U | 3.8 | U | 3.6 | U | 3.6 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 2.1 | J | 1 | J | 3.6 | U | 3.6 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | **1100 [RES] [GAA]** | J | 97 | | 27 | U | 32 | |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB03-2224-AVG | | 06SB03-2224-D | | 06SB04-1214 | | 06SB04-1618 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 5/12/2010 | | 5/12/2010 | | 5/19/2010 | | 5/19/2010 | |
| location | | | | | | SB-03 | | SB-03 | | SB-04 | | SB-04 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB03-2224-AVG | | 06SBDUP01 | | 06SB04-1214 | | 06SB04-1618 | |
| qc_type | | | | | | NM | | FD | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | 06SB03-2224 | | | | | |
| top_depth | | | | | | 22 | | 22 | | 12 | | 16 | |
| bottom_dep | | | | | | 24 | | 24 | | 14 | | 18 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 38 | | 40 | | 43 | | 45 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 3.8 | U | 4 | U | 3.5 | U | 4.2 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 3.8 | U | 4 | U | 3.5 | U | 4.2 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 3.8 | U | 4 | U | 3.5 | U | 4.2 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 3.8 | U | 4 | U | 3.5 | U | 4.2 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 3.8 | U | 4 | U | 3.5 | U | 4.2 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 3.8 | U | 4 | U | 3.5 | U | 4.2 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 3.8 | U | 4 | U | 3.5 | U | 4.2 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 23 | | 28 | U | 24 | U | 27 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | 06SB05-1416 | | 06SB05-1618 | | 06SB06-1517 | | 06SB06-2224 | |
| sample_date | | | | | | 5/19/2010 | | 5/19/2010 | | 5/13/2010 | | 5/13/2010 | |
| location | | | | | | SB-05 | | SB-05 | | SB-06 | | SB-06 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB05-1416 | | 06SB05-1618 | | 06SB06-1517 | | 06SB06-2224 | |
| qc_type | | | | | | NM | | NM | | NM | | **MS** | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 14 | | 16 | | 15 | | 22 | |
| bottom_dep | | | | | | 16 | | 18 | | 17 | | 24 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 47 | | 49 | | 51 | | 53 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 3.9 | U | 3.7 | U | 4.1 | U | 4.2 | UJ |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 3.9 | U | 3.7 | U | 4.1 | U | 4.2 | UJ |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 3.9 | U | 3.7 | U | 4.1 | U | 4.2 | UJ |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 3.9 | U | 3.7 | U | 4.1 | U | 4.2 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 3.9 | U | 3.7 | U | 4.1 | U | 4.2 | UJ |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 3.9 | U | 3.7 | U | 4.1 | U | 4.2 | UJ |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 3.9 | U | 3.7 | U | 4.1 | U | 4.2 | UJ |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 29 | U | 29 | U | **610 [RES] [GAA]** | J | 28 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | 06SB07-1214 | | 06SB07-1416 | | 06SB08-1214 | | 06SB08-1416 | |
| sample_date | | | | | | 5/14/2010 | | 5/14/2010 | | 5/14/2010 | | 5/14/2010 | |
| location | | | | | | SB-07 | | SB-07 | | SB-08 | | SB-08 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB07-1214 | | 06SB07-1416 | | 06SB08-1214 | | 06SB08-1416 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 12 | | 14 | | 12 | | 14 | |
| bottom_dep | | | | | | 14 | | 16 | | 14 | | 16 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 55 | | 57 | | 59 | | 61 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 3.6 | U | 3.4 | U | 3.7 | U | 4 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 3.6 | U | 3.4 | U | 3.7 | U | 4 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 3.6 | U | 3.4 | U | 3.7 | U | 4 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 3.6 | U | 3.4 | U | 3.7 | U | 4 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 3.6 | U | 3.4 | U | 3.7 | U | 4 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 3.6 | U | 3.4 | U | 3.7 | U | 4 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 3.6 | U | 3.4 | U | 3.7 | U | 4 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 26 | U | 28 | U | 27 | U | 29 | |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | 06SB10-0810 | | 06SB10-1214 | | 06SB10-1214-AVG | | 06SB10-1214-D | |
| sample_date | | | | | | 5/20/2010 | | 5/20/2010 | | 5/20/2010 | | 5/20/2010 | |
| location | | | | | | SB-10 | | SB-10 | | SB-10 | | SB-10 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB10-0810 | | 06SB10-1214 | | 06SB10-1214-AVG | | 06SBDUP02 | |
| qc_type | | | | | | NM | | NM | | NM | | FD | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | 06SB10-1214 | |
| top_depth | | | | | | 8 | | 12 | | 12 | | 12 | |
| bottom_dep | | | | | | 10 | | 14 | | 14 | | 14 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 63 | | 65 | | 66 | | 68 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 4.1 | U | 4.3 | U | 4 | U | 3.7 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 4.1 | U | 4.3 | U | 4 | U | 3.7 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 4.1 | U | 4.3 | U | 4 | U | 3.7 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 4.1 | U | 4.3 | U | 4 | U | 3.7 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 4.1 | U | 4.3 | U | 4 | U | 3.7 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 4.1 | U | 4.3 | U | 4 | U | 3.7 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 4.1 | U | 4.3 | U | 4 | U | 3.7 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 29 | U | 27 | U | 27 | UJ | 27 | UJ |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | 06SB11-0810 | | 06SB11-1012 | | 06SB12-1214 | | 06SB12-1416 | |
| sample_date | | | | | | 5/14/2010 | | 5/14/2010 | | 5/17/2010 | | 5/17/2010 | |
| location | | | | | | SB-11 | | SB-11 | | SB-12 | | SB-12 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB11-0810 | | 06SB11-1012 | | 06SB12-1214 | | 06SB12-1416 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 8 | | 10 | | 12 | | 14 | |
| bottom_dep | | | | | | 10 | | 12 | | 14 | | 16 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 71 | | 73 | | 75 | | 77 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 4 | U | 4.4 | U | 4.4 | U | 4 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 4 | U | 4.4 | U | 4.4 | U | 4 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 4 | U | 4.4 | U | 4.4 | U | 4 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 4 | U | 4.4 | U | 4.4 | U | 4 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 4 | U | 4.4 | U | 4.4 | U | 4 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 4 | U | 4.4 | U | 4.4 | U | 4 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 4 | U | 4.4 | U | 4.4 | U | 4 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 31 | UJ | 50 | J | 28 | UJ | 28 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB13-1012 | | 06SB13-1214 | | 06SB15-0810 | | 06SB15-1012 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 5/17/2010 | | 5/17/2010 | | 5/20/2010 | | 5/20/2010 | |
| location | | | | | | SB-13 | | SB-13 | | SB-15 | | SB-15 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB13-1012 | | 06SB13-1214 | | 06SB15-0810 | | 06SB15-1012 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 10 | | 12 | | 8 | | 10 | |
| bottom_dep | | | | | | 12 | | 14 | | 10 | | 12 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 79 | | 81 | | 83 | | 85 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 4.2 | U | 3.3 | UJ | 3.8 | U | 3.8 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 4.2 | U | 3.3 | UJ | 3.8 | U | 3.8 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 4.2 | U | 3.3 | UJ | 3.8 | U | 3.8 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 4.2 | U | 3.3 | UJ | 3.8 | U | 3.8 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 4.2 | U | 3.3 | UJ | 3.8 | U | 3.8 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 4.2 | U | 3.3 | UJ | 3.8 | U | 3.8 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 4.2 | U | 3.3 | UJ | 3.8 | U | 3.8 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 28 | UJ | 27 | UJ | 30 | U | 29 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | 06SB17-0810 | | 06SB17-1012 | | 06SB18-0810 | | 06SB18-1012 | |
| sample_date | | | | | | 5/18/2010 | | 5/18/2010 | | 5/18/2010 | | 5/18/2010 | |
| location | | | | | | SB-17 | | SB-17 | | SB-18 | | SB-18 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | | 02634_20100728 | |
| sample_coc | | | | | | 06SB17-0810 | | 06SB17-1012 | | 06SB18-0810 | | 06SB18-1012 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 8 | | 10 | | 8 | | 10 | |
| bottom_dep | | | | | | 10 | | 12 | | 10 | | 12 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 87 | | 89 | | 91 | | 93 | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 4 | U | 3.6 | U | 4.1 | UJ | 3.3 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 4 | U | 3.6 | U | 4.1 | UJ | 3.3 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 4 | U | 3.6 | U | 4.1 | UJ | 3.3 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 4 | U | 3.6 | U | 4.1 | UJ | 3.3 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 4 | U | 3.6 | U | 4.1 | UJ | 3.3 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 4 | U | 3.6 | U | 4.1 | UJ | 3.3 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 4 | U | 3.6 | U | 4.1 | UJ | 3.3 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 28 | U | 26 | U | 26 | U | 26 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB20-0103 | | 06SB20-0406 | | 06SB28-1820 | | 06SB28-2325 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 5/19/2010 | | 5/19/2010 | | 6/14/2011 | | 6/14/2011 | |
| location | | | | | | SB-20 | | SB-20 | | SB-28 | | SB-28 | |
| project_no | | | | | | 02634_20100728 | | 02634_20100728 | | | | | |
| sample_coc | | | | | | 06SB20-0103 | | 06SB20-0406 | | 06SB28-1820 | | 06SB28-2325 | |
| qc_type | | | | | | NM | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 1 | | 4 | | 18 | | 23 | |
| bottom_dep | | | | | | 3 | | 6 | | 20 | | 25 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | 95 | | 97 | | | | | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | 37000 | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 4.6 | U | 5.7 | U | 1.6 | U | 1.3 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 4.6 | U | 5.7 | U | 1.6 | U | 1.3 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 4.6 | U | 5.7 | U | 3.2 | U | 2.7 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 4.6 | U | 5.7 | U | 1.6 | U | 1.3 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 4.6 | U | 5.7 | U | 1.6 | U | 1.3 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 4.6 | U | 5.7 | U | 1.6 | U | 1.3 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 4.6 | U | 5.7 | U | 1.6 | U | 1.3 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 98 | | 150 | | 16 | U | 16 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB22-0911 | | 06SB22-1719 | | 06SB22-1719-D | | 06SB24-1719 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 6/15/2011 | | 6/15/2011 | | 6/15/2011 | | 6/15/2011 | |
| location | | | | | | SB-22 | | SB-22 | | SB-22 | | SB-24 | |
| project_no | | | | | | | | | | | | | |
| sample_coc | | | | | | 06SB22-0911 | | 06SB22-1719 | | 06SB22-1719-D | | 06SB24-1719 | |
| qc_type | | | | | | NM | | NM | | FD | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | 06SB22-1719 | | | |
| top_depth | | | | | | 9 | | 17 | | 17 | | 17 | |
| bottom_dep | | | | | | 11 | | 19 | | 19 | | 19 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB-22 | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | | | | | | | | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 1.6 | U | 1.9 | U | 1.7 | U | 1.4 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 1.6 | U | 1.9 | U | 1.7 | U | 1.4 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 3.2 | U | 3.7 | U | 3.3 | U | 2.9 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 1.6 | U | 1.9 | U | 1.7 | U | 1.4 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 1.6 | U | 1.9 | U | 1.7 | U | 1.4 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 1.6 | U | 1.9 | U | 1.7 | U | 1.4 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 1.6 | U | 1.9 | U | 1.7 | U | 1.4 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 20 | | 30 | | 23 | | 33 | |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB24-1921 | | 06SB21-1517 | | 06SB21-1719 | | 06TBSO-20110614 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 6/15/2011 | | 6/16/2011 | | 6/16/2011 | | 6/14/2011 | |
| location | | | | | | SB-24 | | SB-21 | | SB-21 | | QC | |
| project_no | | | | | | | | | | | | | |
| sample_coc | | | | | | 06SB24-1921 | | 06SB21-1517 | | 06SB21-1719 | | TB | |
| qc_type | | | | | | NM | | NM | | NM | | SO | |
| matrix | | | | | | SO | | SO | | SO | | AQ | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 19 | | 15 | | 17 | | | |
| bottom_dep | | | | | | 21 | | 17 | | 19 | | | |
| depth_unit | | | | | | FT | | FT | | FT | | | |
| submatrix | | | | | | SB | | SB | | SB | | | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | | | | | | | | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 1.5 | U | 0.14 | U | 1.6 | U | 2.0 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 1.5 | U | 0.14 | U | 1.6 | U | 2.0 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 3.0 | U | 0.28 | U | 3.2 | U | 4.0 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 1.5 | U | 0.14 | U | 1.6 | U | 2.0 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 1.5 | U | 0.14 | U | 1.6 | U | 2.0 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 1.5 | U | 0.14 | U | 1.6 | U | 2.0 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 1.5 | U | 0.14 | U | 1.6 | U | 2.0 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 23 | J | 400 | | **1900 [RES] [GAA]** | | | |

**Notes:**
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J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB24-1921-D | | 06SB23-0709 | | 06SB23-0911 | | 06SB26-1416 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 6/15/2011 | | 6/16/2011 | | 6/16/2011 | | 6/17/2011 | |
| location | | | | | | SB-24 | | SB-23 | | SB-23 | | SB-26 | |
| project_no | | | | | | 06SBDUP02-20110615 | | | | | | | |
| sample_coc | | | | | | | | | | | | | |
| qc_type | | | | | | FD | | NM | | NM | | NM | |
| matrix | | | | | | SO | | SO | | SO | | SO | |
| duplicate | | | | | | 06SB24-1921 | | | | | | | |
| top_depth | | | | | | 19 | | 7 | | 9 | | 14 | |
| bottom_dep | | | | | | 21 | | 9 | | 11 | | 16 | |
| depth_unit | | | | | | FT | | FT | | FT | | FT | |
| submatrix | | | | | | SB | | SB | | SB | | SB | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | | | | | | | | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 1.5 | U | 1.5 | U | 1.3 | U | 1.4 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 1.5 | U | 1.5 | U | 1.3 | U | 97 | J |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 3.1 | U | 3.0 | U | 2.7 | U | 53 | J |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 1.5 | U | 1.5 | U | 1.3 | U | 1.4 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 1.5 | U | 1.5 | U | 1.3 | U | 1.4 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 1.5 | U | 1.5 | U | 1.3 | U | 1.1 | J |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 1.5 | U | 1.5 | U | 1.3 | U | 53 | J |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 110 | J | 36 | | 28 | | **2400 [RES] [GAA]** | |

**Notes:**
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J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB26-2426 | | 06SB27-0911 | | 06SB27-1315 | | 06TBSO-20110620 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 6/17/2011 | | 6/20/2011 | | 6/20/2011 | | 6/20/2011 | |
| location | | | | | | SB-26 | | SB-27 | | SB-27 | | QC | |
| project_no | | | | | | | | | | | | | |
| sample_coc | | | | | | | | | | | | TRIP BLANK | |
| qc_type | | | | | | NM | | AVG | | AVG | | TB | |
| matrix | | | | | | SO | | SO | | SO | | AQ | |
| duplicate | | | | | | | | | | | | | |
| top_depth | | | | | | 24 | | 9 | | 13 | | | |
| bottom_dep | | | | | | 26 | | 11 | | 15 | | | |
| depth_unit | | | | | | FT | | FT | | FT | | | |
| submatrix | | | | | | SB | | SB | | SB | | | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | | | | | | | | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 1.3 | U | 1.4 | U | 1.3 | U | 2.0 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 16 | J | 1.4 | U | 1.3 | U | 2.0 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 7.4 | J | 2.9 | U | 2.6 | U | 4.0 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 1.3 | U | 1.4 | U | 1.3 | U | 2.0 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 1.3 | U | 1.4 | U | 1.3 | P | 2.0 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 1.3 | U | 1.4 | U | 1.3 | U | 2.0 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 7.4 | J | 1.4 | U | 1.3 | U | 2.0 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | **4400 [RES] [GAA]** | | 12.1 | | 11.9 | U | | |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-1**
**SUMMARY OF ANALYTICAL RESULTS**
**SOIL SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | | | | | | 06SB25-0507 | | 06SB25-1820 | | 06RB-20110621 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | 6/21/2011 | | 6/21/2011 | | 6/21/2011 | |
| location | | | | | | SB-25 | | SB-25 | | | |
| project_no | | | | | | | | | | | |
| sample_coc | | | | | | | | | | | |
| qc_type | | | | | | AVG | | AVG | | RB | |
| matrix | | | | | | SO | | SO | | SO | |
| duplicate | | | | | | | | | | | |
| top_depth | | | | | | 5 | | 18 | | | |
| bottom_dep | | | | | | 7 | | 20 | | | |
| depth_unit | | | | | | FT | | FT | | | |
| submatrix | | | | | | SB | | SB | | AQ | |
| | cas | CTDEP Resid. DEC | resdec_units | CTDEP PMC GA/GAA | CTDEP PMC Units | | | | | | |
| **Miscellaneous Parameters (mg/kg)** | | | | | | | | | | | |
| TOTAL ORGANIC CARBON | TTNUS003 | NA | | NA | | | | | | | |
| **Volatile Organics (ug/kg)** | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 21000 | UG/KG | 20 | UG/KG | 1.3 | U | 1.4 | U | 0.50 | U |
| ETHYLBENZENE | 100-41-4 | 500000 | UG/KG | 10100 | UG/KG | 1.3 | U | 1.4 | U | 0.50 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | 2.6 | U | 2.8 | U | 1.0 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 500000 | UG/KG | 2000 | UG/KG | 1.3 | U | 1.4 | U | 0.50 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | 1.3 | U | 1.4 | U | 0.50 | U |
| TOLUENE | 108-88-3 | 500000 | UG/KG | 20000 | UG/KG | 1.3 | U | 1.4 | U | 0.50 | U |
| **TOTAL XYLENES** | 1330-20-7 | 500000 | UG/KG | 19500 | UG/KG | 1.3 | U | 1.4 | U | 1.0 | U |
| **Petroleum Hydrocarbons (mg/kg)** | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 500 | MG/KG | 500 | MG/KG | 11.4 | U | **970 [RES] [GAA]** | | 0.14 | |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/KG = microgram per kilogram (parts per billion)
MG/KG = milligram per kilogram (parts per million)
RES = CTDEP Residential Exposure Criteria
GAA = Groundwater Classification Criteria
**3200 [RES] [GAA] = concentration exceeds applicable CT DEP RSR**

**TABLE 3-2**
**SUMMARY OF ANALYTICAL RESULTS**
**GROUNDWATER SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | JUNE 2010 SAMPLING EVENT | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | | | 06MW01-20100615 | | 06MW02-20100615 | | 06MW03-20100615 | | 06MW04-20100615 | | 06MW05-20100615 | | 06MW05-20100615-AVG | | 06MW05-20100615-D | |
| sample_date | | | | | | | | 20100615 | | 20100615 | | 20100615 | | 20100615 | | 20100615 | | 20100615 | | 20100615 | |
| location | | | | | | | | 6MW-01 | | 6MW-02 | | 6MW-03 | | 6MW-04 | | 6MW-05 | | 6MW-05 | | 6MW-05 | |
| project_no | | | | | | | | 02634_20100804 | | 02634_20100804 | | 02634_20100804 | | 02634_20100804 | | 02634_20100804 | | 02634_20100804 | | 02634_20100804 | |
| sample_coc | | | | | | | | 06MW01-20100615 | | 06MW02-20100615 | | 06MW03-20100615 | | 06MW04-20100615 | | 06MW05-20100615 | | 06MW05-20100615-AVG | | 06MW10-20100615 | |
| qc_type | | | | | | | | NM | | NM | | NM | | NM | | NM | | NM | | FD | |
| matrix | | | | | | | | GW | | GW | | GW | | GW | | GW | | GW | | GW | |
| duplicate | | | | | | | | | | | | | | | | | | | | 06MW05-20100615 | |
| | cas | CTDEP GWPC | gwpc_units | CTDEP SWPC | swpc_units | CTDEP RESID. VC | resvc_units | | | | | | | | | | | | | | |
| **VPH - Volatile Organics (ug/L)** | | | | | | | | | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 1 | ug/L | 710 | ug/L | 130 | ug/L | 10 | U | 5 | U | **22.2 [GW]** | | 5 | U | 5 | U | 5 | U | 5 | U |
| ETHYLBENZENE | 100-41-4 | 700 | ug/L | 580000 | ug/L | 2,700 | ug/L | 47.4 | | 5 | U | 41.4 | | 5 | U | 5 | U | 5 | U | 5 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 70 | ug/L | 710 | ug/L | 21,000 | ug/L | 10 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| **NAPHTHALENE** | 91-20-3 | 280 | ug/L | 24 | ug/L | NE | ug/L | **183 [SW]** | | 5 | U | **111 [SW]** | | 5 | U | 5 | U | 5 | U | 5 | U |
| TOLUENE | 108-88-3 | 1000 | ug/L | 4000000 | ug/L | 7,100 | ug/L | 36.2 | | 5 | U | 5.6 | | 5 | U | 5 | U | 5 | U | 5 | U |
| C5-C8 ALIPHATICS | TTNUS083 | NA | | NA | | NA | | 156 | | 75 | U | 122 | | 75 | U | 75 | U | 75 | U | 75 | U |
| C9-C10 AROMATICS | TTNUS167 | NA | | NA | | NA | | 726 | | 25 | U | 303 | | 25 | U | 25 | U | 25 | U | 25 | U |
| C9-C12 ALIPHATICS | TTNUS168 | NA | | NA | | NA | | 1460 | | 25 | U | 594 | | 30.2 | | 25 | U | 25 | U | 25 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | NA | | 65 | | 10 | U | 58.4 | | 10 | U | 10 | U | 10 | U | 10 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | NA | | 70.5 | | 5 | U | 15.9 | | 5 | U | 5 | U | 5 | U | 5 | U |
| **Petroleum Hydrocarbons (mg/L)** | | | | | | | | | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 0.1 | mg/L | NA | | NE | | **1.7 [GW]** | | 0.035 | U | **2.2 [GW]** | | **0.75 [GW]** | | 0.035 | U | 0.035 | U | 0.035 | U |

**Notes:**
U = Not detected at the reporting limit
J = analyte detcted below quantitation limit
UG/L = microgram per liter (parts per billion)
MG/L - milligram per liter (parts per million)
GW = Groundwater Protection Criteria (CTDEP GWPC)
SW = Surface Water Protection Criteria (CTDEP SWPC)
**1.7 [GW] = concentration exceeds applicable CT DEP RSR (GWPC) or SWPC**

**TABLE 3-2**
**SUMMARY OF ANALYTICAL RESULTS**
**GROUNDWATER SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | | | JULY 2011 SAMPLING EVENT | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | | | TB_20100615 | | 06MW01-20110719 | | 06MW02-20110719 | | 06MW03-20110720 | | 06MW04-20110721 | | 06MW05-20110721 | | 06MW06-20110719 | |
| sample_date | | | | | | | | 20100615 | | 7/19/2011 | | 7/19/2011 | | 7/20/2011 | | 7/21/2011 | | 7/21/2011 | | 7/19/2011 | |
| location | | | | | | | | QC | | 6MW-01 | | 6MW-02 | | 6MW-03 | | 6MW-04 | | 6MW-05 | | 6MW-06 | |
| project_no | | | | | | | | 02634_20100804 | | | | | | | | | | | | | |
| sample_coc | | | | | | | | TRIP BLANK | | 06MW01-20110719 | | 06MW02-20110719 | | 06MW03-20110720 | | 06MW04-20110721 | | 06MW05-20110721 | | 06MW06-20110719 | |
| qc_type | | | | | | | | TB | | NM | | NM | | NM | | MN | | NM | | NM | |
| matrix | | | | | | | | QC | | GW | | GW | | GW | | GW | | GW | | GW | |
| duplicate | | | | | | | | | | | | | | | | | | | | | |
| | cas | CTDEP GWPC | gwpc_units | CTDEP SWPC | swpc_units | CTDEP RESID. VC | resvc_units | | | | | | | | | | | | | | |
| **VPH - Volatile Organics (ug/L)** | | | | | | | | | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 1 | ug/L | 710 | ug/L | 130 | ug/L | 5 | U | 5 | U | 5 | U | **24.3 [GW]** | | 5 | U | 5 | U | 5 | U |
| ETHYLBENZENE | 100-41-4 | 700 | ug/L | 580000 | ug/L | 2,700 | ug/L | 5 | U | 36.7 | | 5 | U | 52.6 | | 5 | U | 5 | U | 5 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 70 | ug/L | 710 | ug/L | 21,000 | ug/L | 5 | U | 5 | U | 5 | U | 10 | U | 5 | U | 5 | U | 5 | U |
| **NAPHTHALENE** | 91-20-3 | 280 | ug/L | 24 | ug/L | NE | ug/L | 5 | U | **123 [SW]** | | 1.6 | J | **131 [SW]** | | 13 | | 5 | U | 2.7 | J |
| TOLUENE | 108-88-3 | 1000 | ug/L | 4000000 | ug/L | 7,100 | ug/L | 5 | U | 18.1 | | 5 | U | 19.4 | | 5 | U | 5 | U | 5 | U |
| C5-C8 ALIPHATICS | TTNUS083 | NA | | NA | | NA | | 75 | U | 5.98 | J | 4.69 | U | 21.5 | | 5.67 | J | 5.12 | J | 5.18 | J |
| C9-C10 AROMATICS | TTNUS167 | NA | | NA | | NA | | 25 | U | 53.9 | | 2.55 | | 39.6 | | 5.9 | | 0.65 | J | 2.18 | J |
| C9-C12 ALIPHATICS | TTNUS168 | NA | | NA | | NA | | 25 | U | 102 | | 4.47 | | 82.9 | | 10.2 | | 1.41 | J | 4.23 | |
| M+P-XYLENES | TTNUS054 | NA | | NA | | NA | | 10 | U | 46.8 | | 10 | U | 84.6 | | 2.9 | J | 10 | U | 10 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | NA | | 5 | U | 38.3 | | 5 | U | 25.1 | | 5 | U | 5 | U | 5 | U |
| **Petroleum Hydrocarbons (mg/L)** | | | | | | | | | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 0.1 | mg/L | NA | | NE | | | | **2.5 [GW]** | | **0.23 [GW]** | | **3.5 [GW]** | | **1.1 [GW]** | | 0.1 | U | **0.38 [GW]** | |

**Notes:**
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GW = Groundwater Protection Criteria (CTDEP GWPC)
SW = Surface Water Protection Criteria (CTDEP SWPC)
**1.7 [GW] = concentration exceeds applicable CT DEP RSR (GWPC) or SWPC**

**TABLE 3-2**
**SUMMARY OF ANALYTICAL RESULTS**
**GROUNDWATER SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | cas | CTDEP GWPC | gwpc_units | CTDEP SWPC | swpc_units | CTDEP RESID. VC | resvc_units | 06MW07-20110719 | | 06MW08-20110719 | | 06MW09-20110718 | | 06MW-DUP01-20110718-D | | 06MW10-20110720 | | 06MW11-20110720 | | 06MW12-20110720 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | | | 7/19/2011 | | 7/19/2011 | | 7/18/2011 | | 7/18/2011 | | 7/20/2011 | | 7/20/2011 | | 7/20/2011 | |
| location | | | | | | | | 6MW-07 | | 6MW-08 | | 6MW-09 | | 6MW-09 | | 6MW-10 | | 6MW-11 | | 6MW-12 | |
| project_no | | | | | | | | | | | | | | | | | | | | | |
| sample_coc | | | | | | | | 06MW07-20110719 | | 06MW08-20110719 | | 06MW09-20110718 | | 06MW-DUP01-20110718-D | | 06MW10-20110720 | | 06MW11-20110720 | | 06MW12-20110720 | |
| qc_type | | | | | | | | NM | | NM | | NM | | DUPLICATE | | NM | | NM | | NM | |
| matrix | | | | | | | | GW | | GW | | GW | | GW | | GW | | GW | | GW | |
| duplicate | | | | | | | | | | | | | | 6MW09-20110718 | | | | | | | |
| **VPH - Volatile Organics (ug/L)** | | | | | | | | | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 1 | ug/L | 710 | ug/L | 130 | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| ETHYLBENZENE | 100-41-4 | 700 | ug/L | 580000 | ug/L | 2,700 | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 70 | ug/L | 710 | ug/L | 21,000 | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| **NAPHTHALENE** | 91-20-3 | 280 | ug/L | 24 | ug/L | NE | ug/L | 5 | U | 5 | U | 6.2 | | 6.7 | | 17.6 | | 5 | U | 5 | U |
| TOLUENE | 108-88-3 | 1000 | ug/L | 4000000 | ug/L | 7,100 | ug/L | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| C5-C8 ALIPHATICS | TTNUS083 | NA | | NA | | NA | | 4.68 | J | 4.2 | U | 4.67 | U | 4.57 | U | 5.68 | U | 5.37 | U | 5.26 | U |
| C9-C10 AROMATICS | TTNUS167 | NA | | NA | | NA | | 0.602 | J | 0.597 | J | 2.8 | | 2.97 | | 8.61 | | 2.48 | J | 0.855 | J |
| C9-C12 ALIPHATICS | TTNUS168 | NA | | NA | | NA | | 1.38 | J | 1.27 | J | 7.21 | | 7.16 | | 19.4 | | 3.4 | | 1.32 | J |
| M+P-XYLENES | TTNUS054 | NA | | NA | | NA | | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U | 10 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | NA | | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U | 5 | U |
| **Petroleum Hydrocarbons (mg/L)** | | | | | | | | | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 0.1 | mg/L | NA | | NE | | **0.20 [GW]** | | **0.19 [GW]** | | **0.78 [GW]** | | **0.86 [GW]** | | **1.4 [GW]** | | **0.26 [GW]** | | 0.1 | U |

**Notes:**
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UG/L = microgram per liter (parts per billion)
MG/L - milligram per liter (parts per million)
GW = Groundwater Protection Criteria (CTDEP GWPC)
SW = Surface Water Protection Criteria (CTDEP SWPC)
**1.7 [GW] = concentration exceeds applicable CT DEP RSR (GWPC) or SWPC**

**TABLE 3-2**
**SUMMARY OF ANALYTICAL RESULTS**
**GROUNDWATER SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | | | | | | | | OCTOBER 2011 SAMPLING EVENT | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | | | 06MW13-20110719 | | TB06-071811 | | TB06-20110719 | | 06MW01-111025 | | 06MW02-111025 | | 06MW03-111025 | | 06MW04-111024 | |
| sample_date | | | | | | | | 7/19/2011 | | 7/18/2011 | | 7/19/2011 | | 10/25/2011 | | 10/25/2011 | | 10/25/2011 | | 10/24/2011 | |
| location | | | | | | | | 6MW-13 | | | | | | 6MW-01 | | 6MW-02 | | 6MW-03 | | 6MW-04 | |
| project_no | | | | | | | | | | | | | | | | | | | | | |
| sample_coc | | | | | | | | 06MW13-20110719 | | TB06-071811 | | TB06-20110719 | | 06MW-01-111025 | | 06MW-02-111025 | | 06MW-03-111025 | | 06MW-04-111024 | |
| qc_type | | | | | | | | NM | | TRIP BLANK | | TRIP BLANK | | NM | | NM | | NM | | MN | |
| matrix | | | | | | | | GW | | AQ | | AQ | | GW | | GW | | GW | | GW | |
| duplicate | | | | | | | | | | | | | | | | | | | | | |
| | cas | CTDEP GWPC | gwpc_units | CTDEP SWPC | swpc_units | CTDEP RESID. VC | resvc_units | | | | | | | | | | | | | | |
| **VPH - Volatile Organics (ug/L)** | | | | | | | | | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 1 | ug/L | 710 | ug/L | 130 | ug/L | 5 | U | 5 | U | 5 | U | 1.3 | U | 1.3 | U | **39.5 [GW]** | | 1.3 | U |
| ETHYLBENZENE | 100-41-4 | 700 | ug/L | 580000 | ug/L | 2,700 | ug/L | 5 | U | 5 | U | 5 | U | 44.2 | | 1.4 | U | 73.7 | | 1.4 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 70 | ug/L | 710 | ug/L | 21,000 | ug/L | 5 | U | 5 | U | 5 | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 | U |
| **NAPHTHALENE** | 91-20-3 | 280 | ug/L | 24 | ug/L | NE | ug/L | 5 | U | 5 | U | 5 | U | **128 [SW]** | | 8.0 | | **155 [SW]** | | 6.8 | |
| TOLUENE | 108-88-3 | 1000 | ug/L | 4000000 | ug/L | 7,100 | ug/L | 5 | U | 5 | U | 5 | U | 16.7 | | 1.3 | U | 12 | | 1.3 | U |
| C5-C8 ALIPHATICS | TTNUS083 | NA | | NA | | NA | | 4.99 | U | 1.09 | J | 0.932 | J | 118 | U | 6.44 | U | 138 | U | 55.9 | U |
| C9-C10 AROMATICS | TTNUS167 | NA | | NA | | NA | | 0.754 | J | 0.124 | J | 0.12 | J | 509 | | 21.5 | U | 459 | | 36 | |
| C9-C12 ALIPHATICS | TTNUS168 | NA | | NA | | NA | | 1.11 | J | 2.5 | U | 2.5 | U | 796 | | 56.8 | | 714 | | 72.9 | |
| M+P-XYLENES | TTNUS054 | NA | | NA | | NA | | 10 | U | 10 | U | 10 | U | 58.3 | | 2.8 | U | 109 | | 2.8 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | NA | | 5 | U | 5 | U | 5 | U | 50.5 | | 1.1 | U | 33.8 | | 1.1 | U |
| **Petroleum Hydrocarbons (mg/L)** | | | | | | | | | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 0.1 | mg/L | NA | | NE | | **0.37 [GW]** | | | | | | **2.8 [GW]** | | **0.66 [GW]** | | **3.5 [GW]** | | **0.68 [GW]** | |

**Notes:**
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MG/L - milligram per liter (parts per million)
GW = Groundwater Protection Criteria (CTDEP GWPC)
SW = Surface Water Protection Criteria (CTDEP SWPC)
**1.7 [GW] = concentration exceeds applicable CT DEP RSR (GWPC) or SWPC**

**TABLE 3-2**
**SUMMARY OF ANALYTICAL RESULTS**
**GROUNDWATER SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| | cas | CTDEP GWPC | gwpc_units | CTDEP SWPC | swpc_units | CTDEP RESID. VC | resvc_units | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_id | | | | | | | | 06MW05-111025 | | 06MW06-20111124 | | 06MWDUP01-111024-D | | 06MW07-111025 | | 06MW08-20111024 | | 06MW09-111025 | | 06MW10-20111024 | |
| sample_date | | | | | | | | 10/25/2011 | | 10/24/2011 | | 10/24/2011 | | 10/25/2011 | | 10/24/2011 | | 10/25/2011 | | 10/24/2011 | |
| location | | | | | | | | 6MW-05 | | 6MW-06 | | 6MW-06 | | 6MW-07 | | 6MW-08 | | 6MW-09 | | 6MW-10 | |
| project_no | | | | | | | | | | | | | | | | | | | | | |
| sample_coc | | | | | | | | 06MW-05-111025 | | 06MW-06-20111024 | | 06MWDUPB01-111024 | | 06MW-07-111025 | | 06MW08-20111024 | | 06MW-09-111025 | | 06MW-10-20111024 | |
| qc_type | | | | | | | | NM | | NM | | DUPLICATE | | NM | | NM | | NM | | NM | |
| matrix | | | | | | | | GW | | GW | | GW | | GW | | GW | | GW | | GW | |
| duplicate | | | | | | | | | | | | 06MW06-20111124 | | | | | | | | | |
| **VPH - Volatile Organics (ug/L)** | | | | | | | | | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 1 | ug/L | 710 | ug/L | 130 | ug/L | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |
| ETHYLBENZENE | 100-41-4 | 700 | ug/L | 580000 | ug/L | 2,700 | ug/L | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 70 | ug/L | 710 | ug/L | 21,000 | ug/L | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 | U | 1.6 | U |
| **NAPHTHALENE** | 91-20-3 | 280 | ug/L | 24 | ug/L | NE | ug/L | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 1.2 | U | 18.3 | |
| TOLUENE | 108-88-3 | 1000 | ug/L | 4000000 | ug/L | 7,100 | ug/L | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |
| C5-C8 ALIPHATICS | TTNUS083 | NA | | NA | | NA | | 50.3 | U | 64.6 | U | 53.3 | U | 53.9 | U | 48.9 | U | 63.7 | U | 36.5 | U |
| C9-C10 AROMATICS | TTNUS167 | NA | | NA | | NA | | 13.4 | U | 6.42 | U | 6.69 | U | 6.46 | U | 4.46 | U | 19 | U | 72.7 | |
| C9-C12 ALIPHATICS | TTNUS168 | NA | | NA | | NA | | 23.2 | J | 14 | J | 9.52 | J | 15.2 | J | 9.4 | J | 47 | | 125 | |
| M+P-XYLENES | TTNUS054 | NA | | NA | | NA | | 2.8 | U | 2.8 | U | 2.8 | U | 2.8 | U | 2.8 | U | 2.8 | U | 2.8 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | NA | | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| **Petroleum Hydrocarbons (mg/L)** | | | | | | | | | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 0.1 | mg/L | NA | | NE | | **0.11 [GW]** | | **0.31 [GW]** | | **0.28 [GW]** | | **0.19 [GW]** | | **0.21 [GW]** | | **0.97 [GW]** | | **1.1 [GW]** | |

**Notes:**
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GW = Groundwater Protection Criteria (CTDEP GWPC)
SW = Surface Water Protection Criteria (CTDEP SWPC)
**1.7 [GW] = concentration exceeds applicable CT DEP RSR (GWPC) or SWPC**

**TABLE 3-2**
**SUMMARY OF ANALYTICAL RESULTS**
**GROUNDWATER SAMPLING**
**CTO WE56 - POLARIS PARK**
**GROTON, CT**

| sample_id | cas | CTDEP GWPC | gwpc_units | CTDEP SWPC | swpc_units | CTDEP RESID. VC | resvc_units | 06MW11-111024 | | 06MW12-111024 | | 06MW13-111025 | | TB06-111024 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| sample_date | | | | | | | | 11/24/2011 | | 10/24/2011 | | 10/25/2011 | | 7/18/2011 | |
| location | | | | | | | | 6MW-11 | | 6MW-12 | | 6MW-13 | | | |
| project_no | | | | | | | | | | | | | | | |
| sample_coc | | | | | | | | 06MW-11-111024 | | 06MW-12-111024 | | 06MW-13-111025 | | 06TBMW-111024 | |
| qc_type | | | | | | | | NM | | NM | | NM | | TRIP BLANK | |
| matrix | | | | | | | | GW | | GW | | GW | | AQ | |
| duplicate | | | | | | | | | | | | | | | |
| **VPH - Volatile Organics (ug/L)** | | | | | | | | | | | | | | | |
| **BENZENE** | 71-43-2 | 1 | ug/L | 710 | ug/L | 130 | ug/L | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |
| ETHYLBENZENE | 100-41-4 | 700 | ug/L | 580000 | ug/L | 2,700 | ug/L | 1.4 | U | 1.4 | U | 1.4 | U | 1.4 | U |
| METHYL TERT-BUTYL ETHER | 1634-04-4 | 70 | ug/L | 710 | ug/L | 21,000 | ug/L | 1.6 | U | 1.6 | U | 1.6 | J | 1.6 | U |
| **NAPHTHALENE** | 91-20-3 | 280 | ug/L | 24 | ug/L | NE | ug/L | 10.9 | | 1.2 | U | 1.2 | U | 1.2 | U |
| TOLUENE | 108-88-3 | 1000 | ug/L | 4000000 | ug/L | 7,100 | ug/L | 1.3 | U | 1.3 | U | 1.3 | U | 1.3 | U |
| C5-C8 ALIPHATICS | TTNUS083 | NA | | NA | | NA | | 55.4 | U | 49.4 | U | 62.2 | U | 8.53 | J |
| C9-C10 AROMATICS | TTNUS167 | NA | | NA | | NA | | 85 | | 9.82 | U | 8.2 | U | 1.12 | U |
| C9-C12 ALIPHATICS | TTNUS168 | NA | | NA | | NA | | 146 | | 10.2 | J | 27.9 | | 4.22 | U |
| M+P-XYLENES | TTNUS054 | NA | | NA | | NA | | 2.8 | U | 2.8 | U | 2.8 | U | 2.8 | U |
| O-XYLENE | 95-47-6 | NA | | NA | | NA | | 1.1 | U | 1.1 | U | 1.1 | U | 1.1 | U |
| **Petroleum Hydrocarbons (mg/L)** | | | | | | | | | | | | | | | |
| **EXTRACTABLE PETROLEUM HYDROCARBONS** | TTNUS573 | 0.1 | mg/L | NA | | NE | | **0.64 [GW]** | | 0.018 | U | **0.49 [GW]** | | | |

**Notes:**
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SW = Surface Water Protection Criteria (CTDEP SWPC)
**1.7 [GW] = concentration exceeds applicable CT DEP RSR (GWPC) or SWPC**

# APPENDIX A

# Soil Boring Logs

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB21 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/16/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/16/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW06 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | 5<br>4 | 16/24 | 0855 | | 5-6 ft Light brown very fine to fine sand, dry | SP | | 0.6 |
| 7 | | 6<br>4 | | | | 6-7 ft light grey fine to medium sand, dry<br>1 in., dry. Weathered rock in shoe. | SW | | |
| 8 | | 9<br>16 | 8/19 | 0900 | | Light grey to light brown fine to coarse sand and subangular to subrounded gravel ¼ in to<br>1 in., dry. Weathered rock in shoe. | | | 7.4 |
| 9 | | 21<br>60/1 | | | | | | | |
| 10 | | 17<br>32 | 12/24 | 0925 | | Brown and grey weathered rock and subangular to angular gravel, dry. | GW | | 0.7 |
| 11 | | 38<br>25 | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | 9<br>19 | 11/24 | 0940 | | Brown to light brown fine to coarse sand, moist. | SW | | 2.3 |
| 15 | | 16<br>18 | | | | | | | |
| 16 | | 13<br>18 | 9/24 | Lab sample<br>1005 | | Same as above, grey in shoe | SW | Slight petrol odor | 352 |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 14.4 in augers, 13.83 after well construction | | |
| OTHER OBSERVATIONS: | Wet spoon 12.5 ft, drilled through 11-13 ft. | BORING NO.: 06SB21 | PAGE: 1 OF 2 |

TtNUS Form 0018

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|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB21 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/16/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/16/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW06 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 17 | | 15<br>20 | | | | | | | |
| 18 | | 24<br>30 | 19/24 | Lab sample<br>1010 | | Light brown to grey medium to coarse sand; trace subrounded gravel up to ¼ in., wet. | SW | Petroleum odor | 381 |
| 19 | | 44<br>60/0 | | | | | | | |
| 20 | | 60/3 | 0/3 | | | No recovery.<br>19 ft end of boring | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 14.4 in augers, 13.83 after well construction | | |
| OTHER OBSERVATIONS: | Wet spoon 12.5 ft, drilled through 11-13 ft. | BORING NO.: 06SB21 | PAGE: 2 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB22 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/15/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/15/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW07 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | 3<br>2 | 19/24 | 0825 | | Brown, very fine to fine sand, some silt, moist. | SP | | 0.0 |
| 7 | | 3<br>4 | | | | 7-8.5 ft Same as above | | | |
| 8 | | 4<br>3 | 25/24 | 0830 | | 8.5-9 ft light brown fine sand, trace weathered rock from 8.4-8.5 ft, moist | SP | | 0.2 |
| 9 | | 3<br>3 | | | | Light brown to grey fine sand, some silt, moist | SM | | |
| 10 | | 4<br>5 | 10/24 | Lab sample<br>0850 MS/MSD | | Weathered rock in shoe. | | | 0.1 |
| 11 | | 5<br>8 | | | | 11-12.5 ft Light brown to grey fine sand, some silt, moist | SM | | |
| 12 | | 11<br>25 | 13/24 | 0855 | | 12.5-13 ft brown/grey fine to medium sand, moist | SW | | 0.4 |
| 13 | | 41<br>60 | | | | | | | |
| 14 | | | | | | Drilled through 13-15 ft | | | |
| 15 | | | | | | | | | |
| 16 | | 5<br>7 | 10/24 | 0925 | | Brown medium to coarse sand, trace subrounded gravel up to ¼ in., wet | SW | | 0.4 |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 12.3 ft in augers (augers at 15 ft). 11.24 after well construction | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB | PAGE: 1 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB22 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/15/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/15/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW07 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 17 | | 8<br>14 | | | | | | | |
| 18 | | 4<br>7 | 10/24 | Lab sample<br>0930 | | Grey/brown medium to coarse sand, little subangular to subrounded gravel up to ½ in., wet | SW | | 0.2 |
| 19 | | 9<br>6 | | DUP01 | | 19 ft end of boring | | | |
| 20 | | | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB | PAGE: 2 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB23 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/16/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/16/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW08 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | 7<br>9 | 6/24 | No sample | | Brown fine sand, dry | SP | | NA |
| 7 | | 6<br>5 | | | | Weathered rock in bottom of shoe | | | |
| 8 | | 6<br>6 | 6/24 | Lab sample<br>1350 | | Brown/grey fine to medium sand, trace subrounded to subangular gravel up to ½ in., moist To wet. | SW | Slight petrol odor | 6.0 |
| 9 | | 5<br>7 | | | | | | | |
| 10 | | 19<br>31 | 12/24 | Lab sample<br>1410 | | 9-10.5 ft Grey very fine to fine sand, wet<br>10.5-11 ft brown/grey medium to coarse sand, wet | SP/SW | | 6.8 |
| 11 | | 28<br>22 | | | | | | | |
| 12 | | 24<br>29 | 17/24 | 1415 | | Same as above | SW | | 1.1 |
| 13 | | 18<br>20 | | | | | | | |
| 14 | | 9<br>11 | 10/24 | 1430 | | Grey, Same as above | SW | | 1.1 |
| 15 | | 9<br>9 | | | | 15 ft end of boring | | | |
| 16 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 4.94 after well construction | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB23 | PAGE: 1 OF 1 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB24 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/15/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/15/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW09 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | 6<br>18 | 12/18 | 1250 | | 5-6 ft light grey to light brown fine to medium sand, little coarse sand, trace subangular gravel up to 1 in. , dry. | SW | | 1.9 |
| 7 | | 75/6 | | | | 6-6.5 ft weathered rock | GW | | |
| 8 | | | | | | 6.5-10 ft Drilled through rock | | | |
| 9 | | | | | | | | | |
| 10 | | | | | | | | | |
| 11 | | 26<br>33 | 7/16 | 1300 | | Weathered rock | GW | | 1.0 |
| 12 | | 70/4 | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | 20<br>23 | 13/24 | 1320 | | 13-13.5 ft grey medium to coarse sand, some subangular gravel up t o1 in., wet<br>13.4-13.7 ft weathered rock | SW | | 1.4 |
| 15 | | 16<br>18 | | | | 13.7-15 ft, grey medium to coarse sand, some subangular gravel up t o1 in., wet | | | |
| 16 | | 5<br>6 | 13/24 | 1335 | | 15-15.5 same as above<br>15.5-17 ft brown very fine to fine sand, little silt, trace mica flakes, wet | SM | | 1.0 |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 13.15 ft after well construction | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB | PAGE: 1 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB24 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/15/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/15/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW09 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 17 | | 7<br>9 | | | | | | | |
| 18 | | 8<br>13 | 15/24 | Lab sample<br>1340 | | 17-18 ft light brown fine to coarse sand, wet | SW | | 71.1 |
| 19 | | 37<br>58 | | | | 18-19 ft grey fine to coarse sand, some weathered rock with purple tint in places, wet | SW | Slight petrol odor | |
| 20 | | 15<br>19 | 15/24 | Lab sample<br>1400 | | 19-21 ft Fine to coarse sand, little subangular to subrounded gravel up to ½ in., wet | SW | Slight petrol odor | 58.3 |
| 21 | | 23<br>20 | | DUP02 | | 21 ft end of boring | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note: | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | S = Screening | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | HS = Headspace | |
| METHOD OF ROCK CORING: | NA | EOB = End of Boring | |
| GROUNDWATER LEVELS: | | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB24 | PAGE: 2 OF 2 |

TtNUS Form 0018

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|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB25 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/21/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/21/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW10 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | 9<br>15 | 12/24 | 0840<br>Lab sample | | Brown fine to medium sand, trace rounded to angular gravel up to ½ in., dry | SW | | 9.1 |
| 7 | | 12<br>17 | | | | | | | |
| 8 | | 15<br>12 | 11/24 | 0850 | | Light brown/grey fine to medium sand, trace silt, dry | SW | | 1.0 |
| 9 | | 14<br>21 | | | | | | | |
| 10 | | 10<br>16 | 15/24 | 0910 | | Light brown fine to medium sand, little fine angular to subangular gravel, trace silt, dry | SW | | 1.2 |
| 11 | | 13<br>18 | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | | | | | | | | |
| 14 | | 25<br>60 | 10/12 | 0940 | | Light brown fine to medium sand, some fine angular to rounded gravel, trace silt, dry | SW | | 4.1 |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 19 ft in augers | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB25 | PAGE: 1 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB25 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/21/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/21/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW10 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 17 | | | | | | Rollerbit through stone/boulders from 16-19 ft bgs | | | |
| 18 | | | | | | | | | |
| 19 | | 21<br>25 | 20/24 | 1030<br>LAB QC, MS/MSD<br>Lab sample | | Grey fine to coarse sand, some subrounded to subangular gravel up to 1 in. damp to wet | SW | | 535 |
| 20 | | 30<br>35 | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | Rollerbit through stone/boulders from 22-26 | | | |
| 24 | | | | | | | | | |
| 25 | | | | | | | | | |
| 26 | | | | | | | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | Bottom of boring 32 ft bgs | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB25 | PAGE: 2 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB26 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/17/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/21/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW11 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | 15<br>24 | 10/24 | No sample (PID only) | | Light brown fine to medium sand, little subrounded gravel up to 1 in., dry | SW | | 2.6 |
| 7 | | 27<br>31 | | | | | | | |
| 8 | | 5<br>9 | 12/24 | 0930 | | Light grey fine to medium sand, dry | SW | Slight petrol odor | 8.4 |
| 9 | | 18<br>24 | | | | | | | |
| 10 | | | | | | 9-10 ft drilled through | | | |
| 11 | | 6<br>8 | 13/24 | 0945 | | 10-11 ft light grey medium to coarse sand, moist | SW | Strong petrol odor | 278 |
| 12 | | 11<br>12 | | | | 11-12 ft light grey very fine to fine sand, moist | | | |
| 13 | | 27<br>60/5 | 6/11 | 1025 | | Same as above | | Strong petrol odor | 638 |
| 14 | | | | | | | | | |
| 15 | | 19<br>22 | 14/24 | 1115<br>Lab sample | | Grey fine to medium sand, trace weathered rock, moist | SW | Strong petrol odor | 2957 |
| 16 | | 26<br>60/5 | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 23.9 in augers | | |
| OTHER OBSERVATIONS: | Stopped for thunder 0945-1025, 1035-1105 | BORING NO.: 06SB26 | PAGE: 1 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB26 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/17/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/21/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW11 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 17 | | | | | | 16-18 ft drilled through | | | |
| 18 | | | | | | | | | |
| 19 | | 55<br>60/3 | 7/9 | 1145 | | Same as above | SW | Slight petrol odor | 55.7 |
| 20 | | | | | | | | | |
| 21 | | | | | | 20-24 ft: drilled through | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | | | | | | | | |
| 25 | | 21<br>33 | 12/23 | 1215<br>Lab sample | | Grey medium to coarse sand, some platy granite, moist to wet | SW | Slight petrol odor<br>Sheen on spoon | 1334 |
| 26 | | 44<br>60/5 | | | | | | | |
| 27 | | | | | | 26 ft end of boring | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | | | |
| OTHER OBSERVATIONS: | Stopped for thunder 0945-1025, 1035-1105 | BORING NO.: 06SB26 | PAGE: 2 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB27 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/20/11 |
| LOGGED BY: | Robin Clark | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/20/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW12 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | | | | | Rollerbit through Boulder 5-7 ft | | | |
| 7 | | | | | | | | | |
| 8 | | | | | | | | | |
| 9 | | | | | | | | | |
| 10 | | 15<br>19 | 18/24 | 1310<br>Lab sample | | Light brown very fine to fine sand, little fine to medium subrounded gravel up to ½ in, trace<br>Damp to wet at bottom | SW | | 0.7 |
| 11 | | 24<br>20 | | | | | | | |
| 12 | | 16<br>40 | 16/24 | 1320 | | Light brown very fine to fine sand, some subrounded gravel up to 1 in, trace silt, damp to wet | SP | | 0.4 |
| 13 | | 33<br>39 | | | | | | | |
| 14 | | 9<br>5 | 12/24 | 1335<br>Lab sample | | Light brown very fine to fine sand, little fine subangular to subrounded gravel up to ½ in,<br>Trace silt, wet | SP | | 0.8 |
| 15 | | 11<br>24 | | | | | | | |
| 16 | | | | | | 15-17.4 ft Roller bit<br>17.4 ft end of boring | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 8.5 ft | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB27 | PAGE: 1 OF 1 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB28 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/14/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/14/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW13 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | Augered through air knife interval from 0-5 ft bgs | | | |
| 2 | | | | | | | | | |
| 3 | | | | | | | | | |
| 4 | | | | | | | | | |
| 5 | | | | | | | | | |
| 6 | | 25<br>31 | 18/24 | 0945 | | 5-6 ft light brown silt to silty very fine to fine sand, dry | SM | | 0.5 |
| 7 | | 15<br>40 | | | | 6-7 ft crushed granite, blocky, up to ½ in., dry | GW | | |
| 8 | | | | | | | | | 0.6 |
| 9 | | 14<br>60/4 | 7/10 | 1005 | | Brown fine to medium sand, trace silt and subangular to subrounded gravel up to 1 in., dry | SW | | |
| 10 | | | | | | | | | |
| 11 | | | | | | | | | |
| 12 | | | | | | | | | |
| 13 | | 18<br>26 | 9/24 | 1100 | | Grey/brown weathered rock, platy and blocky granite up to 1 in, dry | GW | | 1.0 |
| 14 | | 18<br>30 | | | | | | | |
| 15 | | | | | | | | | |
| 16 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note:<br>S = Screening<br>HS = Headspace<br>EOB = End of Boring | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA | | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | | |
| METHOD OF ROCK CORING: | NA | | |
| GROUNDWATER LEVELS: | 19.3 ft in augers | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB | PAGE: 1 OF 2 |

TtNUS Form 0018

| | | | | | |
|---|---|---|---|---|---|
| BORING LOG FOR: | Polaris Park Family Housing, NSNL, CT | | | BORING NO.: | 06SB28 |
| PROJECT NO.: | 112G02634 | | | START DATE: | 6/14/11 |
| LOGGED BY: | Eric Watt | TRANSCRIBED BY: | R. Clark | COMPLETION: DATE: | 6/14/11 |
| DRILLED BY (Company/Driller): | GeoSearch Inc./ M. DeAmicis | | | MON. WELL NO.: | 06MW13 |
| GRD. SURFACE ELEVATION: | | ELEVATION FROM: | | CHECKED BY: | |

| DEPTH (FEET) | DEPTH OF AUGERS OR CASING | BLOWS PER 6" | SAMP REC. / SAMP LENG. | SAMPLING TIME & SAMPLE NO. (QA/QC STATUS) | DEPTH MAT'L CHG./ WELL PROF'L | MATERIAL CLASSIFICATION | USCS | REMARKS (moisture condition; odors; geological classification; rock weathering; etc.) | PID FIELD SCREENING DATA *METHOD* = [PID, (PPM)] |
|---|---|---|---|---|---|---|---|---|---|
| 17 | | | | | | | | | |
| 18 | | | | | | | | | |
| 19 | | 31<br>26 | 13/24 | 1215<br>Lab sample | | 18-18.3 ft Brown/grey/black weathered rock<br>18.3-20 ft brown fine to medium sand, little coarse sand, trace weathered rock, moist | GW/SW | | 1.9 |
| 20 | | 29<br>34 | | | | | | | |
| 21 | | | | | | | | | |
| 22 | | | | | | | | | |
| 23 | | | | | | | | | |
| 24 | | 19<br>31 | 15/15 | 1400<br>Lab sample | | 23-34 ft light brown fine to medium sand, wet | SW | | 1.0 |
| 25 | | 60/3 | | | | 24-25 ft light brown/grey silty fine sand to fine sand, little subrounded to subangular gravel Up to ½ in., wet. | SM | | |
| 26 | | | | | | 25 ft end of boring. | | | |
| 27 | | | | | | | | | |
| 28 | | | | | | | | | |
| 29 | | | | | | | | | |
| 30 | | | | | | | | | |
| 31 | | | | | | | | | |
| 32 | | | | | | | | | |

| | | | |
|---|---|---|---|
| TYPE OF DRILLING RIG: | CME 75 | Note: | *Tetra Tech NUS, Inc.* |
| METHOD OF ADVANCING BORING: | 4 ¼ HSA to 9 ft, then Rollerbit to 27 ft | S = Screening | |
| METHOD OF SOIL SAMPLING: | 2 in. split spoon | HS = Headspace | |
| METHOD OF ROCK CORING: | NA | EOB = End of Boring | |
| GROUNDWATER LEVELS: | | | |
| OTHER OBSERVATIONS: | | BORING NO.: 06SB | PAGE: 2 OF 2 |

TtNUS Form 0018

# APPENDIX B

# Well Construction Logs

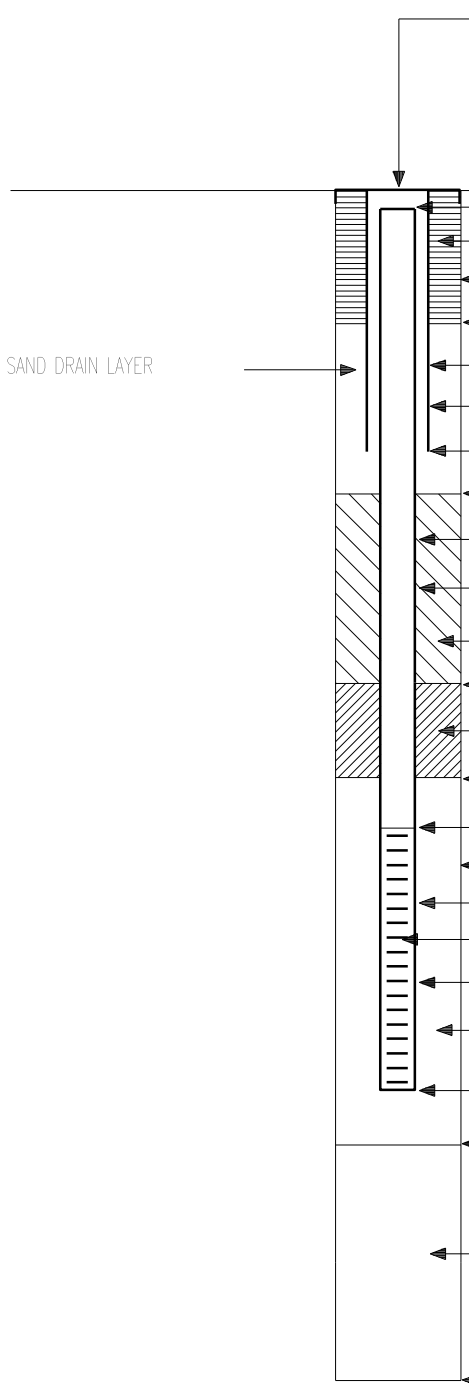
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH

| | | | |
|---|---|---|---|
| PROJECT NAME: | Site 06 Investigation | PROJECT NO: | 112G02634 |
| PROJECT LOCATION: | Polaris Park Family Housing, New London, CT | WELL NO: | 06MW06 |
| CLIENT: | Naval Facilities Engineering Command Mid-Atlantic | BORING NO: | 06SB21 |
| CONTRACTOR: | GeoSearch | DRILLER: | M. DeAmicis |
| LOGGED BY: | E. Watt | DATE: | 6/16/11 |
| CHECKED BY: | | DATE: | |

BORING LOCATION:
N: 701087.251
E: 1184265.688

PAGE: 1 OF 1




| | |
|---|---|
| LENGTH RISER PIPE BELOW GRD. SURF.(Ft.) | 0.3 |
| TYPE OF SURFACE SEAL | Portland cement |
| DIA. SURFACE SEAL BGS (In.) | 24 x 24 |
| DEPTH TO BOTTOM OF SURFACE SEAL (Ft.) | 1 |
| I.D. OF PROTECTIVE CASING (In.) | 8 |
| TYPE OF PROTECTIVE CASING | Steel |
| DEPTH BOTTOM OF PROTECTIVE CASING (Ft.) | 1 |
| DEPTH BOTTOM OF DRAIN LAYER (Ft.) | 1 |
| RISER PIPE (In.) I.D.: 2.0 O.D.: | . 2 ¼ |
| TYPE OF RISER PIPE | PVC |
| TYPE OF BACKFILL AROUND RISER PIPE | Grout |
| DEPTH TOP OF SEAL (Ft.) | 6 |
| TYPE OF SEAL | Bentonite |
| DEPTH BOTTOM OF SEAL (Ft.) | 8.5 |
| DEPTH TOP OF PERVIOUS SECTION (Ft.) | 10.9 |
| DIAMETER OF BOREHOLE (In.) | 4 ¼ |
| TYPE OF PERVIOUS SECTION | PVC |
| TYPE OF OPENINGS | 20 slot |
| PERVIOUS SECTION (In.) I.D.: 2.0 O.D.: | 2 ¼ |
| TYPE OF FILTER PACK AROUND PERVIOUS SECTION | #2 sand |
| DEPTH BOTTOM OF PERVIOUS SECTION (Ft.) | 20.9 |
| DEPTH BOTTOM OF FILTER PACK (Ft.) | 21 |
| TYPE OF BACKFILL (GROUT) BELOW FILTER PACK | NA |
| END OF BORING | 21 |

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

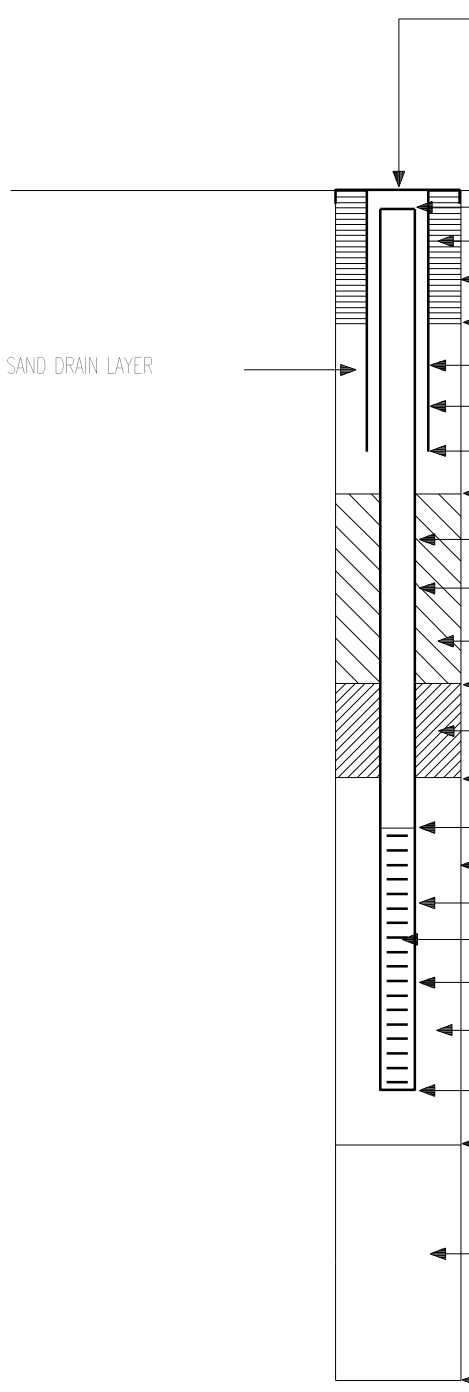
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH

| | | | |
|---|---|---|---|
| PROJECT NAME: | Site 06 Investigation | PROJECT NO: | 112G02634 |
| PROJECT LOCATION: | Polaris Park Family Housing, New London, CT | WELL NO: | 06MW07 |
| CLIENT: | Naval Facilities Engineering Command Mid-Atlantic | BORING NO: | 06SB22 |
| CONTRACTOR: | GeoSearch | DRILLER: | M. DeAmicis |
| LOGGED BY: | E. Watt | DATE: | 6/15/11 |
| CHECKED BY: | | DATE: | |

BORING LOCATION:
N: 700820.543
E: 1184467.034

PAGE: 1 OF 1




| | |
|---|---|
| LENGTH RISER PIPE BELOW GRD. SURF.(Ft.) | 0.3 |
| TYPE OF SURFACE SEAL | Portland cement |
| DIA. SURFACE SEAL BGS (In.) | 24 x 24 |
| DEPTH TO BOTTOM OF SURFACE SEAL (Ft.) | 1 |
| I.D. OF PROTECTIVE CASING (In.) | 8 |
| TYPE OF PROTECTIVE CASING | Steel |
| DEPTH BOTTOM OF PROTECTIVE CASING (Ft.) | 1 |
| DEPTH BOTTOM OF DRAIN LAYER (Ft.) | 1 |
| RISER PIPE (In.) I.D.: 2.0 O.D.: . 2 ¼ | |
| TYPE OF RISER PIPE | PVC |
| TYPE OF BACKFILL AROUND RISER PIPE | Grout |
| DEPTH TOP OF SEAL (Ft.) | 4 |
| TYPE OF SEAL | Bentonite |
| DEPTH BOTTOM OF SEAL (Ft.) | 6 |
| DEPTH TOP OF PERVIOUS SECTION (Ft.) | 8.4 |
| DIAMETER OF BOREHOLE (In.) | 4 ¼ |
| TYPE OF PERVIOUS SECTION | PVC |
| TYPE OF OPENINGS | 20 slot |
| PERVIOUS SECTION (In.) I.D.: 2.0 O.D.: 2 ¼ | |
| TYPE OF FILTER PACK AROUND PERVIOUS SECTION | #2 sand |
| DEPTH BOTTOM OF PERVIOUS SECTION (Ft.) | 18.4 |
| DEPTH BOTTOM OF FILTER PACK (Ft.) | 19 |
| TYPE OF BACKFILL (GROUT) BELOW FILTER PACK | NA |
| END OF BORING | 19 |

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

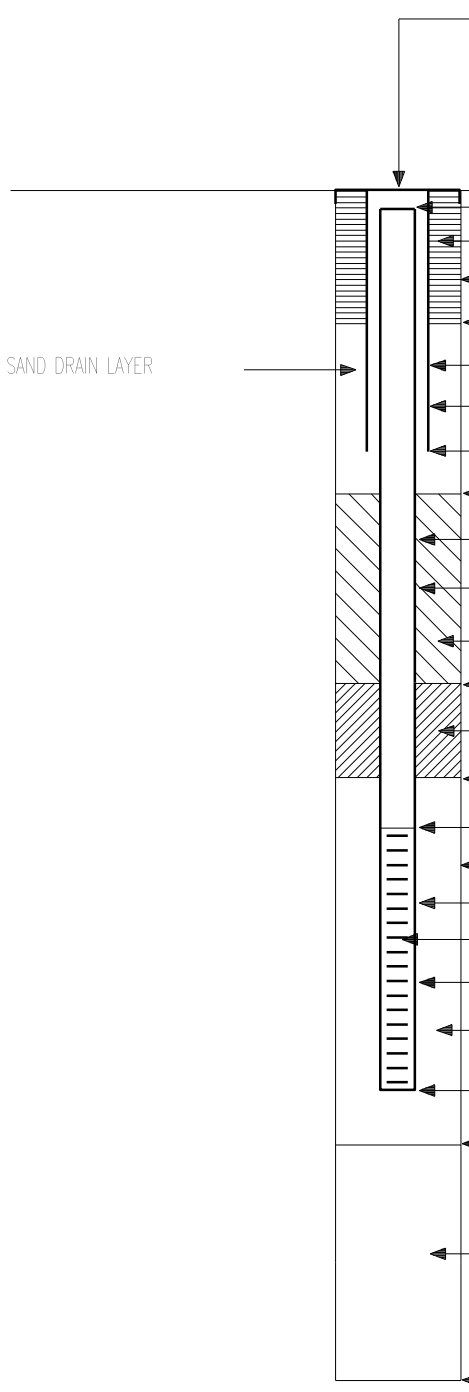
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH

| | | | |
|---|---|---|---|
| PROJECT NAME: | Site 06 Investigation | PROJECT NO: | 112G02634 |
| PROJECT LOCATION: | Polaris Park Family Housing, New London, CT | WELL NO: | 06MW08 |
| CLIENT: | Naval Facilities Engineering Command Mid-Atlantic | BORING NO: | 06SB23 |
| CONTRACTOR: | GeoSearch | DRILLER: | M. DeAmicis |
| LOGGED BY: | E. Watt | DATE: | 6/16/11 |
| CHECKED BY: | | DATE: | |

BORING LOCATION:
N: 700376.001
E: 1184620.658

PAGE: 1 OF 1




| | | | | |
|---|---|---|---|---|
| LENGTH RISER PIPE BELOW GRD. SURF.(Ft.) | 0.3 | | | |
| TYPE OF SURFACE SEAL | Portland cement | | | |
| DIA. SURFACE SEAL BGS (In.) | 24 x 24 | | | |
| DEPTH TO BOTTOM OF SURFACE SEAL (Ft.) | 1 | | | |
| I.D. OF PROTECTIVE CASING (In.) | 8 | | | |
| TYPE OF PROTECTIVE CASING | Steel | | | |
| DEPTH BOTTOM OF PROTECTIVE CASING (Ft.) | 1 | | | |
| DEPTH BOTTOM OF DRAIN LAYER (Ft.) | 1 | | | |
| RISER PIPE (In.) | I.D.: 2.0 | O.D.: . 2 ¼ | | |
| TYPE OF RISER PIPE | PVC | | | |
| TYPE OF BACKFILL AROUND RISER PIPE | Grout | | | |
| DEPTH TOP OF SEAL (Ft.) | 0.5 | | | |
| TYPE OF SEAL | Bentonite | | | |
| DEPTH BOTTOM OF SEAL (Ft.) | 1.5 | | | |
| DEPTH TOP OF PERVIOUS SECTION (Ft.) | 3.1 | | | |
| DIAMETER OF BOREHOLE (In.) | 4 ¼ | | | |
| TYPE OF PERVIOUS SECTION | PVC | | | |
| TYPE OF OPENINGS | 20 slot | | | |
| PERVIOUS SECTION (In.) | I.D.: 2.0 | O.D.: 2 ¼ | | |
| TYPE OF FILTER PACK AROUND PERVIOUS SECTION | #2 sand | | | |
| DEPTH BOTTOM OF PERVIOUS SECTION (Ft.) | 13.1 | | | |
| DEPTH BOTTOM OF FILTER PACK (Ft.) | 15 | | | |
| TYPE OF BACKFILL (GROUT) BELOW FILTER PACK | NA | | | |
| END OF BORING | 15 | | | |

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

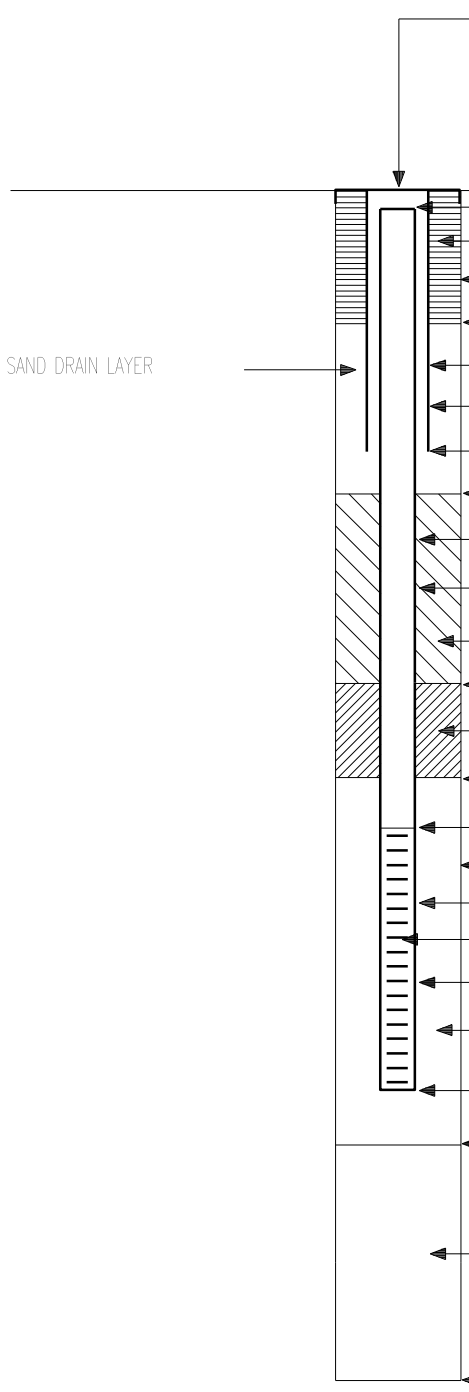
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH

| | | | |
|---|---|---|---|
| PROJECT NAME: | Site 06 Investigation | PROJECT NO: | 112G02634 |
| PROJECT LOCATION: | Polaris Park Family Housing, New London, CT | WELL NO: | 06MW09 |
| CLIENT: | Naval Facilities Engineering Command Mid-Atlantic | BORING NO: | 06SB24 |
| CONTRACTOR: | GeoSearch | DRILLER: | M. DeAmicis |
| LOGGED BY: | E. Watt | DATE: | 6/15/11 |
| CHECKED BY: | | DATE: | |

BORING LOCATION:
N: 00274.513
E: 1184441.993

PAGE: 1 OF 1




| | | | |
|---|---|---|---|
| LENGTH RISER PIPE BELOW GRD. SURF.(Ft.) | 0.3 | | |
| TYPE OF SURFACE SEAL | Portland cement | | |
| DIA. SURFACE SEAL BGS (In.) | 24 x 24 | | |
| DEPTH TO BOTTOM OF SURFACE SEAL (Ft.) | 1 | | |
| I.D. OF PROTECTIVE CASING (In.) | 8 | | |
| TYPE OF PROTECTIVE CASING | Steel | | |
| DEPTH BOTTOM OF PROTECTIVE CASING (Ft.) | 1 | | |
| DEPTH BOTTOM OF DRAIN LAYER (Ft.) | 1 | | |
| RISER PIPE (In.) | I.D.: 2.0 | O.D.: | . 2 ¼ |
| TYPE OF RISER PIPE | PVC | | |
| TYPE OF BACKFILL AROUND RISER PIPE | Grout | | |
| DEPTH TOP OF SEAL (Ft.) | 6 | | |
| TYPE OF SEAL | Bentonite | | |
| DEPTH BOTTOM OF SEAL (Ft.) | 8 | | |
| DEPTH TOP OF PERVIOUS SECTION (Ft.) | 10.8 | | |
| DIAMETER OF BOREHOLE (In.) | 4 ¼ | | |
| TYPE OF PERVIOUS SECTION | PVC | | |
| TYPE OF OPENINGS | 20 slot | | |
| PERVIOUS SECTION (In.) | I.D.: 2.0 | O.D.: | 2 ¼ |
| TYPE OF FILTER PACK AROUND PERVIOUS SECTION | #2 sand | | |
| DEPTH BOTTOM OF PERVIOUS SECTION (Ft.) | 20.8 | | |
| DEPTH BOTTOM OF FILTER PACK (Ft.) | 21 | | |
| TYPE OF BACKFILL (GROUT) BELOW FILTER PACK | NA | | |
| END OF BORING | 21 | | |

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

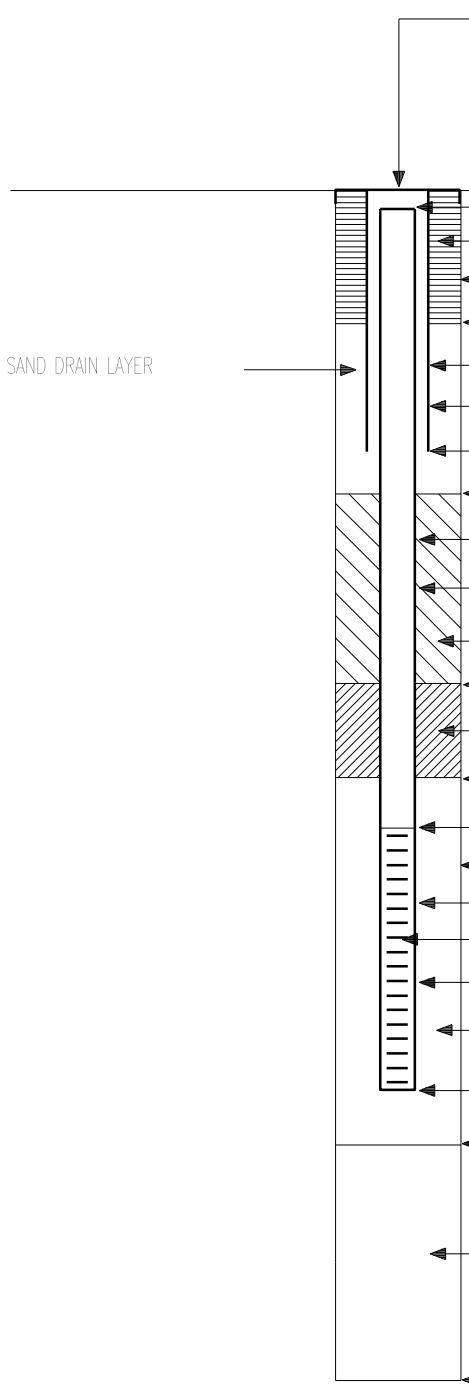
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH

| | | | |
|---|---|---|---|
| PROJECT NAME: | Site 06 Investigation | PROJECT NO: | 112G02634 |
| PROJECT LOCATION: | Polaris Park Family Housing, New London, CT | WELL NO: | 06MW10 |
| CLIENT: | Naval Facilities Engineering Command Mid-Atlantic | BORING NO: | 06SB25 |
| CONTRACTOR: | GeoSearch | DRILLER: | M. DeAmicis |
| LOGGED BY: | E. Watt | DATE: | 6/21/11 |
| CHECKED BY: | | DATE: | |

BORING LOCATION:
N: 700567.808
E: 1184114.304

PAGE: 1 OF 1




| | | | |
|---|---|---|---|
| LENGTH RISER PIPE BELOW GRD. SURF.(Ft.) | 0.3 | | |
| TYPE OF SURFACE SEAL | Portland cement | | |
| DIA. SURFACE SEAL BGS (In.) | 24 x 24 | | |
| DEPTH TO BOTTOM OF SURFACE SEAL (Ft.) | 1 | | |
| I.D. OF PROTECTIVE CASING (In.) | 8 | | |
| TYPE OF PROTECTIVE CASING | Steel | | |
| DEPTH BOTTOM OF PROTECTIVE CASING (Ft.) | 1 | | |
| DEPTH BOTTOM OF DRAIN LAYER (Ft.) | 1 | | |
| RISER PIPE (In.) | I.D.: 2.0 | O.D.: | . 2 ¼ |
| TYPE OF RISER PIPE | PVC | | |
| TYPE OF BACKFILL AROUND RISER PIPE | Grout | | |
| DEPTH TOP OF SEAL (Ft.) | 13 | | |
| TYPE OF SEAL | Bentonite | | |
| DEPTH BOTTOM OF SEAL (Ft.) | 15 | | |
| DEPTH TOP OF PERVIOUS SECTION (Ft.) | 17 | | |
| DIAMETER OF BOREHOLE (In.) | 4 ¼ | | |
| TYPE OF PERVIOUS SECTION | PVC | | |
| TYPE OF OPENINGS | 20 slot | | |
| PERVIOUS SECTION (In.) | I.D.: 2.0 | O.D.: | 2 ¼ |
| TYPE OF FILTER PACK AROUND PERVIOUS SECTION | #2 sand | | |
| DEPTH BOTTOM OF PERVIOUS SECTION (Ft.) | 32 | | |
| DEPTH BOTTOM OF FILTER PACK (Ft.) | 33 | | |
| TYPE OF BACKFILL (GROUT) BELOW FILTER PACK | NA | | |
| END OF BORING | 33 | | |

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

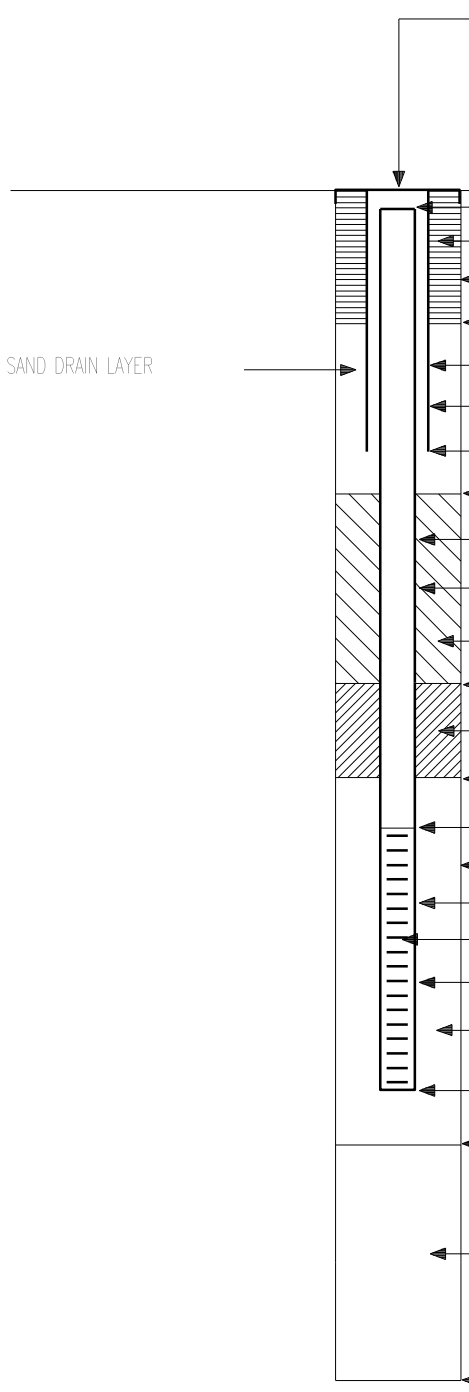
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH

| | | | |
|---|---|---|---|
| PROJECT NAME: | Site 06 Investigation | PROJECT NO: | 112G02634 |
| PROJECT LOCATION: | Polaris Park Family Housing, New London, CT | WELL NO: | 06MW11 |
| CLIENT: | Naval Facilities Engineering Command Mid-Atlantic | BORING NO: | 06SB26 |
| CONTRACTOR: | GeoSearch | DRILLER: | M. DeAmicis |
| LOGGED BY: | E. Watt | DATE: | 6/21/11 |
| CHECKED BY: | | DATE: | |

BORING LOCATION:
N: 700676.66
E: 1183993.768

PAGE: 1 OF 1




| | | | |
|---|---|---|---|
| LENGTH RISER PIPE BELOW GRD. SURF.(Ft.) | 0.3 | | |
| TYPE OF SURFACE SEAL | Portland cement | | |
| DIA. SURFACE SEAL BGS (In.) | 24 x 24 | | |
| DEPTH TO BOTTOM OF SURFACE SEAL (Ft.) | 1 | | |
| I.D. OF PROTECTIVE CASING (In.) | 8 | | |
| TYPE OF PROTECTIVE CASING | Steel | | |
| DEPTH BOTTOM OF PROTECTIVE CASING (Ft.) | 1 | | |
| DEPTH BOTTOM OF DRAIN LAYER (Ft.) | 1 | | |
| RISER PIPE (In.) | I.D.: 2.0 | O.D.: | . 2 ¼ |
| TYPE OF RISER PIPE | PVC | | |
| TYPE OF BACKFILL AROUND RISER PIPE | Grout | | |
| DEPTH TOP OF SEAL (Ft.) | 17 | | |
| TYPE OF SEAL | Bentonite | | |
| DEPTH BOTTOM OF SEAL (Ft.) | 19 | | |
| DEPTH TOP OF PERVIOUS SECTION (Ft.) | 21 | | |
| DIAMETER OF BOREHOLE (In.) | 4 ¼ | | |
| TYPE OF PERVIOUS SECTION | PVC | | |
| TYPE OF OPENINGS | 20 slot | | |
| PERVIOUS SECTION (In.) | I.D.: 2.0 | O.D.: | 2 ¼ |
| TYPE OF FILTER PACK AROUND PERVIOUS SECTION | #2 sand | | |
| DEPTH BOTTOM OF PERVIOUS SECTION (Ft.) | 31 | | |
| DEPTH BOTTOM OF FILTER PACK (Ft.) | 32 | | |
| TYPE OF BACKFILL (GROUT) BELOW FILTER PACK | NA | | |
| END OF BORING | 32 | | |

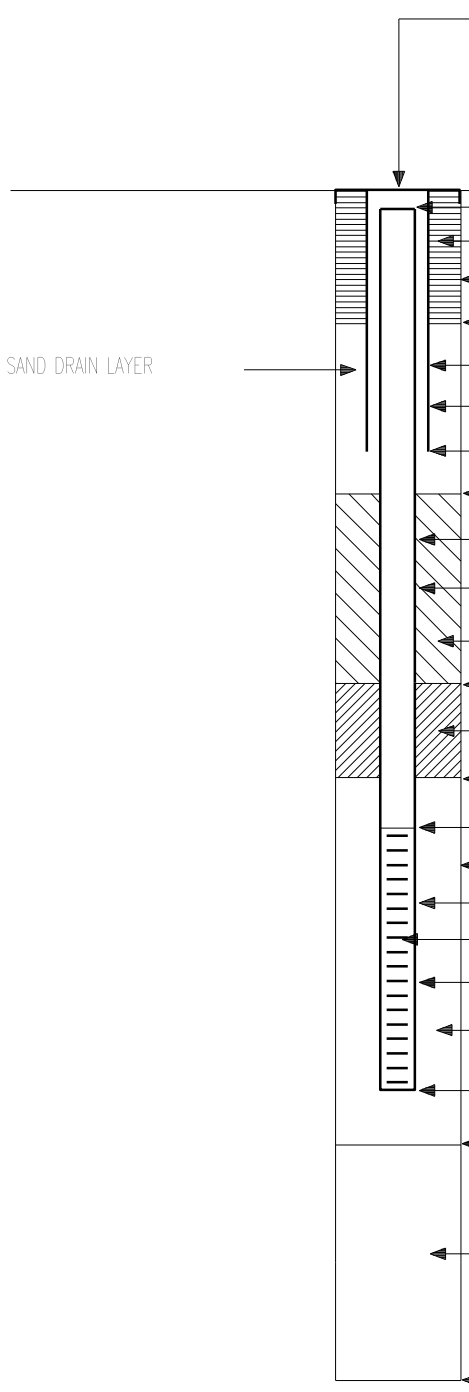
GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

TETRA TECH

| | | | |
|---|---|---|---|
| PROJECT NAME: | Site 06 Investigation | PROJECT NO: | 112G02634 |
| PROJECT LOCATION: | Polaris Park Family Housing, New London, CT | WELL NO: | 06MW13 |
| CLIENT: | Naval Facilities Engineering Command Mid-Atlantic | BORING NO: | 06SB28 |
| CONTRACTOR: | GeoSearch | BORING LOCATION: | |
| DRILLER: | M. DeAmicis | N: | 701260.906 |
| LOGGED BY: | E. Watt | E: | 1184019.761 |
| DATE: | 6/14/11 | | |
| CHECKED BY: | | | |
| DATE: | | PAGE: | 1 OF 1 |




| | | | |
|---|---|---|---|
| LENGTH RISER PIPE BELOW GRD. SURF.(Ft.) | | | 0.3 |
| TYPE OF SURFACE SEAL | | | Portland cement |
| DIA. SURFACE SEAL BGS (In.) | | | 24 x 24 |
| DEPTH TO BOTTOM OF SURFACE SEAL (Ft.) | | | 1 |
| I.D. OF PROTECTIVE CASING (In.) | | | 8 |
| TYPE OF PROTECTIVE CASING | | | Steel |
| DEPTH BOTTOM OF PROTECTIVE CASING (Ft.) | | | 1 |
| DEPTH BOTTOM OF DRAIN LAYER (Ft.) | | | 1 |
| RISER PIPE (In.) | I.D.: | 2.0 | O.D.: . 2 ¼ |
| TYPE OF RISER PIPE | | | PVC |
| TYPE OF BACKFILL AROUND RISER PIPE | | | Grout |
| DEPTH TOP OF SEAL (Ft.) | | | 11.9 |
| TYPE OF SEAL | | | Bentonite |
| DEPTH BOTTOM OF SEAL (Ft.) | | | 13.9 |
| DEPTH TOP OF PERVIOUS SECTION (Ft.) | | | 15.9 |
| DIAMETER OF BOREHOLE (In.) | | | 4 ¼ |
| TYPE OF PERVIOUS SECTION | | | PVC |
| TYPE OF OPENINGS | | | 20 slot |
| PERVIOUS SECTION (In.) | I.D.: | 2.0 | O.D.: 2 ¼ |
| TYPE OF FILTER PACK AROUND PERVIOUS SECTION | | | #2 sand |
| DEPTH BOTTOM OF PERVIOUS SECTION (Ft.) | | | 25.9 |
| DEPTH BOTTOM OF FILTER PACK (Ft.) | | | 27 |
| TYPE OF BACKFILL (GROUT) BELOW FILTER PACK | | | NA |
| END OF BORING | | | 27 |

GENERAL NOTE:

1. Entry of 0.00 for Ground Elevation Indicates that Surveyed Ground Elevation is NOT Available.

# APPENDIX C

# Well Development Logs

Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW06
Site: Site 06
Date Installed: 6/16/2011
Date Developed: 6/22/2011
Dev. Metho Surge
Pump Type Watterra/Whale

Depth to Bottom (ft.): 20.7
Static Water Level Before (ft.): 13.91
Static Water Level After (ft.): 14.96
Screen Length (ft.): 10
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 1550 | 0.2 | start with Wattera | | | | | | petrol odor and sheen |
| 1607 | 0 | 6-7 gallons purged, Whale pump on | | | | | | |
| 1617 | 0 | 15 | 14.82 | 15.74 | 6.22 | 0.138 | 520 | |
| 1623 | 0 | 20 | 14.89 | 14.30 | 6.05 | 0.145 | 133 | |
| 1633 | 0 | 25 | 14.96 | 13.97 | 5.99 | 0.146 | 110 | |
| 1644 | 0 | 35 | 14.94 | 13.96 | 5.95 | 0.145 | 132 | |
| 1647 | 0 | 38 | 14.96 | 13.31 | 6.03 | 0.147 | 56.1 | |
| 1650 | 0 | 40 | 14.96 | 13.05 | 6.03 | 0.148 | 92.6 | |
| 1655 | 0 | 48 | 14.96 | 13.13 | 6.04 | 0.147 | 98.8 | |
| 1702 | 0 | 55 | 14.96 | 13.65 | 6.08 | 0.147 | 58.3 | |
| 1707 | 0 | 60 | 14.96 | 13.42 | 6.08 | 0.148 | 43.8 | |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW07
Site: Site 06
Date Installed: 6/15/2011
Date Developed: 6/22/2011
Dev. Metho Surge
Pump Type Watterra/Whale

Depth to Bottom (ft.): 18.15
Static Water Level Before (ft.): 11.02
Static Water Level After (ft.): 13.23
Screen Length (ft.): 10
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 1420 | Start with Watterra to remove fines. | | | | | | | brown and silty |
| 1430 | purged ~5 gallons, switch to whale pump | | | | | | | |
| 1435 | 0 | 6 | 14.16 | 15.52 | 6.41 | 0.158 | 362 | |
| 1440 | 0 | 10 | 15.27 | 15.07 | 6.16 | 0.160 | 124 | |
| 1443 | 0 | 14 | 15.27 | 14.40 | 6.11 | 0.159 | 8 | surged after this reading, cloudy |
| 1500 | 0 | 25 | 15.16 | 15.23 | 6.14 | 0.159 | 87.2 | |
| 1507 | stopped pump, switch to Watterra | | | | | | | |
| 1518 | switch to whale pump | | | | | | | |
| 1523 | 0 | 35 | 13.28 | 15.23 | 6.06 | 0.150 | 222 | |
| 1527 | 0 | 40 | 13.34 | 14.26 | 6.02 | 0.153 | 42 | |
| 1531 | 0 | 43 | 13.23 | 13.94 | 6.02 | 0.154 | 7 | |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW08
Site: Site 06
Date Installed: 6/16/2011
Date Developed: 6/22/2011
Dev. Metho Surge
Pump Type Whale

Depth to Bottom (ft.): 12.3
Static Water Level Before (ft.): 5.56
Static Water Level After (ft.): 6.96
Screen Length (ft.): 10
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 1057 | 1.2 | 2 | 10.8 | 15.86 | 6.57 | 0.492 | 197 | light brown and cloudy |
| 1105 | 1 | 5 | 9.50 | 15.01 | 6.50 | 0.524 | >1000 | |
| 1111 | 0.5 | 11 | 8.95 | 15.38 | 6.31 | 0.473 | 285 | |
| 1115 | 0 | 13 | 6.9 | 15.79 | 6.24 | 0.308 | 91 | |
| 1122 | 0 | 18 | 8.65 | 15.47 | 6.15 | 0.471 | 125 | |
| 1126 | 0 | 20 | 7.9 | 14.31 | 6.15 | 0.316 | 156 | |
| 1130 | 0 | 25 | 7.32 | 14.34 | 6.22 | 0.321 | 154 | stopped surging |
| 1140 | 0 | 35 | 10.6 | 14.77 | 6.19 | 0.307 | 36.1 | pump 2 ft off bottom |
| 1145 | 0 | 40 | 10.58 | 13.76 | 6.23 | 0.318 | 19.7 | |
| final depth to bottom = 13.25 | | | | | | | | |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW09
Site: Site 06
Date Installed: 6/15/2011
Date Developed: 6/22/2011
Dev. Metho Surge
Pump Type Watterra/Whale

Depth to Bottom (ft.): 19.3
Static Water Level Before (ft.): 13.21
Static Water Level After (ft.): 13.28
Screen Length (ft.): 10
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 1200 | whale pump on, very silty | | | | | | | |
| 1215 | | 15 | 13.31 | 14.35 | 6.35 | 0.300 | >1000 | petroleum odor |
| 1223 | | 20 | 13.28 | 13.58 | 6.43 | 0.305 | 192 | |
| 1228 | | 25 | 13.28 | 12.78 | 6.29 | 0.308 | 406 | |
| 1234 | | 30 | 13.28 | 13.69 | 6.20 | 0.298 | 335 | |
| 1253 | | 50 | 13.28 | 14.23 | 6.30 | 0.290 | 186 | |
| 1258 | | 55 | 13.28 | 12.75 | 6.31 | 0.308 | 35.4 | silty |
| 1300 | stopped whale pump to set up watterra pump | | | | | | | |
| 1308 | switched to whale pump | | | | | | | |
| 1315 | | 70 | 13.28 | 13.71 | 6.34 | 0.309 | 202 | |
| 1320 | | 80 | 13.28 | 12.82 | 6.30 | 0.314 | 55.1 | |
| 1322 | stopped whale pump to set up watterra pump | | | | | | | less silty |
| 1332 | whale pump one foot off bottom. | | | | | | | |
| 1339 | | 90 | 13.28 | 13.81 | 6.32 | 0.308 | 140 | |
| 1341 | | 92 | 13.28 | 12.86 | 6.30 | 0.313 | 92 | |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW10
Site: Site 06
Date Installed: 6/21/2011
Date Developed: 6/23/2011
Dev. Metho Surge
Pump Type Watterra/Whale

Depth to Bottom (ft.): 32.2
Static Water Level Before (ft.): 26.57
Static Water Level After (ft.): 29.0
Screen Length (ft.): 10
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 1347 | Watterra pump on | | | | | | | light brown, silty with oily sheen |
| 1418 | purged ~10 gallons | | | | | | | well dry |
| 1424 | Whale pump on | | | | | | | |
| 1426 | pumped dry | | | | | | | light brown, silty with oily sheen |
| 1433 | pump on | | 27.8 | | | | | |
| 1434 | | 15 | 27.8 | 14.34 | 6.32 | 0.423 | >1000 | 1435 pumped dry |
| 1451 | pump on | | 27.2 | | | | | |
| 1452 | | 17 | 29 | 13.67 | 6.27 | 0.501 | 1000 | stopped development due to |
| | | | | | | | | thunderstorms. |
| well pumped dry 3 times, development complete | | | | | | | | |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW11
Site: Site 06
Date Installed: 6/21/2011
Date Developed: 6/23/2011
Dev. Metho Surge
Pump Type Watterra/Whale

Depth to Bottom (ft.): 30.8
Static Water Level Before (ft.): 18.52
Static Water Level After (ft.): 28.7
Screen Length (ft.): 1
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 1155 | Watterra on | | | | | | | silty with sheen |
| 1204 | 7 gallons purged, well dry stopped pump | | | | | | | |
| 1209 | water level at 26 ft bgs, Watterra on | | | | | | | |
| 1212 | | 10 | NA | 16.30 | 6.29 | 0.440 | >1000 | petroleum odor, sheen |
| 1222 | | 16 | NA | | | | | well dry |
| 1234 | start whale pump | | | | | | | |
| 1243 | pump off, well dry | | | | | | | |
| 1252 | pump on | | 23.5 | | | | | |
| 1253 | | 22 | 23.5 | 14.99 | 6.62 | 0.392 | >1000 | |
| 1258 | | 25 | | 13.83 | 6.39 | 0.420 | 632 | well dry |
| 1307 | pump on | | 24.1 | 14.10 | 6.33 | 0.416 | 181 | |
| 1309 | | 26 | | | | | | |
| 1314 | | 30 | 29.9 | 14.04 | 6.41 | 0.408 | 135 | well dry |
| 1321 | pump on | | 25 | | | | | |
| 1326 | | 34 | 29 | 14.01 | 6.38 | 0.399 | 135 | |
| 1328 | well pumped dry 3 times, development complete | | | | | | | depth to bottom = 31.2 |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW12
Site: Site 06
Date Installed: 6/20/2011
Date Developed: 6/23/2011
Dev. Metho Surge
Pump Type Watterra/Whale

Depth to Bottom (ft.): 16.2
Static Water Level Before (ft.): 5.06
Static Water Level After (ft.): 5.43
Screen Length (ft.): 10
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 0948 | Watterra pump on | | | | | | | light brown and silty |
| 1028 | purged ~ 75 gallons, switch to whale pump | | | | | | | |
| 1040 | | 80 | 6.08 | 15.03 | 6.34 | 0.099 | 291 | |
| 1045 | | 85 | 6.08 | 13.80 | 6.03 | 0.103 | 165 | |
| 1050 | | 90 | 6.08 | 13.88 | 5.87 | 0.102 | 119 | |
| 1056 | | 95 | 6.08 | 13.90 | 5.98 | 0.103 | 62.8 | |
| 1101 | | 100 | 6.08 | 13.85 | 5.94 | 0.103 | 35.6 | |
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Tetra Tech NUS, Inc.

# MONITORING WELL DEVELOPMENT RECORD



Well: 06MW13
Site: Site 06
Date Installed: 6/14/2011
Date Developed: 6/23/2011
Dev. Metho Surge
Pump Type Watterra/Whale

Depth to Bottom (ft.): 25.7
Static Water Level Before (ft.): 18
Static Water Level After (ft.): 24.4
Screen Length (ft.): 10
Specific Capacity: NA
Casing ID (in.): 2 in.

Responsible Personnel: R. Clark, E. Watt
Drilling Co.: GeoSearch
Project Name: Polaris Park Family Housing, NSNL, Groton, CT
Project Number: 112G02634

| Time | Estimated Sediment Thickness (Ft.) | Cumulative Water Volume (Gal.) | Water Level Readings (Ft. below TOC) | Temperature (Degrees C) | pH | Specific Conductance (Units ms/cm) | Turbidity (NTU) | Remarks (odor, color, etc.) |
|---|---|---|---|---|---|---|---|---|
| 0810 | Watterra on | | | | | | | light brown and silty |
| 0840 | switch to whale pump | | | | | | | |
| 0842 | | 20 | 19.51 | 14.39 | 5.59 | 0.177 | 433 | |
| 0848 | | 25 | 20.97 | 13.82 | 5.69 | 0.190 | 420 | |
| 0856 | | 30 | 24.30 | 13.45 | 5.78 | 0.202 | 123 | |
| 0901 | | 33 | 24.65 | 13.33 | 6.03 | 0.210 | 109 | |
| 0908 | | 40 | 24.60 | 12.61 | 6.11 | 0.211 | 85.3 | |
| 0915 | | 45 | 24.43 | 12.57 | 6.14 | 0.212 | 18 | |
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# APPENDIX D

# Groundwater Sample Logs

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW01-20110719** | Sampler: | Robin Clark |
| Well ID: | 06MW-01 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 14.90 |
| Top of Screen (ft-BTOR) | 13 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 23 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 23 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/11 | 11:48 | 14.90 | 200.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/19/11 | 11:55 | 15.20 | 200.0 | Clear | None | 6.59 | 0.334 | 0.67 | 3.25 | 14.86 | -61.7 | 0.16 | N/A |
| 07/19/11 | 12:11 | 15.23 | 200.0 | Clear | None | 6.18 | 0.335 | 0.29 | 2.43 | 14.72 | -54.8 | 0.16 | N/A |
| 07/19/11 | 12:20 | 15.23 | 200.0 | Clear | None | 6.15 | 0.336 | 0.27 | 4.03 | 14.69 | -61.1 | 0.16 | N/A |
| 07/19/11 | 12:23 | 15.23 | 200.0 | Clear | None | 6.15 | 0.335 | 0.24 | 3.31 | 14.72 | -63.3 | 0.16 | N/A |
| 07/19/11 | 12:26 | 15.23 | 200.0 | Clear | None | 6.15 | 0.336 | 0.21 | 2.47 | 14.85 | -64.4 | 0.15 | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:48 | 12:26 | 38 | 7.6 | Clear | None | 6.15 | 0.336 | 0.21 | 2.47 | 14.85 | -64.4 | 0.15 | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/19/11 | 12:27 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-1 |
| ✓ | 07/19/11 | 12:27 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW02-20110719** | Sampler: | Robin Clark |
| Well ID: | 06MW-02 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 12.63 |
| Top of Screen (ft-BTOR) | 10 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 20 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 20 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/11 | 13:25 | 12.66 | 200.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/19/11 | 13:35 | 12.66 | 200.0 | Clear | None | 5.80 | 0.376 | 0.83 | 9.95 | 14.62 | 111.0 | 0.18 | N/A |
| 07/19/11 | 13:45 | 12.66 | 200.0 | Clear | None | 5.76 | 0.366 | 0.60 | 2.79 | 14.55 | 106.7 | 0.18 | N/A |
| 07/19/11 | 13:55 | 12.67 | 200.0 | Clear | None | 5.73 | 0.363 | 0.50 | 1.58 | 14.74 | 107.9 | 0.17 | N/A |
| 07/19/11 | 14:00 | 12.67 | 200.0 | Clear | None | 5.74 | 0.361 | 0.54 | 1.50 | 14.45 | 107.0 | 0.17 | N/A |
| 07/19/11 | 14:03 | 12.67 | 200.0 | Clear | None | 5.72 | 0.361 | 0.51 | 1.48 | 14.33 | 107.1 | 0.17 | N/A |
| 07/19/11 | 14:06 | 12.67 | 200.0 | Clear | None | 5.72 | 0.359 | 0.52 | 1.42 | 14.44 | 106.9 | 0.17 | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:25 | 14:06 | 41 | 8.2 | Clear | None | 5.72 | 0.359 | 0.52 | 1.42 | 14.44 | 106.9 | 0.17 | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/19/11 | 14:07 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-1 |
| ✓ | 07/19/11 | 14:07 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW03-20110720** | Sampler: | Robin Clark |
| Well ID: | 06MW-03 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 11.05 |
| Top of Screen (ft-BTOR) | 8 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 18 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 18 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/20/11 | 12:53 | 11.17 | 200.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/20/11 | 13:08 | 11.08 | 200.0 | Clear | None | 6.02 | 0.545 | 0.28 | 16.5 | 15.05 | -13.7 | 0.26 | N/A |
| 07/20/11 | 13:20 | 11.07 | 200.0 | Clear | None | 6.05 | 0.526 | 0.14 | 6.45 | 14.98 | -17.4 | 0.26 | N/A |
| 07/20/11 | 13:32 | 11.07 | 200.0 | Clear | None | 6.11 | 0.517 | 0.09 | 9.60 | 15.11 | -20.2 | 0.25 | N/A |
| 07/20/11 | 13:35 | 11.07 | 200.0 | Clear | None | 6.11 | 0.517 | 0.13 | 3.04 | 14.99 | -21.7 | 0.25 | N/A |
| 07/20/11 | 13:38 | 11.07 | 200.0 | Clear | None | 6.13 | 0.516 | 0.09 | 3.15 | 15.09 | -24.2 | 0.25 | N/A |
| 07/20/11 | 13:42 | 11.07 | 200.0 | Clear | None | 6.13 | 0.516 | 0.09 | 2.95 | 14.94 | -24.7 | 0.25 | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:53 | 13:42 | 49 | 9.8 | Clear | None | 6.13 | 0.516 | 0.09 | 2.95 | 14.94 | -24.7 | 0.25 | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/20/11 | 13:44 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-3 |
| ✓ | 07/20/11 | 13:44 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-3 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW04-20110721** | Sampler: | Robin Clark |
| Well ID: | 06MW-04 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 4.03 |
| Top of Screen (ft-BTOR) | 3 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 13 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 13 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/21/11 | 8:01 | 4.03 | 200.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/21/11 | 8:24 | 5.83 | 100.0 | Clear | None | 12.10 | 1.681 | 0.41 | 3.86 | 19.38 | -34.6 | 0.87 | N/A |
| 07/21/11 | 8:34 | 6.53 | 100.0 | Clear | None | 12.18 | 1.932 | 0.26 | 1.95 | 19.21 | -57.7 | 0.99 | N/A |
| 07/21/11 | 8:42 | 7.25 | 100.0 | Clear | None | 12.21 | 2.054 | 0.21 | 1.86 | 19.00 | -78.9 | 1.06 | N/A |
| 07/21/11 | 8:59 | 7.90 | 100.0 | Clear | None | 12.32 | 1.618 | 0.23 | 1.78 | 18.57 | -129.7 | 1.36 | N/A |
| 07/21/11 | 9:02 | 7.91 | 100.0 | Clear | None | 12.33 | 1.621 | 0.22 | 1.76 | 18.64 | -135.3 | 1.36 | N/A |
| 07/21/11 | 9:05 | 7.92 | 100.0 | Clear | None | 12.33 | 1.614 | 0.24 | 2.72 | 18.64 | -141.5 | 1.35 | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:01 | 9:05 | 64 | 6.4 | Clear | None | 12.33 | 1.614 | 0.24 | 2.72 | 18.64 | -141.5 | 1.35 | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/21/11 | 9:07 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-3 |
| ✓ | 07/21/11 | 9:07 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-3 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW05-20110721** | Sampler: | Amy Carey |
| Well ID: | 06MW-05 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 11.45 |
| Top of Screen (ft-BTOR) | 7 | H&S PID Monitor Reading (ppm) | 4.0 |
| Bottom of Screen (ft-BTOR) | 22 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 22 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/21/11 | 8:04 | 11.45 | 100.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/21/11 | 8:14 | 11.65 | 100.0 | Clear | None | 4.61 | 0.269 | 7.70 | 3.97 | 13.80 | 458.7 | NA | N/A |
| 07/21/11 | 8:19 | 11.75 | 150.0 | Clear | None | 3.33 | 0.265 | 7.31 | 3.11 | 13.31 | 558.3 | NA | N/A |
| 07/21/11 | 8:24 | 11.75 | 150.0 | Clear | None | 3.97 | 0.265 | 6.60 | 1.32 | 13.65 | 541.0 | NA | N/A |
| 07/21/11 | 8:29 | 11.76 | 150.0 | Clear | None | 4.61 | 0.265 | 6.65 | 1.58 | 13.76 | 519.1 | NA | N/A |
| 07/21/11 | 8:34 | 11.76 | 150.0 | Clear | None | 4.95 | 0.259 | 7.39 | 1.43 | 13.75 | 517.8 | NA | N/A |
| 07/21/11 | 8:39 | 11.76 | 150.0 | Clear | None | 5.09 | 0.258 | 7.13 | 1.14 | 13.79 | 521.8 | NA | N/A |
| 07/21/11 | 8:44 | 11.76 | 150.0 | Clear | None | 5.22 | 0.256 | 7.33 | 1.16 | 13.94 | 513.4 | NA | N/A |
| 07/21/11 | 8:49 | 11.76 | 150.0 | Clear | None | 5.25 | 0.254 | 7.15 | 1.12 | 14.00 | 517.6 | NA | N/A |
| 07/21/11 | 8:54 | 11.47 | 150.0 | Clear | None | 5.29 | 0.252 | 7.22 | 1.20 | 13.97 | 516.7 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:04 | 8:54 | 50 | 7.0 | Clear | None | 5.29 | 0.252 | 7.22 | 1.20 | 13.97 | 516.7 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/21/11 | 8:54 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-3 |
| ✓ | 07/21/11 | 8:54 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-3 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW06-20110719** | Sampler: | Amy Carey |
| Well ID: | 06MW-06 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 14.65 |
| Top of Screen (ft-BTOR) | 10.9 | H&S PID Monitor Reading (ppm) | 6.6 |
| Bottom of Screen (ft-BTOR) | 20.9 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 20.9 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/11 | 8:27 | 14.65 | 100.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/19/11 | 8:37 | 14.71 | 150.0 | Clear | None | 6.40 | 0.234 | 4.30 | 1.00 | 15.58 | 132.3 | NA | N/A |
| 07/19/11 | 8:42 | 14.70 | 150.0 | Clear | None | 5.63 | 0.236 | 0.94 | 0.54 | 15.37 | 133.8 | NA | N/A |
| 07/19/11 | 8:52 | 14.70 | 150.0 | Clear | None | 5.62 | 0.234 | 0.79 | 0.39 | 15.29 | 129.7 | NA | N/A |
| 07/19/11 | 8:57 | 14.70 | 150.0 | Clear | None | 5.57 | 0.234 | 0.69 | 0.48 | 15.10 | 135.3 | NA | N/A |
| 07/19/11 | 9:02 | 14.70 | 150.0 | Clear | None | 5.53 | 0.234 | 0.70 | 0.60 | 15.08 | 133.7 | NA | N/A |
| 07/19/11 | 9:07 | 14.70 | 150.0 | Clear | None | 5.60 | 0.235 | 0.68 | 0.71 | 15.07 | 131.6 | NA | N/A |
| 07/19/11 | 9:12 | 14.70 | 150.0 | Clear | None | 5.55 | 0.234 | 0.60 | 0.40 | 14.94 | 134.5 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:27 | 9:12 | 45 | 6.75 | Clear | None | 5.55 | 0.234 | 0.60 | 0.40 | 14.94 | 134.5 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/19/11 | 9:17 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | A.Carey | ED00000162-1 |
| ✓ | 07/19/11 | 9:17 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey | ED00000162-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW07-20110719** | Sampler: | Amy Carey |
| Well ID: | 06MW-07 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 11.88 |
| Top of Screen (ft-BTOR) | 8.4 | H&S PID Monitor Reading (ppm) | 0.3 |
| Bottom of Screen (ft-BTOR) | 18.4 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 18.4 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/11 | 11:58 | 11.89 | 100.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/19/11 | 12:08 | 11.94 | 125.0 | Clear | None | 5.71 | 0.222 | 1.17 | 1.22 | 17.92 | 219.6 | NA | N/A |
| 07/19/11 | 12:12 | 11.94 | 125.0 | Clear | None | 5.49 | 0.224 | 0.62 | 1.01 | 17.39 | 222.2 | NA | N/A |
| 07/19/11 | 12:18 | 11.94 | 140.0 | Clear | None | 5.42 | 0.224 | 0.43 | 0.96 | 17.08 | 225.2 | NA | N/A |
| 07/19/11 | 12:23 | 11.94 | 140.0 | Clear | None | 5.41 | 0.224 | 0.44 | 0.60 | 17.01 | 222.1 | NA | N/A |
| 07/19/11 | 12:28 | 11.94 | 145.0 | Clear | None | 5.40 | 0.224 | 0.41 | 0.80 | 17.18 | 221.3 | NA | N/A |
| 07/19/11 | 12:33 | 11.94 | 145.0 | Clear | None | 5.40 | 0.224 | 0.37 | 0.70 | 17.22 | 221.9 | NA | N/A |
| 07/19/11 | 12:38 | 11.94 | 145.0 | Clear | None | 5.40 | 0.224 | 0.61 | 0.74 | 17.14 | 219.5 | NA | N/A |
| 07/19/11 | 12:43 | 11.94 | 145.0 | Clear | None | 5.43 | 0.224 | 0.50 | 0.67 | 16.87 | 216.1 | NA | N/A |
| 07/19/11 | 12:48 | 11.94 | 145.0 | Clear | None | 5.46 | 0.224 | 0.46 | 0.65 | 17.11 | 214.3 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:58 | 12:48 | 50 | 6.915 | Clear | None | 5.46 | 0.224 | 0.46 | 0.65 | 17.11 | 214.3 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/19/11 | 12:48 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-1 |
| ✓ | 07/19/11 | 12:48 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey | ED00000162-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW08-20110719** | Sampler: | Amy Carey |
| Well ID: | 06MW-08 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 6.74 |
| Top of Screen (ft-BTOR) | 3.1 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 13.1 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 13.1 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/11 | 13:40 | 6.75 | 100.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/19/11 | 13:50 | 7.12 | 100.0 | Other | None | 6.46 | 0.691 | 0.85 | 9.07 | 20.74 | -31.6 | NA | N/A |
| 07/19/11 | 13:55 | 7.13 | 100.0 | Other | None | 6.46 | 0.695 | 0.77 | 7.32 | 20.45 | -31.3 | NA | N/A |
| 07/19/11 | 14:00 | 7.14 | 100.0 | Other | None | 6.46 | 0.696 | 0.57 | 5.41 | 19.54 | -31.6 | NA | N/A |
| 07/19/11 | 14:05 | 7.16 | 100.0 | Other | None | 6.45 | 0.687 | 0.46 | 6.20 | 19.04 | -28.9 | NA | N/A |
| 07/19/11 | 14:10 | 7.16 | 100.0 | Clear | None | 6.34 | 0.680 | 0.36 | 5.97 | 19.15 | -21.7 | NA | N/A |
| 07/19/11 | 14:15 | 7.16 | 100.0 | Clear | None | 6.34 | 0.681 | 0.36 | 2.92 | 19.07 | -19.8 | NA | N/A |
| 07/19/11 | 14:20 | 7.16 | 100.0 | Clear | None | 6.37 | 0.676 | 0.38 | 2.13 | 18.79 | -17.7 | NA | N/A |
| 07/19/11 | 14:25 | 7.16 | 100.0 | Clear | None | 6.36 | 0.669 | 0.30 | 2.13 | 18.60 | -12.1 | NA | N/A |
| 07/19/11 | 14:30 | 7.17 | 100.0 | Clear | None | 6.33 | 0.665 | 0.30 | 2.16 | 18.22 | -2.4 | NA | N/A |
| 07/19/11 | 14:35 | 7.17 | 100.0 | Clear | None | 6.28 | 0.660 | 0.36 | 1.76 | 18.61 | 3.9 | NA | N/A |
| 07/19/11 | 14:40 | 7.18 | 100.0 | Clear | None | 6.33 | 0.660 | 0.27 | 1.40 | 18.77 | 3.2 | NA | N/A |
| 07/19/11 | 14:45 | 7.18 | 100.0 | Clear | None | 6.35 | 0.659 | 0.21 | 1.59 | 18.85 | 3.2 | NA | N/A |
| 07/19/11 | 14:50 | 7.18 | 100.0 | Clear | None | 6.35 | 0.659 | 0.20 | 1.61 | 18.59 | 6.7 | NA | N/A |
| 07/19/11 | 14:55 | 7.18 | 100.0 | Clear | None | 6.38 | 0.656 | 0.20 | 1.22 | 18.57 | 9.6 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:40 | 14:55 | 75 | 7.5 | Clear | None | 6.38 | 0.656 | 0.20 | 1.22 | 18.57 | 9.6 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/19/11 | 14:56 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-1 |
| ✓ | 07/19/11 | 14:56 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW09-20110718** | Sampler: | Amy Carey |
| Well ID: | 06MW-09 | Well Type: | Monitoring Well |
| QC Duplicate ID: | 06MW-DUP01-20110718 | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 14.08 |
| Top of Screen (ft-BTOR) | 10.8 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 20.8 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 20.8 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/18/11 | 15:28 | 14.08 | 100.0 | Slightly Turbid | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/18/11 | 15:42 | 14.09 | 250.0 | Clear | Hydrocarbon - slight | 6.11 | 0.563 | 0.65 | 4.42 | 14.40 | -97.7 | NA | N/A |
| 07/18/11 | 15:47 | 14.09 | 300.0 | Clear | Hydrocarbon - slight | 6.00 | 0.565 | 0.72 | 4.83 | 13.94 | -103.6 | NA | N/A |
| 07/18/11 | 15:52 | 14.09 | 300.0 | Clear | Hydrocarbon - slight | 6.00 | 0.560 | 0.50 | 2.03 | 13.79 | -103.5 | NA | N/A |
| 07/18/11 | 15:57 | 14.09 | 300.0 | Clear | Hydrocarbon - slight | 6.01 | 0.559 | 0.30 | 2.78 | 13.89 | -102.2 | NA | N/A |
| 07/18/11 | 16:02 | 14.09 | 300.0 | Clear | Hydrocarbon - slight | 6.01 | 0.557 | 0.32 | 2.50 | 14.26 | -95.9 | NA | N/A |
| 07/18/11 | 16:07 | 14.09 | 300.0 | Clear | Hydrocarbon - slight | 6.02 | 0.557 | 0.25 | 2.48 | 13.98 | -109.8 | NA | N/A |
| 07/18/11 | 16:12 | 14.09 | 300.0 | Clear | Hydrocarbon - slight | 6.02 | 0.557 | 0.34 | 1.92 | 13.83 | -114.5 | NA | N/A |
| 07/18/11 | 16:17 | 14.09 | 300.0 | Clear | Hydrocarbon - slight | 5.98 | 0.554 | 0.28 | 2.12 | 13.89 | -115.9 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:28 | 16:17 | 49 | 14.0 | Clear | Hydrocarbon - slight | 5.98 | 0.554 | 0.28 | 2.12 | 13.89 | -115.9 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/18/11 | 16:20 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-1 |
| ✓ | 07/18/11 | 16:20 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-1 |

## General Notes

slight sheen on water in bucket.

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW10-20110720** | Sampler: | Amy Carey |
| Well ID: | 06MW-10 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 27.12 |
| Top of Screen (ft-BTOR) | 17 | H&S PID Monitor Reading (ppm) | 12.4 |
| Bottom of Screen (ft-BTOR) | 32 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 32 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/20/11 | 10:13 | 27.11 | 100.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/20/11 | 10:28 | 27.42 | 110.0 | Clear | None | 6.18 | 0.503 | 0.72 | 29.8 | 16.28 | -13.5 | NA | N/A |
| 07/20/11 | 10:38 | 27.43 | 110.0 | Clear | None | 5.75 | 0.506 | 0.41 | 13.0 | 16.32 | -3.4 | NA | N/A |
| 07/20/11 | 10:45 | 27.45 | 110.0 | Clear | None | 5.81 | 0.508 | 0.40 | 9.40 | 16.32 | -6.5 | NA | N/A |
| 07/20/11 | 10:50 | 27.45 | 100.0 | Clear | None | 5.87 | 0.506 | 0.43 | 5.97 | 16.68 | -4.9 | NA | N/A |
| 07/20/11 | 10:55 | 27.45 | 100.0 | Clear | None | 5.92 | 0.508 | 0.42 | 3.58 | 16.83 | -3.0 | NA | N/A |
| 07/20/11 | 11:00 | 27.45 | 100.0 | Clear | None | 5.95 | 0.508 | 0.39 | 2.37 | 16.90 | -9.4 | NA | N/A |
| 07/20/11 | 11:05 | 27.45 | 100.0 | Clear | None | 5.94 | 0.507 | 0.47 | 1.99 | 16.91 | -9.9 | NA | N/A |
| 07/20/11 | 11:10 | 27.46 | 100.0 | Clear | None | 5.93 | 0.507 | 0.40 | 1.88 | 16.77 | -10.6 | NA | N/A |
| 07/20/11 | 11:15 | 27.46 | 100.0 | Clear | None | 5.95 | 0.506 | 0.37 | 1.72 | 16.73 | -9.6 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:13 | 11:15 | 62 | 6.52 | Clear | None | 5.95 | 0.506 | 0.37 | 1.72 | 16.73 | -9.6 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/20/11 | 11:16 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-3 |
| ✓ | 07/20/11 | 11:16 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-3 |

## General Notes

water silty at first and then cleared. sheen on water in bucket.

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW11-20110720** | Sampler: | Robin Clark |
| Well ID: | 06MW-11 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 18.90 |
| Top of Screen (ft-BTOR) | 21 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 31 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 31 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/20/11 | 9:45 | 18.90 | 100.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/20/11 | 10:04 | 19.62 | 100.0 | Clear | None | 6.02 | 0.827 | 1.36 | 28.9 | 14.70 | 87.6 | 0.41 | N/A |
| 07/20/11 | 10:16 | 19.62 | 100.0 | Clear | None | 6.41 | 0.815 | 1.41 | 27.3 | 15.65 | 59.4 | 0.40 | N/A |
| 07/20/11 | 10:29 | 19.62 | 100.0 | Clear | None | 6.39 | 0.820 | 1.27 | 33.0 | 15.36 | 57.2 | 0.40 | N/A |
| 07/20/11 | 10:39 | 19.64 | 100.0 | Clear | None | 6.36 | 0.831 | 1.27 | 24.3 | 15.13 | 62.6 | 0.41 | N/A |
| 07/20/11 | 10:52 | 19.63 | 100.0 | Clear | None | 6.35 | 0.839 | 1.53 | 16.7 | 15.65 | 68.0 | 0.42 | N/A |
| 07/20/11 | 10:55 | 19.63 | 100.0 | Clear | None | 6.36 | 0.839 | 1.43 | 15.9 | 15.68 | 68.3 | 0.41 | N/A |
| 07/20/11 | 10:58 | 19.63 | 100.0 | Clear | None | 6.31 | 0.840 | 1.51 | 16.1 | 15.76 | 70.0 | 0.41 | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:45 | 10:58 | 73 | 7.3 | Clear | None | 6.31 | 0.840 | 1.51 | 16.1 | 15.76 | 70.0 | 0.41 | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/20/11 | 10:59 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-3 |
| ✓ | 07/20/11 | 10:59 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-3 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW12-20110720** | Sampler: | Amy Carey |
| Well ID: | 06MW-12 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 6.23 |
| Top of Screen (ft-BTOR) | 7 | H&S PID Monitor Reading (ppm) | 2.6 |
| Bottom of Screen (ft-BTOR) | 17 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 17 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/20/11 | 13:06 | 6.23 | 100.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/20/11 | 13:14 | 6.29 | 250.0 | Clear | None | 6.10 | 0.167 | 9.56 | 1.40 | 16.42 | 167.9 | NA | N/A |
| 07/20/11 | 13:24 | 6.28 | 250.0 | Clear | None | 5.66 | 0.160 | 9.06 | 0.78 | 16.22 | 188.0 | NA | N/A |
| 07/20/11 | 13:34 | 6.29 | 250.0 | Clear | None | 5.69 | 0.158 | 9.01 | 0.97 | 16.03 | 185.1 | NA | N/A |
| 07/20/11 | 13:39 | 6.29 | 250.0 | Clear | None | 5.71 | 0.158 | 8.76 | 0.88 | 15.88 | 184.2 | NA | N/A |
| 07/20/11 | 13:44 | 6.29 | 250.0 | Clear | None | 5.72 | 0.157 | 8.14 | 0.62 | 16.04 | 183.9 | NA | N/A |
| 07/20/11 | 13:49 | 6.29 | 250.0 | Clear | None | 5.71 | 0.157 | 8.42 | 0.72 | 15.97 | 186.3 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:06 | 13:49 | 43 | 10.75 | Clear | None | 5.71 | 0.157 | 8.42 | 0.72 | 15.97 | 186.3 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/20/11 | 13:50 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000162-3 |
| ✓ | 07/20/11 | 13:50 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000162-3 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation - Site 6
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.FI (ED00000162)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW13-20110719** | Sampler: | Robin Clark |
| Well ID: | 06MW-13 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 18.55 |
| Top of Screen (ft-BTOR) | 15.9 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 25.9 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 25.9 | Sample Method | Low flow - peristaltic |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/11 | 8:23 | 18.55 | 200.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 07/19/11 | 8:29 | 18.60 | 130.0 | Clear | None | 6.27 | 0.434 | 1.28 | 3.64 | 15.19 | 220.4 | 0.21 | N/A |
| 07/19/11 | 8:46 | 18.60 | 130.0 | Clear | None | 6.28 | 0.427 | 0.80 | 2.64 | 16.46 | 186.1 | 0.21 | N/A |
| 07/19/11 | 8:59 | 18.61 | 130.0 | Clear | None | 6.28 | 0.428 | 0.63 | 1.88 | 17.07 | 172.4 | 0.21 | N/A |
| 07/19/11 | 9:15 | 18.66 | 130.0 | Clear | None | 5.99 | 0.419 | 0.39 | 1.49 | 14.10 | 168.1 | 0.20 | N/A |
| 07/19/11 | 9:18 | 18.66 | 130.0 | Clear | None | 6.08 | 0.417 | 0.39 | 1.45 | 14.30 | 160.8 | 0.20 | N/A |
| 07/19/11 | 9:21 | 18.66 | 130.0 | Clear | None | 6.10 | 0.417 | 0.36 | 1.40 | 14.10 | 157.0 | 0.20 | N/A |
| 07/19/11 | 9:24 | 18.66 | 130.0 | Clear | None | 6.11 | 0.417 | 0.39 | 1.36 | 14.03 | 154.2 | 0.20 | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:23 | 9:24 | 61 | 7.93 | Clear | None | 6.11 | 0.417 | 0.39 | 1.36 | 14.03 | 154.2 | 0.20 | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 07/19/11 | 9:25 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 6 | Glass - Amber | 1L | lab QC MS/MSD | ED00000162-1 |
| ✓ | 07/19/11 | 9:25 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 6 | Glass - Clear | 40ml vials | lab QC MS/MSD | ED00000162-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-01-111025** | Sampler: | Robin Clark |
| Well ID: | 06MW-01 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 14.06 |
| Top of Screen (ft-BTOR) | 13 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 23 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 23 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Robin | Pump Control Box: | N/A | Turbidity Meter: | Robin |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/11 | 11:54 | 14.06 | 200.0 | Clear | None | na | na | na | na | na | na | na | N/A |
| 10/25/11 | 12:01 | 14.18 | 150.0 | Clear | None | 6.46 | 0.2880 | 0.45 | 15.8 | 16.83 | -70 | na | N/A |
| 10/25/11 | 12:08 | 14.19 | 150.0 | Clear | None | 6.12 | 0.2850 | 0.15 | 2.91 | 16.71 | -81 | na | N/A |
| 10/25/11 | 12:15 | 14.19 | 120.0 | Clear | None | 6.13 | 0.2816 | 0.10 | 0.35 | 16.82 | -85 | na | N/A |
| 10/25/11 | 12:21 | 14.20 | 120.0 | Clear | None | 6.11 | 0.2863 | 0.09 | 0.93 | 16.83 | -83 | na | N/A |
| 10/25/11 | 12:28 | 14.20 | 120.0 | Clear | None | 6.10 | 0.2977 | 0.08 | 0.53 | 16.97 | -83 | na | N/A |
| 10/25/11 | 12:34 | 14.20 | 120.0 | Clear | None | 6.39 | 0.3136 | 0.08 | 0.56 | 16.96 | -85 | na | N/A |
| 10/25/11 | 12:40 | 14.20 | 120.0 | Clear | None | 6.38 | 0.3158 | 0.07 | 0.23 | 17.07 | -84 | na | N/A |
| 10/25/11 | 12:45 | 14.20 | 120.0 | Clear | None | 6.38 | 0.3187 | 0.08 | 0.19 | 17.06 | -83 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:54 | 12:45 | 51 | 6.54 | Clear | None | 6.38 | 0.3187 | 0.08 | 0.19 | 17.06 | -83 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/25/11 | 12:46 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/25/11 | 12:46 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-02-111025** | Sampler: | Robin Clark |
| Well ID: | 06MW-02 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 11.49 |
| Top of Screen (ft-BTOR) | 10 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 20 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 20 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Robin | Pump Control Box: | N/A | Turbidity Meter: | Robin |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/11 | 9:50 | 11.49 | 200.0 | Cloudy | None | na | na | na | na | na | na | na | N/A |
| 10/25/11 | 9:57 | 11.52 | 200.0 | Slightly Turbid | None | 6.08 | 0.3916 | 0.28 | 110 | 16.66 | 77 | na | N/A |
| 10/25/11 | 10:07 | 11.52 | 200.0 | Slightly Turbid | None | 5.96 | 0.3959 | 0.25 | 88.1 | 16.50 | 128 | na | N/A |
| 10/25/11 | 10:14 | 11.52 | 200.0 | Clear | None | 5.96 | 0.3965 | 0.24 | 29.0 | 16.58 | 131 | na | N/A |
| 10/25/11 | 10:22 | 11.52 | 200.0 | Clear | None | 5.95 | 0.4031 | 0.22 | 29.6 | 16.53 | 125 | na | N/A |
| 10/25/11 | 10:27 | 11.52 | 200.0 | Clear | None | 5.95 | 0.4073 | 0.22 | 15.1 | 16.64 | 127 | na | N/A |
| 10/25/11 | 10:32 | 11.52 | 200.0 | Clear | None | 5.95 | 0.4101 | 0.24 | 17.3 | 16.50 | 129 | na | N/A |
| 10/25/11 | 10:37 | 11.52 | 200.0 | Clear | None | 5.95 | 0.4129 | 0.22 | 15.3 | 16.70 | 131 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:50 | 10:37 | 47 | 9.4 | Clear | None | 5.95 | 0.4129 | 0.22 | 15.3 | 16.70 | 131 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/25/11 | 10:38 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/25/11 | 10:38 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-03-111025** | Sampler: | Robin Clark |
| Well ID: | 06MW-03 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 9.82 |
| Top of Screen (ft-BTOR) | 8 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 18 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 18 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Robin | Pump Control Box: | N/A | Turbidity Meter: | Robin |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/11 | 8:33 | 9.82 | 200.0 | Clear | None | na | na | na | na | na | na | na | N/A |
| 10/25/11 | 8:43 | 9.82 | 200.0 | Clear | Hydrocarbon - slight | 6.36 | 0.3832 | 0.15 | 6.63 | 16.14 | -79 | na | N/A |
| 10/25/11 | 8:51 | 9.84 | 200.0 | Clear | Hydrocarbon - slight | 6.32 | 0.3443 | 0.12 | 3.11 | 16.33 | -72 | na | N/A |
| 10/25/11 | 8:57 | 9.84 | 200.0 | Clear | Hydrocarbon - slight | 6.32 | 0.3226 | 0.09 | 0.66 | 16.41 | -67 | na | N/A |
| 10/25/11 | 9:03 | 9.84 | 200.0 | Clear | Hydrocarbon - slight | 6.27 | 0.3129 | 0.07 | 0.33 | 16.50 | -62 | na | N/A |
| 10/25/11 | 9:08 | 9.84 | 200.0 | Clear | Hydrocarbon - slight | 6.26 | 0.3110 | 0.07 | 0.25 | 16.48 | -61 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:33 | 9:08 | 35 | 7.0 | Clear | Hydrocarbon - slight | 6.26 | 0.3110 | 0.07 | 0.25 | 16.48 | -61 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/25/11 | 9:10 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/25/11 | 9:10 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-04-111024** | Sampler: | Eric Watt |
| Well ID: | 06MW-04 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 2.78 |
| Top of Screen (ft-BTOR) | 3 | H&S PID Monitor Reading (ppm) | 0 |
| Bottom of Screen (ft-BTOR) | 13 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 13 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/11 | 15:45 | 3.43 | 150.0 | Slightly Turbid | Musty - slight | 11.62 | 2.525 | 0.91 | na | 17.75 | -130 | na | N/A |
| 10/24/11 | 15:50 | 3.48 | 150.0 | Clear | None | 11.95 | 2.555 | 0.19 | 1.41 | 17.74 | -171 | na | N/A |
| 10/24/11 | 15:55 | 3.49 | 150.0 | Clear | None | 12.08 | 2.529 | 0.28 | 1.06 | 17.52 | -119 | na | N/A |
| 10/24/11 | 16:00 | 3.49 | 150.0 | Clear | None | 12.08 | 2.484 | 0.16 | 1.13 | 17.54 | -117 | na | N/A |
| 10/24/11 | 16:05 | 3.51 | 150.0 | Clear | None | 12.10 | 2.557 | 0.21 | 1.06 | 17.44 | -177 | na | N/A |
| 10/24/11 | 16:10 | 3.51 | 150.0 | Clear | None | 12.11 | 2.562 | 0.23 | 0.88 | 17.43 | -175 | na | N/A |
| 10/24/11 | 16:15 | 3.51 | 150.0 | Clear | None | 12.09 | 2.453 | 0.19 | 0.73 | 17.48 | -174 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15:45 | 16:15 | 30 | 4.5 | Clear | None | 12.09 | 2.453 | 0.19 | 0.73 | 17.48 | -174 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/24/11 | 16:15 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/24/11 | 16:15 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-05-111025** | Sampler: | Eric Watt |
| Well ID: | 06MW-05 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 9.98 |
| Top of Screen (ft-BTOR) | 7 | H&S PID Monitor Reading (ppm) | 0 |
| Bottom of Screen (ft-BTOR) | 22 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 22 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/11 | 8:37 | 10.13 | 200.0 | Slightly Turbid | None | 6.05 | 0.174 | 2.26 | na | 15.43 | 172 | na | N/A |
| 10/25/11 | 8:42 | 10.21 | 200.0 | Clear | None | 5.80 | 0.170 | 1.48 | 10.46 | 15.19 | 211 | na | N/A |
| 10/25/11 | 8:47 | 10.23 | 150.0 | Clear | None | 5.80 | 0.168 | 0.37 | 9.25 | 15.31 | 222 | na | N/A |
| 10/25/11 | 8:52 | 10.23 | 150.0 | Clear | None | 5.72 | 0.167 | 0.16 | 5.67 | 15.46 | 232 | na | N/A |
| 10/25/11 | 8:57 | 10.23 | 150.0 | Clear | None | 5.66 | 0.166 | 0.12 | 5.89 | 15.54 | 239 | na | N/A |
| 10/25/11 | 9:02 | 10.23 | 150.0 | Clear | None | 5.58 | 0.165 | 0.11 | 5.34 | 15.33 | 250 | na | N/A |
| 10/25/11 | 9:07 | 10.23 | 150.0 | Clear | None | 5.55 | 0.165 | 0.18 | 5.10 | 15.26 | 255 | na | N/A |
| 10/25/11 | 9:12 | 10.23 | 150.0 | Clear | None | 5.51 | 0.165 | 0.16 | 4.96 | 15.18 | 261 | na | N/A |
| 10/25/11 | 9:17 | 10.23 | 150.0 | Clear | None | 5.52 | 0.167 | 0.19 | 4.87 | 15.38 | 261 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8:37 | 9:17 | 40 | 6.25 | Clear | None | 5.52 | 0.167 | 0.19 | 4.87 | 15.38 | 261 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/25/11 | 9:20 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/25/11 | 9:20 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-06-20111024** | Sampler: | Robin Clark |
| Well ID: | 06MW-06 | Well Type: | Monitoring Well |
| QC Duplicate ID: | 06MWDUP01-111024 | MS/MSD: | MS/MSD |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 13.91 |
| Top of Screen (ft-BTOR) | 10.9 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 20.9 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 20.9 | Sample Method | LOW FLOW PERISTALTIC |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Robin | Pump Control Box: | N/A | Turbidity Meter: | Robin |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/11 | 13:06 | 13.91 | 150.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 10/24/11 | 13:16 | 13.96 | 150.0 | Clear | None | 6.29 | 0.2520 | 0.10 | 5.96 | 16.59 | 156 | NA | N/A |
| 10/24/11 | 13:26 | 13.96 | 150.0 | Clear | None | 6.06 | 0.2327 | 2.03 | 2.12 | 16.17 | 216 | NA | N/A |
| 10/24/11 | 13:37 | 13.96 | 150.0 | Clear | None | 6.02 | 0.2331 | 2.19 | 1.68 | 16.01 | 117 | NA | N/A |
| 10/24/11 | 13:43 | 13.96 | 150.0 | Clear | None | 6.02 | 0.2322 | 2.24 | 1.91 | 16.02 | 115 | NA | N/A |
| 10/24/11 | 13:47 | 13.96 | 150.0 | Clear | None | 6.01 | 0.2304 | 2.18 | 1.83 | 15.93 | 114 | NA | N/A |
| 10/24/11 | 13:53 | 13.96 | 150.0 | Clear | None | 6.01 | 0.2302 | 2.19 | 1.78 | 15.91 | 114 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:06 | 13:53 | 47 | 7.05 | Clear | None | 6.01 | 0.2302 | 2.19 | 1.78 | 15.91 | 114 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/24/11 | 13:54 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 4 | Glass - Amber | 1L | LAB QC MS/MSD | ED00000173-1 |
| ✓ | 10/24/11 | 13:54 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 4 | Glass - Clear | 40ml vials | LAB QC MS/MSD | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-07-111025** | Sampler: | Eric Watt |
| Well ID: | 06MW-07 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 10.77 |
| Top of Screen (ft-BTOR) | 8.4 | H&S PID Monitor Reading (ppm) | 0 |
| Bottom of Screen (ft-BTOR) | 18.4 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 18.4 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/11 | 10:59 | 10.82 | 225.0 | Slightly Turbid | None | 5.43 | 0.081 | 2.51 | na | 19.21 | 168 | na | N/A |
| 10/25/11 | 11:04 | 10.82 | 225.0 | Clear | None | 5.42 | 0.114 | 2.33 | 0 | 18.85 | 203 | na | N/A |
| 10/25/11 | 11:09 | 10.82 | 225.0 | Clear | None | 5.56 | 0.170 | 1.67 | 0 | 18.87 | 207 | na | N/A |
| 10/25/11 | 11:14 | 10.82 | 225.0 | Clear | None | 5.58 | 0.184 | 1.47 | 0 | 19.04 | 213 | na | N/A |
| 10/25/11 | 11:19 | 10.82 | 225.0 | Clear | None | 5.58 | 0.192 | 1.36 | 0 | 18.75 | 217 | na | N/A |
| 10/25/11 | 11:24 | 10.82 | 225.0 | Clear | None | 5.55 | 0.193 | 1.22 | 0 | 19.03 | 223 | na | N/A |
| 10/25/11 | 11:29 | 10.82 | 225.0 | Clear | None | 5.57 | 0.196 | 1.15 | 0 | 19.03 | 225 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10:59 | 11:29 | 30 | 6.75 | Clear | None | 5.57 | 0.196 | 1.15 | 0 | 19.03 | 225 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/25/11 | 11:30 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/25/11 | 11:30 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-08-20111024** | Sampler: | Robin Clark |
| Well ID: | 06MW-08 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 4.20 |
| Top of Screen (ft-BTOR) | 3.1 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 13.1 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 13.1 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Robin | Pump Control Box: | N/A | Turbidity Meter: | Robin |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/11 | 14:46 | 4.20 | 150.0 | Clear | None | NA | NA | NA | NA | NA | NA | NA | N/A |
| 10/24/11 | 15:01 | 4.59 | 150.0 | Clear | None | 6.57 | 0.3849 | 0.32 | 37.3 | 18.18 | 138 | NA | N/A |
| 10/24/11 | 15:15 | 4.62 | 150.0 | Clear | None | 6.56 | 0.3822 | 0.29 | 7.10 | 18.27 | 118 | na | N/A |
| 10/24/11 | 15:25 | 4.62 | 150.0 | Clear | None | 6.56 | 0.3824 | 0.21 | 2.21 | 18.17 | 100 | na | N/A |
| 10/24/11 | 15:29 | 4.62 | 150.0 | Clear | None | 6.56 | 0.3832 | 0.18 | 2.15 | 18.24 | 96 | na | N/A |
| 10/24/11 | 15:33 | 4.62 | 150.0 | Clear | None | 6.56 | 0.3826 | 0.16 | 2.31 | 18.35 | 94 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14:46 | 15:33 | 47 | 7.05 | Clear | None | 6.56 | 0.3826 | 0.16 | 2.31 | 18.35 | 94 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/24/11 | 15:34 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/24/11 | 15:34 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-09-111025** | Sampler: | Eric Watt |
| Well ID: | 06MW-09 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 19.85 |
| Top of Screen (ft-BTOR) | 10.8 | H&S PID Monitor Reading (ppm) | 0 |
| Bottom of Screen (ft-BTOR) | 20.8 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 20.8 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/11 | 9:55 | 12.96 | 250.0 | Slightly Turbid | Hydrocarbon - slight | 6.00 | 0.526 | 0.20 | na | 15.74 | -14 | na | N/A |
| 10/25/11 | 10:00 | 12.96 | 250.0 | Slightly Turbid | Hydrocarbon - slight | 6.13 | 0.508 | 0.31 | 0.33 | 15.55 | -56 | na | N/A |
| 10/25/11 | 10:05 | 12.96 | 250.0 | Clear | Hydrocarbon - slight | 6.21 | 0.497 | 0.01 | 0 | 15.44 | -77 | na | N/A |
| 10/25/11 | 10:10 | 12.96 | 250.0 | Clear | Hydrocarbon - slight | 6.19 | 0.492 | 0.05 | 0 | 15.44 | -86 | na | N/A |
| 10/25/11 | 10:15 | 12.96 | 250.0 | Clear | Hydrocarbon - slight | 6.17 | 0.489 | 0.07 | 0 | 15.40 | -92 | na | N/A |
| 10/25/11 | 10:20 | 12.96 | 250.0 | Clear | Hydrocarbon - slight | 6.14 | 0.486 | 0.07 | 0 | 15.41 | -96 | na | N/A |
| 10/25/11 | 10:25 | 12.96 | 250.0 | Clear | Hydrocarbon - slight | 6.12 | 0.483 | 0.07 | 0 | 15.39 | -98 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 9:55 | 10:25 | 30 | 7.5 | Clear | Hydrocarbon - slight | 6.12 | 0.483 | 0.07 | 0 | 15.39 | -98 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/25/11 | 10:25 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/25/11 | 10:25 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-10-20111024** | Sampler: | Eric Watt |
| Well ID: | 06MW-10 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 26.13 |
| Top of Screen (ft-BTOR) | 17 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 32 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 32 | Sample Method | Low flow -peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/11 | 11:42 | 26.43 | 200.0 | Clear | None | na | na | na | na | na | na | na | N/A |
| 10/24/11 | 11:50 | 26.57 | 200.0 | Clear | None | 6.26 | 0.394 | 0.12 | 0 | 15.56 | -111 | na | N/A |
| 10/24/11 | 11:55 | 26.59 | 200.0 | Clear | None | 6.27 | 0.393 | 0.11 | 0 | 15.46 | -114 | na | N/A |
| 10/24/11 | 12:00 | 26.59 | 200.0 | Clear | None | 6.25 | 0.396 | 0.09 | 0 | 15.53 | -113 | na | N/A |
| 10/24/11 | 12:05 | 26.58 | 200.0 | Clear | None | 6.24 | 0.397 | 0.17 | 0.21 | 15.63 | -111 | NA | N/A |
| 10/24/11 | 12:10 | 26.58 | 200.0 | Clear | None | 6.23 | 0.396 | 0.17 | 0.07 | 15.75 | -110 | NA | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11:42 | 12:10 | 28 | 5.6 | Clear | None | 6.23 | 0.396 | 0.17 | 0.07 | 15.75 | -110 | NA | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/24/11 | 12:15 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/24/11 | 12:15 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-11-111024** | Sampler: | Eric Watt |
| Well ID: | 06MW-11 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 17.94 |
| Top of Screen (ft-BTOR) | 21 | H&S PID Monitor Reading (ppm) | 0.0 |
| Bottom of Screen (ft-BTOR) | 31 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 31 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/11 | 13:08 | 18.52 | 175.0 | Slightly Turbid | Hydrocarbon - slight | 6.41 | 0.354 | 1.12 | na | 17.37 | -56 | na | N/A |
| 10/24/11 | 13:14 | 18.60 | 175.0 | Slightly Turbid | Hydrocarbon - slight | 6.77 | 0.358 | 0.96 | 2.92 | 17.22 | -91 | na | N/A |
| 10/24/11 | 13:19 | 18.62 | 150.0 | Clear | Hydrocarbon - slight | 6.70 | 0.580 | 0.99 | 1.81 | 16.47 | -68 | na | N/A |
| 10/24/11 | 13:24 | 18.63 | 150.0 | Clear | Hydrocarbon - slight | 6.47 | 0.620 | 0.99 | 1.49 | 16.44 | -35 | na | N/A |
| 10/24/11 | 13:29 | 18.65 | 150.0 | Clear | None | 6.37 | 0.611 | 1.08 | 1.31 | 15.89 | -22 | na | N/A |
| 10/24/11 | 13:34 | 18.68 | 125.0 | Clear | None | 6.37 | 0.608 | 1.16 | 1.06 | 15.57 | -19 | na | N/A |
| 10/24/11 | 13:39 | 18.67 | 125.0 | Clear | None | 6.37 | 0.607 | 1.31 | 0.74 | 15.52 | -17 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 13:08 | 13:39 | 31 | 4.55 | Clear | None | 6.37 | 0.607 | 1.31 | 0.74 | 15.52 | -17 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/24/11 | 13:40 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/24/11 | 13:40 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-12-111024** | Sampler: | Eric Watt |
| Well ID: | 06MW-12 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 4.41 |
| Top of Screen (ft-BTOR) | 7 | H&S PID Monitor Reading (ppm) | 0 |
| Bottom of Screen (ft-BTOR) | 17 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 17 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/11 | 14:33 | 4.44 | 250.0 | Slightly Turbid | None | 5.86 | 0.112 | 9.11 | na | 16.93 | 125 | na | N/A |
| 10/24/11 | 14:38 | 4.46 | 250.0 | Clear | None | 5.58 | 0.117 | 1.06 | 2.73 | 16.74 | 176 | na | N/A |
| 10/24/11 | 14:43 | 4.46 | 250.0 | Clear | None | 5.92 | 0.116 | 0.97 | 1.56 | 17.02 | 169 | na | N/A |
| 10/24/11 | 14:48 | 4.46 | 250.0 | Clear | None | 5.92 | 0.115 | 0.85 | 1.09 | 16.42 | 178 | na | N/A |
| 10/24/11 | 14:53 | 4.46 | 250.0 | Clear | None | 5.93 | 0.116 | 0.52 | 0.55 | 16.49 | 184 | na | N/A |
| 10/24/11 | 14:58 | 4.46 | 250.0 | Clear | None | 5.97 | 0.117 | 0.46 | 0.37 | 17.10 | 185 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14:33 | 14:58 | 25 | 6.25 | Clear | None | 5.97 | 0.117 | 0.46 | 0.37 | 17.10 | 185 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/24/11 | 15:00 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/24/11 | 15:00 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# GROUNDWATER SAMPLE LOG SHEET

TETRA TECH NUS, Inc.

Event: Soil and Groundwater Investigation
Site Name: NEW LONDON NSB - Site 6 - Polaris Park
Project No: 112G02634.112G02634 (ED00000173)



| | | | |
|---|---|---|---|
| Sample ID: | **06MW-13-111025** | Sampler: | Eric Watt |
| Well ID: | 06MW-13 | Well Type: | Monitoring Well |
| QC Duplicate ID: | N/A | MS/MSD: | N/A |

## Well Information

| | | | |
|---|---|---|---|
| Well Diameter (in.) | 2 | Static Water Level (ft-BTOR) | 17.58 |
| Top of Screen (ft-BTOR) | 15.9 | H&S PID Monitor Reading (ppm) | 0 |
| Bottom of Screen (ft-BTOR) | 25.9 | Purge Method | Low flow - peristaltic |
| Total Depth of Well (ft-BTOR) | 25.9 | Sample Method | Low flow - peristaltic |

## Equipment

| | | | | | |
|---|---|---|---|---|---|
| Water Quality Meter: | Eric | Pump Control Box: | N/A | Turbidity Meter: | Eric |

## Purge Information

| Date | Time | Level (ft-BTOR) | Rate (ml/min) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/11 | 12:14 | 17.61 | 200.0 | Clear | None | 5.92 | 0.324 | 1.10 | na | 15.03 | 188 | na | N/A |
| 10/25/11 | 12:19 | 17.61 | 200.0 | Clear | None | 6.16 | 0.318 | 0.77 | 0 | 14.30 | 177 | na | N/A |
| 10/25/11 | 12:24 | 17.61 | 200.0 | Clear | None | 6.29 | 0.316 | 0.56 | 0 | 14.14 | 170 | na | N/A |
| 10/25/11 | 12:29 | 17.61 | 200.0 | Clear | None | 6.27 | 0.313 | 0.46 | 0 | 14.06 | 171 | na | N/A |
| 10/25/11 | 12:34 | 17.61 | 200.0 | Clear | None | 6.25 | 0.312 | 0.39 | 0 | 14.03 | 174 | na | N/A |
| 10/25/11 | 12:39 | 17.61 | 200.0 | Clear | None | 6.25 | 0.310 | 0.28 | 0 | 14.01 | 176 | na | N/A |

## Final Purge / Sample Data

| Start Purge | End Purge | Duration (min.) | Total Vol. (L) | Color | Odor | pH (S.U.) | S.C. (mS/cm) | DO (mg/L) | Turbidity (NTUs) | Temp (ºC) | ORP (mV) | Salinity (%) | Other |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 12:14 | 12:39 | 25 | 5.0 | Clear | None | 6.25 | 0.310 | 0.28 | 0 | 14.01 | 176 | na | N/A |

## Laboratory Analysis

| Coll. | Date | Time | Description | Analysis | Preservative | No. | Type | Vol. | COC Notes | Chain No. |
|---|---|---|---|---|---|---|---|---|---|---|
| ✓ | 10/25/11 | 12:40 | ETPH | CT DPH ETPH - Mitkem SOP 60.0050 | 4°C | 2 | Glass - Amber | 1L | None | ED00000173-1 |
| ✓ | 10/25/11 | 12:40 | VPH | MADEP VPH - Mitkem SOP 90.0037 | 4°C/HCL | 2 | Glass - Clear | 40ml vials | None | ED00000173-1 |

## General Notes

None

# APPENDIX E

# Sample Chain-of-Custody Forms

MITKEM LABORATORIES

A Division of SPECTRUM ANALYTICAL, INC Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 1 of 2

**Special Handling:**
TAT- Indicate Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: Dave Kane
240 Continental Dr.
Suite 200
Newark, DE 19713

Project Mgr.: Dave Kane

Invoice To:

P.O. No.: _____ RQN: _____

Project No.: 112G02634
Site Name: Polaris Park
Location: Groton State: CT
Sampler(s): R Clark E Watt

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= _____ 11= _____

List preservative code below: 8+9

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

Containers: # of VOA Vials; # of ~~Amber~~ clear Glass; # of Clear Glass; # of Plastic

Analyses: BTEX; ETPH

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Clear Glass | # of Clear Glass | # of Plastic | BTEX | ETPH | Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -065B28-1820- | 20110614 | 1215 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 2 | -065B28-2325- | 20110614 | 1400 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 3 | -065B22-0911- | 20110615 | 0850 | G | SO | 6 | 2 | | | ✓ | ✓ | |
| 4 | -065B22-1719- | 20110615 | 0930 | G | SO | 3 | 1 | | | ✓ | ✓ | Lab QC MS/MSD |
| 5 | -065BDUP01- | 20110615 | — | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 6 | -065B24-1719- | 20110615 | 1340 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 7 | -065B24-1921- | 20110615 | 1400 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 8 | -065B21-1517- | 20110616 | 1005 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 9 | -065B21-1719- | 20110616 | 1010 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 10 | 065TBSD- | 20110614 | 6/14/11 | G | AQ | 3 | 1 | | | ✓ | ✓ | Trip blank |

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

☐ E-mail to _____

EDD Format _____

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Sleepy Zoff | [signature] | 6-18-11 | 1325 |
| [signature] | [signature] | 6/20/11 | 13:48 |

Condition upon receipt: ☑ Iced ☐ Ambient ☐ °C 5.5

MITKEM LABORATORIES

A Division of SPECTRUM ANALYTICAL, INC Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 2 of 2

**Special Handling:**

TAT- Indicate Date Needed: _____

- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: Dave Kane

See pg 1 of 2

Project Mgr.: _____

Invoice To:

P.O. No.. RQN:

Project No.: See pg 1 of 2

Site Name: Polaris Park

Location: State:

Sampler(s):

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= _____ 11= _____

List preservative code below: 8 9

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

Containers: # of VOA Vials, # of Amber Glass, # of Clear Glass, # of Plastic

Analyses.

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | BTEX | ETPH | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 065BDUP02- | 20110615 | — | G | SO | 3 | | 1 | | ✓ | ✓ | |
| | 065B23-0709- | 20110616 | 1350 | G | SO | 3 | | 1 | | ✓ | ✓ | |
| | 065B23-0911- | 20110616 | 1410 | G | SO | 3 | | 1 | | ✓ | ✓ | |
| | 065B26-1416- | 20110617 | 1115 | G | SO | 3 | | 1 | | ✓ | ✓ | |
| | 065B26-2426- | 20110617 | 1215 | G | SO | 3 | | 1 | | ✓ | ✓ | |

Notes: Hold for Confirmation
Hold for Confirmation
860-617-3948

QA/QC Reporting Level

☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State specific reporting standards:

☐ E-mail to _____

EDD Format _____

Condition upon receipt. ☑ Iced ☐ Ambient ☐ °C 5.5

| Relinquished by: | Received by: | Date | Time: |
|---|---|---|---|
| [signature] | [signature] | 6/17/11 | 1325 |
| | | 6/17/11 | 13:48 |

MITKEM LABORATORIES
A Division of SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 1 of 1

**Special Handling:**
TAT- Indicate Date Needed: _____
- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Dave Kane
240 Continental Dr.
Suite 200
Newark DE 19713

Project Mgr.: Dave Kane

Invoice To:

P.O. No.: RQN:

Project No.: 112620 2634
Site Name: Polans Park
Location: Groton CT State:
Sampler(s): R Clark

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= DI 11=

List preservative code below: PHO – 2

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= X2= X3=

G=Grab C=Composite

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | BTEX | EPH | BTEX | | Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 06SB27-0911 | 20110620 | 1310 | g | SO | 3 | | 1 | | ✓ | ✓ | | | Frozen 6/20/11 6pm |
| 2 | 06SB27-1315 | 20110620 | 1335 | g | SO | 3 | | 1 | | ✓ | ✓ | | | Frozen 6/20/11 6pm |
| 3 | 06TBSO-20110620 | 6/20/11 | 1200 | g | SO | 3 | | — | | ✓ | ✓ | | | |
| 4 | 06SB25-0507 | 20110621 | 0840 | g | SO | 3 | | 1 | | ✓ | ✓ | | | Frozen 6/21/11 7pm |
| 5 | 06SB25-1820 | 20110621 | 1030 | g | SO | 6 | | 2 | | ✓ | ✓ | | | Lab QC MS/MSD ↓ |
| 6 | 06RB-20110621 | 6/21/11 | 1045 | g | AQ | 2 | 2 | | | ✓ | ✓ | ✓ | | Rinsate |
| 7 | 06TBAQ-20110621 | 6/21/11 | 0900 | g | AQ | 2 | | | | ✓ | ✓ | | | |

☐ E-mail to
EDD Format

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 6.0c

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 6/23/11 | 1030 |
| [signature] | [signature] | 6/24/11 | 1120 |

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other

State specific reporting standards:

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000162-1

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Lab Pick-Up** | **Mitkem Laboratories**<br>**175 Metro Center Blvd**<br>**Warwick, RI 02886-1755** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Edward Lawler**<br>**(401) 732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/18/2011 | 06MW-DUP01-20110718 | 00:00 | **CT DPH ETPH - Mitkem SOP 60.0050** | QC | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/18/2011 | 06MW-DUP01-20110718 | 00:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/18/2011 | 06MW09-20110718 | 16:20 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-09 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/18/2011 | 06MW09-20110718 | 16:20 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-09 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/18/2011 | TB06-071811 | 10:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 07/19/2011 | 06MW01-20110719 | 12:27 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-01 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/19/2011 | 06MW01-20110719 | 12:27 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-01 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/19/2011 | 06MW02-20110719 | 14:07 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-02 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/19/2011 | 06MW02-20110719 | 14:07 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-02 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/19/2011 | 06MW06-20110719 | 09:17 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-06 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW06-20110719 | 09:17 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-06 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW07-20110719 | 12:48 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-07 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW07-20110719 | 12:48 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-07 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW08-20110719 | 14:56 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-08 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW08-20110719 | 14:56 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-08 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW13-20110719 | 09:25 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-13 | GW | ETPH | 4°C | 6 | Glass - Amber | 1L | lab QC MS/MSD |
| 07/19/2011 | 06MW13-20110719 | 09:25 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-13 | GW | VPH | 4°C/HCL | 6 | Glass - Clear | 40ml vials | lab QC MS/MSD |

| | | | | | |
|---|---|---|---|---|---|
| 1. Relinquished By: **Robin Clark** | Date: 07/20/2011 | Time: 06:40 | Received By: **Lab Pick-Up** | Date: 07/20/2011 | Time: 07:40 |
| 2. Relinquished By: [illegible] | Date: 7/20/11 | Time: 1010 | Received By: [illegible] | Date: 7-20-11 | Time: 10:10 |

5°C Iced

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000162-3

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Hand Deliver** | **Mitkem Laboratories**<br>**175 Metro Center Blvd**<br>**Warwick, RI 02886-1755** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Edward Lawler**<br>**(401) 732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/2011 | TB06-20110719 | 09:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 07/20/2011 | 06MW03-20110720 | 13:44 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-03 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW03-20110720 | 13:44 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-03 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW10-20110720 | 11:16 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-10 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW10-20110720 | 11:16 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-10 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW11-20110720 | 10:59 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-11 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW11-20110720 | 10:59 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-11 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW12-20110720 | 13:50 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-12 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW12-20110720 | 13:50 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-12 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/21/2011 | 06MW04-20110721 | 09:07 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-04 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/21/2011 | 06MW04-20110721 | 09:07 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-04 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/21/2011 | 06MW05-20110721 | 08:54 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-05 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/21/2011 | 06MW05-20110721 | 08:54 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-05 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |

| | | | | | |
|---|---|---|---|---|---|
| 1. Relinquished By: **Robin Clark** | Date: 07/21/2011 | Time: 12:08 | Received By: **Hand Deliver** | Date: 07/21/2011 | Time: 13:08 |
| 2. Relinquished By: [illegible] | Date: 7/21/11 | Time: 1240 | Received By: [illegible] | Date: 7-21-11 | Time: 13:30 |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |

6.5°C

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000173-1

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Hand Deliver** | **Mitkem Laboratory**<br>**175 Metrocenter Blvd**<br>**Warwick, RI 02886** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Ed Lawler**<br>**401-732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/2011 | 06MW-04-111024 | 16:15 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-04 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-04-111024 | 16:15 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-04 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-06-20111024 | 13:54 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-06 | GW | ETPH | 4°C | 4 | Glass - Amber | 1L | LAB QC MS/MSD |
| 10/24/2011 | 06MW-06-20111024 | 13:54 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-06 | GW | VPH | 4°C/HCL | 4 | Glass - Clear | 40ml vials | LAB QC MS/MSD |
| 10/24/2011 | 06MW-08-20111024 | 15:34 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-08 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-08-20111024 | 15:34 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-08 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-10-20111024 | 12:15 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-10 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-10-20111024 | 12:15 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-10 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-11-111024 | 13:40 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-11 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-11-111024 | 13:40 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-11 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-12-111024 | 15:00 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-12 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-12-111024 | 15:00 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-12 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MWDUP01-111024 | 00:00 | MADEP VPH - Mitkem SOP 90.0037 | QC | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MWDUP01-111024 | 00:00 | CT DPH ETPH - Mitkem SOP 60.0050 | QC | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | 06MW-06 |
| 10/24/2011 | 06TBMW0-111024 | 09:00 | MADEP VPH - Mitkem SOP 90.0037 | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 10/25/2011 | 06MW-01-111025 | 12:46 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-01 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-01-111025 | 12:46 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-01 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-02-111025 | 10:38 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-02 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-02-111025 | 10:38 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-02 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-03-111025 | 09:10 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-03 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-03-111025 | 09:10 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-03 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-05-111025 | 09:20 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-05 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-05-111025 | 09:20 | MADEP VPH - Mitkem SOP 90.0037 | 06MW-05 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-07-111025 | 11:30 | CT DPH ETPH - Mitkem SOP 60.0050 | 06MW-07 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| )/25/2011 | 06MW-07-111025 | 11:30 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-07 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| )/25/2011 | 06MW-09-111025 | 10:25 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-09 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| )/25/2011 | 06MW-09-111025 | 10:25 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-09 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| )/25/2011 | 06MW-13-111025 | 12:40 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-13 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| )/25/2011 | 06MW-13-111025 | 12:40 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-13 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |

| | | | | | |
|---|---|---|---|---|---|
| .. Relinquished By: **Robin Clark** | Date: 10/25/2011 | Time: 16:00 | Received By: **Hand Deliver** | Date: 10/25/2011 | Time: 16:00 |
| 2. Relinquished By: Robin | Date: 10/25/11 | Time: 1630 | Received By: Dan Smucker | Date: 10-25-11 | Time: 16:30 |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |

Comments:

# APPENDIX F

# Laboratory Analytical Data Packages

Report Date:
28-Jul-11 09:01

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

# *Laboratory Report*

Tetra Tech NUS Inc.
661 Andersen Drive, Foster Plaza #7
Pittsburgh, PA 15220

Attn: Tobrena Skeen

Work Order: K1059
Project : CTO-WE56, NSB New London
Project #:

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| K1059-01 | 06SB28-1820-20110614 | Soil | 14-Jun-11 12:15 | 20-Jun-11 13:48 |
| K1059-02 | 06SB28-2325-20110614 | Soil | 14-Jun-11 14:00 | 20-Jun-11 13:48 |
| K1059-03 | 06SB22-0911-20110615 | Soil | 15-Jun-11 08:50 | 20-Jun-11 13:48 |
| K1059-04 | 06SB22-1719-20110615 | Soil | 15-Jun-11 09:30 | 20-Jun-11 13:48 |
| K1059-05 | 06SBDUP01-20110615 | Soil | 15-Jun-11 00:00 | 20-Jun-11 13:48 |
| K1059-06 | 06SB24-1719-20110615 | Soil | 15-Jun-11 13:40 | 20-Jun-11 13:48 |
| K1059-07 | 06SB24-1921-20110615 | Soil | 15-Jun-11 14:00 | 20-Jun-11 13:48 |
| K1059-08 | 06SB21-1517-20110616 | Soil | 16-Jun-11 10:05 | 20-Jun-11 13:48 |
| K1059-09 | 06SB21-1719-20110616 | Soil | 16-Jun-11 10:10 | 20-Jun-11 13:48 |
| K1059-10 | 06TBSO-20110614 | Soil | 14-Jun-11 00:00 | 20-Jun-11 13:48 |
| K1059-11 | 06SBDUP02-20110615 | Soil | 15-Jun-11 00:00 | 20-Jun-11 13:48 |
| K1059-12 | 06SB23-0709-20110616 | Soil | 16-Jun-11 13:50 | 20-Jun-11 13:48 |
| K1059-13 | 06SB23-0911-20110616 | Soil | 16-Jun-11 14:10 | 20-Jun-11 13:48 |
| K1059-14 | 06SB26-1416-20110617 | Soil | 17-Jun-11 11:15 | 20-Jun-11 13:48 |
| K1059-15 | 06SB26-2426-20110617 | Soil | 17-Jun-11 12:15 | 20-Jun-11 13:48 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Mitkem Laboratories is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| Texas | T104704422-08-TX |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-05-030 |

Authorized by:

Yihai Ding
Laboratory Director

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1059**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 07/11/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** DoD
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1059-01A | 06SB28-1820-20110614 | 06/14/2011 12:15 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-01A | 06SB28-1820-20110614 | 06/14/2011 12:15 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-01B | 06SB28-1820-20110614 | 06/14/2011 12:15 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-01C | 06SB28-1820-20110614 | 06/14/2011 12:15 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-02A | 06SB28-2325-20110614 | 06/14/2011 14:00 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-02A | 06SB28-2325-20110614 | 06/14/2011 14:00 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-02B | 06SB28-2325-20110614 | 06/14/2011 14:00 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-02C | 06SB28-2325-20110614 | 06/14/2011 14:00 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-03A | 06SB22-0911-20110615 | 06/15/2011 08:50 | 06/20/2011 | Soil | CTETPH_S | / | | | Y | | F4 |
| K1059-03A | 06SB22-0911-20110615 | 06/15/2011 08:50 | 06/20/2011 | Soil | PMoist | / | | | Y | | F4 |
| K1059-03B | 06SB22-0911-20110615 | 06/15/2011 08:50 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | Y | Y | VOA |
| K1059-03C | 06SB22-0911-20110615 | 06/15/2011 08:50 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | Y | Y | VOA |
| K1059-04A | 06SB22-1719-20110615 | 06/15/2011 09:30 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-04A | 06SB22-1719-20110615 | 06/15/2011 09:30 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-04B | 06SB22-1719-20110615 | 06/15/2011 09:30 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-04C | 06SB22-1719-20110615 | 06/15/2011 09:30 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-05A | 06SBDUP01-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-05A | 06SBDUP01-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-05B | 06SBDUP01-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1059**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 07/11/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** DoD
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1059-05C | 06SBDUP01-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-06A | 06SB24-1719-20110615 | 06/15/2011 13:40 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-06A | 06SB24-1719-20110615 | 06/15/2011 13:40 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-06B | 06SB24-1719-20110615 | 06/15/2011 13:40 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-06C | 06SB24-1719-20110615 | 06/15/2011 13:40 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-07A | 06SB24-1921-20110615 | 06/15/2011 14:00 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-07A | 06SB24-1921-20110615 | 06/15/2011 14:00 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-07B | 06SB24-1921-20110615 | 06/15/2011 14:00 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-07C | 06SB24-1921-20110615 | 06/15/2011 14:00 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-08A | 06SB21-1517-20110616 | 06/16/2011 10:05 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-08A | 06SB21-1517-20110616 | 06/16/2011 10:05 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-08B | 06SB21-1517-20110616 | 06/16/2011 10:05 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-08C | 06SB21-1517-20110616 | 06/16/2011 10:05 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-09A | 06SB21-1719-20110616 | 06/16/2011 10:10 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-09A | 06SB21-1719-20110616 | 06/16/2011 10:10 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-09B | 06SB21-1719-20110616 | 06/16/2011 10:10 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-09C | 06SB21-1719-20110616 | 06/16/2011 10:10 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-10B | 06TBSO-20110614 | 06/14/2011 00:00 | 06/20/2011 | Soil | SW8260_LOW_S | TB. Set PMOIST=0 in run. / MBTEX, | | | | Y | VOA |
| K1059-10C | 06TBSO-20110614 | 06/14/2011 00:00 | 06/20/2011 | Soil | SW8260_MED_S | TB. Set PMOIST=0 in run. / | Y | Y | | Y | VOA |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1059**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 07/11/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** DoD
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1059-11A | 06SBDUP02-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-11A | 06SBDUP02-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-11B | 06SBDUP02-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-11C | 06SBDUP02-20110615 | 06/15/2011 00:00 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-12A | 06SB23-0709-20110616 | 06/16/2011 13:50 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-12A | 06SB23-0709-20110616 | 06/16/2011 13:50 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-12B | 06SB23-0709-20110616 | 06/16/2011 13:50 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-12C | 06SB23-0709-20110616 | 06/16/2011 13:50 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-13A | 06SB23-0911-20110616 | 06/16/2011 14:10 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-13A | 06SB23-0911-20110616 | 06/16/2011 14:10 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-13B | 06SB23-0911-20110616 | 06/16/2011 14:10 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-13C | 06SB23-0911-20110616 | 06/16/2011 14:10 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-14A | 06SB26-1416-20110617 | 06/17/2011 11:15 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-14A | 06SB26-1416-20110617 | 06/17/2011 11:15 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-14B | 06SB26-1416-20110617 | 06/17/2011 11:15 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1059-14C | 06SB26-1416-20110617 | 06/17/2011 11:15 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1059-15A | 06SB26-2426-20110617 | 06/17/2011 12:15 | 06/20/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1059-15A | 06SB26-2426-20110617 | 06/17/2011 12:15 | 06/20/2011 | Soil | PMoist | / | | | | | F4 |
| K1059-15B | 06SB26-2426-20110617 | 06/17/2011 12:15 | 06/20/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1059**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 07/11/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** DoD
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1059-15C | 06SB26-2426-20110617 | 06/17/2011 12:15 | 06/20/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Sample Transmittal Documentation

MITKEM LABORATORIES

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 1 of 2

**Special Handling:**

TAT- Indicate Date Needed: _____

- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: Dave Kane
240 Continental Dr.
Suite 200
Newark, DE 19713

Project Mgr.: Dave Kane

Invoice To: _____

P.O. No.: _____ RQN: _____

Project No.: 112G02634
Site Name: Polaris Park
Location: Groton State: CT
Sampler(s): R Clark E Watt

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= _____ 11= _____

List preservative code below: 8+9

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass (clear) | # of Clear Glass | # of Plastic | BTEX | EPH | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | -065B28-1820- | 20110614 | 1215 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 2 | -065B28-2325- | 20110614 | 1400 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 3 | -065B22-0911- | 20110615 | 0850 | G | SO | 6 | 2 | | | ✓ | ✓ | Lab QC MS/MSD |
| 4 | -065B22-1719- | 20110615 | 0930 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 5 | -065BDUP01- | 20110615 | — | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 6 | -065B24-1719- | 20110615 | 1340 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 7 | -065B24-1921- | 20110615 | 1400 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 8 | -065B21-1517- | 20110616 | 1005 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 9 | -065B21-1719- | 20110616 | 1010 | G | SO | 3 | 1 | | | ✓ | ✓ | |
| 10 | 065TBSO- | 20110614 | 6/14/11 — | G | AQ | 3 | 1 | | | ✓ | ✓ | trip blank |

☐ E-mail to _____

EDD Format _____

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| See pg 2 of 2 | [signature] | 6-18-11 | 1325 |
| [signature] | [signature] | 6/20/11 | 13:48 |

Condition upon receipt: ☑ Iced ☐ Ambient ☐ °C 5.5



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MITKEM LABORATORIES

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 2 of 2

**Special Handling:**

TAT- Indicate Date Needed: _____

- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: Dave Kane
See pg 1 of 2

Project Mgr.: _____

Invoice To: _____

P.O. No.: _____ RQN: _____

Project No.: See pg 1 of 2

Site Name: Polaris Park

Location: _____ State: _____

Sampler(s): _____

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= _____ 11= _____

List preservative code below: 8+9

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | BTEX | ETPH | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 065BDUP02-20110615 | | — | G | SO | 3 | | 1 | | ✓ | ✓ | |
| 12 | 065B23-0709-20110616 | | 1350 | G | SO | 3 | | 1 | | ✓ | ✓ | |
| 13 | 065B23-0911-20110616 | | 1410 | G | SO | 3 | | 1 | | ✓ | ✓ | |
| 14 | 065B26-1416-20110617 | | 1115 | G | SO | 3 | | 1 | | ✓ | ✓ | Hold for Confirmatio |
| 15 | 065B26-2426-20110617 | | 1215 | G | SO | 3 | | 1 | | ✓ | ✓ | Hold for Confirmatio |
| | | | | | | | | | | | | 860-617-3948 |

☐ E-mail to _____

EDD Format _____

Condition upon receipt: ☑ Iced ☐ Ambient ☐ °C 5.5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 6/17/11 | 1325 |
| [signature] | [signature] | 6/20/11 | 13:48 |



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# SPECTRUM ANALYTICAL, INC. RI DIVISION

**Sample Condition Form**

Page 1 of 1

| Received By: SW | Reviewed By: VEB | Date: 6/20/11 | Mitkem Work Order #: K1059 |
|---|---|---|---|
| Client Project: CTO - WE56 | | Client: Tetra Navy | |

| | | Lab Sample ID | | Preservation (pH) $HNO_3$ | $H_2SO_4$ | HCl | NaOH | $H_3PO_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) Cooler Sealed | Yes / No | K1059 | 01 | | | | | | N/M | |
| | | | 02 | | | | | | | |
| 2) Custody Seal(s) | Present / Absent | | 03 | | | | | | | |
| | Coolers / Bottles | | 04 | | | | | | | |
| | Intact / Broken | | 05 | | | | | | | |
| | | | 06 | | | | | | | |
| 3) Custody Seal Number(s) | NA | | 07 | | | | | | | |
| | | | 08 | | | | | | | |
| | | | 09 | | | | | | | |
| | | | 10 | | | | | | | |
| | | | 11 | | | | | | | |
| 4) Chain-of-Custody | Present / Absent | | 12 | | | | | | | |
| | | | 13 | | | | | | | |
| 5) Cooler Temperature | 5.5°C | | 14 | | | | | | | |
| IR Temp Gun ID | MT-1 | K1059 | 15 | | | | | | N/M | |
| Coolant Condition | Ice | | | | | | | | | |
| 6) Airbill(s) | Present / Absent | | | | | | | | | |
| Airbill Number(s) | courier | | | | | | | | | |
| 7) Samples Bottles | Intact / Broken / Leaking | | | | | | | | | |
| 8) Date Received | 6/20/11 | | | | | | | | | |
| 9) Time Received | 13:48 | | | | | | | | | |

SW 6/20/11

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

## Edward Lawler [Warwick]

**From:** Clark, Robin [Robin.Clark@tetratech.com]
**Sent:** Friday, June 17, 2011 7:32 PM
**To:** Edward Lawler [Warwick]
**Cc:** Kane, Dave; Watt, Eric
**Subject:** Fridays samples

Hi Ed,
The two samples that were collected today were marked "HOLD" on the COC.
Please take these samples off HOLD and go ahead and analyze them.
Thanks
Robin

**Robin W Clark, P.G. | Geologist**
Direct: 978.474.8456 | Main: 978.474-8400 | Fax: 978.474.8499
robin.clark@tetratech.com

Tetra Tech
250 Andover Street, Suite 200 | Wilmington, MA 01887 | www.tetratech.com

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# * Volatiles *

**REPORT NARRATIVE**

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London, Soils**

**Laboratory Workorder / SDG #: K1059**

**SW846 8260C, VOC by GC-MS**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times. Sample aliquots for low level analysis, contained in pre-weighed vials preserved with DI water, were frozen upon receipt at the laboratory, within less than 48 hours of sample collection. Samples were initially held overnight at the Spectrum, Agawam, MA laboratory freezer prior to transfer to Spectrum, Warwick, RI (Mitkem).

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C, for the BTEX plus MTBE list of compounds.

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW5035

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA
Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per analysis.

06SB21-1719-20110616 (K1059-09B), recovery is above criteria for Bromofluorobenzene at 514% with criteria of (77-111).

06SBDUP02-20110615 (K1059-11B), recovery is above criteria for Bromofluorobenzene at 112% with criteria of (77-111).

06SB26-1416-20110617 (K1059-14B), recovery is above criteria for Bromofluorobenzene at 206% with criteria of (77-111) and Toluene-d8 at 194% with criteria of (85-115).

06SB26-2426-20110617 (K1059-15B), recovery is above criteria for Bromofluorobenzene at 193% with criteria of (77-111) and Toluene-d8 at 155% with criteria of (85-115).

The QC non-compliances for 06SB26-1416-20110617 (K1059-14B) and 06SB26-2426-20110617 (K1059-15B) were due to sample matrix interference from non-target compounds as illustrated by their chromatograms. Both samples were also re-analyzed and confirmed as matrix interference, with similar findings (data not included in the

package).

**D. Spikes:**

**1. Laboratory Control Spikes (LCS):**
Percent recoveries for lab control samples were within the QC limits.

**2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):**

Matrix spikes were performed on sample: 06SB22-0911-20110615 (K1059-03BMS/MSD).

Percent recoveries and RPDs were within the QC limits.

**E. Internal Standards:**

Internal standard peak areas were within the QC limits.

**F. Dilutions:**

No sample in this SDG required analysis at dilution.

**G. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Mitkem, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____7/26/11_____

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

2D - FORM II VOA-4

SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Level: (LOW/MED) LOW

| | EPA SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 01 | LCS-59942 | 97 | 92 | 101 | 100 | | | | 0 |
| 02 | MB-59942 | 96 | 89 | 102 | 101 | | | | 0 |
| 03 | 06TBSO-20110614 | 103 | 101 | 97 | 101 | | | | 0 |
| 04 | 06SB28-1820-20110614 | 104 | 96 | 100 | 100 | | | | 0 |
| 05 | 06SB28-2325-20110614 | 100 | 96 | 100 | 98 | | | | 0 |
| 06 | 06SB22-0911-20110615 | 99 | 92 | 96 | 95 | | | | 0 |
| 07 | 06SB22-1719-20110615 | 99 | 96 | 97 | 99 | | | | 0 |
| 08 | 06SBDUP01-20110615 | 103 | 104 | 99 | 96 | | | | 0 |
| 09 | 06SB24-1719-20110615 | 98 | 89 | 95 | 101 | | | | 0 |
| 10 | 06SB24-1921-20110615 | 96 | 102 | 96 | 106 | | | | 0 |
| 11 | 06SB21-1517-20110616 | 100 | 95 | 97 | 100 | | | | 0 |
| 12 | 06SB21-1719-20110616 | 98 | 95 | 102 | 514 * | | | | 1 |
| 13 | 06SBDUP02-20110615 | 93 | 93 | 104 | 112 * | | | | 1 |
| 14 | 06SB23-0709-20110616 | 97 | 95 | 100 | 100 | | | | 0 |
| 15 | 06SB23-0911-20110616 | 101 | 95 | 100 | 98 | | | | 0 |
| 16 | 06SB26-1416-20110617 | 97 | 97 | 194 * | 206 * | | | | 2 |
| 17 | 06SB26-2426-20110617 | 97 | 98 | 155 * | 193 * | | | | 2 |
| 18 | 06SB22-0911-20110615MS | 94 | 88 | 100 | 104 | | | | 0 |

| | | QC LIMITS |
|---|---|---|
| VDMC1 | (DBFM) Dibromofluoromethane | (65-132) |
| VDMC2 | (DCE) = 1,2-Dichloroethane-d4 | (65-128) |
| VDMC3 | (TOL) = Toluene-d8 | (85-115) |
| VDMC4 | (BFB) = Bromofluorobenzene | (77-111) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

som11.07.01.A

2D - FORM II VOA-4

SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Level: (LOW/MED) LOW

| | EPA SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 19 | 06SB22-0911-20110615MSD | 100 | 95 | 103 | 104 | | | | 0 |

| | | QC LIMITS |
|---|---|---|
| VDMC1 | (DBFM) Dibromofluoromethane | (65-132) |
| VDMC2 | (DCE) = 1,2-Dichloroethane-d4 | (65-128) |
| VDMC3 | (TOL) = Toluene-d8 | (85-115) |
| VDMC4 | (BFB) = Bromofluorobenzene | (77-111) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

som11.07.01.A

3B - FORM III VOA-2

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix Spike - EPA Sample No.: 06SB22-0911-20110615 Level: (LOW/MED) LOW

| COMPOUND | SPIKE ADDED (µg/Kg) | SAMPLE CONCENTRATION (µg/Kg) | MS CONCENTRATION (µg/Kg) | MS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 59.4986 | 0.0000 | 63.8082 | 107 | | 75-126 |
| Benzene | 59.4986 | 0.0000 | 51.9387 | 87 | | 75-125 |
| Toluene | 59.4986 | 0.0000 | 50.3569 | 85 | | 70-125 |
| Ethylbenzene | 59.4986 | 0.0000 | 49.8990 | 84 | | 75-125 |
| m,p-Xylene | 118.9973 | 0.0000 | 98.1740 | 83 | | 80-125 |
| o-Xylene | 59.4986 | 0.0000 | 50.5953 | 85 | | 75-125 |
| Xylene (Total) | 178.4959 | 0.0000 | 148.7693 | 83 | | 83-125 |

| COMPOUND | SPIKE ADDED (µg/Kg) | MSD CONCENTRATION (µg/Kg) | MSD %REC | # | %RPD | # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 46.7489 | 52.1922 | 112 | | 4 | | 0-40 | 75-126 |
| Benzene | 46.7489 | 42.1128 | 90 | | 3 | | 0-40 | 75-125 |
| Toluene | 46.7489 | 39.0696 | 84 | | 1 | | 0-40 | 70-125 |
| Ethylbenzene | 46.7489 | 40.0432 | 86 | | 2 | | 0-40 | 75-125 |
| m,p-Xylene | 93.4979 | 80.2776 | 86 | | 4 | | 0-40 | 80-125 |
| o-Xylene | 46.7489 | 41.4490 | 89 | | 4 | | 0-40 | 75-125 |
| Xylene (Total) | 140.2468 | 121.7266 | 87 | | 4 | | 0-40 | 83-125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS:

3 - FORM III
SOIL LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-59942

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab Sample ID: LCS-59942 LCS Lot No.:

Date Extracted: 06/23/2011 Date Analyzed (1): 06/23/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 54.1728 | 108 | | 75 - 126 |
| Benzene | 50.0000 | 0.0000 | 54.1778 | 108 | | 75 - 125 |
| Toluene | 50.0000 | 0.0000 | 54.0261 | 108 | | 70 - 125 |
| Ethylbenzene | 50.0000 | 0.0000 | 55.5140 | 111 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 112.5759 | 113 | | 80 - 125 |
| o-Xylene | 50.0000 | 0.0000 | 54.2641 | 109 | | 75 - 125 |
| Xylene (Total) | 150.0000 | 0.0000 | 166.8399 | 111 | | 83 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

4A - FORM IV VOA
VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.
MB-59942

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1654.D Lab Sample ID: MB-59942

Instrument ID: V1

Matrix: (SOIL/SED/WATER) SOIL Date Analyzed: 06/23/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 09:13

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-59942 | LCS-59942 | V1M1652.D | 08:01 |
| 02 | 06TBSO-20110614 | K1059-10B | V1M1655.D | 09:41 |
| 03 | 06SB28-1820-20110614 | K1059-01B | V1M1658.D | 11:21 |
| 04 | 06SB28-2325-20110614 | K1059-02B | V1M1659.D | 11:49 |
| 05 | 06SB22-0911-20110615 | K1059-03B | V1M1660.D | 12:17 |
| 06 | 06SB22-1719-20110615 | K1059-04B | V1M1661.D | 12:46 |
| 07 | 06SBDUP01-20110615 | K1059-05B | V1M1662.D | 13:14 |
| 08 | 06SB24-1719-20110615 | K1059-06B | V1M1663.D | 13:43 |
| 09 | 06SB24-1921-20110615 | K1059-07B | V1M1664.D | 14:11 |
| 10 | 06SB21-1517-20110616 | K1059-08B | V1M1665.D | 14:39 |
| 11 | 06SB21-1719-20110616 | K1059-09B | V1M1666.D | 15:07 |
| 12 | 06SBDUP02-20110615 | K1059-11B | V1M1667.D | 15:36 |
| 13 | 06SB23-0709-20110616 | K1059-12B | V1M1668.D | 16:04 |
| 14 | 06SB23-0911-20110616 | K1059-13B | V1M1669.D | 16:32 |
| 15 | 06SB26-1416-20110617 | K1059-14B | V1M1670.D | 17:00 |
| 16 | 06SB26-2426-20110617 | K1059-15B | V1M1671.D | 17:28 |
| 17 | 06SB22-0911-20110615MS | K1059-03BMS | V1M1672.D | 17:56 |
| 18 | 06SB22-0911-20110615MSD | K1059-03BMSD | V1M1673.D | 18:24 |

COMMENTS:

som11.07.01.A



SW846

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1P

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1630.D BFB Injection Date: 06/22/2011

Instrument ID: V1 BFB Injection Time: 07:57

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19.6 |
| 75 | 30.0 - 60.0% of mass 95 | 37.2 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 8.0 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 79.4 |
| 175 | 5.0 - 9.0% of mass 174 | 4.6 (5.9)1 |
| 176 | 95.0 - 101.0% of mass 174 | 76.3 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.4 (5.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0201P | VSTD0201P | V1M1633.D | 06/22/2011 | 09:07 |
| 02 | VSTD0501P | VSTD0501P | V1M1634.D | 06/22/2011 | 09:34 |
| 03 | VSTD1001P | VSTD1001P | V1M1635.D | 06/22/2011 | 10:02 |
| 04 | VSTD2001P | VSTD2001P | V1M1636.D | 06/22/2011 | 10:30 |
| 05 | VSTD0051P | VSTD0051P | V1M1640.D | 06/22/2011 | 12:41 |
| 06 | VICV0501P | VICV0501P | V1M1643.D | 06/22/2011 | 15:06 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1Q

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1650.D BFB Injection Date: 06/23/2011

Instrument ID: V1 BFB Injection Time: 06:46

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 18.7 |
| 75 | 30.0 - 60.0% of mass 95 | 37.3 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 7.7 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 80.7 |
| 175 | 5.0 - 9.0% of mass 174 | 6.7 (8.3)1 |
| 176 | 95.0 - 101.0% of mass 174 | 77.5 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.2 (6.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501Q | VSTD0501Q | V1M1651.D | 06/23/2011 | 07:01 |
| 02 | LCS-59942 | LCS-59942 | V1M1652.D | 06/23/2011 | 08:01 |
| 03 | MB-59942 | MB-59942 | V1M1654.D | 06/23/2011 | 09:13 |
| 04 | 06TBSO-20110614 | K1059-10B | V1M1655.D | 06/23/2011 | 09:41 |
| 05 | 06SB28-1820-20110614 | K1059-01B | V1M1658.D | 06/23/2011 | 11:21 |
| 06 | 06SB28-2325-20110614 | K1059-02B | V1M1659.D | 06/23/2011 | 11:49 |
| 07 | 06SB22-0911-20110615 | K1059-03B | V1M1660.D | 06/23/2011 | 12:17 |
| 08 | 06SB22-1719-20110615 | K1059-04B | V1M1661.D | 06/23/2011 | 12:46 |
| 09 | 06SBDUP01-20110615 | K1059-05B | V1M1662.D | 06/23/2011 | 13:14 |
| 10 | 06SB24-1719-20110615 | K1059-06B | V1M1663.D | 06/23/2011 | 13:43 |
| 11 | 06SB24-1921-20110615 | K1059-07B | V1M1664.D | 06/23/2011 | 14:11 |
| 12 | 06SB21-1517-20110616 | K1059-08B | V1M1665.D | 06/23/2011 | 14:39 |
| 13 | 06SB21-1719-20110616 | K1059-09B | V1M1666.D | 06/23/2011 | 15:07 |
| 14 | 06SBDUP02-20110615 | K1059-11B | V1M1667.D | 06/23/2011 | 15:36 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1Q

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1650.D BFB Injection Date: 06/23/2011

Instrument ID: V1 BFB Injection Time: 06:46

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 18.7 |
| 75 | 30.0 - 60.0% of mass 95 | 37.3 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 7.7 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 80.7 |
| 175 | 5.0 - 9.0% of mass 174 | 6.7 (8.3)1 |
| 176 | 95.0 - 101.0% of mass 174 | 77.5 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.2 (6.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | | | | | |
|---|---|---|---|---|---|
| 15 | 06SB23-0709-20110616 | K1059-12B | V1M1668.D | 06/23/2011 | 16:04 |
| 16 | 06SB23-0911-20110616 | K1059-13B | V1M1669.D | 06/23/2011 | 16:32 |
| 17 | 06SB26-1416-20110617 | K1059-14B | V1M1670.D | 06/23/2011 | 17:00 |
| 18 | 06SB26-2426-20110617 | K1059-15B | V1M1671.D | 06/23/2011 | 17:28 |
| 19 | 06SB22-0911-20110615MS | K1059-03BMS | V1M1672.D | 06/23/2011 | 17:56 |
| 20 | 06SB22-0911-20110615MSD | K1059-03BMSD | V1M1673.D | 06/23/2011 | 18:24 |

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501Q Date Analyzed: 06/23/2011

Lab File ID (Standard): V1M1651.D Time Analyzed: 07:01

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 652124 | 6.431 | 432596 | 10.125 | 208200 | 12.961 |
| | UPPER LIMIT | 1304248 | 6.931 | 865192 | 10.625 | 416400 | 13.461 |
| | LOWER LIMIT | 326062 | 5.931 | 216298 | 9.625 | 104100 | 12.461 |
| | EPA SAMPLE NO. | | | | | | |
| 01 | LCS-59942 | 647007 | 6.435 | 447005 | 10.128 | 220503 | 12.965 |
| 02 | MB-59942 | 623671 | 6.431 | 432341 | 10.125 | 203945 | 12.961 |
| 03 | 06TBSO-20110614 | 519431 | 6.421 | 375669 | 10.124 | 181439 | 12.961 |
| 04 | 06SB28-1820-20110614 | 631995 | 6.431 | 441868 | 10.124 | 217466 | 12.971 |
| 05 | 06SB28-2325-20110614 | 634316 | 6.441 | 446142 | 10.134 | 219912 | 12.971 |
| 06 | 06SB22-0911-20110615 | 623030 | 6.440 | 460362 | 10.124 | 210169 | 12.971 |
| 07 | 06SB22-1719-20110615 | 628663 | 6.451 | 449462 | 10.134 | 212592 | 12.971 |
| 08 | 06SBDUP01-20110615 | 606280 | 6.437 | 440612 | 10.131 | 208987 | 12.967 |
| 09 | 06SB24-1719-20110615 | 620267 | 6.441 | 450746 | 10.134 | 223146 | 12.971 |
| 10 | 06SB24-1921-20110615 | 613193 | 6.441 | 456092 | 10.125 | 222006 | 12.961 |

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501Q Date Analyzed: 06/23/2011

Lab File ID (Standard): V1M1651.D Time Analyzed: 07:01

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 652124 | 6.431 | 432596 | 10.125 | 208200 | 12.961 |
| | UPPER LIMIT | 1304248 | 6.931 | 865192 | 10.625 | 416400 | 13.461 |
| | LOWER LIMIT | 326062 | 5.931 | 216298 | 9.625 | 104100 | 12.461 |
| | EPA SAMPLE NO. | | | | | | |
| 11 | 06SB21-1517-20110616 | 612009 | 6.442 | 436182 | 10.126 | 211962 | 12.972 |
| 12 | 06SB21-1719-20110616 | 624267 | 6.434 | 448554 | 10.128 | 285809 | 12.974 |
| 13 | 06SBDUP02-20110615 | 593443 | 6.441 | 407453 | 10.125 | 203549 | 12.962 |
| 14 | 06SB23-0709-20110616 | 583104 | 6.440 | 404629 | 10.133 | 192553 | 12.970 |
| 15 | 06SB23-0911-20110616 | 560123 | 6.441 | 396160 | 10.134 | 183827 | 12.961 |
| 16 | 06SB26-1416-20110617 | 548383 | 6.440 | 365778 | 10.134 | 144808 | 12.981 |
| 17 | 06SB26-2426-20110617 | 521334 | 6.440 | 340927 | 10.134 | 149911 | 12.970 |
| 18 | 06SB22-0911-20110615MS | 514188 | 6.446 | 346977 | 10.139 | 173585 | 12.976 |
| 19 | 06SB22-0911-20110615MSD | 499192 | 6.440 | 339076 | 10.133 | 164946 | 12.970 |

IS1 () = Fluorobenzene

IS2 () = Chlorobenzene-d5

IS3 () = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB28-1820-2011
0614

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-01B

Sample wt/vol: 7.00 (g/mL) G Lab File ID: V1M1658.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 11 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 71-43-2 | Benzene | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 108-88-3 | Toluene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 100-41-4 | Ethylbenzene | 1.6 | U | 0.40 | 1.6 | 4.0 |
| 1330-20-7 | m,p-Xylene | 3.2 | U | 1.3 | 3.2 | 4.0 |
| 95-47-6 | o-Xylene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 1330-20-7 | Xylene (Total) | 1.6 | U | 0.38 | 1.6 | 4.0 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1658.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1658.D
Lab Smp Id: K1059-01B  Client Smp ID: 06SB28-1820-2011061
Inj Date  : 23-JUN-2011 11:21
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1059-01B,,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 37
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

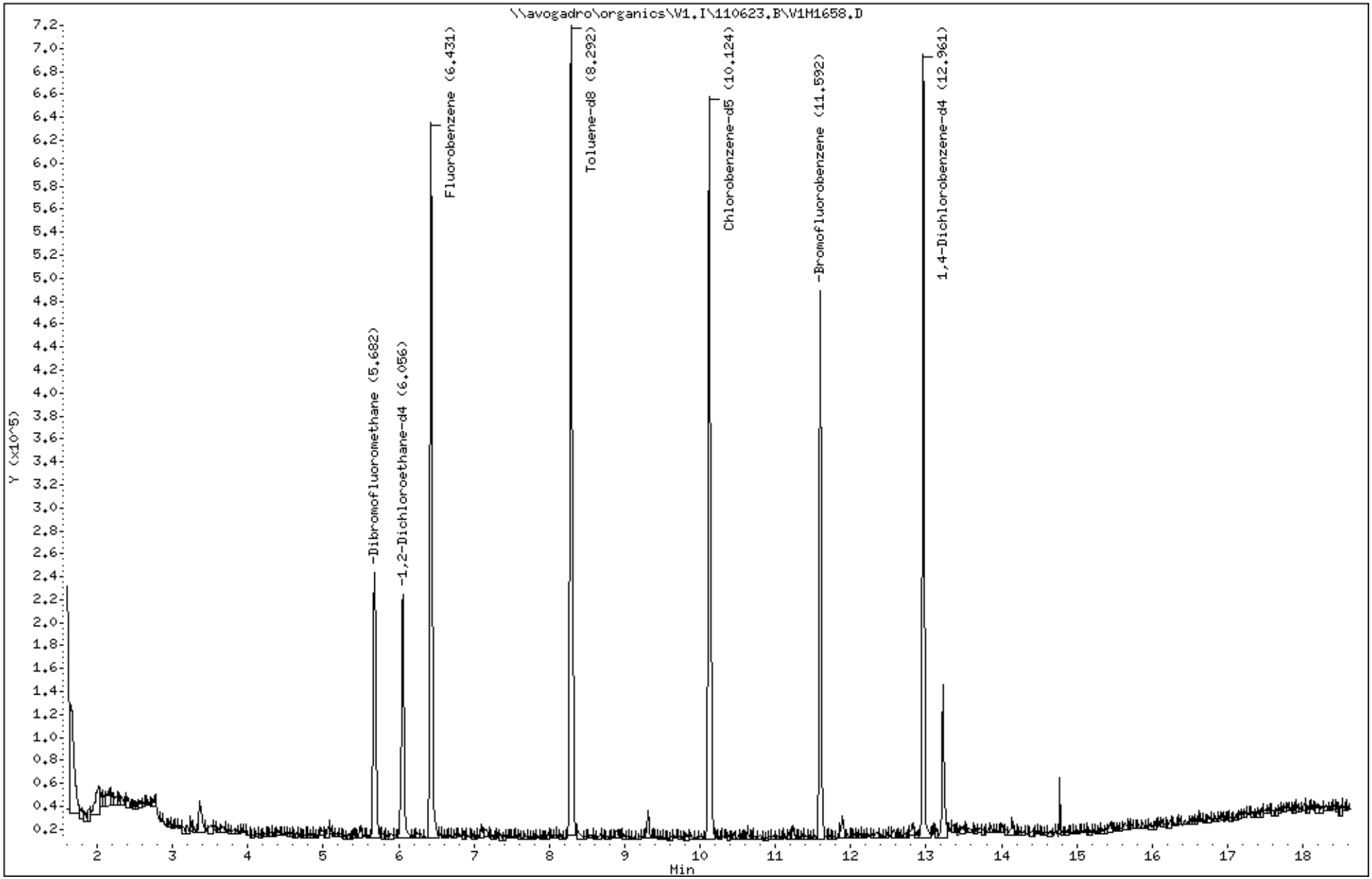
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.676 | (0.884) | 172653 | 52.2111 | 37 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.050 | (0.942) | 38337 | 47.9864 | 34 |
| * 41 Fluorobenzene | 96 | 6.430 | 6.434 | (1.000) | 631995 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.286 | (0.819) | 553424 | 50.2363 | 36 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.128 | (1.000) | 441868 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.591 | 11.595 | (1.145) | 209009 | 49.8821 | 36 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.970 | 12.964 | (1.000) | 217466 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1658.D
Date : 23-JUN-2011 11:21
Client ID: 06SB28-1820-2011061
Sample Info: 5ML,K1059-01B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB28-2325-2011
0614

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-02B

Sample wt/vol: 8.40 (g/mL) G Lab File ID: V1M1659.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 12 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.41 | 1.3 | 3.4 |
| 71-43-2 | Benzene | 1.3 | U | 0.41 | 1.3 | 3.4 |
| 108-88-3 | Toluene | 1.3 | U | 0.32 | 1.3 | 3.4 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.34 | 1.3 | 3.4 |
| 1330-20-7 | m,p-Xylene | 2.7 | U | 1.1 | 2.7 | 3.4 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.32 | 1.3 | 3.4 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.32 | 1.3 | 3.4 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1659.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1659.D
Lab Smp Id: K1059-02B  Client Smp ID: 06SB28-2325-2011061
Inj Date : 23-JUN-2011 11:49
Operator : ALM SRC: LIMS  Inst ID: V1.i
Smp Info : 5ML,K1059-02B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 38
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 8.400 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

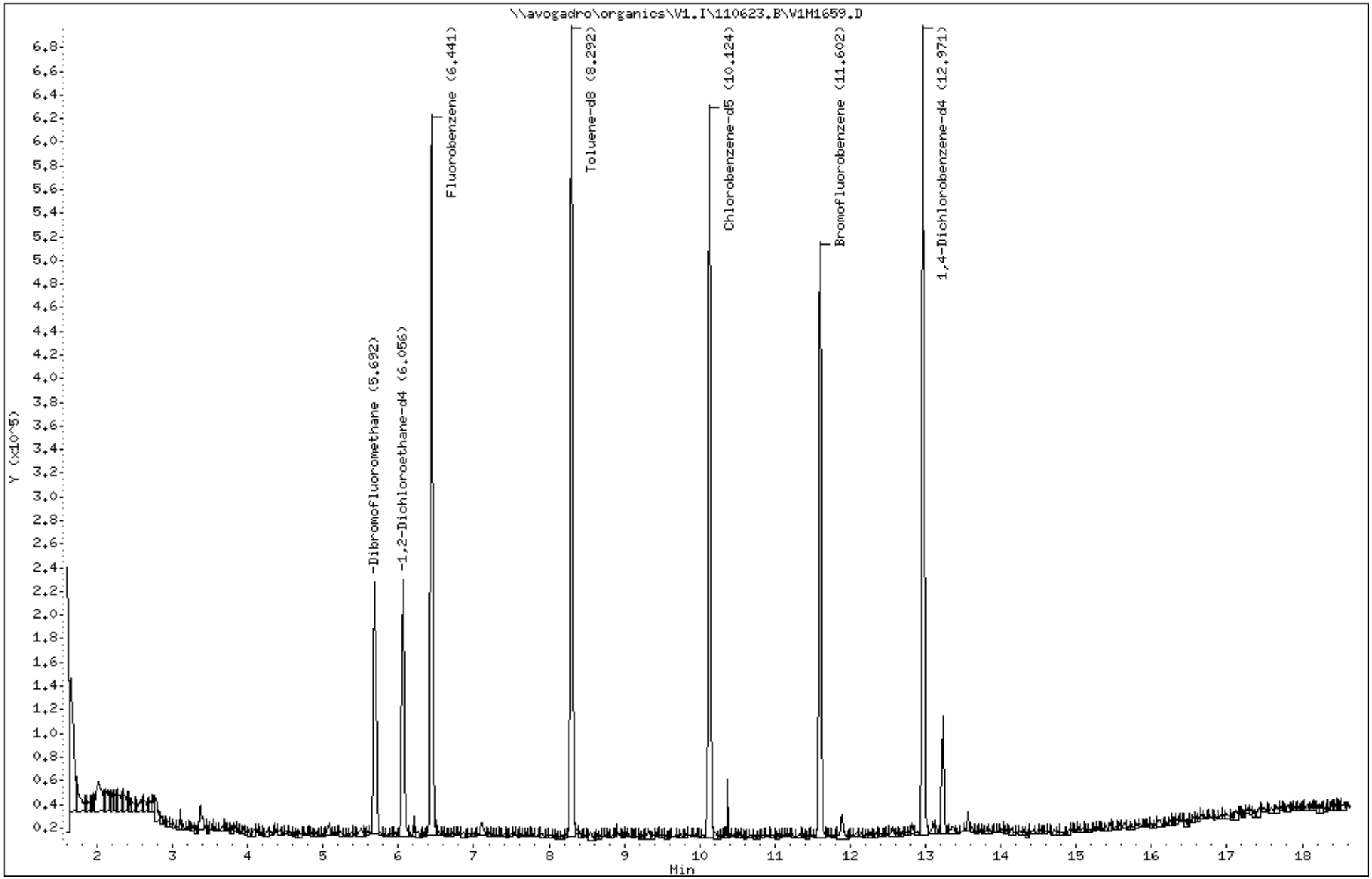
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.676 | (0.882) | 166735 | 50.2370 | 30 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.066 | 6.050 | (0.942) | 38659 | 48.2124 | 29 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 634316 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.286 | (0.818) | 555267 | 49.9207 | 30 |
| * 60 Chlorobenzene-d5 | 117 | 10.134 | 10.128 | (1.000) | 446142 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.601 | 11.595 | (1.145) | 207705 | 49.0960 | 29 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.970 | 12.964 | (1.000) | 219912 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1659.D
Date : 23-JUN-2011 11:49
Client ID: 06SB28-2325-2011061
Sample Info: 5ML,K1059-02B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB22-0911-2011
0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-03B

Sample wt/vol: 8.10 (g/mL) G Lab File ID: V1M1660.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 24 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 71-43-2 | Benzene | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 108-88-3 | Toluene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 100-41-4 | Ethylbenzene | 1.6 | U | 0.40 | 1.6 | 4.0 |
| 1330-20-7 | m,p-Xylene | 3.2 | U | 1.3 | 3.2 | 4.0 |
| 95-47-6 | o-Xylene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 1330-20-7 | Xylene (Total) | 1.6 | U | 0.38 | 1.6 | 4.0 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1660.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1660.D
Lab Smp Id: K1059-03B Client Smp ID: 06SB22-0911-2011061
Inj Date : 23-JUN-2011 12:17
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,K1059-03B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 39
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MBTEX.sub
Target Version: 4.14

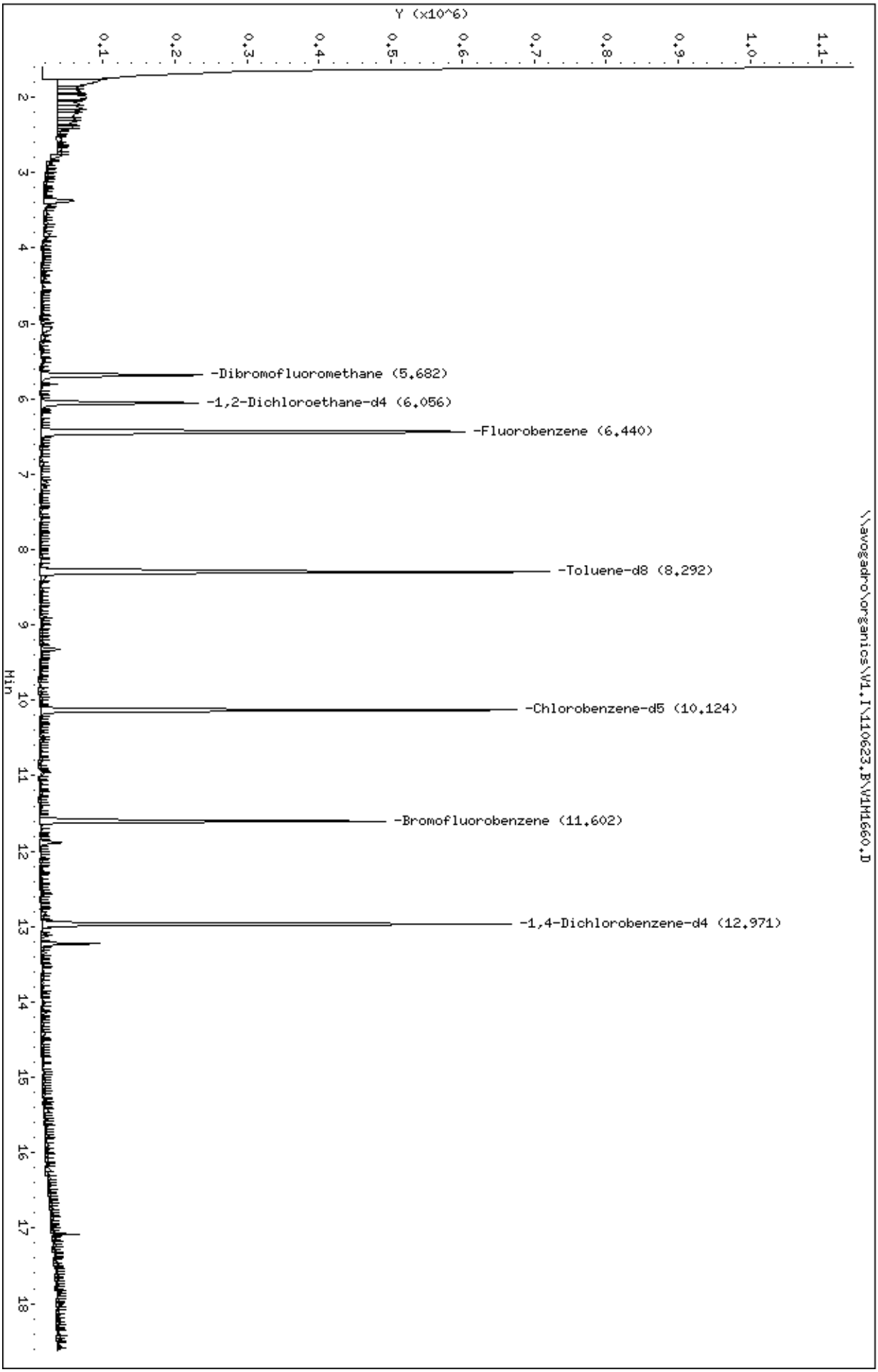
Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 8.100 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.676 | (0.882) | 161701 | 49.6028 | 31 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.050 | (0.940) | 36422 | 46.2454 | 28 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 623030 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.286 | (0.819) | 553048 | 48.1854 | 30 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.128 | (1.000) | 460362 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.601 | 11.595 | (1.146) | 207388 | 47.5068 | 29 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.970 | 12.964 | (1.000) | 210169 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1660.D
Date : 23-JUN-2011 12:17
Client ID: 06SB22-0911-2011061
Sample Info: 5ML,K1059-03B,,59942
Column phase: DB-624

Instrument: V1.i
Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB22-1719-2011
0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-04B

Sample wt/vol: 6.50 (g/mL) G Lab File ID: V1M1661.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 17 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.9 | U | 0.56 | 1.9 | 4.6 |
| 71-43-2 | Benzene | 1.9 | U | 0.56 | 1.9 | 4.6 |
| 108-88-3 | Toluene | 1.9 | U | 0.44 | 1.9 | 4.6 |
| 100-41-4 | Ethylbenzene | 1.9 | U | 0.46 | 1.9 | 4.6 |
| 1330-20-7 | m,p-Xylene | 3.7 | U | 1.5 | 3.7 | 4.6 |
| 95-47-6 | o-Xylene | 1.9 | U | 0.44 | 1.9 | 4.6 |
| 1330-20-7 | Xylene (Total) | 1.9 | U | 0.44 | 1.9 | 4.6 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1661.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1661.D
Lab Smp Id: K1059-04B  Client Smp ID: 06SB22-1719-2011061
Inj Date : 23-JUN-2011 12:46
Operator : ALM SRC: LIMS  Inst ID: V1.i
Smp Info : 5ML,K1059-04B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 40
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 6.500 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

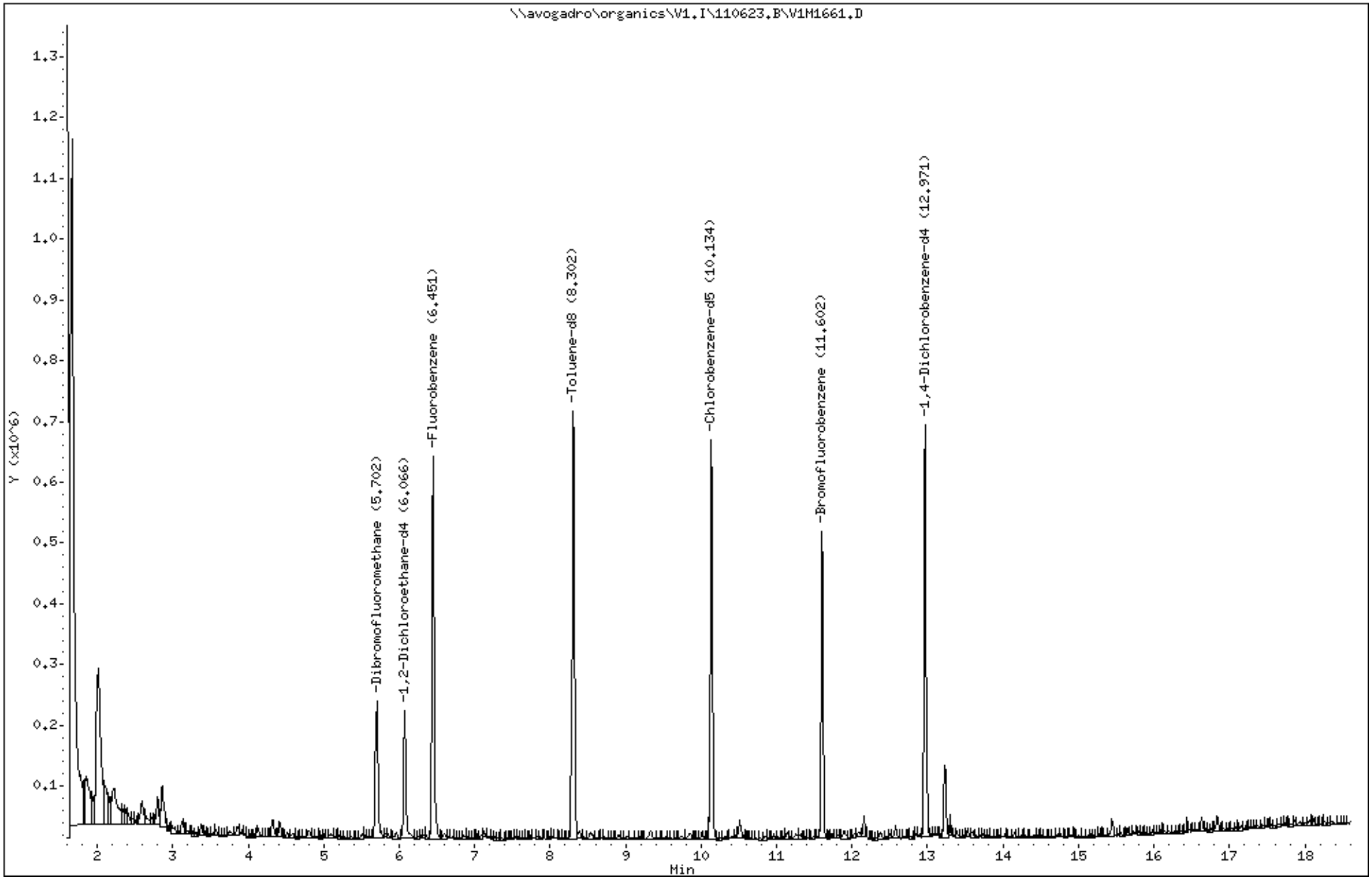
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.702 | 5.676 | (0.884) | 162561 | 49.4198 | 38 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.076 | 6.050 | (0.942) | 38292 | 48.1841 | 37 |
| * 41 Fluorobenzene | 96 | 6.450 | 6.434 | (1.000) | 628663 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.302 | 8.286 | (0.819) | 543869 | 48.5348 | 37 |
| * 60 Chlorobenzene-d5 | 117 | 10.134 | 10.128 | (1.000) | 449462 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.601 | 11.595 | (1.145) | 210244 | 49.3290 | 38 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.971 | 12.964 | (1.000) | 212592 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1661.D
Date : 23-JUN-2011 12:46
Client ID: 06SB22-1719-2011061
Sample Info: 5ML,K1059-04B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SBDUP01-20110615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-05B

Sample wt/vol: 7.20 (g/mL) G Lab File ID: V1M1662.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 16 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.7 | U | 0.51 | 1.7 | 4.1 |
| 71-43-2 | Benzene | 1.7 | U | 0.51 | 1.7 | 4.1 |
| 108-88-3 | Toluene | 1.7 | U | 0.39 | 1.7 | 4.1 |
| 100-41-4 | Ethylbenzene | 1.7 | U | 0.41 | 1.7 | 4.1 |
| 1330-20-7 | m,p-Xylene | 3.3 | U | 1.3 | 3.3 | 4.1 |
| 95-47-6 | o-Xylene | 1.7 | U | 0.39 | 1.7 | 4.1 |
| 1330-20-7 | Xylene (Total) | 1.7 | U | 0.39 | 1.7 | 4.1 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1662.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

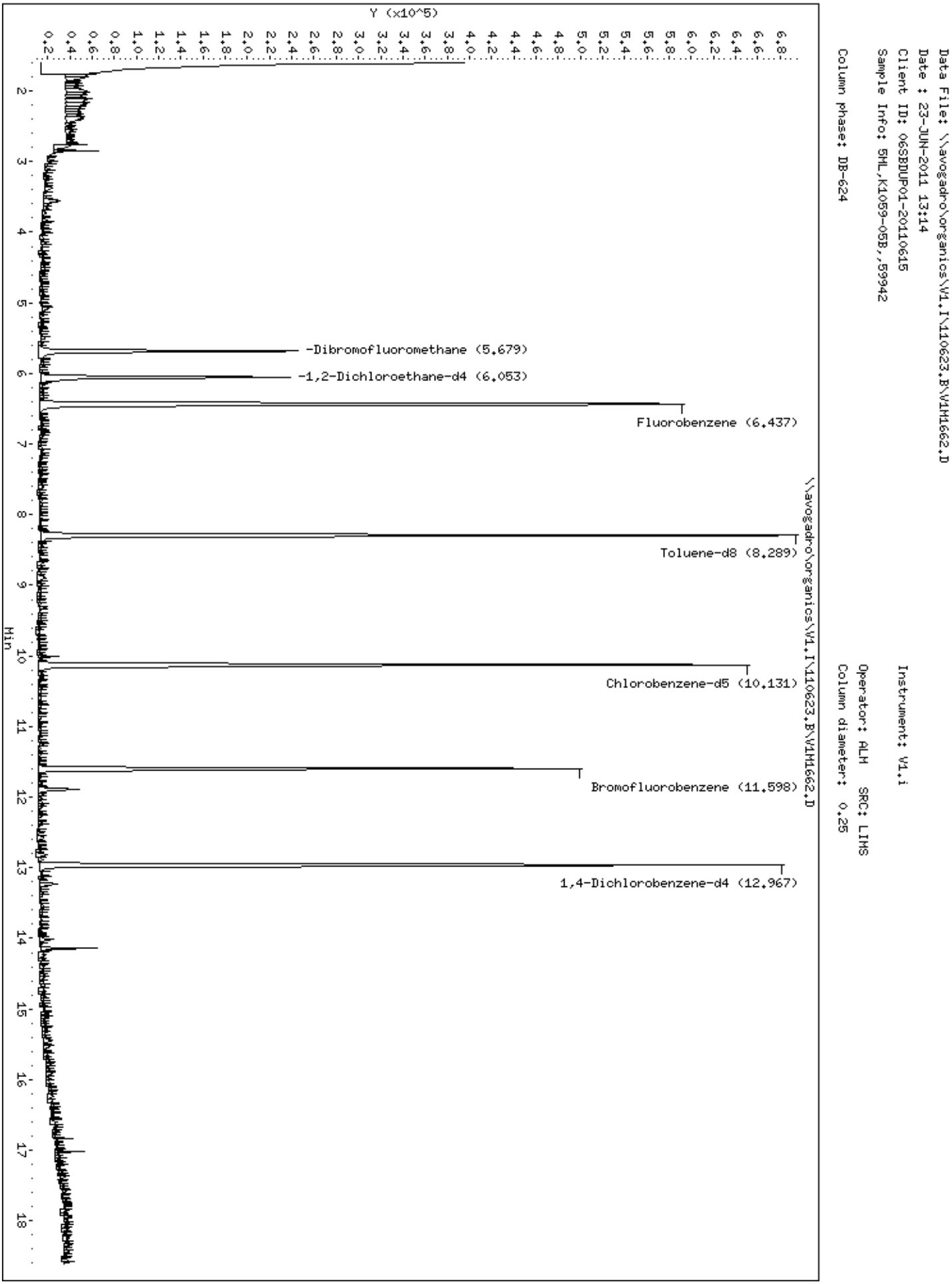
Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1662.D
Lab Smp Id: K1059-05B  Client Smp ID: 06SBDUP01-20110615
Inj Date  : 23-JUN-2011 13:14
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1059-05B,,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 41
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.200 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.688 | 5.676 | (0.884) | 163030 | 51.3921 | 36 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.052 | 6.050 | (0.940) | 39802 | 51.9333 | 36 |
| * 41 Fluorobenzene | 96 | 6.437 | 6.434 | (1.000) | 606280 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.288 | 8.286 | (0.818) | 541732 | 49.3151 | 34 |
| * 60 Chlorobenzene-d5 | 117 | 10.130 | 10.128 | (1.000) | 440612 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.598 | 11.595 | (1.145) | 201288 | 48.1763 | 33 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.967 | 12.964 | (1.000) | 208987 | 50.0000 | |


Data File: \\avogadro\organics\V1.I\110623.B\V1M1662.D
Date : 23-JUN-2011 13:14
Client ID: 06SBDUP01-20110615
Sample Info: 5ML,K1059-05B,,59942
Column phase: DB-624
Instrument: V1.i
Operator: ALM SRC: LIMS
Column diameter: 0.25
Y (x10^5)
-Dibromofluoromethane (5.679)
-1,2-Dichloroethane-d4 (6.053)
Fluorobenzene (6.437)
Toluene-d8 (8.289)
Chlorobenzene-d5 (10.131)
Bromofluorobenzene (11.598)
1,4-Dichlorobenzene-d4 (12.967)
\\avogadro\organics\V1.I\110623.B\V1M1662.D
Min

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB24-1719-2011
0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-06B

Sample wt/vol: 7.90 (g/mL) G Lab File ID: V1M1663.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 11 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.43 | 1.4 | 3.6 |
| 71-43-2 | Benzene | 1.4 | U | 0.43 | 1.4 | 3.6 |
| 108-88-3 | Toluene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 100-41-4 | Ethylbenzene | 1.4 | U | 0.36 | 1.4 | 3.6 |
| 1330-20-7 | m,p-Xylene | 2.9 | U | 1.1 | 2.9 | 3.6 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 1330-20-7 | Xylene (Total) | 1.4 | U | 0.34 | 1.4 | 3.6 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1663.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1663.D
Lab Smp Id: K1059-06B Client Smp ID: 06SB24-1719-2011061
Inj Date : 23-JUN-2011 13:43
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,K1059-06B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 42
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.900 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

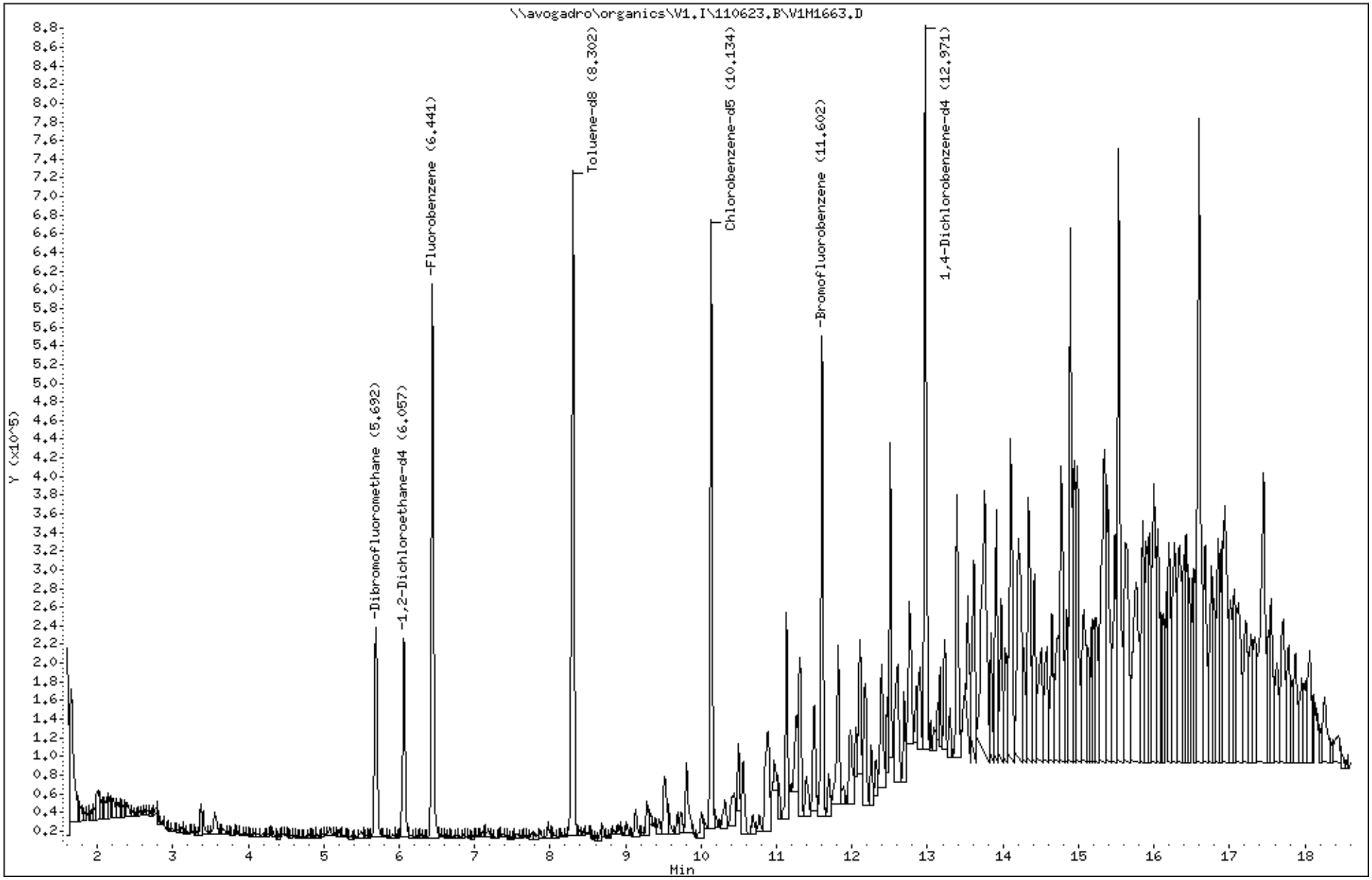
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.692 | 5.676 | (0.884) | 159380 | 49.1086 | 31 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.050 | (0.940) | 35072 | 44.7297 | 28 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 620267 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.302 | 8.286 | (0.819) | 535817 | 47.6800 | 30 |
| * 60 Chlorobenzene-d5 | 117 | 10.134 | 10.128 | (1.000) | 450746 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.601 | 11.595 | (1.145) | 215675 | 50.4591 | 32 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.970 | 12.964 | (1.000) | 223146 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1663.D
Date : 23-JUN-2011 13:43
Client ID: 06SB24-1719-2011061
Sample Info: 5ML,K1059-06B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB24-1921-2011 0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-07B

Sample wt/vol: 7.40 (g/mL) G Lab File ID: V1M1664.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 11 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 71-43-2 | Benzene | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 108-88-3 | Toluene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 100-41-4 | Ethylbenzene | 1.5 | U | 0.38 | 1.5 | 3.8 |
| 1330-20-7 | m,p-Xylene | 3.0 | U | 1.2 | 3.0 | 3.8 |
| 95-47-6 | o-Xylene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 1330-20-7 | Xylene (Total) | 1.5 | U | 0.36 | 1.5 | 3.8 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1664.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1664.D
Lab Smp Id: K1059-07B  Client Smp ID: 06SB24-1921-2011061
Inj Date  : 23-JUN-2011 14:11
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1059-07B,,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 43
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.400 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

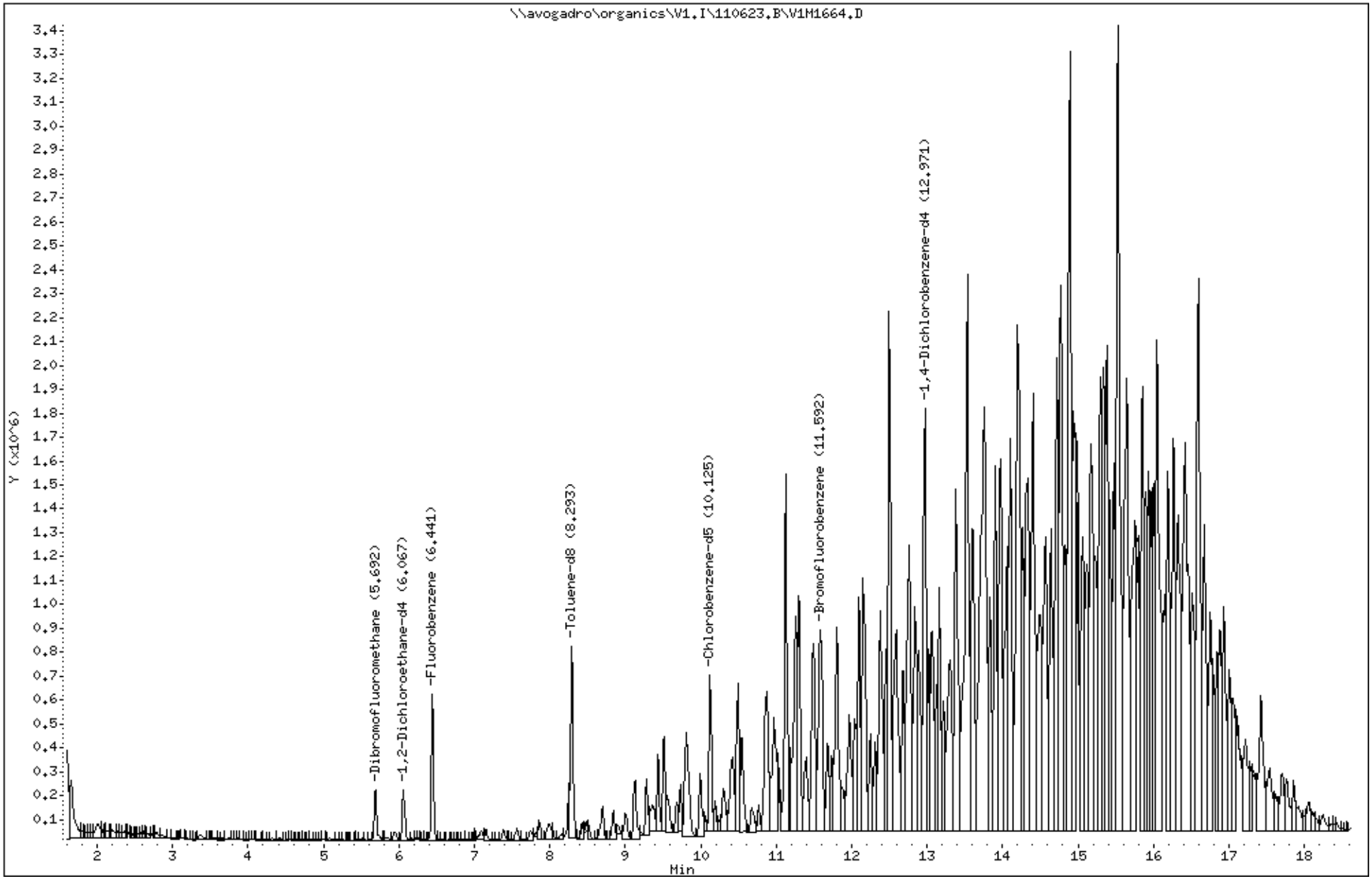
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.676 | (0.882) | 153553 | 47.8590 | 32 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.066 | 6.050 | (0.942) | 39385 | 50.8098 | 34 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 613193 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.286 | (0.819) | 547242 | 48.1259 | 32 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.128 | (1.000) | 456092 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.592 | 11.595 | (1.145) | 228417 | 52.8139 | 36 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.964 | (1.000) | 222006 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1664.D
Date : 23-JUN-2011 14:11
Client ID: 06SB24-1921-2011061
Sample Info: 5ML,K1059-07B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB21-1517-2011 0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-08B

Sample wt/vol: 82.0 (g/mL) G Lab File ID: V1M1665.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 13 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.14 | U | 0.043 | 0.14 | 0.35 |
| 71-43-2 | Benzene | 0.14 | U | 0.043 | 0.14 | 0.35 |
| 108-88-3 | Toluene | 0.14 | U | 0.033 | 0.14 | 0.35 |
| 100-41-4 | Ethylbenzene | 0.14 | U | 0.035 | 0.14 | 0.35 |
| 1330-20-7 | m,p-Xylene | 0.28 | U | 0.11 | 0.28 | 0.35 |
| 95-47-6 | o-Xylene | 0.14 | U | 0.033 | 0.14 | 0.35 |
| 1330-20-7 | Xylene (Total) | 0.14 | U | 0.033 | 0.14 | 0.35 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1665.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1665.D
Lab Smp Id: K1059-08B Client Smp ID: 06SB21-1517-2011061
Inj Date : 23-JUN-2011 14:39
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,K1059-08B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 44
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 82.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

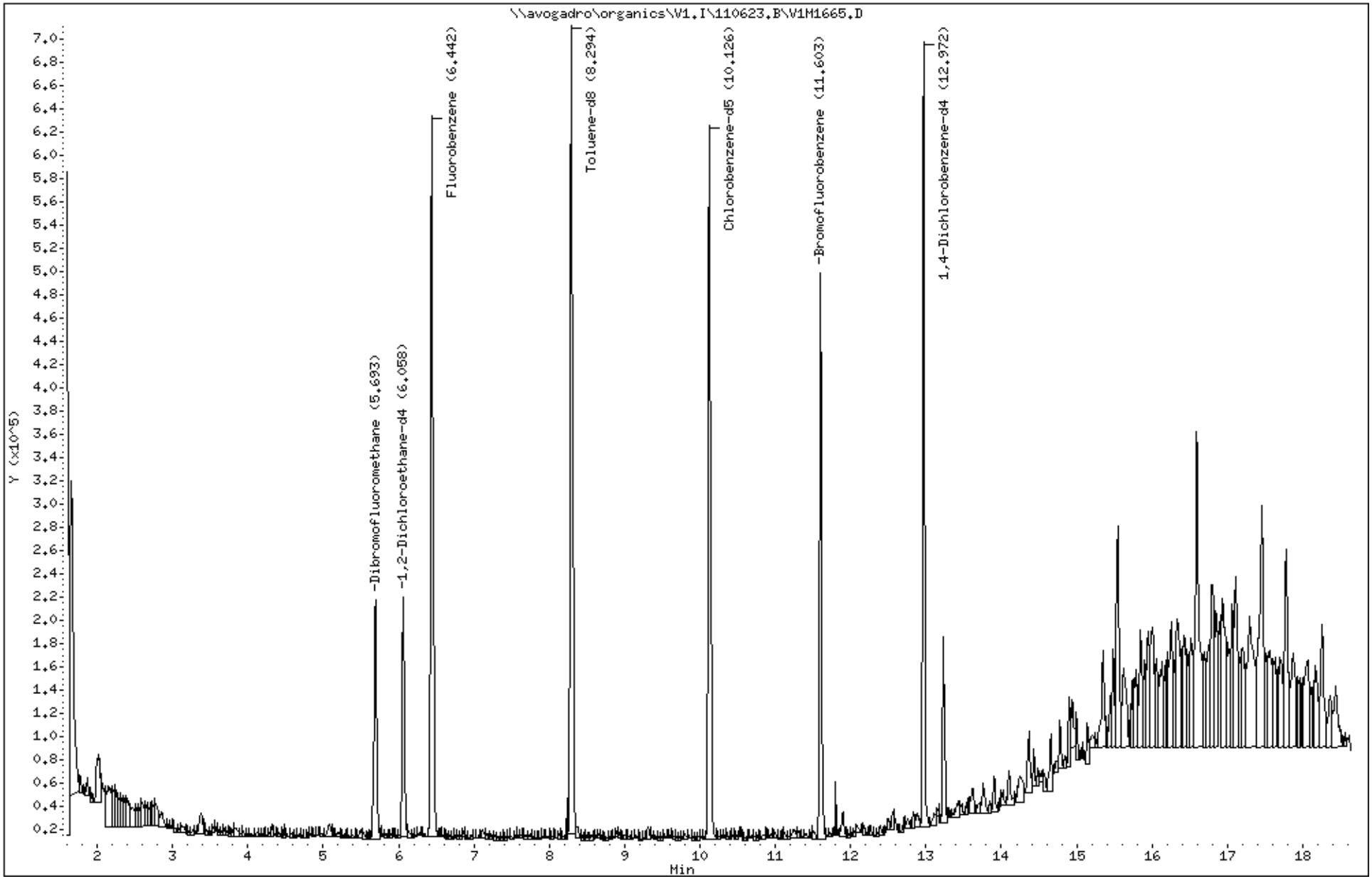
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.683 | 5.676 | (0.882) | 160396 | 50.0885 | 3 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.057 | 6.050 | (0.940) | 36625 | 47.3406 | 3 |
| * 41 Fluorobenzene | 96 | 6.441 | 6.434 | (1.000) | 612009 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.293 | 8.286 | (0.819) | 526257 | 48.3929 | 3 |
| * 60 Chlorobenzene-d5 | 117 | 10.125 | 10.128 | (1.000) | 436182 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.603 | 11.595 | (1.146) | 205851 | 49.7688 | 3 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.972 | 12.964 | (1.000) | 211962 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1665.D
Date : 23-JUN-2011 14:39
Client ID: 06SB21-1517-2011061
Sample Info: 5ML,K1059-08B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB21-1719-2011
0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-09B

Sample wt/vol: 6.90 (g/mL) G Lab File ID: V1M1666.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 10 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 71-43-2 | Benzene | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 108-88-3 | Toluene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 100-41-4 | Ethylbenzene | 1.6 | U | 0.40 | 1.6 | 4.0 |
| 1330-20-7 | m,p-Xylene | 3.2 | U | 1.3 | 3.2 | 4.0 |
| 95-47-6 | o-Xylene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 1330-20-7 | Xylene (Total) | 1.6 | U | 0.38 | 1.6 | 4.0 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1666.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1666.D
Lab Smp Id: K1059-09B Client Smp ID: 06SB21-1719-2011061
Inj Date : 23-JUN-2011 15:07
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,K1059-09B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 45
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 6.900 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.685 | 5.676 | (0.884) | 160841 | 49.2412 | 36 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.050 | 6.050 | (0.940) | 37374 | 47.3602 | 34 |
| * 41 Fluorobenzene | 96 | 6.434 | 6.434 | (1.000) | 624267 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.285 | 8.286 | (0.818) | 572351 | 51.1799 | 37 |
| * 60 Chlorobenzene-d5 | 117 | 10.127 | 10.128 | (1.000) | 448554 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.575 | 11.595 | (1.143) | 1093461 | 257.075 | 190(AQR) |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.974 | 12.964 | (1.000) | 285809 | 50.0000 | (Q) |

QC Flag Legend

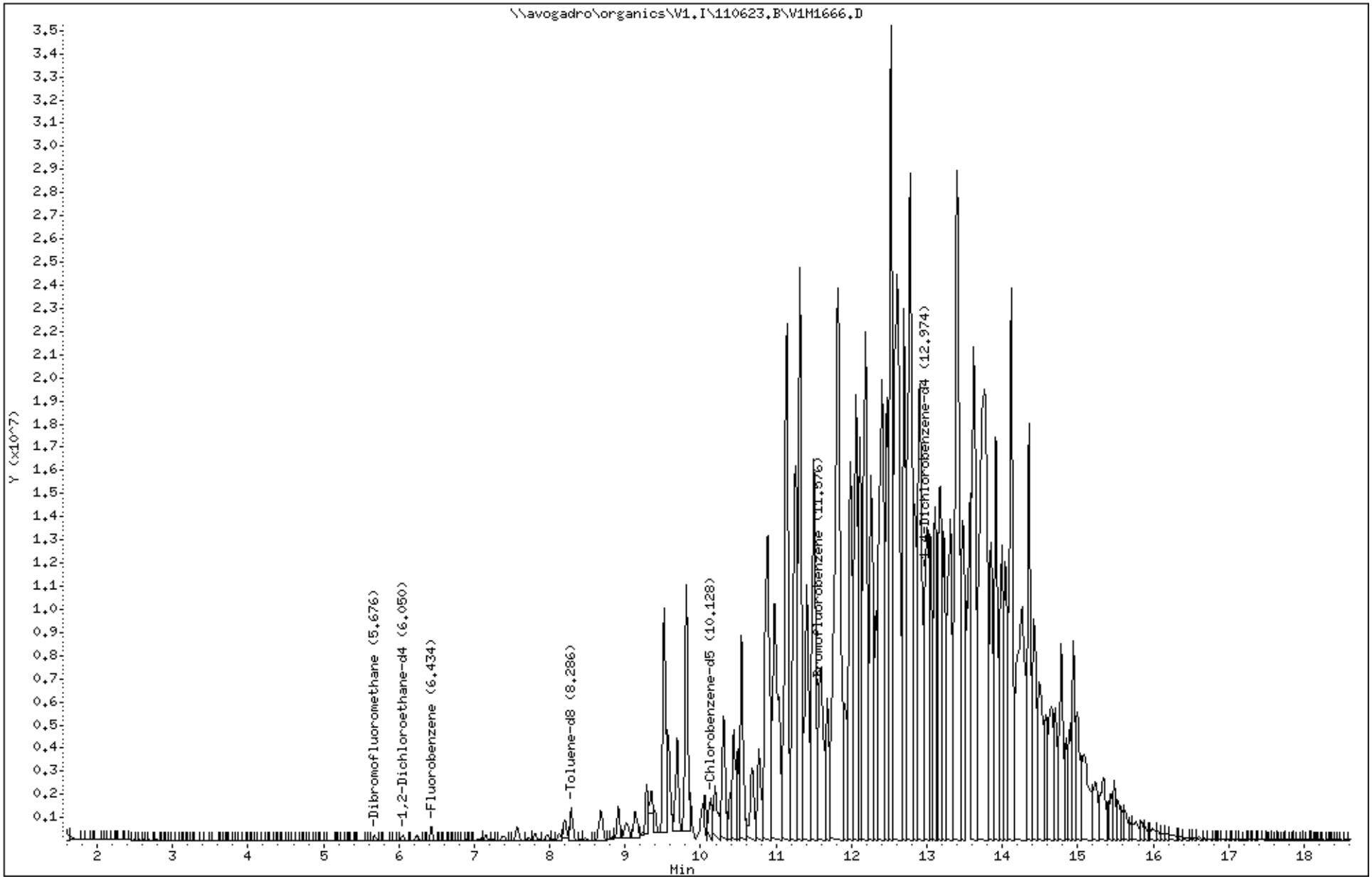
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.

Data File: \\avogadro\organics\V1.I\110623.B\V1M1666.D
Date : 23-JUN-2011 15:07
Client ID: 06SB21-1719-2011061
Sample Info: 5ML,K1059-09B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06TBSO-20110614

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-10B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1655.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1655.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1655.D
Lab Smp Id: K1059-10B  Client Smp ID: 06TBSO-20110614
Inj Date  : 23-JUN-2011 09:41
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1059-10B,,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 34
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

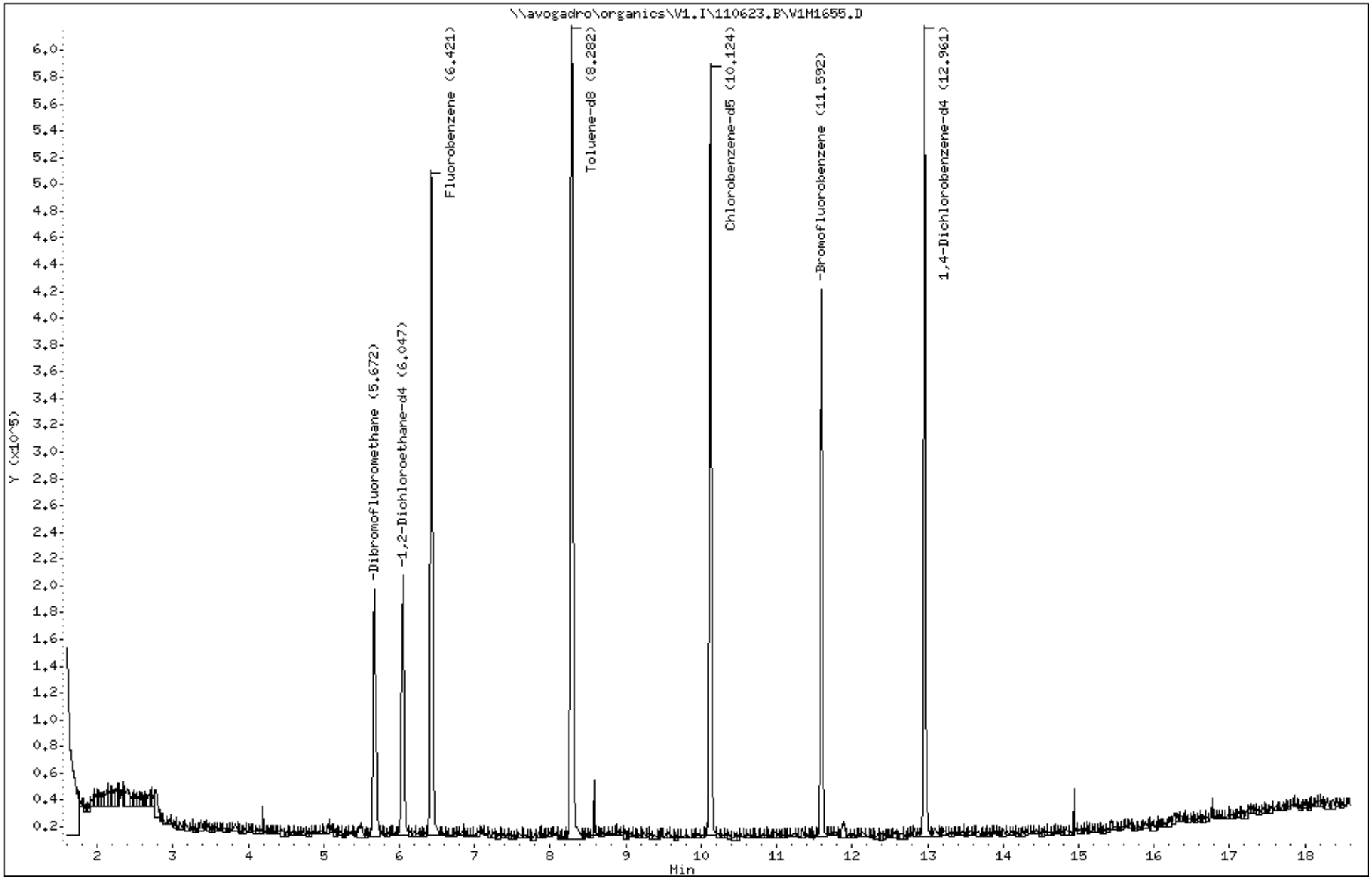
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.672 | 5.676 | (0.883) | 140100 | 51.5481 | 52 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.050 | (0.942) | 33122 | 50.4432 | 50 |
| * 41 Fluorobenzene | 96 | 6.420 | 6.434 | (1.000) | 519431 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.282 | 8.286 | (0.818) | 452624 | 48.3264 | 48 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.128 | (1.000) | 375669 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.591 | 11.595 | (1.145) | 180233 | 50.5942 | 50 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.964 | (1.000) | 181439 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1655.D
Date : 23-JUN-2011 09:41
Client ID: 06TBSO-20110614
Sample Info: 5ML,K1059-10B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SBDUP02-20110615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-11B

Sample wt/vol: 7.30 (g/mL) G Lab File ID: V1M1667.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 10 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.5 | U | 0.47 | 1.5 | 3.8 |
| 71-43-2 | Benzene | 1.5 | U | 0.47 | 1.5 | 3.8 |
| 108-88-3 | Toluene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 100-41-4 | Ethylbenzene | 1.5 | U | 0.38 | 1.5 | 3.8 |
| 1330-20-7 | m,p-Xylene | 3.1 | U | 1.2 | 3.1 | 3.8 |
| 95-47-6 | o-Xylene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 1330-20-7 | Xylene (Total) | 1.5 | U | 0.36 | 1.5 | 3.8 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1667.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1667.D
Lab Smp Id: K1059-11B  Client Smp ID: 06SBDUP02-20110615
Inj Date : 23-JUN-2011 15:36
Operator : ALM SRC: LIMS  Inst ID: V1.i
Smp Info : 5ML,K1059-11B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 46
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.300 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.692 | 5.676 | (0.884) | 144128 | 46.4164 | 32 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.057 | 6.050 | (0.940) | 35050 | 46.7222 | 32 |
| * 41 Fluorobenzene | 96 | 6.441 | 6.434 | (1.000) | 593443 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.293 | 8.286 | (0.819) | 527510 | 51.9284 | 36 |
| * 60 Chlorobenzene-d5 | 117 | 10.125 | 10.128 | (1.000) | 407453 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.592 | 11.595 | (1.145) | 216552 | 56.0475 | 38(R) |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.964 | (1.000) | 203549 | 50.0000 | |

QC Flag Legend

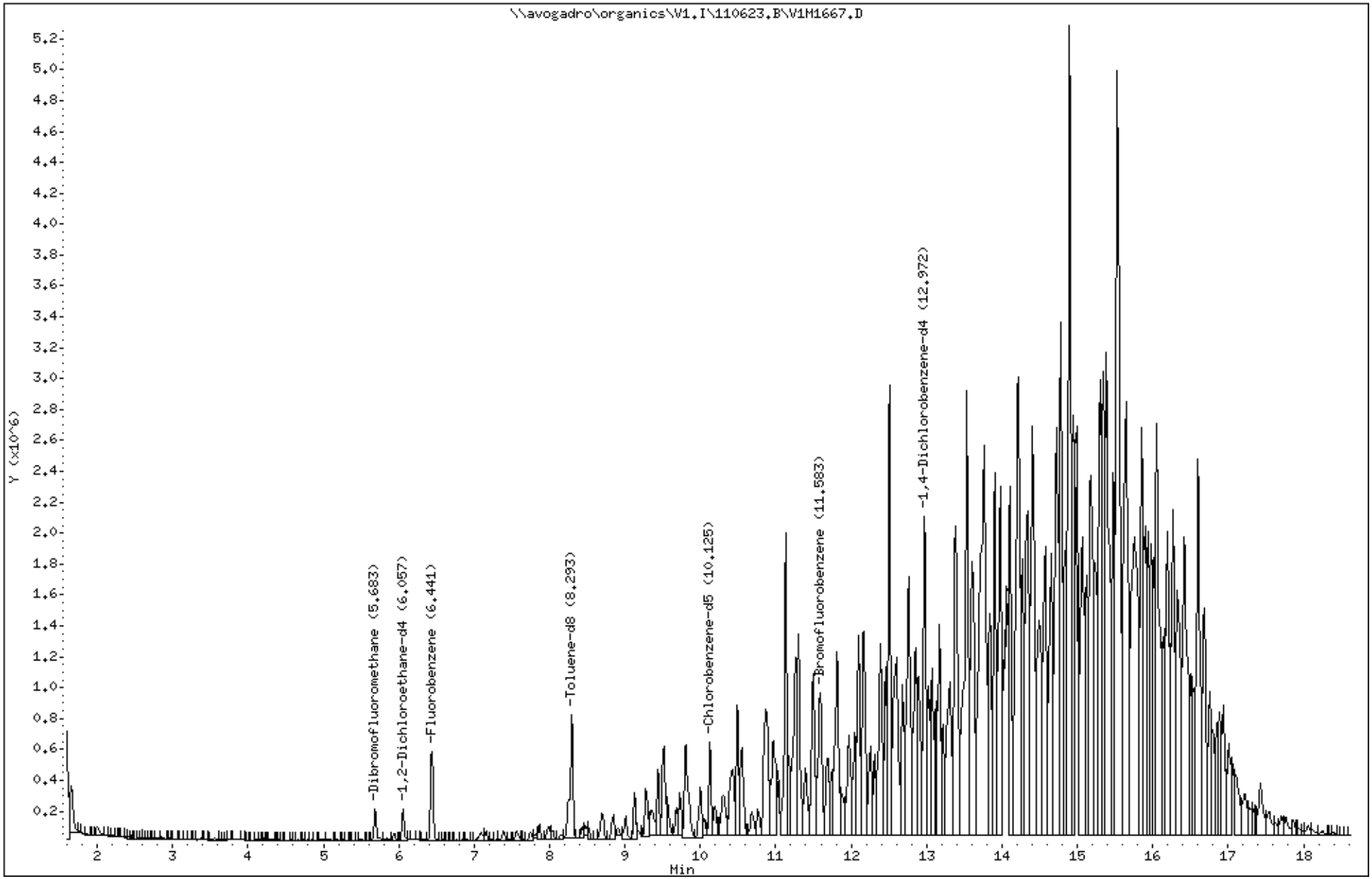
R - Spike/Surrogate failed recovery limits.

Data File: \\avogadro\organics\V1.I\110623.B\V1M1667.D
Date : 23-JUN-2011 15:36
Client ID: 06SBDUP02-20110615
Sample Info: 5ML,K1059-11B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB23-0709-2011 0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-12B

Sample wt/vol: 7.70 (g/mL) G Lab File ID: V1M1668.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 15 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 71-43-2 | Benzene | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 108-88-3 | Toluene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 100-41-4 | Ethylbenzene | 1.5 | U | 0.38 | 1.5 | 3.8 |
| 1330-20-7 | m,p-Xylene | 3.0 | U | 1.2 | 3.0 | 3.8 |
| 95-47-6 | o-Xylene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 1330-20-7 | Xylene (Total) | 1.5 | U | 0.36 | 1.5 | 3.8 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1668.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1668.D
Lab Smp Id: K1059-12B  Client Smp ID: 06SB23-0709-2011061
Inj Date  : 23-JUN-2011 16:04
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1059-12B,,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 47
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

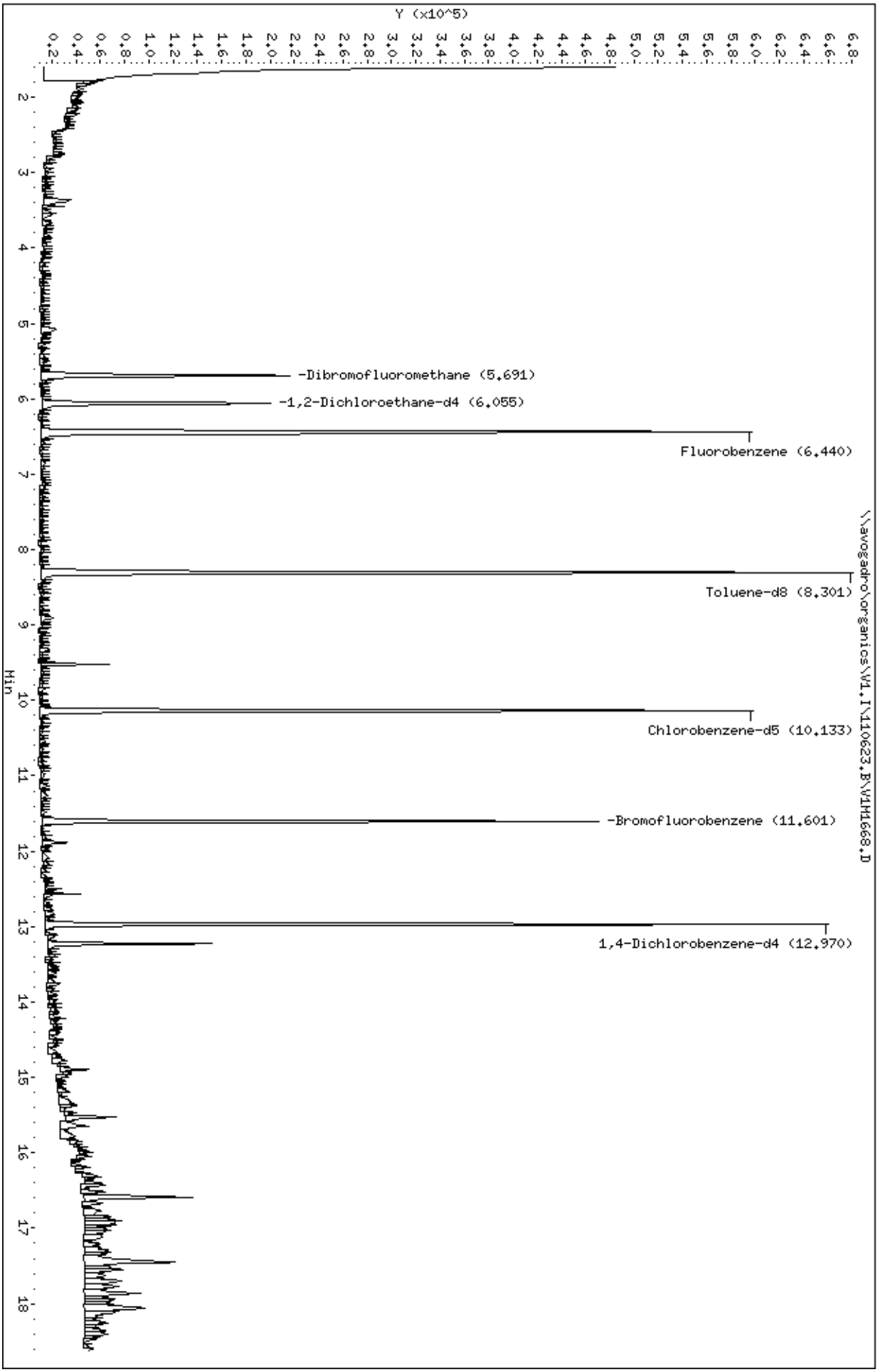
Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.700 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.691 | 5.676 | (0.884) | 147380 | 48.3053 | 31 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.065 | 6.050 | (0.942) | 35061 | 47.5655 | 31 |
| * 41 Fluorobenzene | 96 | 6.439 | 6.434 | (1.000) | 583104 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.301 | 8.286 | (0.819) | 504240 | 49.9841 | 32 |
| * 60 Chlorobenzene-d5 | 117 | 10.133 | 10.128 | (1.000) | 404629 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.600 | 11.595 | (1.145) | 192587 | 50.1929 | 32 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.969 | 12.964 | (1.000) | 192553 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\VLM1668.D
Date : 23-JUN-2011 16:04
Client ID: 068B23-0709-2011061
Sample Info: 5ML,K1059-12B,,59942
Column phase: DB-624

Instrument: V1.i
Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB23-0911-2011
0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-13B

Sample wt/vol: 8.90 (g/mL) G Lab File ID: V1M1669.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 16 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.41 | 1.3 | 3.3 |
| 71-43-2 | Benzene | 1.3 | U | 0.41 | 1.3 | 3.3 |
| 108-88-3 | Toluene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.33 | 1.3 | 3.3 |
| 1330-20-7 | m,p-Xylene | 2.7 | U | 1.1 | 2.7 | 3.3 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.31 | 1.3 | 3.3 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1669.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1669.D
Lab Smp Id: K1059-13B  Client Smp ID: 06SB23-0911-2011061
Inj Date : 23-JUN-2011 16:32
Operator : ALM SRC: LIMS  Inst ID: V1.i
Smp Info : 5ML,K1059-13B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 48
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 8.900 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

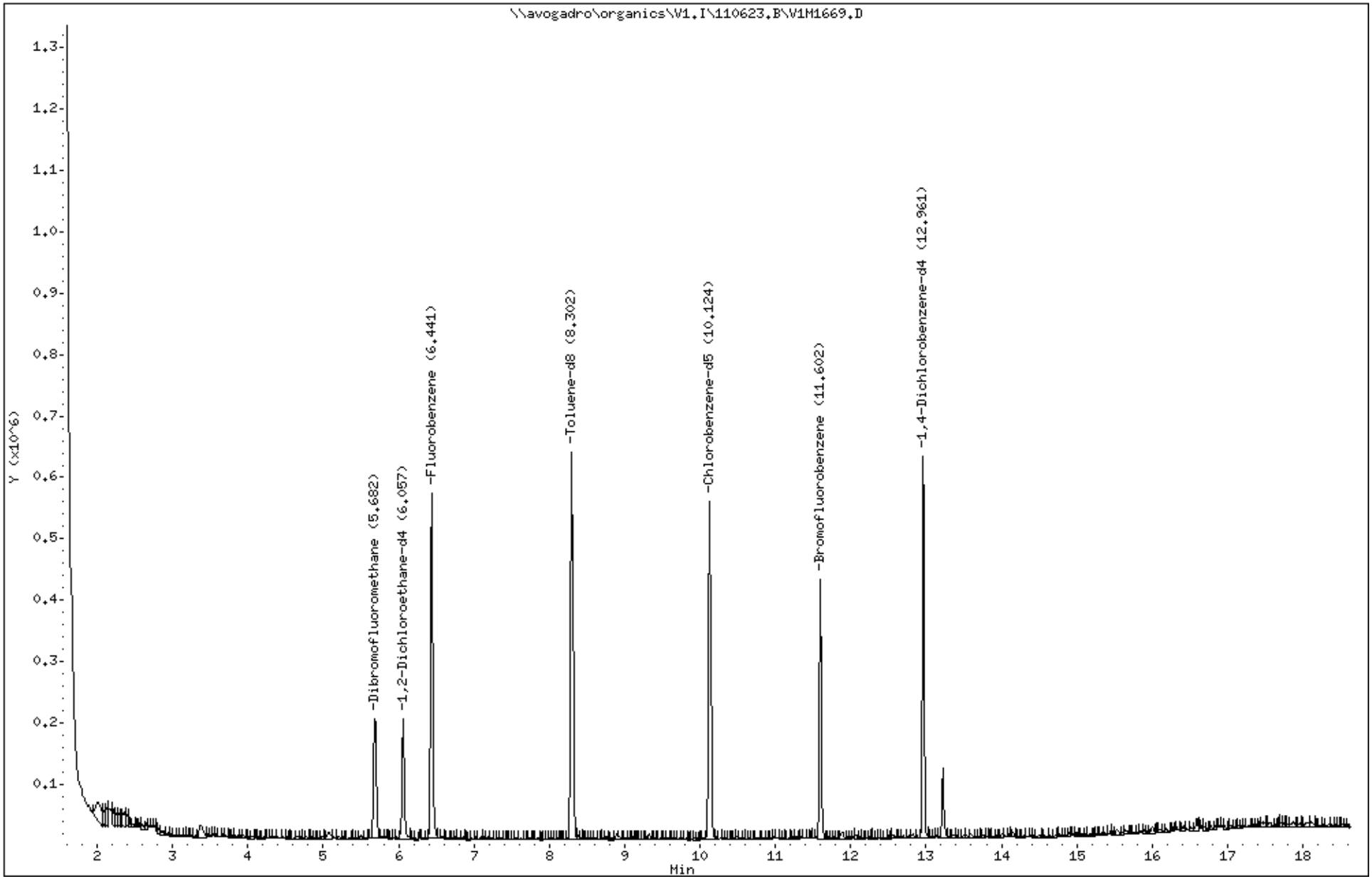
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.676 | (0.882) | 147278 | 50.2524 | 28 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.050 | (0.940) | 33575 | 47.4184 | 27 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 560123 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.302 | 8.286 | (0.819) | 492483 | 49.8623 | 28 |
| * 60 Chlorobenzene-d5 | 117 | 10.134 | 10.128 | (1.000) | 396160 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.601 | 11.595 | (1.145) | 183968 | 48.9715 | 28 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.964 | (1.000) | 183827 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1669.D
Date : 23-JUN-2011 16:32
Client ID: 06SB23-0911-2011061
Sample Info: 5ML,K1059-13B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB26-1416-2011 0617

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-14B

Sample wt/vol: 7.90 (g/mL) G Lab File ID: V1M1670.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 9.2 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 71-43-2 | Benzene | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 108-88-3 | Toluene | 1.1 | J | 0.33 | 1.4 | 3.5 |
| 100-41-4 | Ethylbenzene | 97 | | 0.35 | 1.4 | 3.5 |
| 1330-20-7 | m,p-Xylene | 53 | | 1.1 | 2.8 | 3.5 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.33 | 1.4 | 3.5 |
| 1330-20-7 | Xylene (Total) | 53 | | 0.33 | 1.4 | 3.5 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1670.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1670.D
Lab Smp Id: K1059-14B  Client Smp ID: 06SB26-1416-2011061
Inj Date : 23-JUN-2011 17:00
Operator : ALM SRC: LIMS  Inst ID: V1.i
Smp Info : 5ML,K1059-14B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 49
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.900 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.681 | 5.676 | (0.882) | 138678 | 48.3310 | 30 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.066 | 6.050 | (0.942) | 33600 | 48.4696 | 31 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 548383 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.301 | 8.286 | (0.819) | 883603 | 96.8928 | 61(RH) |
| 52 Toluene | 91 | 8.390 | 8.374 | (1.303) | 17305 | 1.53387 | 1.0(a) |
| * 60 Chlorobenzene-d5 | 117 | 10.133 | 10.128 | (1.000) | 365778 | 50.0000 | |
| 64 Ethylbenzene | 106 | 10.321 | 10.305 | (1.018) | 488332 | 139.665 | 88 |
| 65 m,p-Xylene | 106 | 10.478 | 10.463 | (1.034) | 328107 | 75.4573 | 48 |
| $ 70 Bromofluorobenzene | 95 | 11.591 | 11.595 | (1.144) | 357541 | 103.081 | 65(QR) |
| M 81 Xylene (Total) | 106 | | | | 328107 | 75.4573 | 48 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.980 | 12.964 | (1.000) | 144808 | 50.0000 | (Q) |

QC Flag Legend

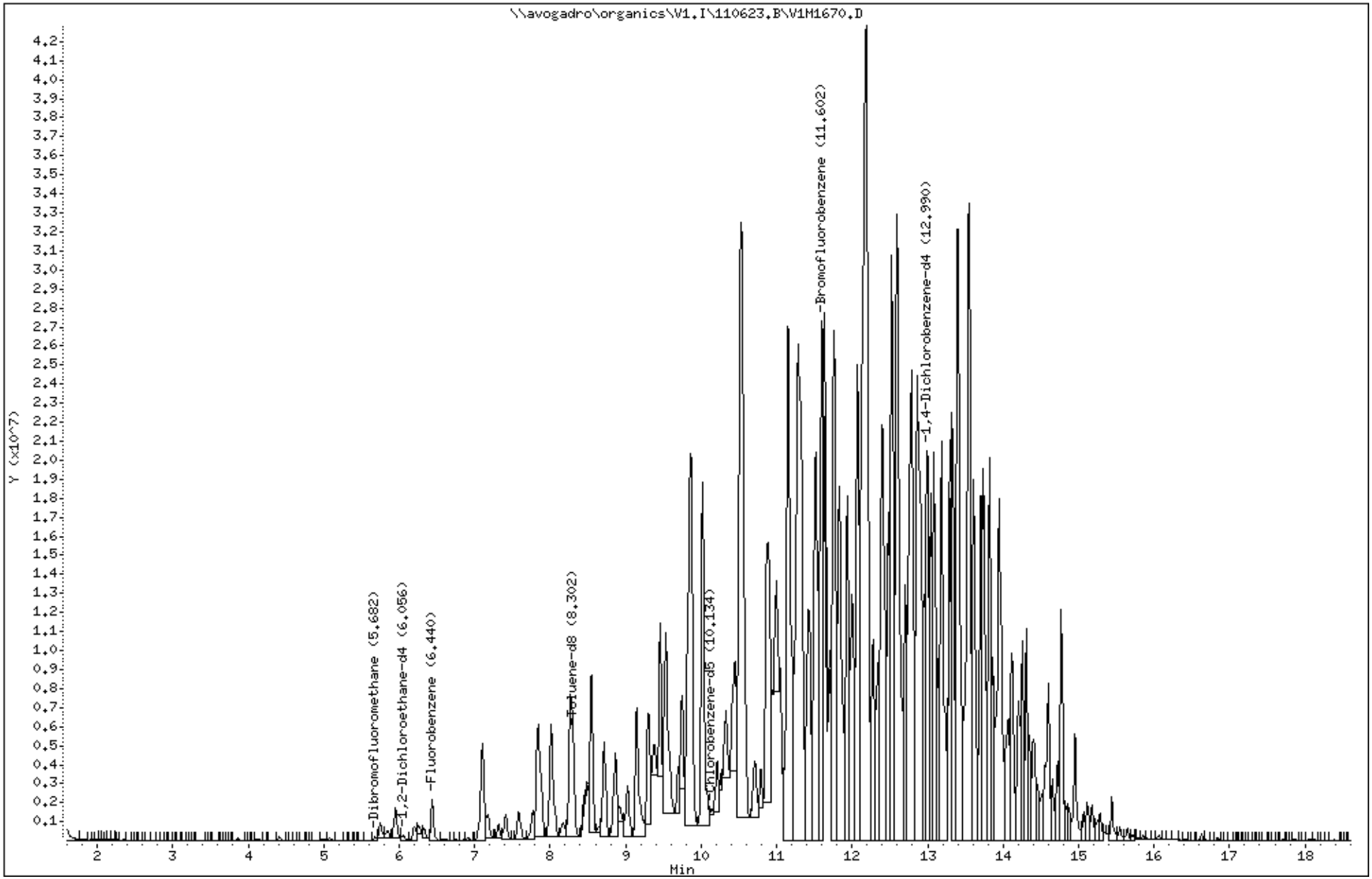
a - Target compound detected but, quantitated amount
    Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: \\avogadro\organics\V1.I\110623.B\V1M1670.D
Date : 23-JUN-2011 17:00
Client ID: 06SB26-1416-2011061
Sample Info: 5ML,K1059-14B,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110623.B\V1M1670.D

Date : 23-JUN-2011 17:00

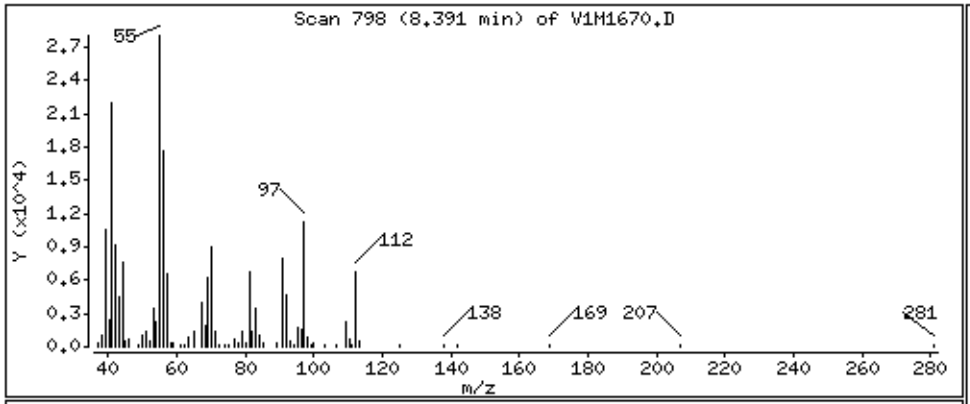
Client ID: 06SB26-1416-2011061 Instrument: V1.i

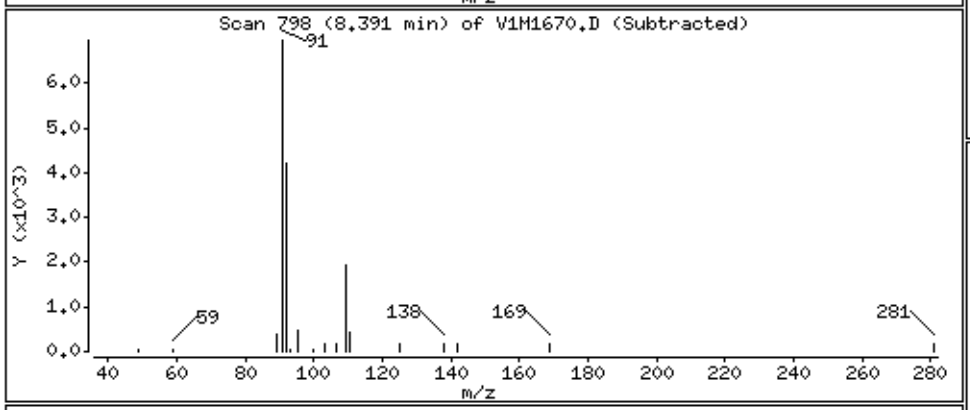
Sample Info: 5ML,K1059-14B,,59942

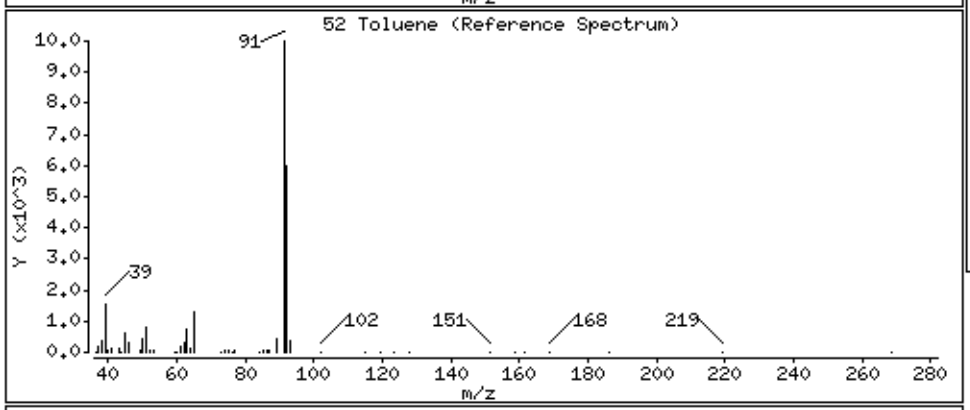
Operator: ALM SRC: LIMS

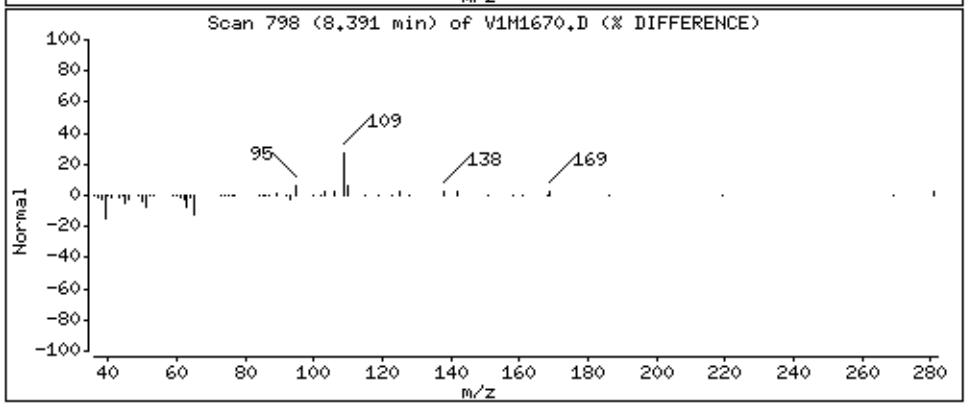
Column phase: DB-624 Column diameter: 0.25

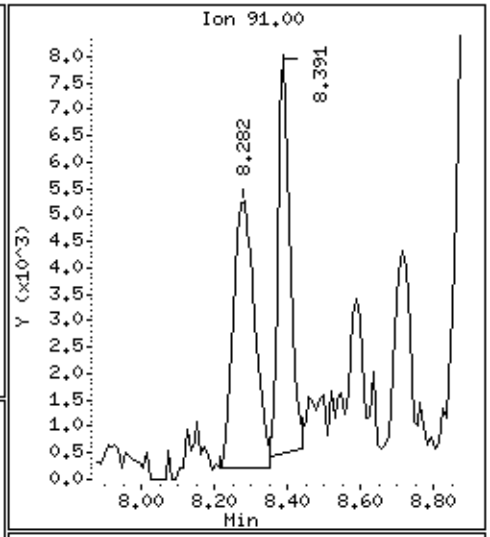
52 Toluene Concentration: 1.0 ug/Kg

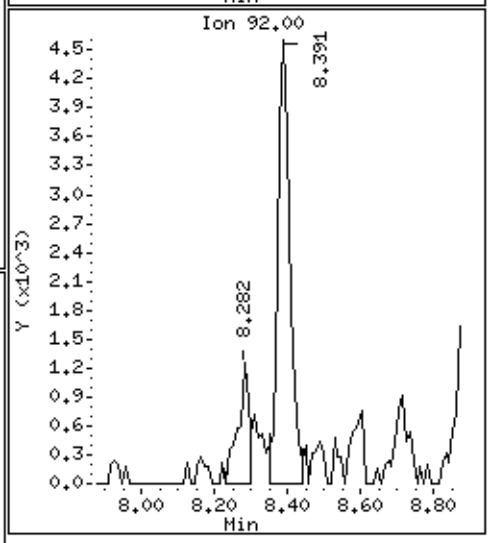


Data File: \\avogadro\organics\V1.I\110623.B\V1M1670.D

Date : 23-JUN-2011 17:00

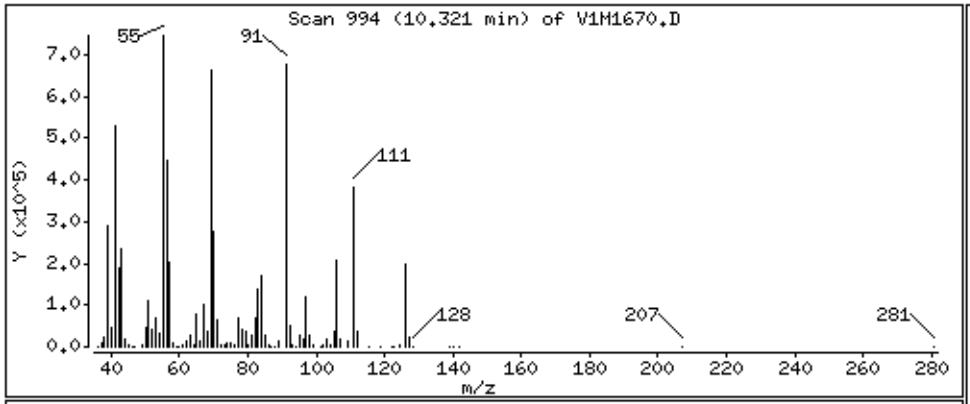
Client ID: 06SB26-1416-2011061 Instrument: V1.i

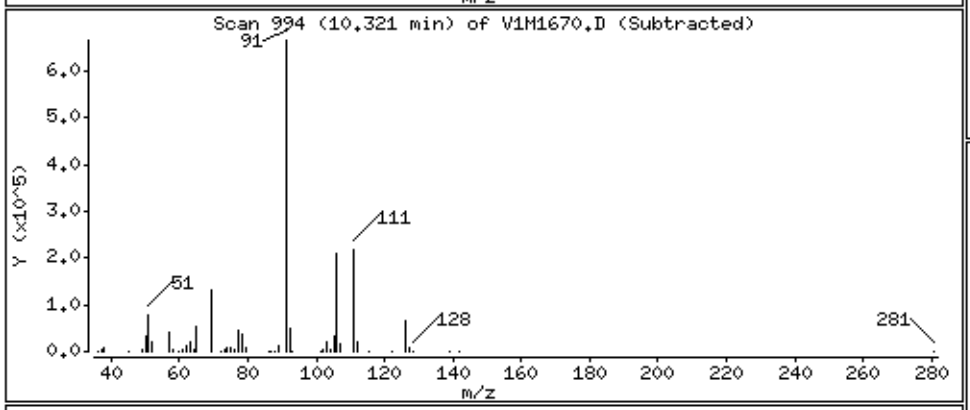
Sample Info: 5ML,K1059-14B,,59942

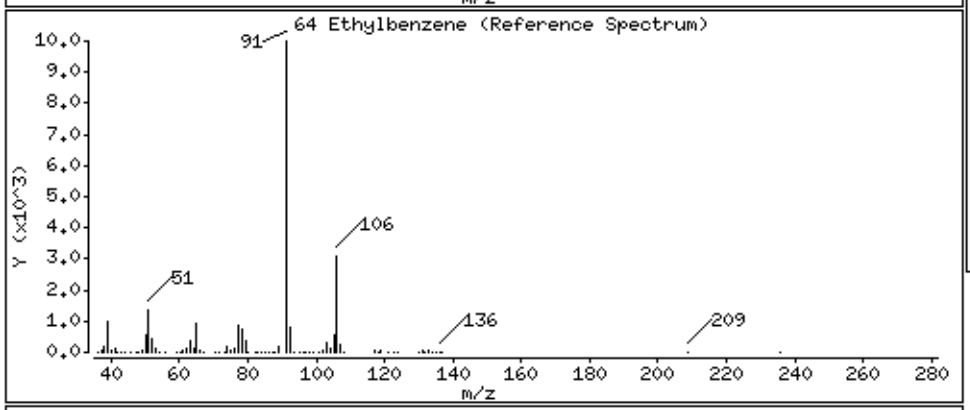
Operator: ALM SRC: LIMS

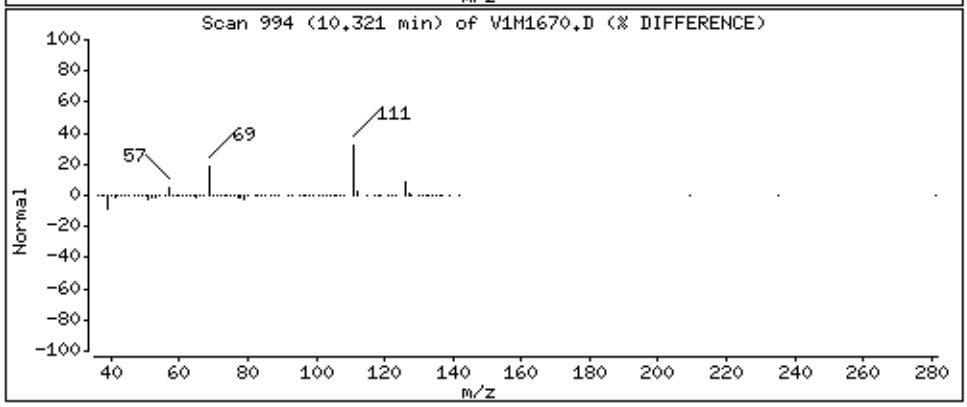
Column phase: DB-624 Column diameter: 0.25

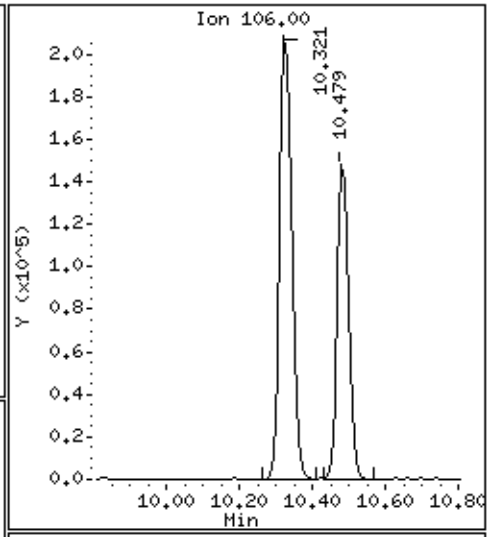
64 Ethylbenzene Concentration: 88 ug/Kg

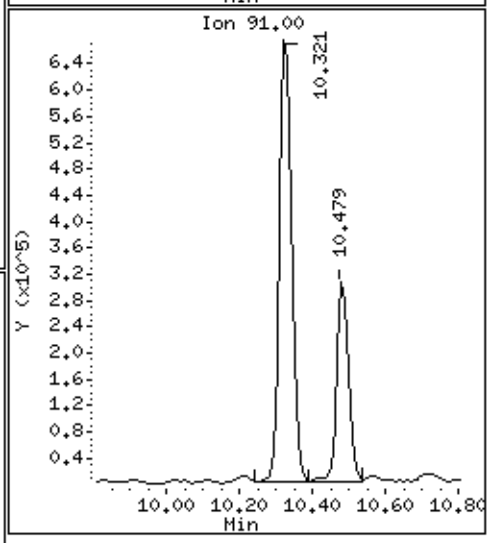


Data File: \\avogadro\organics\V1.I\110623.B\V1M1670.D

Date : 23-JUN-2011 17:00

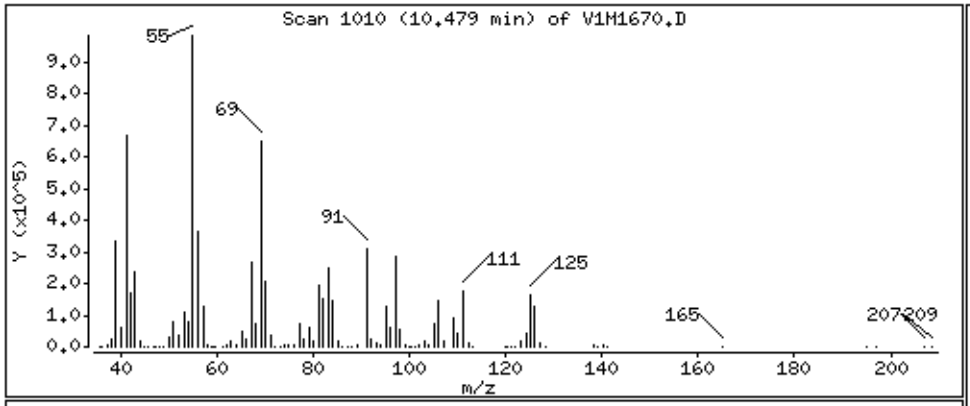
Client ID: 06SB26-1416-2011061 Instrument: V1.i

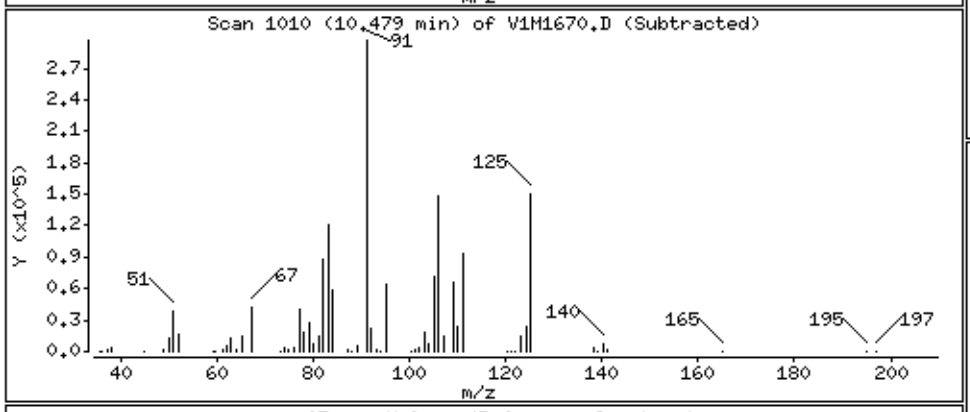
Sample Info: 5ML,K1059-14B,,59942

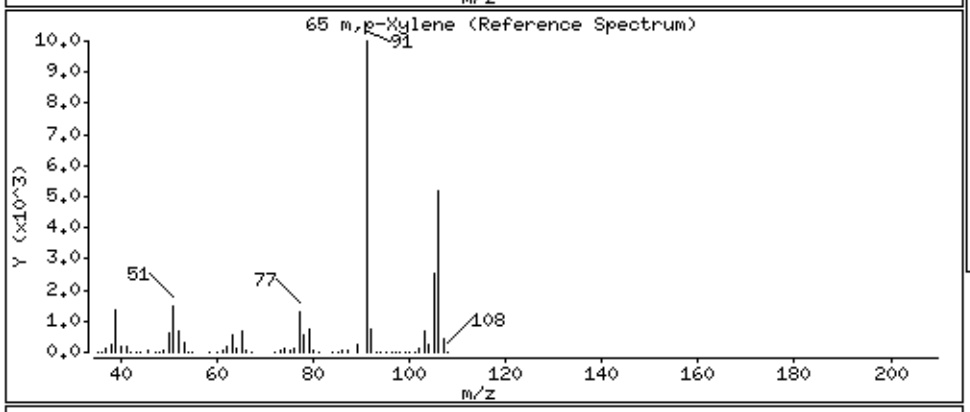
Operator: ALM SRC: LIMS

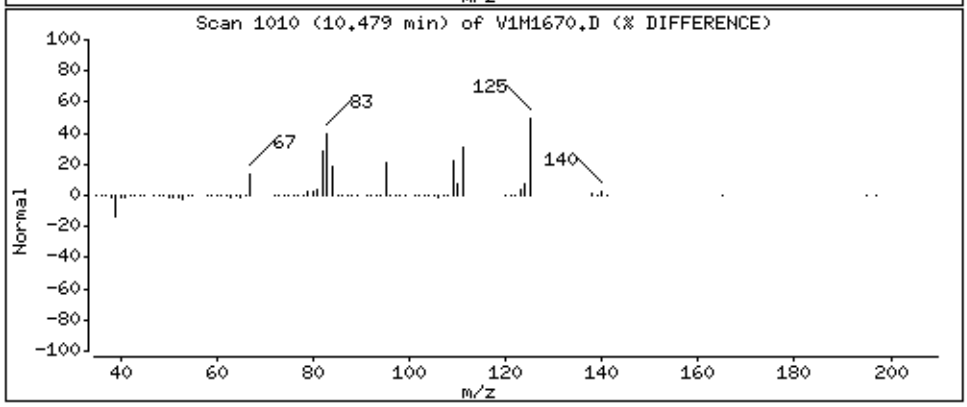
Column phase: DB-624 Column diameter: 0.25

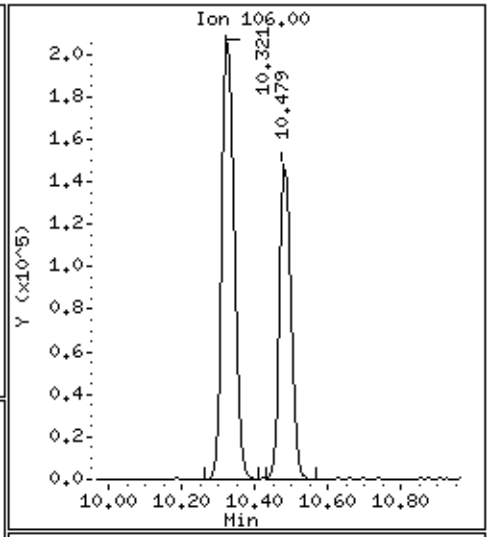
65 m,p-Xylene Concentration: 48 ug/Kg

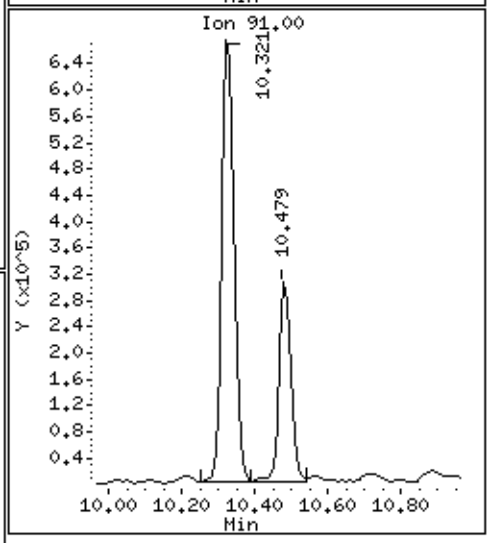


1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB26-2426-2011
0617

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-15B

Sample wt/vol: 8.40 (g/mL) G Lab File ID: V1M1671.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 10 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.40 | 1.3 | 3.3 |
| 71-43-2 | Benzene | 1.3 | U | 0.40 | 1.3 | 3.3 |
| 108-88-3 | Toluene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 100-41-4 | Ethylbenzene | 16 | | 0.33 | 1.3 | 3.3 |
| 1330-20-7 | m,p-Xylene | 7.4 | | 1.1 | 2.7 | 3.3 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 1330-20-7 | Xylene (Total) | 7.4 | | 0.31 | 1.3 | 3.3 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1671.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1671.D
Lab Smp Id: K1059-15B Client Smp ID: 06SB26-2426-2011061
Inj Date : 23-JUN-2011 17:28
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,K1059-15B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 50
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MBTEX.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 8.400 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.691 | 5.676 | (0.884) | 131802 | 48.3179 | 29 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.065 | 6.050 | (0.942) | 32257 | 48.9465 | 29 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 521334 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.301 | 8.286 | (0.819) | 656786 | 77.2706 | 46(R) |
| * 60 Chlorobenzene-d5 | 117 | 10.133 | 10.128 | (1.000) | 340927 | 50.0000 | |
| 64 Ethylbenzene | 106 | 10.311 | 10.305 | (1.017) | 79099 | 24.2717 | 14 |
| 65 m,p-Xylene | 106 | 10.468 | 10.463 | (1.033) | 45379 | 11.1969 | 7(Q) |
| $ 70 Bromofluorobenzene | 95 | 11.581 | 11.595 | (1.143) | 312244 | 96.5839 | 57(QR) |
| M 81 Xylene (Total) | 106 | | | | 45379 | 11.1969 | 7 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.970 | 12.964 | (1.000) | 149911 | 50.0000 | (Q) |

QC Flag Legend

Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.

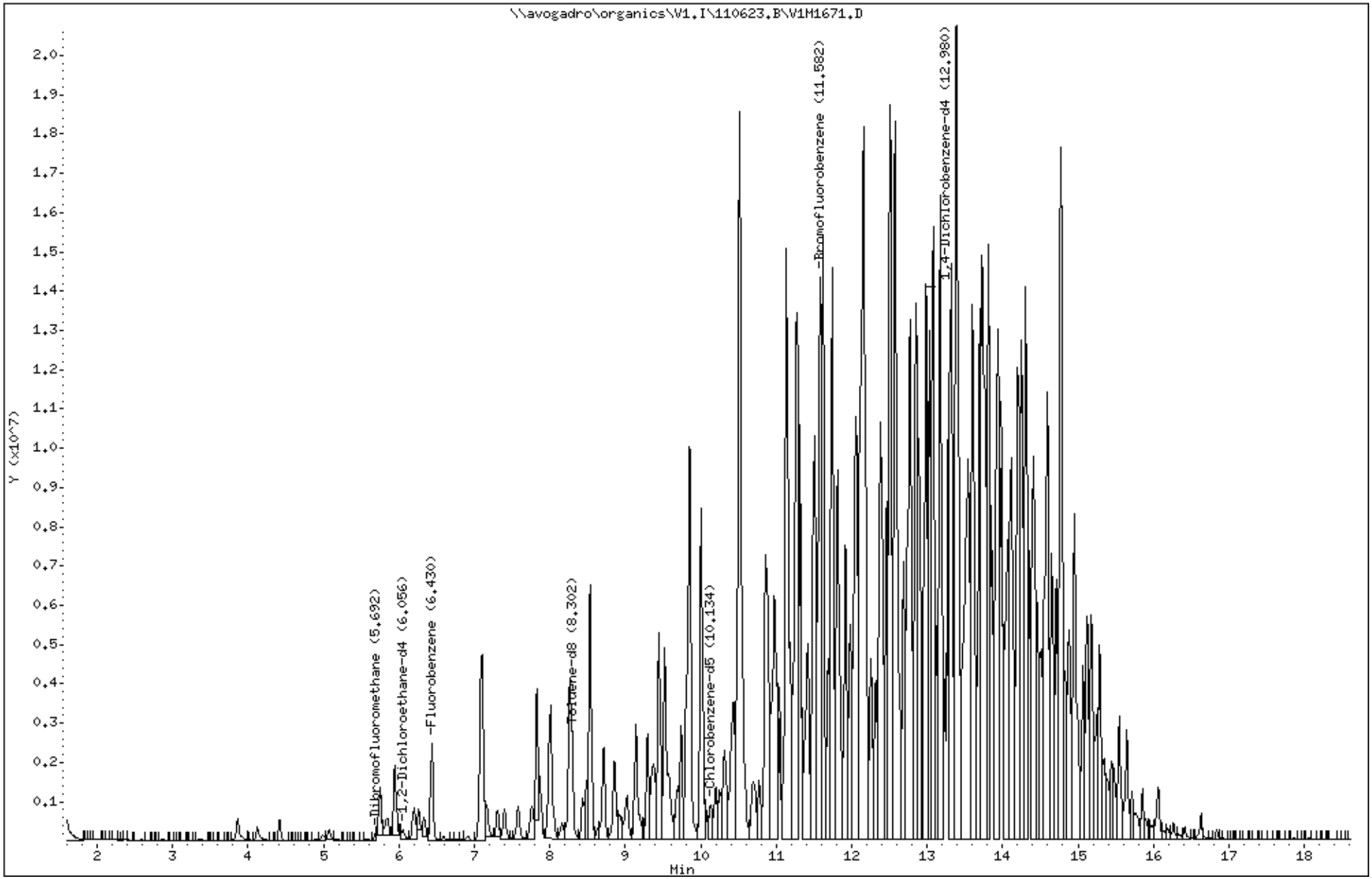
Data File: \\avogadro\organics\V1.I\110623.B\V1M1671.D
Date : 23-JUN-2011 17:28
Client ID: 06SB26-2426-2011061
Sample Info: 5ML,K1059-15B,,59942

Instrument: V1.i

Operator: ALM SRC: LIMS

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110623.B\V1M1671.D

Date : 23-JUN-2011 17:28

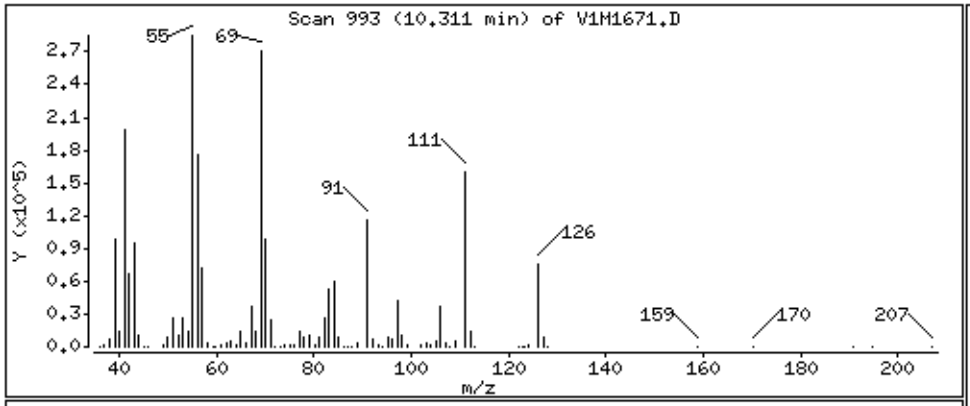
Client ID: 06SB26-2426-2011061 Instrument: V1.i

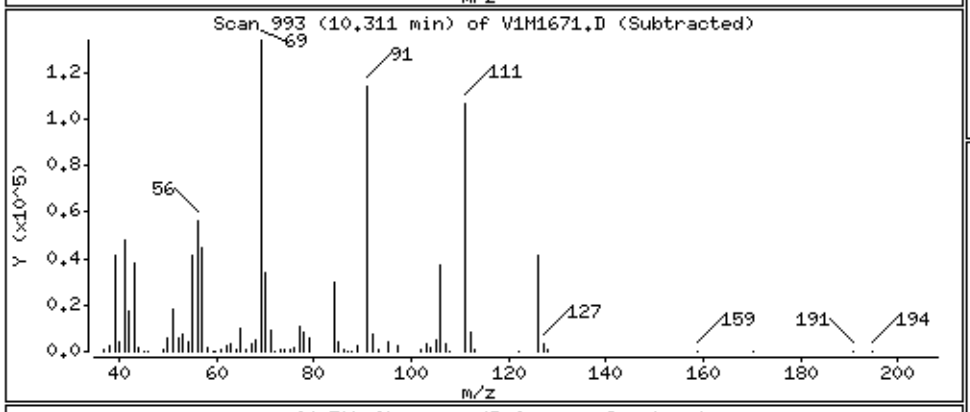
Sample Info: 5ML,K1059-15B,,59942

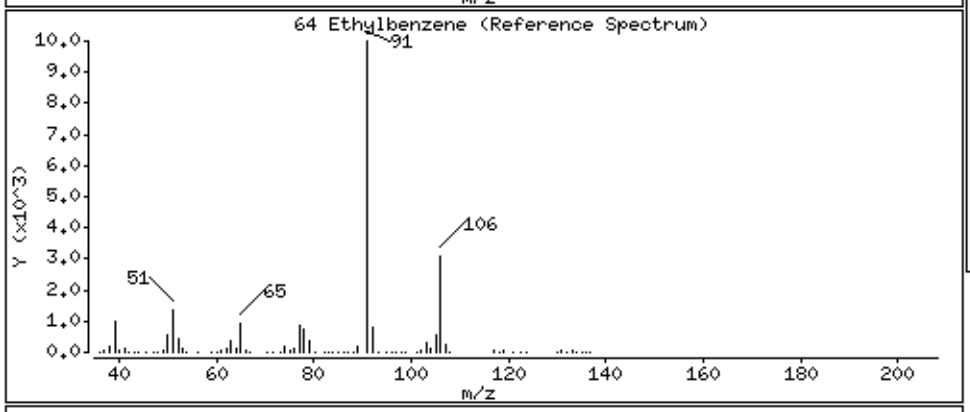
Operator: ALM SRC: LIMS

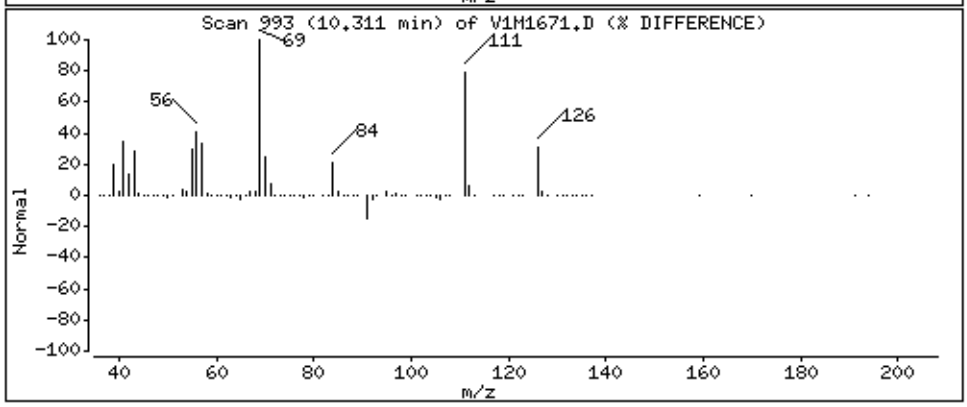
Column phase: DB-624 Column diameter: 0.25

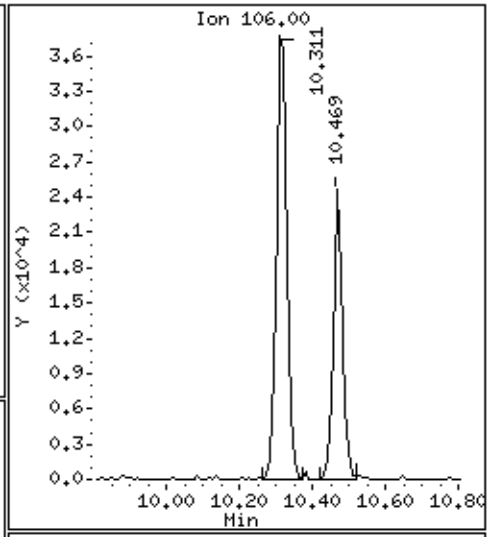
64 Ethylbenzene Concentration: 14 ug/Kg

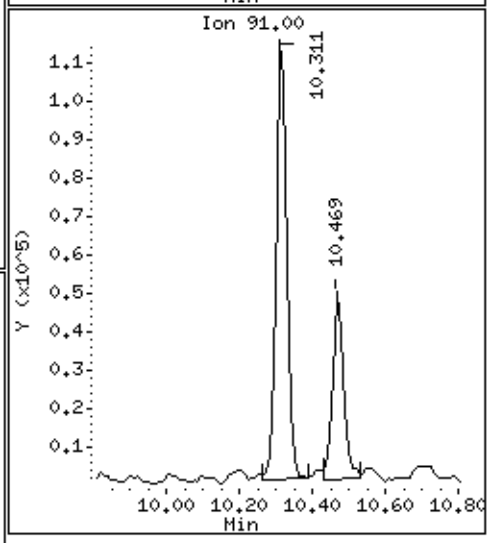


Data File: \\avogadro\organics\V1.I\110623.B\V1M1671.D

Date : 23-JUN-2011 17:28

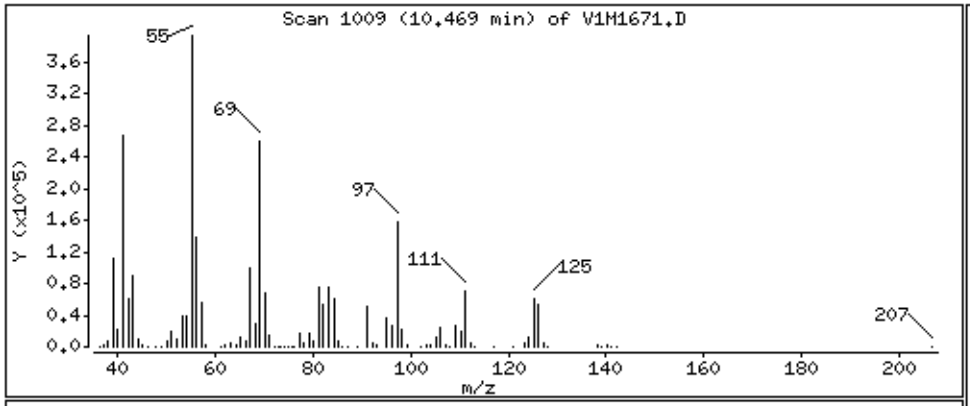
Client ID: 06SB26-2426-2011061 Instrument: V1.i

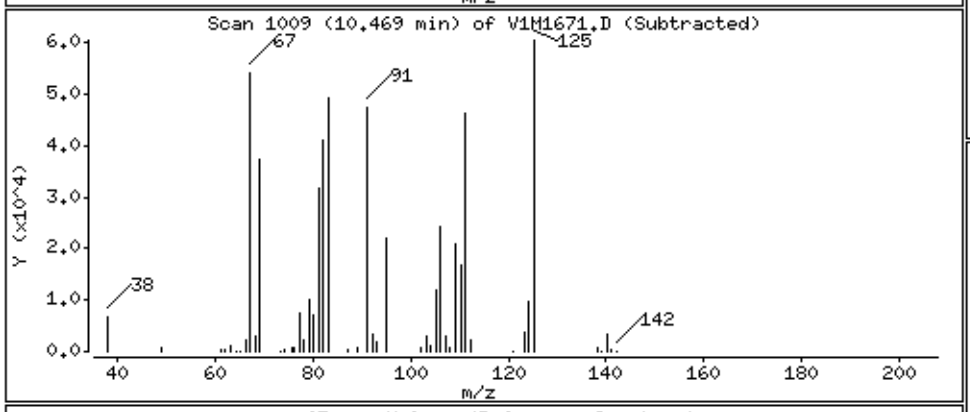
Sample Info: 5ML,K1059-15B,,59942

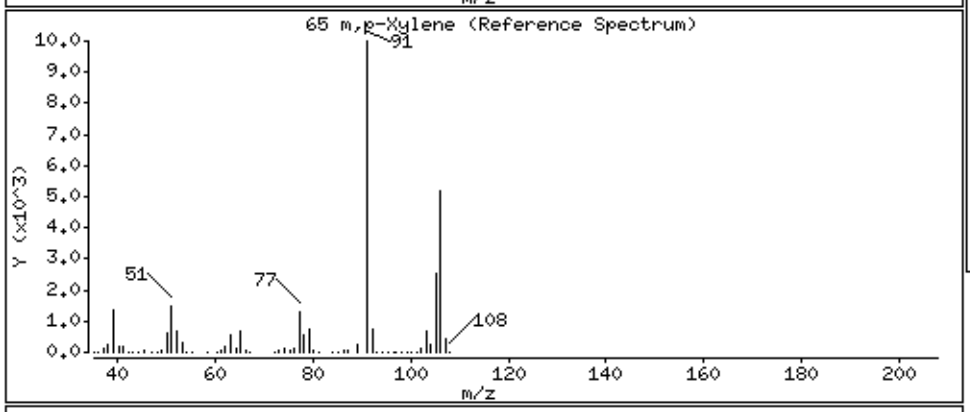
Operator: ALM SRC: LIMS

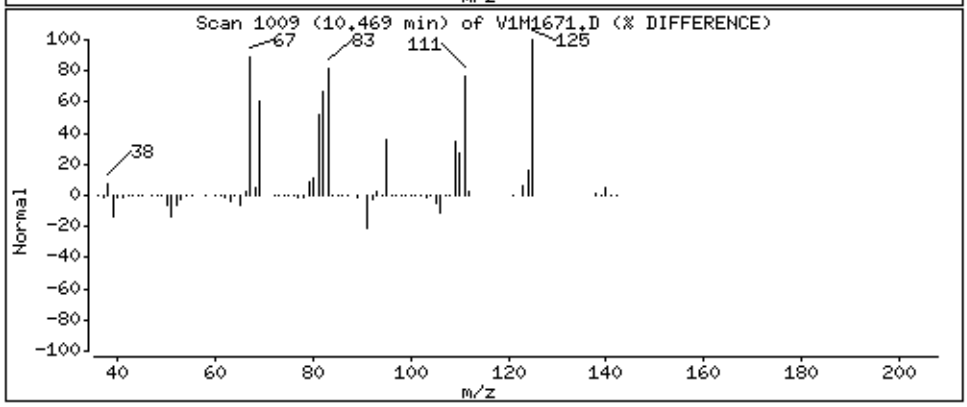
Column phase: DB-624 Column diameter: 0.25

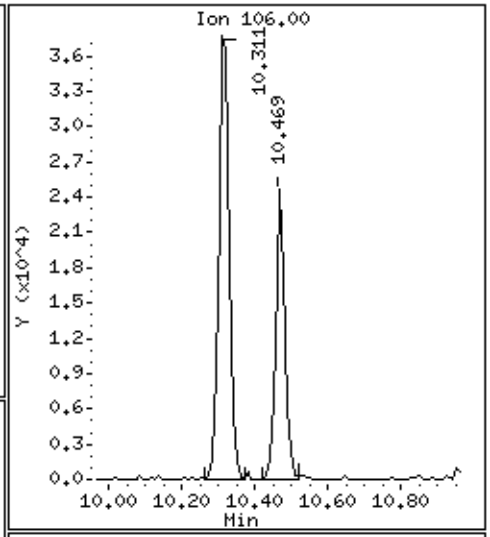
65 m,p-Xylene Concentration: 7 ug/Kg

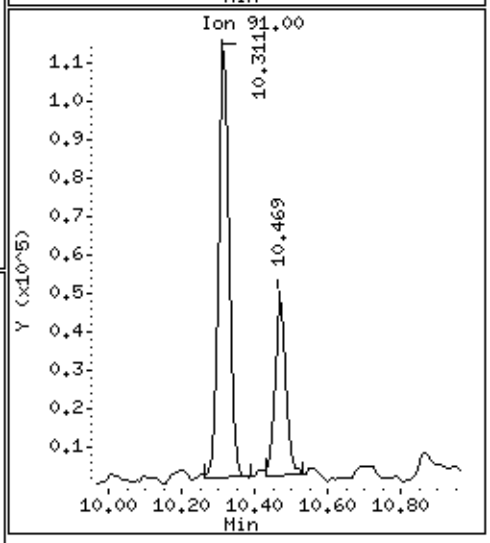


6A - FORM VI VOA-1

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 09:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.555 | 0.543 | 0.645 | 0.466 | 0.582 | 0.558 | 11.6 |
| Benzene | 1.075 | 0.959 | 1.230 | 0.868 | 1.044 | 1.035 | 13.1 |
| Toluene | 1.063 | 0.967 | 1.217 | 0.863 | 1.034 | 1.029 | 12.7 |
| Ethylbenzene | 0.530 | 0.449 | 0.533 | 0.395 | 0.483 | 0.478 | 12.1 |
| m,p-Xylene | 0.627 | 0.587 | 0.652 | 0.506 | 0.600 | 0.594 | 9.3 |
| o-Xylene | 0.627 | 0.569 | 0.612 | 0.481 | 0.574 | 0.573 | 9.9 |
| Xylene (Total) | 0.627 | 0.581 | 0.639 | 0.498 | 0.591 | 0.587 | 9.4 |

6B - FORM VI VOA-2

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 09:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 0.299 | 0.268 | 0.292 | 0.212 | 0.237 | 0.262 | 14.1 |
| 1,2-Dichloroethane-d4 | 0.069 | 0.067 | 0.073 | 0.050 | 0.057 | 0.063 | 14.9 |
| Toluene-d8 | 1.430 | 1.313 | 1.337 | 1.025 | 1.127 | 1.247 | 13.3 |
| Bromofluorobenzene | 0.547 | 0.507 | 0.499 | 0.379 | 0.438 | 0.474 | 13.9 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1633.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1633.D
Lab Smp Id: VSTD0201P  Client Smp ID: VSTD0201P
Inj Date : 22-JUN-2011 09:07
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0201P,VSTD0201P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 09:07  Cal File: V1M1633.D
Als bottle: 29  Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.693 | 1.697 | (0.264) | 38085 | 20.0000 | 0.4(a) |
| 2 Chloromethane | 50 | 1.890 | 1.894 | (0.294) | 124633 | 20.0000 | 4(a) |
| 3 Vinyl Chloride | 62 | 2.018 | 2.022 | (0.314) | 87344 | 20.0000 | 2(a) |
| 4 Bromomethane | 94 | 2.383 | 2.387 | (0.371) | 51137 | 20.0000 | 0.7(a) |
| 5 Chloroethane | 64 | 2.501 | 2.505 | (0.390) | 52952 | 20.0000 | 0.7(a) |
| 6 Trichlorofluoromethane | 101 | 2.777 | 2.771 | (0.432) | 63632 | 20.0000 | 1(a) |
| 7 Ether | 59 | 3.072 | 3.057 | (0.478) | 75429 | 20.0000 | 1 |
| 8 Acrolein | 56 | 3.200 | 3.185 | (0.498) | 99433 | 100.000 | 0.5(a) |
| 9 1,1-Dichloroethene | 96 | 3.318 | 3.313 | (0.517) | 64544 | 20.0000 | 1(a) |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.348 | 3.323 | (0.521) | 66687 | 20.0000 | 1 |
| 11 Acetone | 58 | 3.358 | 3.352 | (0.523) | 8545 | 20.0000 | 0.02(aQ) |
| 12 Iodomethane | 142 | 3.486 | 3.480 | (0.543) | 136085 | 20.0000 | 5 |
| 13 Carbon Disulfide | 76 | 3.555 | 3.539 | (0.554) | 258409 | 20.0000 | 18 |
| 14 Acetonitrile | 40 | 3.683 | 3.638 | (0.574) | 76727 | 200.000 | 0.2(aQ) |
| 15 Methyl Acetate | 43 | 3.712 | 3.697 | (0.578) | 86731 | 20.0000 | 2 |
| 16 Methylene Chloride | 84 | 3.811 | 3.805 | (0.594) | 82263 | 20.0000 | 2(a) |
| 17 tert-Butanol | 59 | 3.929 | 3.914 | (0.612) | 13875 | 40.0000 | 0.02(a) |
| 18 Acrylonitrile | 53 | 4.067 | 4.051 | (0.633) | 29578 | 20.0000 | 0.2(a) |
| 20 Methyl tert-butyl ether | 73 | 4.106 | 4.101 | (0.640) | 154598 | 20.0000 | 6 |
| 19 trans-1,2-Dichloroethene | 96 | 4.106 | 4.101 | (0.640) | 77544 | 20.0000 | 2(a) |
| 21 1,1-Dichloroethane | 63 | 4.540 | 4.534 | (0.707) | 148222 | 20.0000 | 6 |
| 22 Vinyl acetate | 43 | 4.599 | 4.583 | (0.716) | 426114 | 20.0000 | 46 |
| 23 Diisopropyl Ether | 45 | 4.619 | 4.613 | (0.719) | 438725 | 20.0000 | 50 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1633.D
Report Date: 24-May-2011 14:51

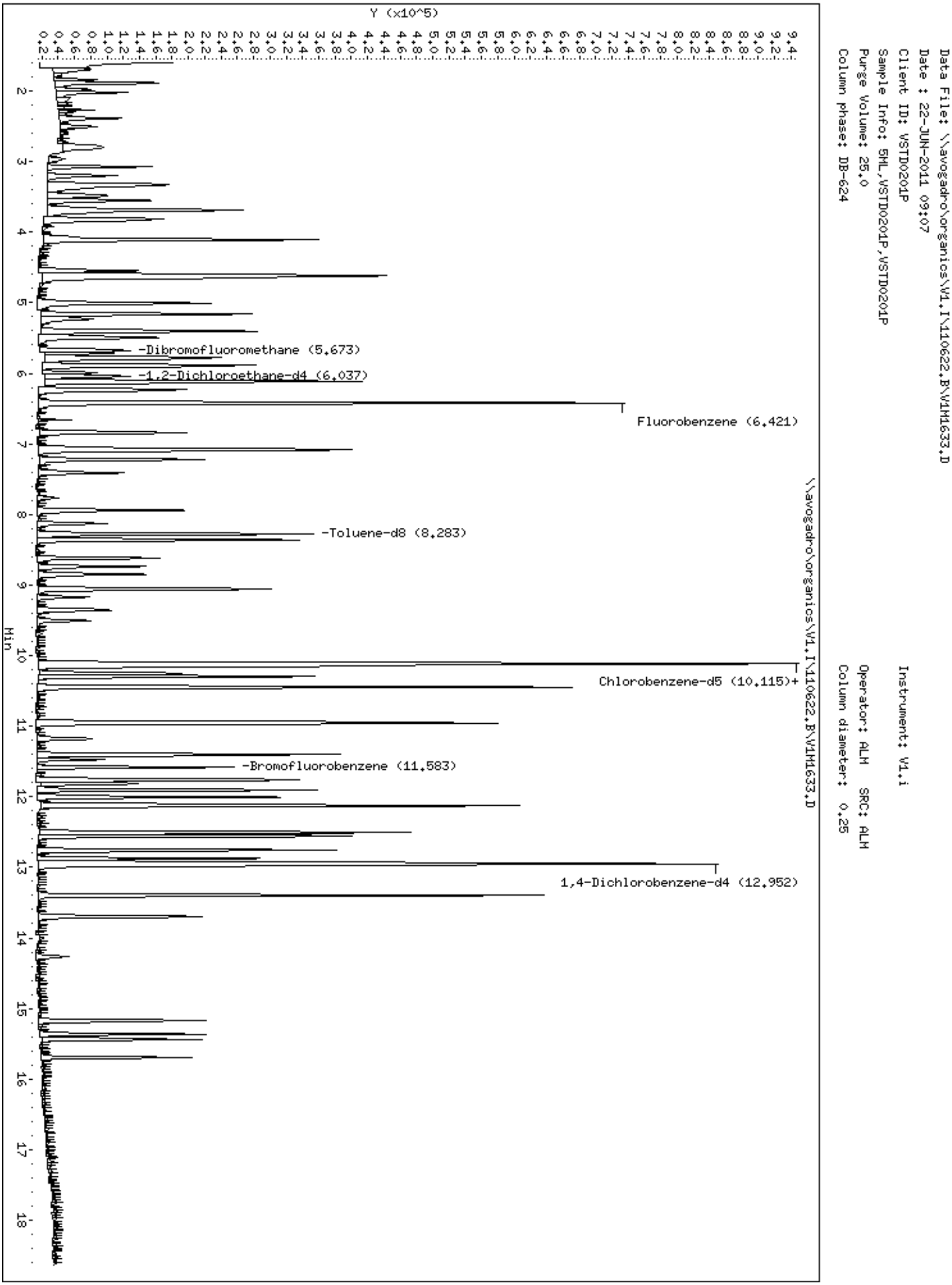
| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.003 | 4.997 | (0.779) | 228586 | 20.0000 | 14 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 154830 | 40.0000 | 3 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.160 | 5.155 | (0.804) | 77286 | 20.0000 | 2(a) |
| | 26 | 2,2-Dichloropropane | 77 | 5.160 | 5.155 | (0.804) | 47567 | 20.0000 | 0.6(a) |
| | 28 | 2-Butanone | 72 | 5.170 | 5.155 | (0.805) | 7515 | 20.0000 | 0.01(aQ) |
| | 29 | Bromochloromethane | 128 | 5.416 | 5.401 | (0.844) | 37861 | 20.0000 | 0.4(aQ) |
| | 30 | Tetrahydrofuran | 72 | 5.475 | 5.460 | (0.853) | 14587 | 40.0000 | 0.03(a) |
| | 31 | Chloroform | 83 | 5.495 | 5.490 | (0.856) | 102664 | 20.0000 | 3(a) |
| $ | 32 | Dibromofluoromethane | 113 | 5.672 | 5.667 | (0.883) | 76280 | 20.0000 | 1 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.712 | 5.706 | (0.890) | 66074 | 20.0000 | 1(a) |
| | 34 | Cyclohexane | 56 | 5.781 | 5.775 | (0.900) | 159818 | 20.0000 | 7 |
| | 36 | Carbon Tetrachloride | 117 | 5.889 | 5.883 | (0.917) | 65408 | 20.0000 | 1(a) |
| | 35 | 1,1-Dichloropropene | 110 | 5.889 | 5.883 | (0.917) | 32102 | 20.0000 | 0.3(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.037 | 6.031 | (0.940) | 19200 | 20.0000 | 0.08(a) |
| | 38 | Benzene | 78 | 6.116 | 6.110 | (0.952) | 273099 | 20.0000 | 20 |
| | 39 | 1,2-Dichloroethane | 62 | 6.126 | 6.120 | (0.954) | 78499 | 20.0000 | 2(a) |
| | 40 | tert-Amyl methyl ether | 73 | 6.234 | 6.228 | (0.971) | 156259 | 20.0000 | 6 |
| * | 41 | Fluorobenzene | 96 | 6.421 | 6.415 | (1.000) | 711809 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.845 | 6.829 | (1.066) | 78019 | 20.0000 | 2(a) |
| | 43 | Methylcyclohexane | 83 | 7.071 | 7.065 | (1.101) | 117830 | 20.0000 | 4 |
| | 44 | 1,2-Dichloropropane | 63 | 7.091 | 7.085 | (1.104) | 90331 | 20.0000 | 2(a) |
| | 46 | Dibromomethane | 93 | 7.229 | 7.223 | (1.126) | 39750 | 20.0000 | 0.4(a) |
| | 47 | 1,4-Dioxane | 88 | 7.248 | 7.243 | (1.129) | 9661 | 400.000 | 0.001(a) |
| | 48 | Bromodichloromethane | 83 | 7.406 | 7.400 | (1.153) | 72945 | 20.0000 | 1(a) |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.761 | 7.765 | (1.209) | 11385 | 20.0000 | 0.03(aQ) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.948 | 7.942 | (1.238) | 116213 | 20.0000 | 3(a) |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.125 | 8.129 | (1.265) | 95075 | 20.0000 | 2(a) |
| $ | 51 | Toluene-d8 | 98 | 8.283 | 8.277 | (0.819) | 255200 | 20.0000 | 33 |
| | 52 | Toluene | 91 | 8.361 | 8.366 | (1.302) | 275270 | 20.0000 | 20 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.627 | 8.622 | (1.344) | 90436 | 20.0000 | 2(a) |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.844 | 8.858 | (1.377) | 52492 | 20.0000 | 0.7(a) |
| | 55 | Tetrachloroethene | 164 | 9.051 | 9.055 | (0.895) | 52362 | 20.0000 | 2(a) |
| | 56 | 1,3-Dichloropropane | 76 | 9.061 | 9.065 | (0.896) | 96383 | 20.0000 | 5 |
| | 57 | 2-Hexanone | 43 | 9.169 | 9.173 | (0.907) | 64790 | 20.0000 | 2(a) |
| | 58 | Dibromochloromethane | 129 | 9.356 | 9.360 | (0.925) | 62364 | 20.0000 | 2(a) |
| | 59 | 1,2-Dibromoethane | 107 | 9.504 | 9.508 | (0.940) | 58670 | 20.0000 | 2(a) |
| * | 60 | Chlorobenzene-d5 | 117 | 10.115 | 10.119 | (1.000) | 485760 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.124 | 10.129 | (1.001) | 95605 | 20.0000 | 5(Q) |
| | 61 | Chlorobenzene | 112 | 10.154 | 10.158 | (1.004) | 185321 | 20.0000 | 19 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.252 | 10.257 | (1.014) | 59962 | 20.0000 | 2(a) |
| | 64 | Ethylbenzene | 106 | 10.292 | 10.306 | (1.018) | 87256 | 20.0000 | 4(aQ) |
| | 65 | m,p-Xylene | 106 | 10.449 | 10.454 | (1.033) | 228232 | 40.0000 | 14 |
| | 66 | o-Xylene | 106 | 10.942 | 10.946 | (1.082) | 110555 | 20.0000 | 6 |
| | 67 | Styrene | 104 | 10.962 | 10.966 | (1.084) | 186278 | 20.0000 | 19 |
| | 68 | Bromoform | 173 | 11.178 | 11.183 | (1.105) | 37515 | 20.0000 | 0.8(a) |
| | 69 | Isopropylbenzene | 105 | 11.405 | 11.409 | (1.128) | 275108 | 20.0000 | 40 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.474 | 11.478 | (1.134) | 24067 | 20.0000 | 0.3(a) |
| $ | 70 | Bromofluorobenzene | 95 | 11.582 | 11.586 | (1.145) | 98567 | 20.0000 | 5 |
| | 72 | Bromobenzene | 156 | 11.759 | 11.774 | (0.908) | 72569 | 20.0000 | 13 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.750 | 11.764 | (0.907) | 68430 | 20.0000 | 12 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.809 | 11.813 | (0.912) | 73883 | 20.0000 | 14 |
| | 74 | n-Propylbenzene | 120 | 11.907 | 11.911 | (0.919) | 70268 | 20.0000 | 13(Q) |
| | 75 | 2-Chlorotoluene | 126 | 12.006 | 12.010 | (0.927) | 69872 | 20.0000 | 13 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.114 | 12.118 | (0.935) | 225879 | 20.0000 | 120 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1633.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.134 | 12.138 | (0.937) | 72716 | 20.0000 | 13 |
| | 78 tert-Butylbenzene | 119 | 12.498 | 12.502 | (0.965) | 226395 | 20.0000 | 130 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.557 | 12.562 | (0.970) | 223889 | 20.0000 | 120 |
| M | 81 Xylene (Total) | 106 | | | | 338787 | 60.0000 | 20 |
| | 80 sec-Butylbenzene | 105 | 12.754 | 12.759 | (0.985) | 306148 | 20.0000 | 240(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.882 | 12.877 | (0.995) | 140650 | 20.0000 | 50 |
| | 83 4-Isopropyltoluene | 119 | 12.922 | 12.926 | (0.998) | 246009 | 20.0000 | 150 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.951 | 12.956 | (1.000) | 221914 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.981 | 12.985 | (1.002) | 141012 | 20.0000 | 51 |
| | 86 n-Butylbenzene | 91 | 13.395 | 13.399 | (1.034) | 230358 | 20.0000 | 130 |
| | 87 1,2-Dichlorobenzene | 146 | 13.404 | 13.409 | (1.035) | 133460 | 20.0000 | 43 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.261 | 14.266 | (1.101) | 7953 | 20.0000 | 0.2(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.177 | 15.182 | (1.172) | 79555 | 20.0000 | 15 |
| | 90 Hexachlorobutadiene | 225 | 15.364 | 15.369 | (1.186) | 43261 | 20.0000 | 4(aQ) |
| | 91 Naphthalene | 128 | 15.433 | 15.438 | (1.192) | 166948 | 20.0000 | 71 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.699 | 15.694 | (1.212) | 65530 | 20.0000 | 11 |

## QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.


Data File: \\avogadro\organics\V1.I\110622.B\VIM1633.D
Date : 22-JUN-2011 09:07
Client ID: VSTD0201P
Sample Info: 5ML,VSTD0201P,VSTD0201P
Purge Volume: 25.0
Column phase: DB-624
Instrument: V1.i
Operator: ALM SRC: ALM
Column diameter: 0.25
Y (x10^5)
Min
-Dibromofluoromethane (5.673)
-1,2-Dichloroethane-d4 (6.037)
Fluorobenzene (6.421)
-Toluene-d8 (8.283)
Chlorobenzene-d5 (10.115)+
-Bromofluorobenzene (11.583)
1,4-Dichlorobenzene-d4 (12.952)
\\avogadro\organics\V1.I\110622.B\VIM1633.D

Data File: \\avogadro\organics\V1.I\110622.B\V1M1634.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1634.D
Lab Smp Id: VSTD0501P  Client Smp ID: VSTD0501P
Inj Date : 22-JUN-2011 09:34
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0501P,VSTD0501P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 09:34  Cal File: V1M1634.D
Als bottle: 30  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.701 | 1.697 | (0.265) | 121469 | 50.0000 | 1(a) |
| 2 Chloromethane | 50 | 1.888 | 1.894 | (0.294) | 354704 | 50.0000 | 13 |
| 3 Vinyl Chloride | 62 | 2.017 | 2.022 | (0.314) | 245744 | 50.0000 | 6 |
| 4 Bromomethane | 94 | 2.381 | 2.387 | (0.371) | 140330 | 50.0000 | 2(a) |
| 5 Chloroethane | 64 | 2.499 | 2.505 | (0.389) | 145118 | 50.0000 | 2(a) |
| 6 Trichlorofluoromethane | 101 | 2.775 | 2.771 | (0.432) | 187888 | 50.0000 | 4(a) |
| 7 Ether | 59 | 3.070 | 3.057 | (0.478) | 211958 | 50.0000 | 4(Q) |
| 8 Acrolein | 56 | 3.198 | 3.185 | (0.498) | 260752 | 250.000 | 1 |
| 9 1,1-Dichloroethene | 96 | 3.317 | 3.313 | (0.517) | 189761 | 50.0000 | 4(a) |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.336 | 3.323 | (0.520) | 199716 | 50.0000 | 4 |
| 11 Acetone | 58 | 3.356 | 3.352 | (0.523) | 23229 | 50.0000 | 0.06(aQ) |
| 12 Iodomethane | 142 | 3.484 | 3.480 | (0.543) | 403869 | 50.0000 | 15 |
| 13 Carbon Disulfide | 76 | 3.553 | 3.539 | (0.554) | 752965 | 50.0000 | 57 |
| 14 Acetonitrile | 40 | 3.652 | 3.638 | (0.569) | 253654 | 500.000 | 0.6(aQ) |
| 15 Methyl Acetate | 43 | 3.711 | 3.697 | (0.578) | 228454 | 50.0000 | 5 |
| 16 Methylene Chloride | 84 | 3.819 | 3.805 | (0.595) | 220684 | 50.0000 | 5 |
| 17 tert-Butanol | 59 | 3.927 | 3.914 | (0.612) | 43696 | 100.000 | 0.09(a) |
| 18 Acrylonitrile | 53 | 4.065 | 4.051 | (0.633) | 86718 | 50.0000 | 0.8(a) |
| 20 Methyl tert-butyl ether | 73 | 4.105 | 4.101 | (0.639) | 415979 | 50.0000 | 18 |
| 19 trans-1,2-Dichloroethene | 96 | 4.105 | 4.101 | (0.639) | 202886 | 50.0000 | 4(a) |
| 21 1,1-Dichloroethane | 63 | 4.548 | 4.534 | (0.708) | 410936 | 50.0000 | 18 |
| 22 Vinyl acetate | 43 | 4.597 | 4.583 | (0.716) | 1180817 | 50.0000 | 140 |
| 23 Diisopropyl Ether | 45 | 4.627 | 4.613 | (0.721) | 1255034 | 50.0000 | 160 |

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| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.011 | 4.997 | (0.781) | 636928 | 50.0000 | 42 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 424146 | 100.000 | 9 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.159 | 5.155 | (0.804) | 221260 | 50.0000 | 5 |
| | 26 | 2,2-Dichloropropane | 77 | 5.168 | 5.155 | (0.805) | 127485 | 50.0000 | 2(a) |
| | 28 | 2-Butanone | 72 | 5.168 | 5.155 | (0.805) | 21227 | 50.0000 | 0.04(aQ) |
| | 29 | Bromochloromethane | 128 | 5.415 | 5.401 | (0.844) | 117463 | 50.0000 | 1(a) |
| | 30 | Tetrahydrofuran | 72 | 5.474 | 5.460 | (0.853) | 41212 | 100.000 | 0.09(a) |
| | 31 | Chloroform | 83 | 5.503 | 5.490 | (0.857) | 295841 | 50.0000 | 9 |
| $ | 32 | Dibromofluoromethane | 113 | 5.671 | 5.667 | (0.883) | 188470 | 50.0000 | 4 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.710 | 5.706 | (0.890) | 189008 | 50.0000 | 4(a) |
| | 34 | Cyclohexane | 56 | 5.779 | 5.775 | (0.900) | 471312 | 50.0000 | 22 |
| | 36 | Carbon Tetrachloride | 117 | 5.897 | 5.883 | (0.919) | 189407 | 50.0000 | 4(a) |
| | 35 | 1,1-Dichloropropene | 110 | 5.887 | 5.883 | (0.917) | 94812 | 50.0000 | 0.9(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.035 | 6.031 | (0.940) | 46871 | 50.0000 | 0.2(a) |
| | 38 | Benzene | 78 | 6.114 | 6.110 | (0.952) | 793283 | 50.0000 | 64 |
| | 39 | 1,2-Dichloroethane | 62 | 6.124 | 6.120 | (0.954) | 214324 | 50.0000 | 5 |
| | 40 | tert-Amyl methyl ether | 73 | 6.232 | 6.228 | (0.971) | 441443 | 50.0000 | 20 |
| * | 41 | Fluorobenzene | 96 | 6.419 | 6.415 | (1.000) | 644858 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.833 | 6.829 | (1.064) | 208050 | 50.0000 | 5 |
| | 43 | Methylcyclohexane | 83 | 7.069 | 7.065 | (1.101) | 339106 | 50.0000 | 11 |
| | 44 | 1,2-Dichloropropane | 63 | 7.089 | 7.085 | (1.104) | 256725 | 50.0000 | 7 |
| | 46 | Dibromomethane | 93 | 7.227 | 7.223 | (1.126) | 112024 | 50.0000 | 1(a) |
| | 47 | 1,4-Dioxane | 88 | 7.247 | 7.243 | (1.129) | 32448 | 1000.00 | 0.005(a) |
| | 48 | Bromodichloromethane | 83 | 7.404 | 7.400 | (1.153) | 213859 | 50.0000 | 5 |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.769 | 7.765 | (1.210) | 28807 | 50.0000 | 0.09(aQ) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.946 | 7.942 | (1.238) | 320103 | 50.0000 | 10 |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.123 | 8.129 | (1.265) | 255042 | 50.0000 | 7 |
| $ | 51 | Toluene-d8 | 98 | 8.281 | 8.277 | (0.819) | 652770 | 50.0000 | 83 |
| | 52 | Toluene | 91 | 8.360 | 8.366 | (1.302) | 784810 | 50.0000 | 62 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.626 | 8.622 | (1.344) | 243523 | 50.0000 | 6 |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.852 | 8.858 | (1.379) | 146597 | 50.0000 | 2(a) |
| | 55 | Tetrachloroethene | 164 | 9.049 | 9.055 | (0.895) | 151764 | 50.0000 | 4(a) |
| | 56 | 1,3-Dichloropropane | 76 | 9.069 | 9.065 | (0.897) | 258633 | 50.0000 | 13 |
| | 57 | 2-Hexanone | 43 | 9.167 | 9.173 | (0.907) | 174774 | 50.0000 | 6 |
| | 58 | Dibromochloromethane | 129 | 9.354 | 9.360 | (0.925) | 179963 | 50.0000 | 6 |
| | 59 | 1,2-Dibromoethane | 107 | 9.502 | 9.508 | (0.940) | 155545 | 50.0000 | 5 |
| * | 60 | Chlorobenzene-d5 | 117 | 10.113 | 10.119 | (1.000) | 488319 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.123 | 10.129 | (1.001) | 273666 | 50.0000 | 14(Q) |
| | 61 | Chlorobenzene | 112 | 10.152 | 10.158 | (1.004) | 508525 | 50.0000 | 51 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.251 | 10.257 | (1.014) | 171414 | 50.0000 | 6 |
| | 64 | Ethylbenzene | 106 | 10.300 | 10.306 | (1.019) | 260370 | 50.0000 | 13(Q) |
| | 65 | m,p-Xylene | 106 | 10.448 | 10.454 | (1.033) | 636614 | 100.000 | 39 |
| | 66 | o-Xylene | 106 | 10.950 | 10.946 | (1.083) | 299003 | 50.0000 | 18 |
| | 67 | Styrene | 104 | 10.960 | 10.966 | (1.084) | 531557 | 50.0000 | 54 |
| | 68 | Bromoform | 173 | 11.177 | 11.183 | (1.105) | 105393 | 50.0000 | 2(a) |
| | 69 | Isopropylbenzene | 105 | 11.403 | 11.409 | (1.128) | 772256 | 50.0000 | 110 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.482 | 11.478 | (1.135) | 69934 | 50.0000 | 0.9(a) |
| $ | 70 | Bromofluorobenzene | 95 | 11.580 | 11.586 | (1.145) | 243459 | 50.0000 | 12 |
| | 72 | Bromobenzene | 156 | 11.768 | 11.774 | (0.908) | 204291 | 50.0000 | 36(Q) |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.758 | 11.764 | (0.907) | 196259 | 50.0000 | 33 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.817 | 11.813 | (0.912) | 211132 | 50.0000 | 40 |
| | 74 | n-Propylbenzene | 120 | 11.905 | 11.911 | (0.919) | 205996 | 50.0000 | 37(Q) |
| | 75 | 2-Chlorotoluene | 126 | 12.004 | 12.010 | (0.926) | 205264 | 50.0000 | 36 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.122 | 12.118 | (0.935) | 621434 | 50.0000 | 340(A) |

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| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.132 | 12.138 | (0.936) | 202351 | 50.0000 | 36 |
| | 78 tert-Butylbenzene | 119 | 12.506 | 12.502 | (0.965) | 648763 | 50.0000 | 360(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.556 | 12.562 | (0.969) | 624455 | 50.0000 | 340(A) |
| M | 81 Xylene (Total) | 106 | | | | 935617 | 150.000 | 56 |
| | 80 sec-Butylbenzene | 105 | 12.762 | 12.759 | (0.985) | 868722 | 50.0000 | 650(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.881 | 12.877 | (0.994) | 384487 | 50.0000 | 130 |
| | 83 4-Isopropyltoluene | 119 | 12.930 | 12.926 | (0.998) | 680998 | 50.0000 | 400(A) |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.959 | 12.956 | (1.000) | 228539 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.979 | 12.985 | (1.002) | 391754 | 50.0000 | 140 |
| | 86 n-Butylbenzene | 91 | 13.393 | 13.399 | (1.033) | 653253 | 50.0000 | 370(A) |
| | 87 1,2-Dichlorobenzene | 146 | 13.403 | 13.409 | (1.034) | 346892 | 50.0000 | 110 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.260 | 14.266 | (1.100) | 24087 | 50.0000 | 0.5(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.176 | 15.182 | (1.171) | 200538 | 50.0000 | 37 |
| | 90 Hexachlorobutadiene | 225 | 15.363 | 15.369 | (1.185) | 106899 | 50.0000 | 10(Q) |
| | 91 Naphthalene | 128 | 15.432 | 15.438 | (1.191) | 455773 | 50.0000 | 190 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.688 | 15.694 | (1.211) | 181944 | 50.0000 | 30 |

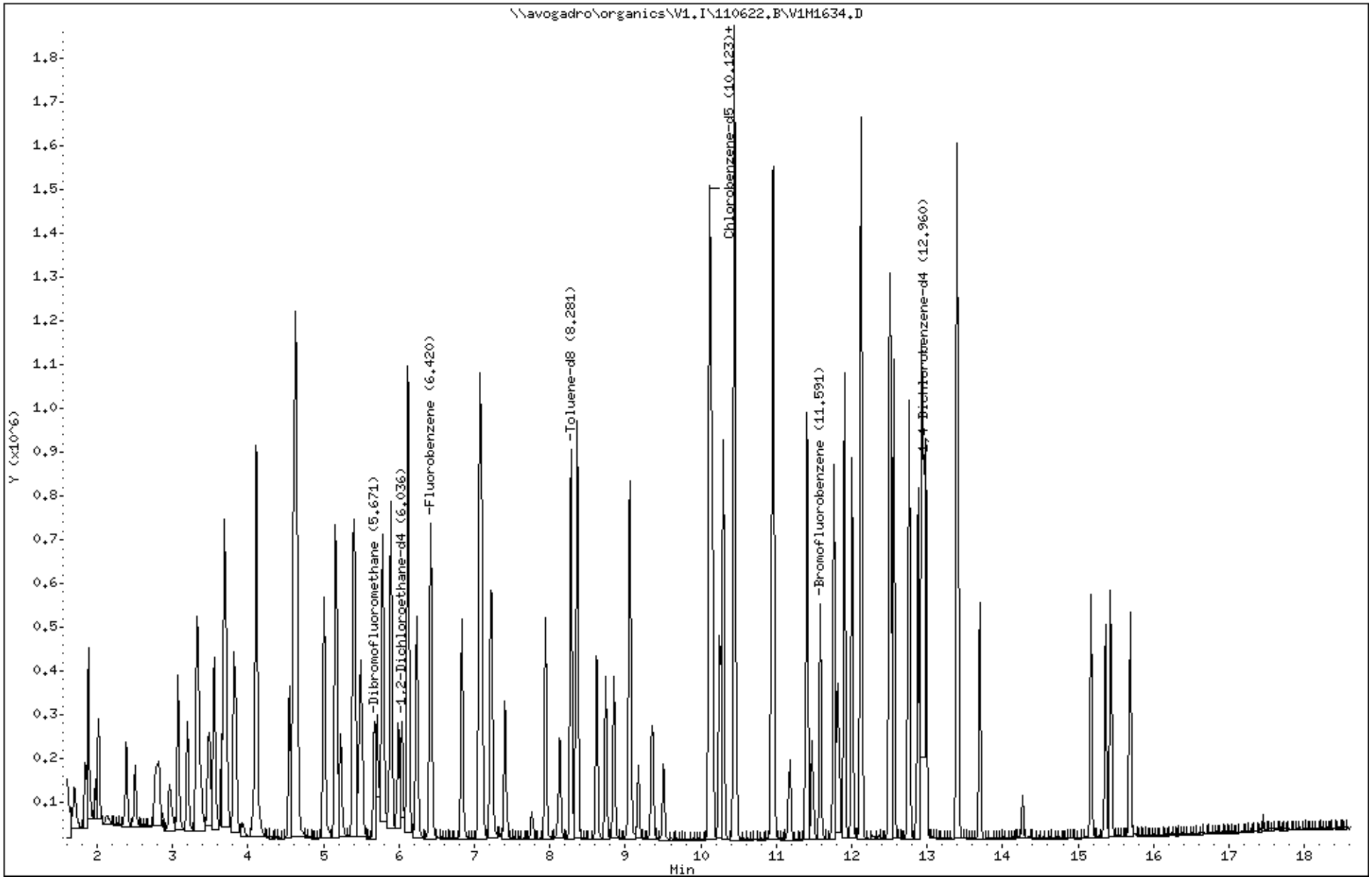
## QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110622.B\V1M1634.D
Date : 22-JUN-2011 09:34
Client ID: VSTD0501P
Sample Info: 5ML,VSTD0501P,VSTD0501P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1635.D
Lab Smp Id: VSTD1001P  Client Smp ID: VSTD1001P
Inj Date  : 22-JUN-2011 10:02
Operator  : ALM  SRC: ALM  Inst ID: V1.i
Smp Info  : 5ML,VSTD1001P,VSTD1001P
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 10:02  Cal File: V1M1635.D
Als bottle: 31  Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.703 | 1.697 | (0.265) | 173982 | 100.000 | 2(a) |
| 2 Chloromethane | 50 | 1.890 | 1.894 | (0.294) | 557135 | 100.000 | 18 |
| 3 Vinyl Chloride | 62 | 2.018 | 2.022 | (0.314) | 398595 | 100.000 | 9 |
| 4 Bromomethane | 94 | 2.392 | 2.387 | (0.372) | 217788 | 100.000 | 3(a) |
| 5 Chloroethane | 64 | 2.501 | 2.505 | (0.389) | 225124 | 100.000 | 3(a) |
| 6 Trichlorofluoromethane | 101 | 2.776 | 2.771 | (0.432) | 284250 | 100.000 | 5 |
| 7 Ether | 59 | 3.072 | 3.057 | (0.478) | 339612 | 100.000 | 7(Q) |
| 8 Acrolein | 56 | 3.200 | 3.185 | (0.498) | 396212 | 500.000 | 2 |
| 9 1,1-Dichloroethene | 96 | 3.318 | 3.313 | (0.516) | 293586 | 100.000 | 5 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.348 | 3.323 | (0.521) | 283409 | 100.000 | 5 |
| 11 Acetone | 58 | 3.357 | 3.352 | (0.522) | 38874 | 100.000 | 0.10(a) |
| 12 Iodomethane | 142 | 3.485 | 3.480 | (0.542) | 607186 | 100.000 | 21 |
| 13 Carbon Disulfide | 76 | 3.554 | 3.539 | (0.553) | 1177232 | 100.000 | 81 |
| 14 Acetonitrile | 40 | 3.643 | 3.638 | (0.567) | 369109 | 1000.00 | 0.8(aQ) |
| 15 Methyl Acetate | 43 | 3.712 | 3.697 | (0.577) | 348841 | 100.000 | 8 |
| 16 Methylene Chloride | 84 | 3.820 | 3.805 | (0.594) | 340931 | 100.000 | 7 |
| 17 tert-Butanol | 59 | 3.929 | 3.914 | (0.611) | 56561 | 200.000 | 0.1(a) |
| 18 Acrylonitrile | 53 | 4.067 | 4.051 | (0.632) | 131314 | 100.000 | 1 |
| 20 Methyl tert-butyl ether | 73 | 4.106 | 4.101 | (0.639) | 667950 | 100.000 | 26 |
| 19 trans-1,2-Dichloroethene | 96 | 4.106 | 4.101 | (0.639) | 332263 | 100.000 | 6 |
| 21 1,1-Dichloroethane | 63 | 4.549 | 4.534 | (0.707) | 668357 | 100.000 | 26 |
| 22 Vinyl acetate | 43 | 4.598 | 4.583 | (0.715) | 1845189 | 100.000 | 200 |
| 23 Diisopropyl Ether | 45 | 4.628 | 4.613 | (0.720) | 1961519 | 100.000 | 220(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Report Date: 24-May-2011 14:51

| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.012 | 4.997 | (0.779) | 982876 | 100.000 | 58 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 682561 | 200.000 | 14 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.170 | 5.155 | (0.804) | 350298 | 100.000 | 7 |
| | 26 | 2,2-Dichloropropane | 77 | 5.170 | 5.155 | (0.804) | 203137 | 100.000 | 2(a) |
| | 28 | 2-Butanone | 72 | 5.170 | 5.155 | (0.804) | 33656 | 100.000 | 0.06(aQ) |
| | 29 | Bromochloromethane | 128 | 5.416 | 5.401 | (0.842) | 174704 | 100.000 | 2(a) |
| | 30 | Tetrahydrofuran | 72 | 5.475 | 5.460 | (0.851) | 58254 | 200.000 | 0.1(a) |
| | 31 | Chloroform | 83 | 5.505 | 5.490 | (0.856) | 466805 | 100.000 | 13 |
| $ | 32 | Dibromofluoromethane | 113 | 5.672 | 5.667 | (0.882) | 303794 | 100.000 | 6 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.721 | 5.706 | (0.890) | 291153 | 100.000 | 5 |
| | 34 | Cyclohexane | 56 | 5.790 | 5.775 | (0.900) | 732727 | 100.000 | 30 |
| | 36 | Carbon Tetrachloride | 117 | 5.899 | 5.883 | (0.917) | 283944 | 100.000 | 5 |
| | 35 | 1,1-Dichloropropene | 110 | 5.899 | 5.883 | (0.917) | 147197 | 100.000 | 1(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.031 | (0.940) | 71979 | 100.000 | 0.3(a) |
| | 38 | Benzene | 78 | 6.125 | 6.110 | (0.953) | 1244893 | 100.000 | 90 |
| | 39 | 1,2-Dichloroethane | 62 | 6.135 | 6.120 | (0.954) | 329644 | 100.000 | 6 |
| | 40 | tert-Amyl methyl ether | 73 | 6.243 | 6.228 | (0.971) | 675695 | 100.000 | 28 |
| * | 41 | Fluorobenzene | 96 | 6.431 | 6.415 | (1.000) | 716760 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.844 | 6.829 | (1.064) | 334584 | 100.000 | 7 |
| | 43 | Methylcyclohexane | 83 | 7.081 | 7.065 | (1.101) | 508583 | 100.000 | 15 |
| | 44 | 1,2-Dichloropropane | 63 | 7.100 | 7.085 | (1.104) | 404930 | 100.000 | 10 |
| | 46 | Dibromomethane | 93 | 7.238 | 7.223 | (1.126) | 179977 | 100.000 | 2(a) |
| | 47 | 1,4-Dioxane | 88 | 7.258 | 7.243 | (1.129) | 41070 | 2000.00 | 0.006(a) |
| | 48 | Bromodichloromethane | 83 | 7.415 | 7.400 | (1.153) | 337321 | 100.000 | 6 |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.780 | 7.765 | (1.210) | 45242 | 100.000 | 0.1(aQ) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.947 | 7.942 | (1.236) | 508186 | 100.000 | 15 |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.134 | 8.129 | (1.265) | 383807 | 100.000 | 9 |
| $ | 51 | Toluene-d8 | 98 | 8.282 | 8.277 | (0.819) | 1011498 | 100.000 | 130 |
| | 52 | Toluene | 91 | 8.371 | 8.366 | (1.302) | 1236856 | 100.000 | 89 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.627 | 8.622 | (1.342) | 389385 | 100.000 | 9 |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.854 | 8.858 | (1.377) | 237380 | 100.000 | 3(a) |
| | 55 | Tetrachloroethene | 164 | 9.050 | 9.055 | (0.895) | 236369 | 100.000 | 7 |
| | 56 | 1,3-Dichloropropane | 76 | 9.070 | 9.065 | (0.897) | 410532 | 100.000 | 21 |
| | 57 | 2-Hexanone | 43 | 9.169 | 9.173 | (0.907) | 289647 | 100.000 | 10 |
| | 58 | Dibromochloromethane | 129 | 9.356 | 9.360 | (0.925) | 277074 | 100.000 | 9 |
| | 59 | 1,2-Dibromoethane | 107 | 9.504 | 9.508 | (0.940) | 243453 | 100.000 | 7 |
| * | 60 | Chlorobenzene-d5 | 117 | 10.114 | 10.119 | (1.000) | 493410 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.124 | 10.129 | (1.001) | 426791 | 100.000 | 22(Q) |
| | 61 | Chlorobenzene | 112 | 10.154 | 10.158 | (1.004) | 808828 | 100.000 | 80 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.252 | 10.257 | (1.014) | 277001 | 100.000 | 9 |
| | 64 | Ethylbenzene | 106 | 10.292 | 10.306 | (1.018) | 389812 | 100.000 | 19(Q) |
| | 65 | m,p-Xylene | 106 | 10.449 | 10.454 | (1.033) | 999254 | 200.000 | 60 |
| | 66 | o-Xylene | 106 | 10.942 | 10.946 | (1.082) | 474750 | 100.000 | 28 |
| | 67 | Styrene | 104 | 10.961 | 10.966 | (1.084) | 856233 | 100.000 | 86 |
| | 68 | Bromoform | 173 | 11.178 | 11.183 | (1.105) | 172428 | 100.000 | 4(a) |
| | 69 | Isopropylbenzene | 105 | 11.405 | 11.409 | (1.128) | 1189669 | 100.000 | 170 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.473 | 11.478 | (1.134) | 109486 | 100.000 | 1 |
| $ | 70 | Bromofluorobenzene | 95 | 11.582 | 11.586 | (1.145) | 374054 | 100.000 | 18 |
| | 72 | Bromobenzene | 156 | 11.759 | 11.774 | (0.908) | 325964 | 100.000 | 57 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.749 | 11.764 | (0.907) | 303746 | 100.000 | 51 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.808 | 11.813 | (0.912) | 341183 | 100.000 | 64 |
| | 74 | n-Propylbenzene | 120 | 11.897 | 11.911 | (0.919) | 321936 | 100.000 | 58(Q) |
| | 75 | 2-Chlorotoluene | 126 | 12.005 | 12.010 | (0.927) | 317778 | 100.000 | 55 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.114 | 12.118 | (0.935) | 978236 | 100.000 | 520(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.133 | 12.138 | (0.937) | 319609 | 100.000 | 57 |
| | 78 tert-Butylbenzene | 119 | 12.498 | 12.502 | (0.965) | 1007693 | 100.000 | 560(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.557 | 12.562 | (0.970) | 998033 | 100.000 | 540(A) |
| M | 81 Xylene (Total) | 106 | | | | 1474004 | 300.000 | 88 |
| | 80 sec-Butylbenzene | 105 | 12.754 | 12.759 | (0.985) | 1357525 | 100.000 | 1000(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.872 | 12.877 | (0.994) | 616063 | 100.000 | 210(A) |
| | 83 4-Isopropyltoluene | 119 | 12.921 | 12.926 | (0.998) | 1088197 | 100.000 | 640(A) |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.951 | 12.956 | (1.000) | 230052 | 50.0000 | (Q) |
| | 85 1,4-Dichlorobenzene | 146 | 12.980 | 12.985 | (1.002) | 623186 | 100.000 | 220(A) |
| | 86 n-Butylbenzene | 91 | 13.394 | 13.399 | (1.034) | 1046084 | 100.000 | 590(A) |
| | 87 1,2-Dichlorobenzene | 146 | 13.404 | 13.409 | (1.035) | 563005 | 100.000 | 180 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.261 | 14.266 | (1.101) | 35059 | 100.000 | 0.8(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.167 | 15.182 | (1.171) | 333678 | 100.000 | 62 |
| | 90 Hexachlorobutadiene | 225 | 15.364 | 15.369 | (1.186) | 179164 | 100.000 | 17(Q) |
| | 91 Naphthalene | 128 | 15.433 | 15.438 | (1.192) | 711037 | 100.000 | 290(A) |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.689 | 15.694 | (1.211) | 288662 | 100.000 | 47 |

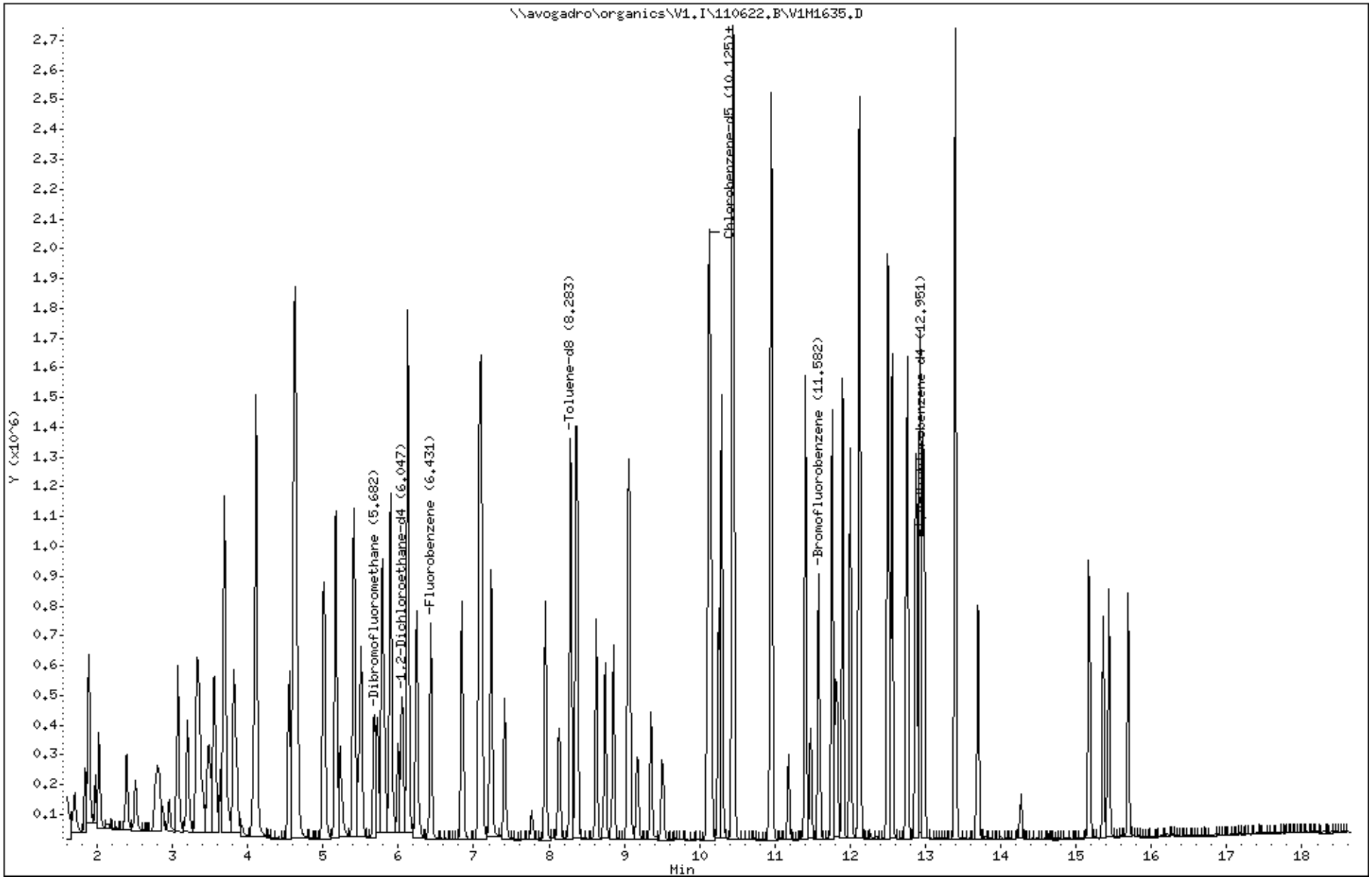
## QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Date : 22-JUN-2011 10:02
Client ID: VSTD1001P
Sample Info: 5ML,VSTD1001P,VSTD1001P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1636.D
Lab Smp Id: VSTD2001P  Client Smp ID: VSTD2001P
Inj Date : 22-JUN-2011 10:30
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD2001P,VSTD2001P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 10:30  Cal File: V1M1636.D
Als bottle: 32  Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.692 | 1.697 | (0.263) | 440019 | 200.000 | 4(a) |
| 2 Chloromethane | 50 | 1.889 | 1.894 | (0.294) | 1340530 | 200.000 | 44 |
| 3 Vinyl Chloride | 62 | 2.017 | 2.022 | (0.314) | 992599 | 200.000 | 23 |
| 4 Bromomethane | 94 | 2.382 | 2.387 | (0.370) | 525578 | 200.000 | 7 |
| 5 Chloroethane | 64 | 2.500 | 2.505 | (0.389) | 525360 | 200.000 | 7 |
| 6 Trichlorofluoromethane | 101 | 2.776 | 2.771 | (0.432) | 712547 | 200.000 | 12 |
| 7 Ether | 59 | 3.071 | 3.057 | (0.478) | 829382 | 200.000 | 16 |
| 8 Acrolein | 56 | 3.199 | 3.185 | (0.498) | 1013245 | 1000.00 | 5 |
| 9 1,1-Dichloroethene | 96 | 3.327 | 3.313 | (0.517) | 752523 | 200.000 | 13 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.347 | 3.323 | (0.521) | 698950 | 200.000 | 12 |
| 11 Acetone | 58 | 3.357 | 3.352 | (0.522) | 104995 | 200.000 | 0.2(aQ) |
| 12 Iodomethane | 142 | 3.485 | 3.480 | (0.542) | 1414351 | 200.000 | 48(Q) |
| 13 Carbon Disulfide | 76 | 3.554 | 3.539 | (0.553) | 2974447 | 200.000 | 200(A) |
| 14 Acetonitrile | 40 | 3.642 | 3.638 | (0.567) | 992436 | 2000.00 | 2(Q) |
| 15 Methyl Acetate | 43 | 3.711 | 3.697 | (0.577) | 866589 | 200.000 | 18 |
| 16 Methylene Chloride | 84 | 3.829 | 3.805 | (0.596) | 845322 | 200.000 | 18(Q) |
| 17 tert-Butanol | 59 | 3.928 | 3.914 | (0.611) | 162802 | 400.000 | 0.3(a) |
| 18 Acrylonitrile | 53 | 4.066 | 4.051 | (0.632) | 336680 | 200.000 | 3 |
| 20 Methyl tert-butyl ether | 73 | 4.105 | 4.101 | (0.639) | 1681843 | 200.000 | 65 |
| 19 trans-1,2-Dichloroethene | 96 | 4.105 | 4.101 | (0.639) | 777724 | 200.000 | 15 |
| 21 1,1-Dichloroethane | 63 | 4.548 | 4.534 | (0.707) | 1618614 | 200.000 | 62 |
| 22 Vinyl acetate | 43 | 4.608 | 4.583 | (0.717) | 4638016 | 200.000 | 500(A) |
| 23 Diisopropyl Ether | 45 | 4.627 | 4.613 | (0.720) | 4656567 | 200.000 | 530(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Report Date: 24-May-2011 14:51

| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.011 | 4.997 | (0.779) | 2571766 | 200.000 | 150 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 1624593 | 400.000 | 32 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.169 | 5.155 | (0.804) | 846869 | 200.000 | 17 |
| | 26 | 2,2-Dichloropropane | 77 | 5.169 | 5.155 | (0.804) | 472083 | 200.000 | 6 |
| | 28 | 2-Butanone | 72 | 5.169 | 5.155 | (0.804) | 81023 | 200.000 | 0.1(aQ) |
| | 29 | Bromochloromethane | 128 | 5.425 | 5.401 | (0.844) | 434920 | 200.000 | 4(a) |
| | 30 | Tetrahydrofuran | 72 | 5.474 | 5.460 | (0.851) | 160697 | 400.000 | 0.3(a) |
| | 31 | Chloroform | 83 | 5.504 | 5.490 | (0.856) | 1149850 | 200.000 | 32 |
| $ | 32 | Dibromofluoromethane | 113 | 5.681 | 5.667 | (0.884) | 685682 | 200.000 | 12 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.721 | 5.706 | (0.890) | 697175 | 200.000 | 12 |
| | 34 | Cyclohexane | 56 | 5.789 | 5.775 | (0.900) | 1748403 | 200.000 | 71 |
| | 36 | Carbon Tetrachloride | 117 | 5.908 | 5.883 | (0.919) | 681280 | 200.000 | 11 |
| | 35 | 1,1-Dichloropropene | 110 | 5.898 | 5.883 | (0.917) | 360062 | 200.000 | 3(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.031 | (0.940) | 163636 | 200.000 | 0.7(a) |
| | 38 | Benzene | 78 | 6.124 | 6.110 | (0.953) | 3016578 | 200.000 | 220(A) |
| | 39 | 1,2-Dichloroethane | 62 | 6.134 | 6.120 | (0.954) | 819038 | 200.000 | 16 |
| | 40 | tert-Amyl methyl ether | 73 | 6.243 | 6.228 | (0.971) | 1819819 | 200.000 | 75 |
| * | 41 | Fluorobenzene | 96 | 6.430 | 6.415 | (1.000) | 722258 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.843 | 6.829 | (1.064) | 804925 | 200.000 | 16 |
| | 43 | Methylcyclohexane | 83 | 7.080 | 7.065 | (1.101) | 1249671 | 200.000 | 37 |
| | 44 | 1,2-Dichloropropane | 63 | 7.099 | 7.085 | (1.104) | 1006718 | 200.000 | 23 |
| | 46 | Dibromomethane | 93 | 7.237 | 7.223 | (1.126) | 445183 | 200.000 | 5 |
| | 47 | 1,4-Dioxane | 88 | 7.257 | 7.243 | (1.129) | 112806 | 4000.00 | 0.02(a) |
| | 48 | Bromodichloromethane | 83 | 7.415 | 7.400 | (1.153) | 833428 | 200.000 | 16 |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.779 | 7.765 | (1.210) | 130341 | 200.000 | 0.4(aQ) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.956 | 7.942 | (1.237) | 1278395 | 200.000 | 38 |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.134 | 8.129 | (1.265) | 996192 | 200.000 | 23 |
| $ | 51 | Toluene-d8 | 98 | 8.291 | 8.277 | (0.819) | 2264516 | 200.000 | 280(A) |
| | 52 | Toluene | 91 | 8.370 | 8.366 | (1.302) | 2986759 | 200.000 | 210(A) |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.626 | 8.622 | (1.342) | 1017325 | 200.000 | 23 |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.863 | 8.858 | (1.378) | 580763 | 200.000 | 8 |
| | 55 | Tetrachloroethene | 164 | 9.060 | 9.055 | (0.895) | 582602 | 200.000 | 16 |
| | 56 | 1,3-Dichloropropane | 76 | 9.079 | 9.065 | (0.897) | 1029362 | 200.000 | 51 |
| | 57 | 2-Hexanone | 43 | 9.178 | 9.173 | (0.907) | 729924 | 200.000 | 26 |
| | 58 | Dibromochloromethane | 129 | 9.365 | 9.360 | (0.925) | 705958 | 200.000 | 23 |
| | 59 | 1,2-Dibromoethane | 107 | 9.513 | 9.508 | (0.940) | 630020 | 200.000 | 18 |
| * | 60 | Chlorobenzene-d5 | 117 | 10.123 | 10.119 | (1.000) | 502211 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.133 | 10.129 | (1.001) | 1029838 | 200.000 | 52(Q) |
| | 61 | Chlorobenzene | 112 | 10.163 | 10.158 | (1.004) | 1969064 | 200.000 | 190 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.261 | 10.257 | (1.014) | 688375 | 200.000 | 22 |
| | 64 | Ethylbenzene | 106 | 10.301 | 10.306 | (1.018) | 969931 | 200.000 | 46(Q) |
| | 65 | m,p-Xylene | 106 | 10.458 | 10.454 | (1.033) | 2410392 | 400.000 | 140 |
| | 66 | o-Xylene | 106 | 10.951 | 10.946 | (1.082) | 1153696 | 200.000 | 66 |
| | 67 | Styrene | 104 | 10.970 | 10.966 | (1.084) | 2124996 | 200.000 | 210(A) |
| | 68 | Bromoform | 173 | 11.187 | 11.183 | (1.105) | 443263 | 200.000 | 9(T) |
| | 69 | Isopropylbenzene | 105 | 11.414 | 11.409 | (1.127) | 2932085 | 200.000 | 410(A) |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.483 | 11.478 | (1.134) | 283952 | 200.000 | 4 |
| $ | 70 | Bromofluorobenzene | 95 | 11.591 | 11.586 | (1.145) | 880819 | 200.000 | 42 |
| | 72 | Bromobenzene | 156 | 11.778 | 11.774 | (0.909) | 808460 | 200.000 | 140 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.768 | 11.764 | (0.908) | 770586 | 200.000 | 120 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.817 | 11.813 | (0.912) | 888123 | 200.000 | 160 |
| | 74 | n-Propylbenzene | 120 | 11.916 | 11.911 | (0.919) | 809276 | 200.000 | 140(Q) |
| | 75 | 2-Chlorotoluene | 126 | 12.014 | 12.010 | (0.927) | 771150 | 200.000 | 130 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.123 | 12.118 | (0.935) | 2382609 | 200.000 | 1200(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.142 | 12.138 | (0.937) | 775345 | 200.000 | 130 |
| | 78 tert-Butylbenzene | 119 | 12.517 | 12.502 | (0.966) | 2433355 | 200.000 | 1300(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.566 | 12.562 | (0.970) | 2461395 | 200.000 | 1300(A) |
| M | 81 Xylene (Total) | 106 | | | | 3564088 | 600.000 | 210 |
| | 80 sec-Butylbenzene | 105 | 12.763 | 12.759 | (0.985) | 3310623 | 200.000 | 2400(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.881 | 12.877 | (0.994) | 1536076 | 200.000 | 510(A) |
| | 83 4-Isopropyltoluene | 119 | 12.940 | 12.926 | (0.998) | 2673872 | 200.000 | 1500(A) |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.960 | 12.956 | (1.000) | 239107 | 50.0000 | (Q) |
| | 85 1,4-Dichlorobenzene | 146 | 12.990 | 12.985 | (1.002) | 1572247 | 200.000 | 530(A) |
| | 86 n-Butylbenzene | 91 | 13.403 | 13.399 | (1.034) | 2537841 | 200.000 | 1400(A) |
| | 87 1,2-Dichlorobenzene | 146 | 13.413 | 13.409 | (1.035) | 1368955 | 200.000 | 410(A) |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.270 | 14.266 | (1.101) | 88093 | 200.000 | 2(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.176 | 15.182 | (1.171) | 835674 | 200.000 | 150 |
| | 90 Hexachlorobutadiene | 225 | 15.363 | 15.369 | (1.185) | 441074 | 200.000 | 40(Q) |
| | 91 Naphthalene | 128 | 15.432 | 15.438 | (1.191) | 1821271 | 200.000 | 720(A) |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.698 | 15.694 | (1.211) | 709542 | 200.000 | 110 |

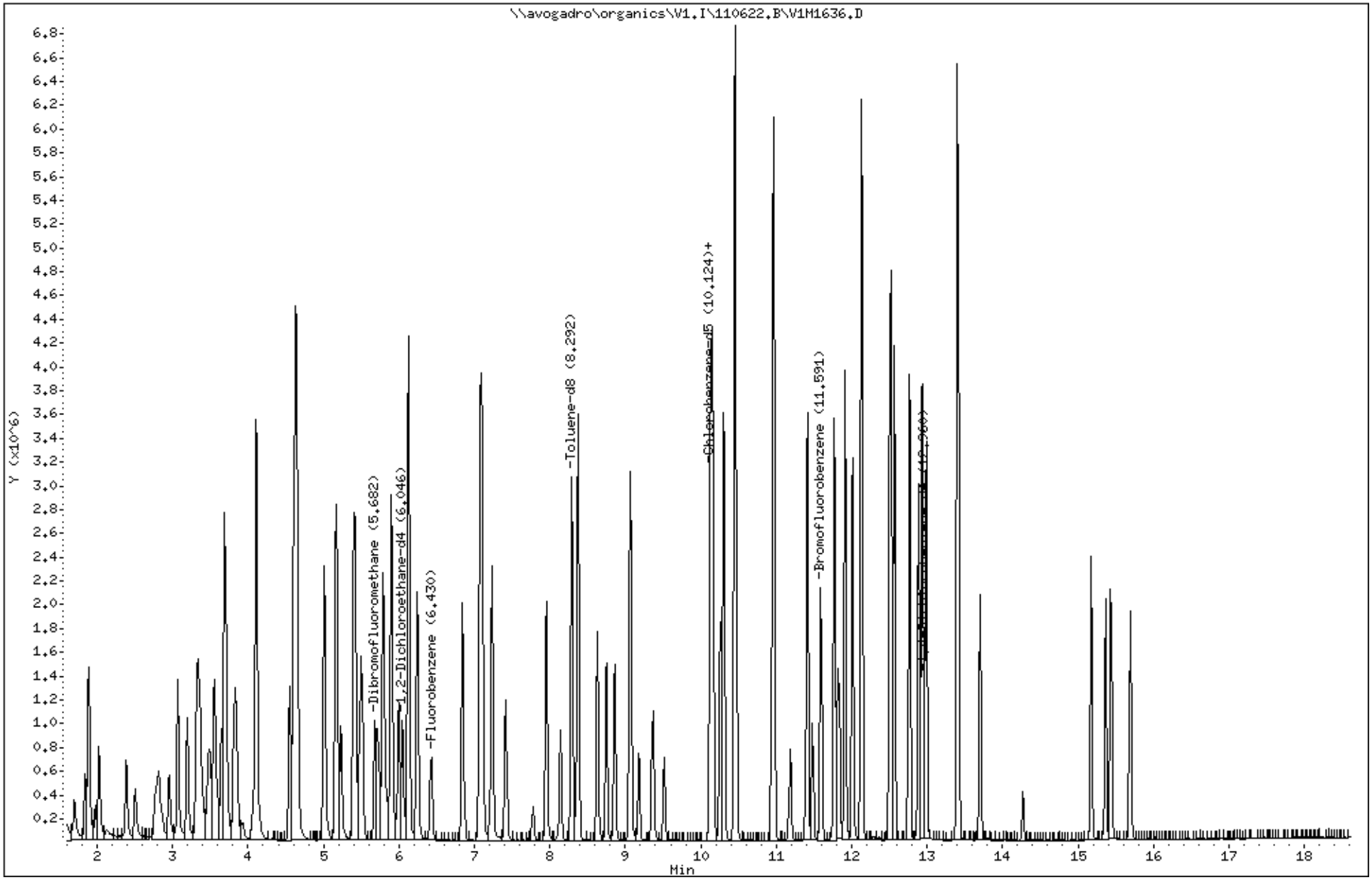
## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Date : 22-JUN-2011 10:30
Client ID: VSTD2001P
Sample Info: 5ML,VSTD2001P,VSTD2001P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1640.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1640.D
Lab Smp Id: VSTD0051P  Client Smp ID: VSTD0051P
Inj Date : 22-JUN-2011 12:41
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0051P,VSTD0051P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 36  Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.687 | 1.697 | (0.263) | 8010 | 5.00000 | 0.09(a) |
| 2 Chloromethane | 50 | 1.894 | 1.894 | (0.295) | 35855 | 5.00000 | 1(a) |
| 3 Vinyl Chloride | 62 | 2.012 | 2.022 | (0.313) | 23070 | 5.00000 | 0.6(a) |
| 4 Bromomethane | 94 | 2.387 | 2.387 | (0.372) | 14180 | 5.00000 | 0.2(a) |
| 5 Chloroethane | 64 | 2.505 | 2.505 | (0.390) | 12597 | 5.00000 | 0.2(a) |
| 6 Trichlorofluoromethane | 101 | 2.761 | 2.771 | (0.430) | 16062 | 5.00000 | 0.3(a) |
| 7 Ether | 59 | 3.066 | 3.057 | (0.477) | 17983 | 5.00000 | 0.4(a) |
| 8 Acrolein | 56 | 3.194 | 3.185 | (0.497) | 24350 | 25.0000 | 0.1(a) |
| 9 1,1-Dichloroethene | 96 | 3.322 | 3.313 | (0.517) | 18303 | 5.00000 | 0.4(a) |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.313 | 3.323 | (0.516) | 13931 | 5.00000 | 0.2(a) |
| 11 Acetone | 58 | 3.362 | 3.352 | (0.523) | 3140 | 5.00000 | 0.008(a) |
| 12 Iodomethane | 142 | 3.470 | 3.480 | (0.540) | 29665 | 5.00000 | 1(a) |
| 13 Carbon Disulfide | 76 | 3.549 | 3.539 | (0.552) | 64113 | 5.00000 | 5 |
| 14 Acetonitrile | 40 | 3.687 | 3.638 | (0.574) | 24337 | 50.0000 | 0.06(a) |
| 15 Methyl Acetate | 43 | 3.706 | 3.697 | (0.577) | 22424 | 5.00000 | 0.5(a) |
| 16 Methylene Chloride | 84 | 3.805 | 3.805 | (0.592) | 23322 | 5.00000 | 0.5(a) |
| 17 tert-Butanol | 59 | 3.923 | 3.914 | (0.611) | 3448 | 10.0000 | 0.007(a) |
| 18 Acrylonitrile | 53 | 4.061 | 4.051 | (0.632) | 7815 | 5.00000 | 0.07(a) |
| 20 Methyl tert-butyl ether | 73 | 4.100 | 4.101 | (0.638) | 36102 | 5.00000 | 2(a) |
| 19 trans-1,2-Dichloroethene | 96 | 4.100 | 4.101 | (0.638) | 19823 | 5.00000 | 0.4(a) |
| 21 1,1-Dichloroethane | 63 | 4.534 | 4.534 | (0.706) | 38628 | 5.00000 | 2(a) |
| 22 Vinyl acetate | 43 | 4.593 | 4.583 | (0.715) | 100552 | 5.00000 | 12 |
| 23 Diisopropyl Ether | 45 | 4.613 | 4.613 | (0.718) | 112324 | 5.00000 | 14 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1640.D
Report Date: 24-May-2011 14:51

| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.007 | 4.997 | (0.779) | 54615 | 5.00000 | 4 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 41546 | 10.0000 | 0.9(a) |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.154 | 5.155 | (0.802) | 21723 | 5.00000 | 0.5(a) |
| | 26 | 2,2-Dichloropropane | 77 | 5.164 | 5.155 | (0.804) | 12449 | 5.00000 | 0.2(a) |
| | 28 | 2-Butanone | 72 | 5.164 | 5.155 | (0.804) | 1439 | 5.00000 | 0.003(a) |
| | 29 | Bromochloromethane | 128 | 5.410 | 5.401 | (0.842) | 9750 | 5.00000 | 0.1(a) |
| | 30 | Tetrahydrofuran | 72 | 5.479 | 5.460 | (0.853) | 4206 | 10.0000 | 0.009(a) |
| | 31 | Chloroform | 83 | 5.499 | 5.490 | (0.856) | 28921 | 5.00000 | 0.9(a) |
| $ | 32 | Dibromofluoromethane | 113 | 5.667 | 5.667 | (0.882) | 19422 | 5.00000 | 0.4(a) |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.706 | 5.706 | (0.888) | 14727 | 5.00000 | 0.3(a) |
| | 34 | Cyclohexane | 56 | 5.775 | 5.775 | (0.899) | 35095 | 5.00000 | 2 |
| | 36 | Carbon Tetrachloride | 117 | 5.893 | 5.883 | (0.917) | 16701 | 5.00000 | 0.3(a) |
| | 35 | 1,1-Dichloropropene | 110 | 5.883 | 5.883 | (0.916) | 9008 | 5.00000 | 0.09(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.041 | 6.031 | (0.940) | 4491 | 5.00000 | 0.02(a) |
| | 38 | Benzene | 78 | 6.120 | 6.110 | (0.952) | 69883 | 5.00000 | 6 |
| | 39 | 1,2-Dichloroethane | 62 | 6.120 | 6.120 | (0.952) | 18836 | 5.00000 | 0.4(a) |
| | 40 | tert-Amyl methyl ether | 73 | 6.248 | 6.228 | (0.972) | 40749 | 5.00000 | 2 |
| * | 41 | Fluorobenzene | 96 | 6.425 | 6.415 | (1.000) | 650318 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.849 | 6.829 | (1.066) | 21387 | 5.00000 | 0.5(a) |
| | 43 | Methylcyclohexane | 83 | 7.075 | 7.065 | (1.101) | 27841 | 5.00000 | 0.9(a) |
| | 44 | 1,2-Dichloropropane | 63 | 7.095 | 7.085 | (1.104) | 22012 | 5.00000 | 0.6(Ta) |
| | 46 | Dibromomethane | 93 | 7.223 | 7.223 | (1.124) | 10234 | 5.00000 | 0.1(a) |
| | 47 | 1,4-Dioxane | 88 | 7.252 | 7.243 | (1.129) | 2649 | 100.000 | 0.0004(a) |
| | 48 | Bromodichloromethane | 83 | 7.400 | 7.400 | (1.152) | 18324 | 5.00000 | 0.4(a) |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.765 | 7.765 | (1.208) | 2245 | 5.00000 | 0.007(Ta) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.942 | 7.942 | (1.236) | 27352 | 5.00000 | 0.9(a) |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.129 | 8.129 | (1.265) | 21917 | 5.00000 | 0.6(a) |
| $ | 51 | Toluene-d8 | 98 | 8.287 | 8.277 | (0.820) | 65655 | 5.00000 | 9 |
| | 52 | Toluene | 91 | 8.365 | 8.366 | (1.302) | 69116 | 5.00000 | 5 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.612 | 8.622 | (1.340) | 22274 | 5.00000 | 0.6(a) |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.848 | 8.858 | (1.377) | 14091 | 5.00000 | 0.2(a) |
| | 55 | Tetrachloroethene | 164 | 9.045 | 9.055 | (0.895) | 13897 | 5.00000 | 0.4(a) |
| | 56 | 1,3-Dichloropropane | 76 | 9.065 | 9.065 | (0.897) | 25424 | 5.00000 | 1(a) |
| | 57 | 2-Hexanone | 43 | 9.183 | 9.173 | (0.908) | 19525 | 5.00000 | 0.8(a) |
| | 58 | Dibromochloromethane | 129 | 9.360 | 9.360 | (0.926) | 15771 | 5.00000 | 0.6(Ta) |
| | 59 | 1,2-Dibromoethane | 107 | 9.508 | 9.508 | (0.941) | 13578 | 5.00000 | 0.4(Ta) |
| * | 60 | Chlorobenzene-d5 | 117 | 10.109 | 10.119 | (1.000) | 458993 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.119 | 10.129 | (1.001) | 23712 | 5.00000 | 1 |
| | 61 | Chlorobenzene | 112 | 10.148 | 10.158 | (1.004) | 50772 | 5.00000 | 5 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.256 | 10.257 | (1.015) | 15782 | 5.00000 | 0.6(a) |
| | 64 | Ethylbenzene | 106 | 10.296 | 10.306 | (1.019) | 24309 | 5.00000 | 1(a) |
| | 65 | m,p-Xylene | 106 | 10.453 | 10.454 | (1.034) | 57514 | 10.0000 | 4(a) |
| | 66 | o-Xylene | 106 | 10.956 | 10.946 | (1.084) | 28766 | 5.00000 | 2(a) |
| | 67 | Styrene | 104 | 10.966 | 10.966 | (1.085) | 45254 | 5.00000 | 5 |
| | 68 | Bromoform | 173 | 11.182 | 11.183 | (1.106) | 9279 | 5.00000 | 0.2(Ta) |
| | 69 | Isopropylbenzene | 105 | 11.409 | 11.409 | (1.129) | 64566 | 5.00000 | 10 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.478 | 11.478 | (1.135) | 5656 | 5.00000 | 0.08(a) |
| $ | 70 | Bromofluorobenzene | 95 | 11.596 | 11.586 | (1.147) | 25120 | 5.00000 | 1 |
| | 72 | Bromobenzene | 156 | 11.773 | 11.774 | (0.909) | 16494 | 5.00000 | 3(a) |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.763 | 11.764 | (0.908) | 16631 | 5.00000 | 3(a) |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.813 | 11.813 | (0.912) | 18152 | 5.00000 | 4(a) |
| | 74 | n-Propylbenzene | 120 | 11.911 | 11.911 | (0.919) | 18874 | 5.00000 | 4(a) |
| | 75 | 2-Chlorotoluene | 126 | 12.010 | 12.010 | (0.927) | 17344 | 5.00000 | 3(a) |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.128 | 12.118 | (0.936) | 52036 | 5.00000 | 31 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1640.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.138 | 12.138 | (0.937) | 18417 | 5.00000 | 4(a) |
| | 78 tert-Butylbenzene | 119 | 12.512 | 12.502 | (0.966) | 54244 | 5.00000 | 33 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.561 | 12.562 | (0.970) | 50478 | 5.00000 | 30 |
| M | 81 Xylene (Total) | 106 | | | | 86280 | 15.0000 | 6 |
| | 80 sec-Butylbenzene | 105 | 12.758 | 12.759 | (0.985) | 74070 | 5.00000 | 61 |
| | 82 1,3-Dichlorobenzene | 146 | 12.876 | 12.877 | (0.994) | 35934 | 5.00000 | 14 |
| | 83 4-Isopropyltoluene | 119 | 12.936 | 12.926 | (0.998) | 54588 | 5.00000 | 35 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.955 | 12.956 | (1.000) | 209438 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.985 | 12.985 | (1.002) | 36299 | 5.00000 | 14 |
| | 86 n-Butylbenzene | 91 | 13.398 | 13.399 | (1.034) | 54244 | 5.00000 | 34 |
| | 87 1,2-Dichlorobenzene | 146 | 13.408 | 13.409 | (1.035) | 32414 | 5.00000 | 11 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.265 | 14.266 | (1.101) | 2889 | 5.00000 | 0.07(a) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.171 | 15.182 | (1.171) | 18451 | 5.00000 | 4(a) |
| | 90 Hexachlorobutadiene | 225 | 15.359 | 15.369 | (1.186) | 7739 | 5.00000 | 0.8(a) |
| | 91 Naphthalene | 128 | 15.437 | 15.438 | (1.192) | 43392 | 5.00000 | 19 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.693 | 15.694 | (1.211) | 18219 | 5.00000 | 3(a) |

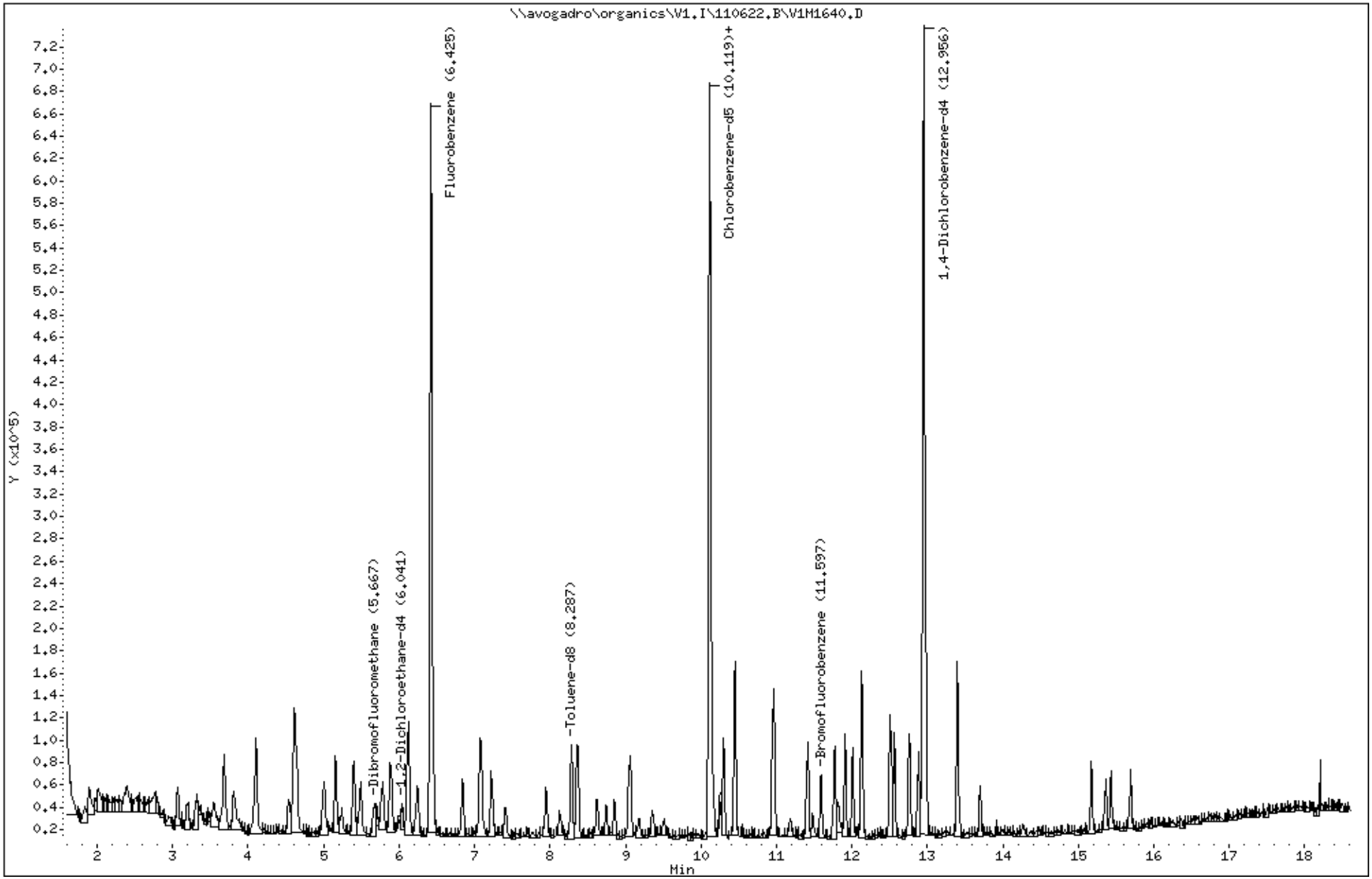
## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).

Data File: \\avogadro\organics\V1.I\110622.B\V1M1640.D
Date : 22-JUN-2011 12:41
Client ID: VSTD0051P
Sample Info: 5ML,VSTD0051P,VSTD0051P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



# ICV Report

## V1
## V1 110622A
## VICV0501P
## 06/22/2011 15:06

| AT | Analyte | Spike Amt | CalcVal | Recovery | Low Limit | High Limit |
|---|---|---|---|---|---|---|
| A | Dichlorodifluoromethane | 50.00 | 56.16 | 112.3 | 80 | 120 |
| A | Chloromethane | 50.00 | 53.27 | 106.5 | 80 | 120 |
| A | Vinyl chloride | 50.00 | 53.24 | 106.5 | 80 | 120 |
| A | Bromomethane | 50.00 | 49.79 | 99.6 | 80 | 120 |
| A | Chloroethane | 50.00 | 53.02 | 106.0 | 80 | 120 |
| A | Trichlorofluoromethane | 50.00 | 49.55 | 99.1 | 80 | 120 |
| A | 1,1-Dichloroethene | 50.00 | 56.02 | 112.0 | 80 | 120 |
| A | Acetone | 50.00 | 55.33 | 110.7 | 80 | 120 |
| A | Iodomethane | 50.00 | 47.21 | 94.4 | 80 | 120 |
| A | Carbon disulfide | 50.00 | 48.84 | 97.7 | 80 | 120 |
| A | Methylene chloride | 50.00 | 50.17 | 100.3 | 80 | 120 |
| A | trans-1,2-Dichloroethene | 50.00 | 54.70 | 109.4 | 80 | 120 |
| A | Methyl tert-butyl ether | 50.00 | 51.18 | 102.4 | 80 | 120 |
| A | 1,1-Dichloroethane | 50.00 | 53.12 | 106.2 | 80 | 120 |
| A | Vinyl acetate | 50.00 | 50.00 | 100.0 | 80 | 120 |
| A | 2-Butanone | 50.00 | 52.89 | 105.8 | 80 | 120 |
| A | cis-1,2-Dichloroethene | 50.00 | 51.23 | 102.5 | 80 | 120 |
| A | 2,2-Dichloropropane | 50.00 | 48.44 | 96.9 | 80 | 120 |
| A | Bromochloromethane | 50.00 | 52.30 | 104.6 | 80 | 120 |
| A | Chloroform | 50.00 | 51.29 | 102.6 | 80 | 120 |
| A | 1,1,1-Trichloroethane | 50.00 | 53.20 | 106.4 | 80 | 120 |
| A | 1,1-Dichloropropene | 50.00 | 52.38 | 104.8 | 80 | 120 |
| A | Carbon tetrachloride | 50.00 | 51.71 | 103.4 | 80 | 120 |
| A | 1,2-Dichloroethane | 50.00 | 48.67 | 97.3 | 80 | 120 |
| A | Benzene | 50.00 | 53.89 | 107.8 | 80 | 120 |
| A | Trichloroethene | 50.00 | 51.96 | 103.9 | 80 | 120 |
| A | 1,2-Dichloropropane | 50.00 | 51.26 | 102.5 | 80 | 120 |
| A | Dibromomethane | 50.00 | 52.95 | 105.9 | 80 | 120 |
| A | Bromodichloromethane | 50.00 | 51.76 | 103.5 | 80 | 120 |
| A | cis-1,3-Dichloropropene | 50.00 | 51.56 | 103.1 | 80 | 120 |
| A | 4-Methyl-2-pentanone | 50.00 | 51.08 | 102.2 | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | Toluene | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | trans-1,3-Dichloropropene | 50.00 | 51.97 | 103.9 | | 80 | 120 |
| A | 1,1,2-Trichloroethane | 50.00 | 52.29 | 104.6 | | 80 | 120 |
| A | 1,3-Dichloropropane | 50.00 | 50.45 | 100.9 | | 80 | 120 |
| A | Tetrachloroethene | 50.00 | 55.32 | 110.6 | | 80 | 120 |
| A | 2-Hexanone | 50.00 | 48.99 | 98.0 | | 80 | 120 |
| A | Dibromochloromethane | 50.00 | 49.25 | 98.5 | | 80 | 120 |
| A | 1,2-Dibromoethane | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| A | Chlorobenzene | 50.00 | 50.52 | 101.0 | | 80 | 120 |
| A | 1,1,1,2-Tetrachloroethane | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | Ethylbenzene | 50.00 | 53.67 | 107.3 | | 80 | 120 |
| A | m,p-Xylene | 100.0 | 107.2 | 107.2 | | 80 | 120 |
| A | o-Xylene | 50.00 | 53.92 | 107.8 | | 80 | 120 |
| A | Styrene | 50.00 | 53.87 | 107.7 | | 80 | 120 |
| A | Bromoform | 50.00 | 52.59 | 105.2 | | 80 | 120 |
| A | Isopropylbenzene | 50.00 | 54.49 | 109.0 | | 80 | 120 |
| A | 1,1,2,2-Tetrachloroethane | 50.00 | 52.46 | 104.9 | | 80 | 120 |
| A | Bromobenzene | 50.00 | 56.08 | 112.2 | | 80 | 120 |
| A | 1,2,3-Trichloropropane | 50.00 | 50.68 | 101.4 | | 80 | 120 |
| A | n-Propylbenzene | 50.00 | 56.19 | 112.4 | | 80 | 120 |
| A | 2-Chlorotoluene | 50.00 | 54.57 | 109.1 | | 80 | 120 |
| A | 1,3,5-Trimethylbenzene | 50.00 | 55.99 | 112.0 | | 80 | 120 |
| A | 4-Chlorotoluene | 50.00 | 55.21 | 110.4 | | 80 | 120 |
| A | tert-Butylbenzene | 50.00 | 55.49 | 111.0 | | 80 | 120 |
| A | 1,2,4-Trimethylbenzene | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| A | sec-Butylbenzene | 50.00 | 56.17 | 112.3 | | 80 | 120 |
| A | 4-Isopropyltoluene | 50.00 | 57.00 | 114.0 | | 80 | 120 |
| A | 1,3-Dichlorobenzene | 50.00 | 52.32 | 104.6 | | 80 | 120 |
| A | 1,4-Dichlorobenzene | 50.00 | 53.43 | 106.9 | | 80 | 120 |
| A | n-Butylbenzene | 50.00 | 56.87 | 113.7 | | 80 | 120 |
| A | 1,2-Dichlorobenzene | 50.00 | 54.27 | 108.5 | | 80 | 120 |
| A | 1,2-Dibromo-3-chloropropane | 50.00 | 47.16 | 94.3 | | 80 | 120 |
| A | 1,2,4-Trichlorobenzene | 50.00 | 54.95 | 109.9 | | 80 | 120 |
| A | Hexachlorobutadiene | 50.00 | 60.29 | 120.6 | S | 80 | 120 |
| A | 1,2,3-Trichlorobenzene | 50.00 | 52.28 | 104.6 | | 80 | 120 |
| A | Naphthalene | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| M | Xylene (Total) | 150.0 | 161.1 | 107.4 | | 80 | 120 |
| X | 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.00 | 51.31 | 102.6 | | 80 | 120 |
| X | 1,4-Dioxane | 1000 | 936.4 | 93.6 | | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | 1-Chlorohexane | 50.00 | 55.23 | 110.5 | | 80 | 120 |
| X | 2-Chloroethyl vinyl ether | 50.00 | 35.14 | 70.3 | S | 80 | 120 |
| X | Acetonitrile | 500.0 | 257.7 | 51.5 | S | 80 | 120 |
| X | Acrolein | 250.0 | 244.8 | 97.9 | | 80 | 120 |
| X | Acrylonitrile | 50.00 | 53.61 | 107.2 | | 80 | 120 |
| X | Cyclohexane | 50.00 | 53.47 | 106.9 | | 80 | 120 |
| X | Diethyl ether | 50.00 | 52.98 | 106.0 | | 80 | 120 |
| X | Diisopropyl ether | 50.00 | 51.19 | 102.4 | | 80 | 120 |
| X | Ethanol | 5000 | 4796 | 95.9 | | 80 | 120 |
| X | Ethyl tert-butyl ether | 50.00 | 50.70 | 101.4 | | 80 | 120 |
| X | Methyl acetate | 50.00 | 51.26 | 102.5 | | 80 | 120 |
| X | Methylcyclohexane | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| X | tert-Amyl Methyl ether | 50.00 | 49.59 | 99.2 | | 80 | 120 |
| X | tert-Butyl Alcohol | 100.0 | 115.5 | 115.5 | | 80 | 120 |
| X | Tetrahydrofuran | 100.0 | 93.11 | 93.1 | | 80 | 120 |
| X | trans-1,4-Dichloro-2-butene | 50.00 | 52.52 | 105.0 | | 80 | 120 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1643.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1643.D
Lab Smp Id: VICV0501P  Client Smp ID: VICV0501P
Inj Date  : 22-JUN-2011 15:06
Operator  : ALM  SRC: ALM  Inst ID: V1.i
Smp Info  : 5ML,VICV0501P,VICV0501P
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 39  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.697 | 1.697 | (0.265) | 107610 | 50.0000 | 56 |
| 2 Chloromethane | 50 | 1.894 | 1.894 | (0.295) | 339519 | 50.0000 | 53 |
| 3 Vinyl Chloride | 62 | 2.022 | 2.022 | (0.315) | 236102 | 50.0000 | 53 |
| 4 Bromomethane | 94 | 2.387 | 2.387 | (0.372) | 125933 | 50.0000 | 50 |
| 5 Chloroethane | 64 | 2.505 | 2.505 | (0.391) | 133317 | 50.0000 | 53 |
| 6 Trichlorofluoromethane | 101 | 2.771 | 2.771 | (0.432) | 159358 | 50.0000 | 50 |
| 7 Ether | 59 | 3.057 | 3.057 | (0.477) | 196820 | 50.0000 | 53 |
| 8 Acrolein | 56 | 3.185 | 3.185 | (0.496) | 229006 | 250.000 | 240 |
| 9 1,1-Dichloroethene | 96 | 3.313 | 3.313 | (0.516) | 189246 | 50.0000 | 56 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.323 | 3.323 | (0.518) | 163790 | 50.0000 | 51 |
| 11 Acetone | 58 | 3.352 | 3.352 | (0.523) | 26212 | 50.0000 | 55(Q) |
| 12 Iodomethane | 142 | 3.480 | 3.480 | (0.542) | 311200 | 50.0000 | 47 |
| 13 Carbon Disulfide | 76 | 3.539 | 3.539 | (0.552) | 639335 | 50.0000 | 49 |
| 14 Acetonitrile | 40 | 3.638 | 3.638 | (0.567) | 112496 | 500.000 | 260(Q) |
| 15 Methyl Acetate | 43 | 3.697 | 3.697 | (0.576) | 211319 | 50.0000 | 51 |
| 16 Methylene Chloride | 84 | 3.805 | 3.805 | (0.593) | 203242 | 50.0000 | 50 |
| 17 tert-Butanol | 59 | 3.914 | 3.914 | (0.610) | 40820 | 100.000 | 120 |
| 18 Acrylonitrile | 53 | 4.051 | 4.051 | (0.632) | 80959 | 50.0000 | 54 |
| 20 Methyl tert-butyl ether | 73 | 4.101 | 4.101 | (0.639) | 380718 | 50.0000 | 51 |
| 19 trans-1,2-Dichloroethene | 96 | 4.101 | 4.101 | (0.639) | 203008 | 50.0000 | 55 |
| 21 1,1-Dichloroethane | 63 | 4.534 | 4.534 | (0.707) | 393322 | 50.0000 | 53 |
| 22 Vinyl acetate | 43 | 4.583 | 4.583 | (0.714) | 1034760 | 50.0000 | 50 |
| 23 Diisopropyl Ether | 45 | 4.613 | 4.613 | (0.719) | 1117812 | 50.0000 | 51 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1643.D
Report Date: 24-May-2011 14:51

| | | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | Ethyl tert-butyl ether | 59 | 4.997 | 4.997 | (0.779) | 568298 | 50.0000 | 51 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 405901 | 100.000 | 100 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.155 | 5.155 | (0.803) | 202893 | 50.0000 | 51 |
| | 26 | 2,2-Dichloropropane | 77 | 5.155 | 5.155 | (0.803) | 111184 | 50.0000 | 48 |
| | 28 | 2-Butanone | 72 | 5.155 | 5.155 | (0.803) | 18740 | 50.0000 | 53(Q) |
| | 29 | Bromochloromethane | 128 | 5.401 | 5.401 | (0.842) | 102777 | 50.0000 | 52 |
| | 30 | Tetrahydrofuran | 72 | 5.460 | 5.460 | (0.851) | 34253 | 100.000 | 93 |
| | 31 | Chloroform | 83 | 5.490 | 5.490 | (0.856) | 271667 | 50.0000 | 51 |
| $ | 32 | Dibromofluoromethane | 113 | 5.667 | 5.667 | (0.883) | 172553 | 50.0000 | 49 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.706 | 5.706 | (0.889) | 169577 | 50.0000 | 53 |
| | 34 | Cyclohexane | 56 | 5.775 | 5.775 | (0.900) | 420075 | 50.0000 | 53 |
| | 36 | Carbon Tetrachloride | 117 | 5.883 | 5.883 | (0.917) | 167326 | 50.0000 | 52 |
| | 35 | 1,1-Dichloropropene | 110 | 5.883 | 5.883 | (0.917) | 87324 | 50.0000 | 52 |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.031 | 6.031 | (0.940) | 35845 | 50.0000 | 42 |
| | 38 | Benzene | 78 | 6.110 | 6.110 | (0.952) | 743395 | 50.0000 | 54 |
| | 39 | 1,2-Dichloroethane | 62 | 6.120 | 6.120 | (0.954) | 183024 | 50.0000 | 49 |
| | 40 | tert-Amyl methyl ether | 73 | 6.228 | 6.228 | (0.971) | 391308 | 50.0000 | 50 |
| * | 41 | Fluorobenzene | 96 | 6.415 | 6.415 | (1.000) | 666229 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.829 | 6.829 | (1.064) | 199065 | 50.0000 | 52 |
| | 43 | Methylcyclohexane | 83 | 7.065 | 7.065 | (1.101) | 323223 | 50.0000 | 56 |
| | 44 | 1,2-Dichloropropane | 63 | 7.085 | 7.085 | (1.104) | 230162 | 50.0000 | 51 |
| | 46 | Dibromomethane | 93 | 7.223 | 7.223 | (1.126) | 105882 | 50.0000 | 53 |
| | 47 | 1,4-Dioxane | 88 | 7.243 | 7.243 | (1.129) | 24040 | 1000.00 | 940 |
| | 48 | Bromodichloromethane | 83 | 7.400 | 7.400 | (1.154) | 192217 | 50.0000 | 52 |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.765 | 7.765 | (1.210) | 18339 | 50.0000 | 35(Q) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.942 | 7.942 | (1.238) | 291595 | 50.0000 | 52 |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.129 | 8.129 | (1.267) | 228533 | 50.0000 | 51 |
| $ | 51 | Toluene-d8 | 98 | 8.277 | 8.277 | (0.818) | 579900 | 50.0000 | 49 |
| | 52 | Toluene | 91 | 8.366 | 8.366 | (1.304) | 715938 | 50.0000 | 52 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.622 | 8.622 | (1.344) | 230104 | 50.0000 | 52 |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.858 | 8.858 | (1.381) | 138658 | 50.0000 | 52 |
| | 55 | Tetrachloroethene | 164 | 9.055 | 9.055 | (0.895) | 147652 | 50.0000 | 55 |
| | 56 | 1,3-Dichloropropane | 76 | 9.065 | 9.065 | (0.896) | 239080 | 50.0000 | 50 |
| | 57 | 2-Hexanone | 43 | 9.173 | 9.173 | (0.907) | 164200 | 50.0000 | 49 |
| | 58 | Dibromochloromethane | 129 | 9.360 | 9.360 | (0.925) | 154962 | 50.0000 | 49 |
| | 59 | 1,2-Dibromoethane | 107 | 9.508 | 9.508 | (0.940) | 145226 | 50.0000 | 52 |
| * | 60 | Chlorobenzene-d5 | 117 | 10.119 | 10.119 | (1.000) | 472396 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.129 | 10.129 | (1.001) | 262386 | 50.0000 | 55 |
| | 61 | Chlorobenzene | 112 | 10.158 | 10.158 | (1.004) | 467846 | 50.0000 | 50 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.257 | 10.257 | (1.014) | 160556 | 50.0000 | 52 |
| | 64 | Ethylbenzene | 106 | 10.306 | 10.306 | (1.018) | 242345 | 50.0000 | 54 |
| | 65 | m,p-Xylene | 106 | 10.454 | 10.454 | (1.033) | 601922 | 100.000 | 110 |
| | 66 | o-Xylene | 106 | 10.946 | 10.946 | (1.082) | 291758 | 50.0000 | 54 |
| | 67 | Styrene | 104 | 10.966 | 10.966 | (1.084) | 504760 | 50.0000 | 54 |
| | 68 | Bromoform | 173 | 11.183 | 11.183 | (1.105) | 100019 | 50.0000 | 52(T) |
| | 69 | Isopropylbenzene | 105 | 11.409 | 11.409 | (1.127) | 727921 | 50.0000 | 54 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.478 | 11.478 | (1.134) | 63774 | 50.0000 | 52 |
| $ | 70 | Bromofluorobenzene | 95 | 11.586 | 11.586 | (1.145) | 210072 | 50.0000 | 47 |
| | 72 | Bromobenzene | 156 | 11.774 | 11.774 | (0.909) | 195028 | 50.0000 | 56 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.764 | 11.764 | (0.908) | 175101 | 50.0000 | 52 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.813 | 11.813 | (0.912) | 186725 | 50.0000 | 51 |
| | 74 | n-Propylbenzene | 120 | 11.911 | 11.911 | (0.919) | 199644 | 50.0000 | 56 |
| | 75 | 2-Chlorotoluene | 126 | 12.010 | 12.010 | (0.927) | 187824 | 50.0000 | 54 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.118 | 12.118 | (0.935) | 594119 | 50.0000 | 56 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1643.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.138 | 12.138 | (0.937) | 193738 | 50.0000 | 55 |
| | 78 tert-Butylbenzene | 119 | 12.502 | 12.502 | (0.965) | 605376 | 50.0000 | 55 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.562 | 12.562 | (0.970) | 599247 | 50.0000 | 56 |
| M | 81 Xylene (Total) | 106 | | | | 893680 | 150.000 | 160 |
| | 80 sec-Butylbenzene | 105 | 12.759 | 12.759 | (0.985) | 829034 | 50.0000 | 56 |
| | 82 1,3-Dichlorobenzene | 146 | 12.877 | 12.877 | (0.994) | 355975 | 50.0000 | 52 |
| | 83 4-Isopropyltoluene | 119 | 12.926 | 12.926 | (0.998) | 661245 | 50.0000 | 57 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.956 | 12.956 | (1.000) | 214545 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.985 | 12.985 | (1.002) | 368397 | 50.0000 | 53 |
| | 86 n-Butylbenzene | 91 | 13.399 | 13.399 | (1.034) | 633041 | 50.0000 | 57 |
| | 87 1,2-Dichlorobenzene | 146 | 13.409 | 13.409 | (1.035) | 336445 | 50.0000 | 54 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.266 | 14.266 | (1.101) | 20286 | 50.0000 | 47(Q) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.182 | 15.182 | (1.172) | 200599 | 50.0000 | 55 |
| | 90 Hexachlorobutadiene | 225 | 15.369 | 15.369 | (1.186) | 112541 | 50.0000 | 60(Q) |
| | 91 Naphthalene | 128 | 15.438 | 15.438 | (1.192) | 419757 | 50.0000 | 52 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.694 | 15.694 | (1.211) | 169290 | 50.0000 | 52 |

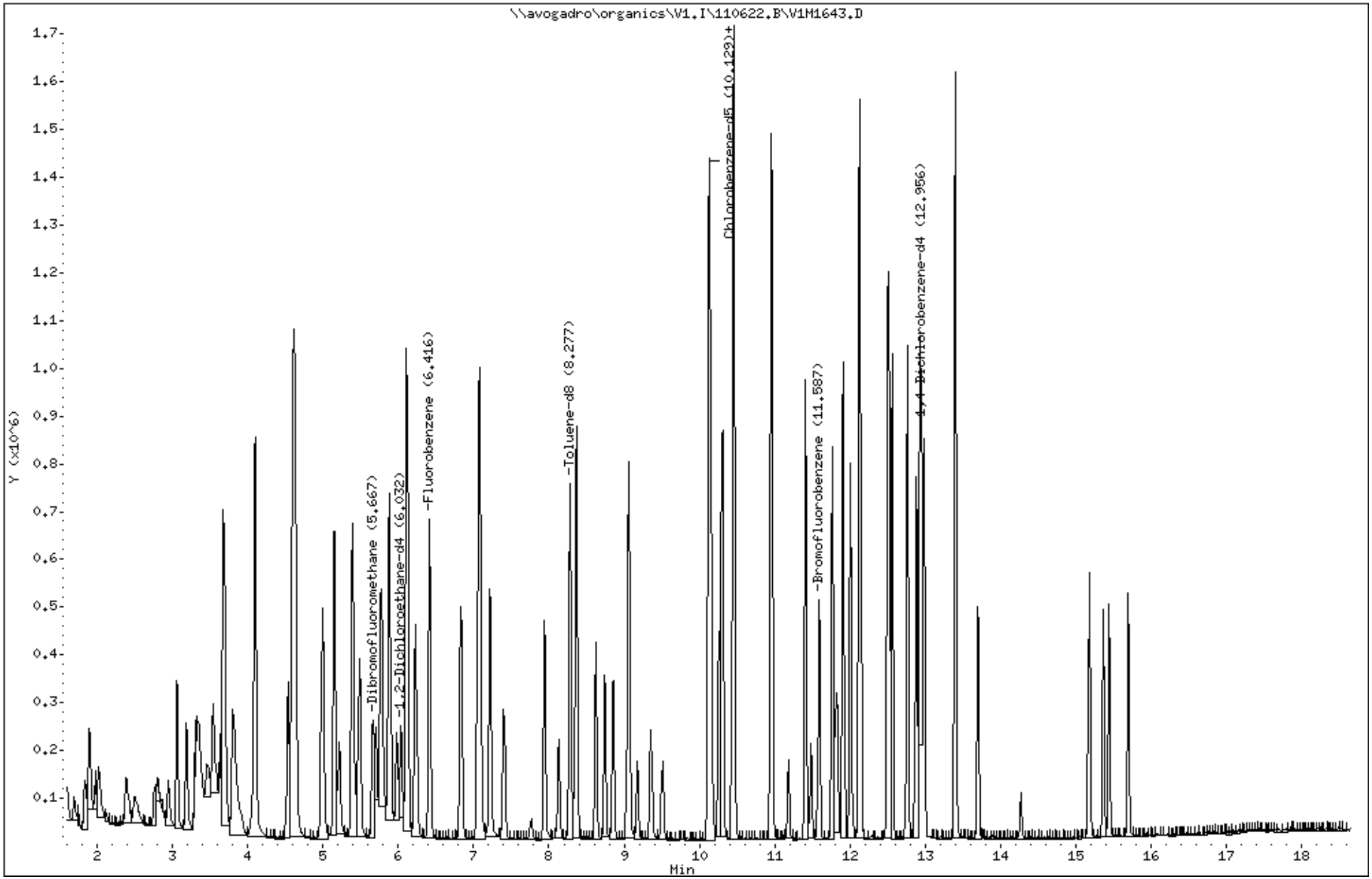
## QC Flag Legend

T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110622.B\V1M1643.D
Date : 22-JUN-2011 15:06
Client ID: VICV0501P
Sample Info: 5ML,VICV0501P,VICV0501P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date: 06/23/2011 Time: 07:01

Lab File ID: V1M1651.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501Q Init. Calib. Time(s): 09:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.558 | 0.573 | 0.010 | 2.6 | 20.0 |
| Benzene | 1.035 | 1.135 | 0.010 | 9.6 | 20.0 |
| Toluene | 1.029 | 1.095 | 0.010 | 6.4 | 20.0 |
| Ethylbenzene | 0.478 | 0.537 | 0.010 | 12.4 | 20.0 |
| m,p-Xylene | 0.594 | 0.675 | 0.010 | 13.6 | 20.0 |
| o-Xylene | 0.573 | 0.637 | 0.010 | 11.3 | 20.0 |
| Xylene (Total) | 0.587 | 0.662 | 0.010 | 12.8 | 20.0 |

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date: 06/23/2011 Time: 07:01

Lab File ID: V1M1651.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501Q Init. Calib. Time(s): 09:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.262 | 0.259 | 0.010 | -1.0 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.056 | 0.010 | -11.4 | 20.0 |
| Toluene-d8 | 1.247 | 1.311 | 0.010 | 5.2 | 20.0 |
| Bromofluorobenzene | 0.474 | 0.468 | 0.010 | -1.2 | 20.0 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1651.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1651.D
Lab Smp Id: VSTD0501Q  Client Smp ID: VSTD0501Q
Inj Date : 23-JUN-2011 07:01
Operator : ALM SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0501Q,VSTD0501Q
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 30  Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.703 | 1.696 | (0.265) | 102159 | 50.0000 | 1(a) |
| 2 Chloromethane | 50 | 1.900 | 1.903 | (0.295) | 334001 | 50.0000 | 12 |
| 3 Vinyl Chloride | 62 | 2.028 | 2.021 | (0.315) | 228948 | 50.0000 | 6 |
| 4 Bromomethane | 94 | 2.402 | 2.386 | (0.374) | 129232 | 50.0000 | 2(a) |
| 5 Chloroethane | 64 | 2.510 | 2.504 | (0.390) | 131778 | 50.0000 | 2(a) |
| 6 Trichlorofluoromethane | 101 | 2.776 | 2.770 | (0.432) | 181692 | 50.0000 | 3(a) |
| 7 Ether | 59 | 3.072 | 3.065 | (0.478) | 189768 | 50.0000 | 4(Q) |
| 8 Acrolein | 56 | 3.200 | 3.203 | (0.498) | 229748 | 250.000 | 1 |
| 9 1,1-Dichloroethene | 96 | 3.328 | 3.322 | (0.518) | 194752 | 50.0000 | 4(a) |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.338 | 3.331 | (0.519) | 152866 | 50.0000 | 3 |
| 11 Acetone | 58 | 3.367 | 3.361 | (0.524) | 30621 | 50.0000 | 0.08(aQ) |
| 12 Iodomethane | 142 | 3.486 | 3.479 | (0.542) | 325209 | 50.0000 | 12 |
| 13 Carbon Disulfide | 76 | 3.554 | 3.548 | (0.553) | 670737 | 50.0000 | 50 |
| 14 Acetonitrile | 40 | 3.692 | 3.686 | (0.574) | 206374 | 500.000 | 0.5(aQ) |
| 15 Methyl Acetate | 43 | 3.712 | 3.706 | (0.577) | 207539 | 50.0000 | 5 |
| 16 Methylene Chloride | 84 | 3.820 | 3.814 | (0.594) | 196360 | 50.0000 | 4(a) |
| 17 tert-Butanol | 59 | 3.929 | 3.922 | (0.611) | 37387 | 100.000 | 0.08(a) |
| 18 Acrylonitrile | 53 | 4.067 | 4.060 | (0.632) | 77573 | 50.0000 | 0.7(a) |
| 20 Methyl tert-butyl ether | 73 | 4.116 | 4.110 | (0.640) | 373378 | 50.0000 | 16 |
| 19 trans-1,2-Dichloroethene | 96 | 4.116 | 4.110 | (0.640) | 196888 | 50.0000 | 4(a) |
| 21 1,1-Dichloroethane | 63 | 4.549 | 4.543 | (0.707) | 387201 | 50.0000 | 16 |
| 22 Vinyl acetate | 43 | 4.608 | 4.602 | (0.717) | 1037247 | 50.0000 | 120 |
| 23 Diisopropyl Ether | 45 | 4.628 | 4.622 | (0.720) | 1124875 | 50.0000 | 140 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1651.D
Report Date: 24-May-2011 15:01

| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.012 | 5.016 | (0.779) | 557164 | 50.0000 | 36 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 394817 | 100.000 | (a) |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.170 | 5.163 | (0.804) | 197929 | 50.0000 | 4(a) |
| | 26 | 2,2-Dichloropropane | 77 | 5.170 | 5.173 | (0.804) | 103634 | 50.0000 | 1(a) |
| | 28 | 2-Butanone | 72 | 5.180 | 5.183 | (0.805) | 23306 | 50.0000 | 0.05(aQ) |
| | 29 | Bromochloromethane | 128 | 5.426 | 5.420 | (0.844) | 97444 | 50.0000 | 1(a) |
| | 30 | Tetrahydrofuran | 72 | 5.475 | 5.479 | (0.851) | 36479 | 100.000 | 0.08(a) |
| | 31 | Chloroform | 83 | 5.505 | 5.508 | (0.856) | 277362 | 50.0000 | 8 |
| $ | 32 | Dibromofluoromethane | 113 | 5.682 | 5.676 | (0.884) | 168976 | 50.0000 | 3 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.721 | 5.715 | (0.890) | 160630 | 50.0000 | 3(a) |
| | 34 | Cyclohexane | 56 | 5.790 | 5.784 | (0.900) | 416755 | 50.0000 | 19 |
| | 36 | Carbon Tetrachloride | 117 | 5.909 | 5.902 | (0.919) | 172607 | 50.0000 | 3(a) |
| | 35 | 1,1-Dichloropropene | 110 | 5.899 | 5.902 | (0.917) | 86029 | 50.0000 | 0.8(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.050 | (0.942) | 36502 | 50.0000 | 0.2(a) |
| | 38 | Benzene | 78 | 6.125 | 6.129 | (0.953) | 740207 | 50.0000 | 59 |
| | 39 | 1,2-Dichloroethane | 62 | 6.135 | 6.139 | (0.954) | 188863 | 50.0000 | 4(a) |
| | 40 | tert-Amyl methyl ether | 73 | 6.253 | 6.247 | (0.972) | 383226 | 50.0000 | 17 |
| * | 41 | Fluorobenzene | 96 | 6.431 | 6.434 | (1.000) | 652124 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.854 | 6.848 | (1.066) | 201233 | 50.0000 | 4(a) |
| | 43 | Methylcyclohexane | 83 | 7.090 | 7.084 | (1.103) | 307971 | 50.0000 | 10 |
| | 44 | 1,2-Dichloropropane | 63 | 7.110 | 7.104 | (1.106) | 236709 | 50.0000 | 6 |
| | 46 | Dibromomethane | 93 | 7.238 | 7.232 | (1.126) | 104125 | 50.0000 | 1(a) |
| | 47 | 1,4-Dioxane | 88 | 7.268 | 7.252 | (1.130) | 21999 | 1000.00 | 0.003(a) |
| | 48 | Bromodichloromethane | 83 | 7.425 | 7.419 | (1.155) | 189586 | 50.0000 | 4(a) |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.780 | 7.774 | (1.210) | 19847 | 50.0000 | 0.06(aQ) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.957 | 7.951 | (1.237) | 286556 | 50.0000 | 9 |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.144 | 8.138 | (1.266) | 223787 | 50.0000 | 6 |
| $ | 51 | Toluene-d8 | 98 | 8.292 | 8.286 | (0.819) | 567348 | 50.0000 | 82 |
| | 52 | Toluene | 91 | 8.381 | 8.374 | (1.303) | 713979 | 50.0000 | 56 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.637 | 8.631 | (1.343) | 220054 | 50.0000 | 6 |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.863 | 8.857 | (1.378) | 129320 | 50.0000 | 2(a) |
| | 55 | Tetrachloroethene | 164 | 9.060 | 9.064 | (0.895) | 137757 | 50.0000 | 4(a) |
| | 56 | 1,3-Dichloropropane | 76 | 9.080 | 9.074 | (0.897) | 235528 | 50.0000 | 14 |
| | 57 | 2-Hexanone | 43 | 9.188 | 9.182 | (0.908) | 175439 | 50.0000 | 7 |
| | 58 | Dibromochloromethane | 129 | 9.366 | 9.369 | (0.925) | 154397 | 50.0000 | 6 |
| | 59 | 1,2-Dibromoethane | 107 | 9.523 | 9.517 | (0.941) | 136794 | 50.0000 | 5 |
| * | 60 | Chlorobenzene-d5 | 117 | 10.124 | 10.128 | (1.000) | 432596 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.144 | 10.137 | (1.002) | 251154 | 50.0000 | 14 |
| | 61 | Chlorobenzene | 112 | 10.164 | 10.157 | (1.004) | 456984 | 50.0000 | 52 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.262 | 10.266 | (1.014) | 153728 | 50.0000 | 6 |
| | 64 | Ethylbenzene | 106 | 10.311 | 10.305 | (1.018) | 232460 | 50.0000 | 13 |
| | 65 | m,p-Xylene | 106 | 10.459 | 10.463 | (1.033) | 584105 | 100.000 | 40 |
| | 66 | o-Xylene | 106 | 10.961 | 10.955 | (1.083) | 275622 | 50.0000 | 18 |
| | 67 | Styrene | 104 | 10.971 | 10.975 | (1.084) | 473875 | 50.0000 | 54 |
| | 68 | Bromoform | 173 | 11.198 | 11.191 | (1.106) | 94107 | 50.0000 | 2(Ta) |
| | 69 | Isopropylbenzene | 105 | 11.414 | 11.418 | (1.127) | 689321 | 50.0000 | 110 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.483 | 11.487 | (1.134) | 57573 | 50.0000 | 0.8(a) |
| $ | 70 | Bromofluorobenzene | 95 | 11.592 | 11.595 | (1.145) | 202622 | 50.0000 | 11 |
| | 72 | Bromobenzene | 156 | 11.779 | 11.773 | (0.909) | 177216 | 50.0000 | 34 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.769 | 11.763 | (0.908) | 165158 | 50.0000 | 31 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.828 | 11.822 | (0.913) | 174279 | 50.0000 | 36 |
| | 74 | n-Propylbenzene | 120 | 11.917 | 11.910 | (0.919) | 182159 | 50.0000 | 36 |
| | 75 | 2-Chlorotoluene | 126 | 12.015 | 12.009 | (0.927) | 171892 | 50.0000 | 33 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.124 | 12.127 | (0.935) | 556285 | 50.0000 | 330(A) |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1651.D
Report Date: 24-May-2011 15:01

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.143 | 12.137 | (0.937) | 179789 | 50.0000 | 35 |
| | 78 tert-Butylbenzene | 119 | 12.508 | 12.511 | (0.965) | 566310 | 50.0000 | 340(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.567 | 12.560 | (0.970) | 554048 | 50.0000 | 330(A) |
| M | 81 Xylene (Total) | 106 | | | | 859727 | 150.000 | (a) |
| | 80 sec-Butylbenzene | 105 | 12.764 | 12.767 | (0.985) | 758524 | 50.0000 | 630(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.882 | 12.886 | (0.994) | 327878 | 50.0000 | 120 |
| | 83 4-Isopropyltoluene | 119 | 12.931 | 12.935 | (0.998) | 597573 | 50.0000 | 390(A) |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.964 | (1.000) | 208200 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.990 | 12.984 | (1.002) | 341670 | 50.0000 | 130 |
| | 86 n-Butylbenzene | 91 | 13.394 | 13.408 | (1.033) | 593927 | 50.0000 | 370(A) |
| | 87 1,2-Dichlorobenzene | 146 | 13.414 | 13.417 | (1.035) | 305814 | 50.0000 | 110 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.271 | 14.274 | (1.101) | 21193 | 50.0000 | 0.5(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.177 | 15.180 | (1.171) | 196589 | 50.0000 | 40 |
| | 90 Hexachlorobutadiene | 225 | 15.364 | 15.377 | (1.185) | 113630 | 50.0000 | 12(Q) |
| | 91 Naphthalene | 128 | 15.433 | 15.446 | (1.191) | 410110 | 50.0000 | 180 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.689 | 15.703 | (1.210) | 163971 | 50.0000 | 30 |

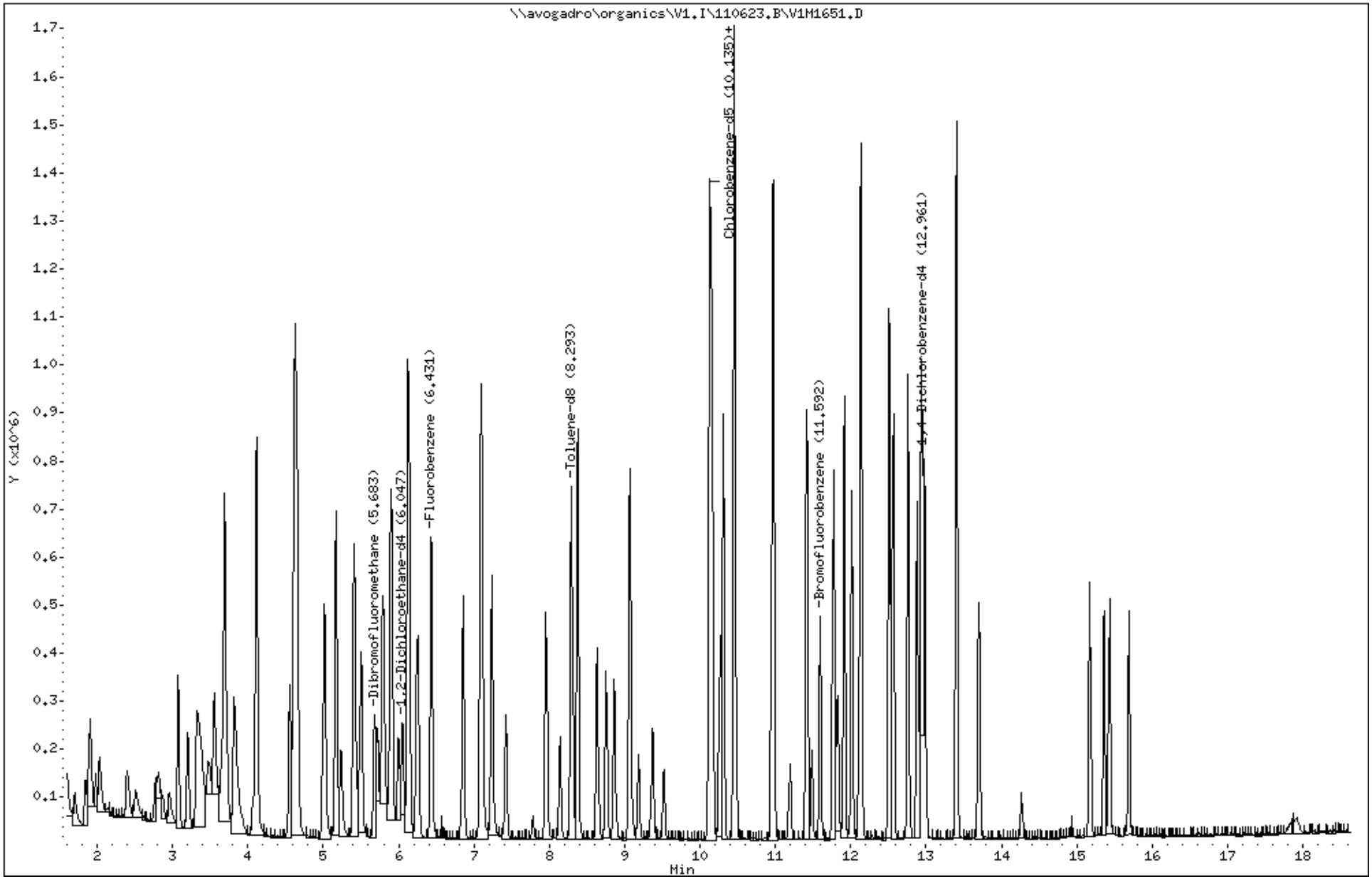
## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110623.B\V1M1651.D
Date : 23-JUN-2011 07:01
Client ID: VSTD0501Q
Sample Info: 5ML,VSTD0501Q,VSTD0501Q
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V1.I\110622.B\V1M1630.D
Lab Smp Id: BFB1P Client Smp ID: BFB1P
Inj Date : 22-JUN-2011 07:57
Operator : ALM SRC: ALM Inst ID: V1.i
Smp Info : 2UL,BFB1P,BFB1P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\bfb8260.m
Meth Date : 24-May-2011 14:50 vbrizard Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: SOIL
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vf | 1.000 | Volumetric correction factor |
| Cpnd Variable | | Local Compound Variable |

| RT | EXP RT | REL RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | FINAL (ug/Kg) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 5.974 | 5.900 | ( 0.000) | 95 | 88328 | | | 0.00- 100.00 | 100.00 |
| 5.974 | 5.900 | ( 0.000) | 50 | 17304 | | | 15.00- 40.00 | 19.59 |
| 5.974 | 5.900 | ( 0.000) | 75 | 32824 | | | 30.00- 60.00 | 37.16 |
| 5.974 | 5.900 | ( 0.000) | 96 | 7072 | | | 5.00- 9.00 | 8.01 |
| 5.974 | 5.900 | ( 0.000) | 173 | 0 | 0.0 | 0.0 | 0.00- 2.00 | 0.00 |
| 5.974 | 5.900 | ( 0.000) | 174 | 70168 | | | 50.00- 0.00 | 79.44 |
| 5.974 | 5.900 | ( 0.000) | 175 | 4107 | | | 5.00- 9.00 | 5.85 |
| 5.974 | 5.900 | ( 0.000) | 176 | 67368 | | | 95.00- 101.00 | 96.01 |
| 5.974 | 5.900 | ( 0.000) | 177 | 3930 | | | 5.00- 9.00 | 5.83 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1630.D



Date : 22-JUN-2011 07:57

Client ID: BFB1P

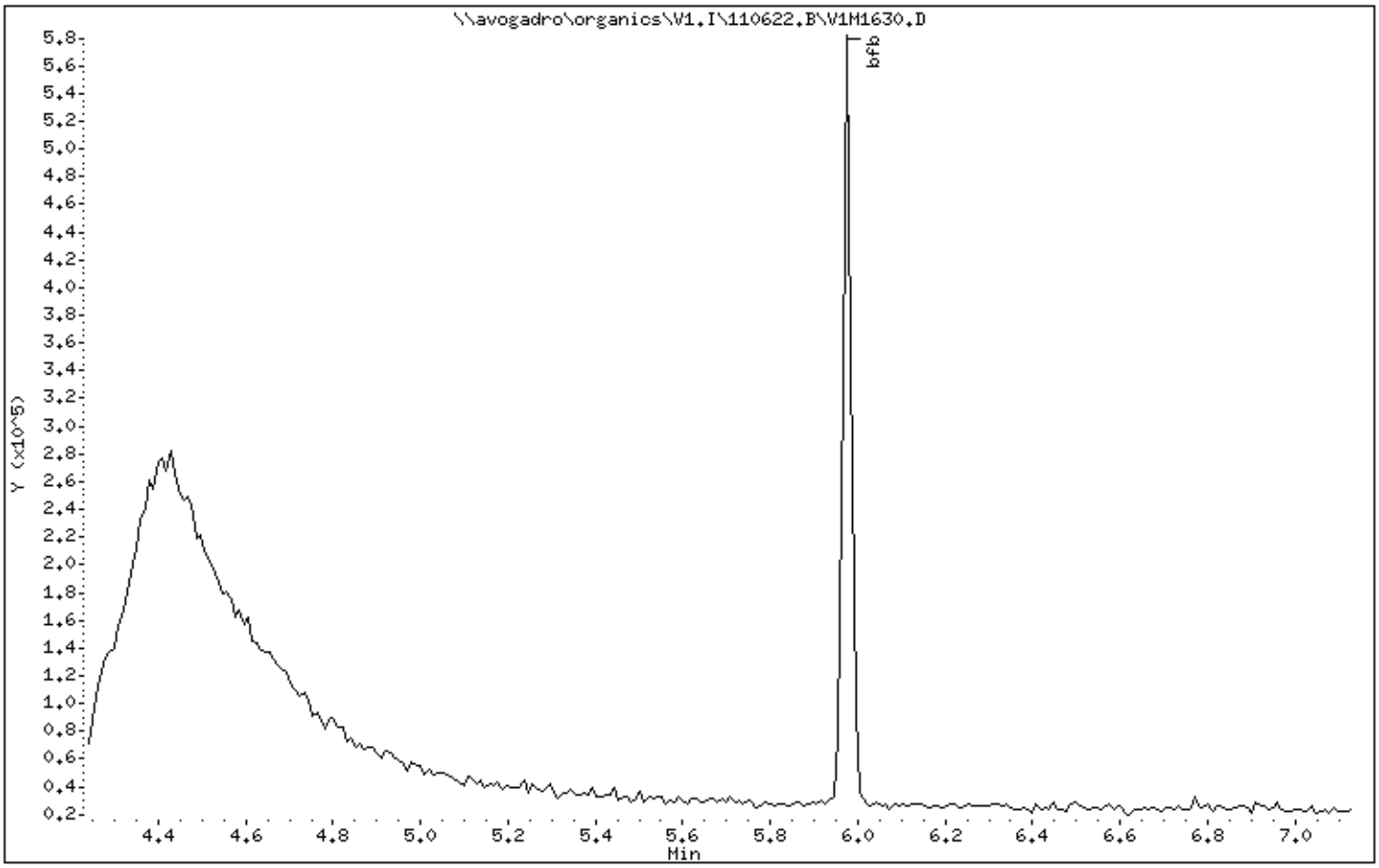
Instrument: V1.i

Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM SRC: ALM

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1630.D



Date : 22-JUN-2011 07:57

Client ID: BFB1P

Instrument: V1.i

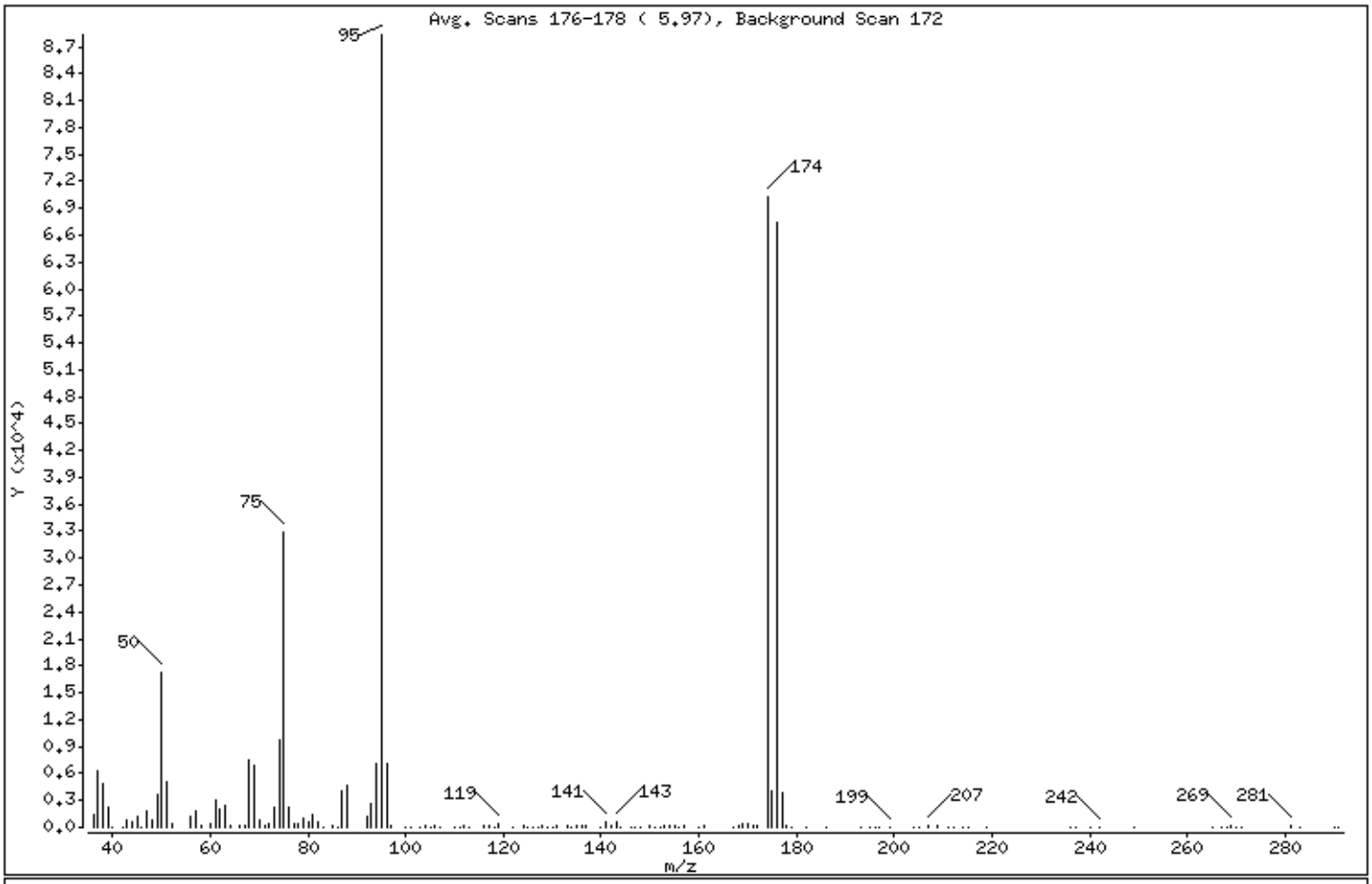
Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM SRC: ALM

Column phase: DB-624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 19.59 |
| 75 | 30.00 - 60.00% of mass 95 | 37.16 |
| 96 | 5.00 - 9.00% of mass 95 | 8.01 |
| 173 | Less than 2.00% of mass 174 | 0.00 ( 0.00) |
| 174 | Greater than 50.00% of mass 95 | 79.44 |
| 175 | 5.00 - 9.00% of mass 174 | 4.65 ( 5.85) |
| 176 | 95.00 - 101.00% of mass 174 | 76.27 ( 96.01) |
| 177 | 5.00 - 9.00% of mass 176 | 4.45 ( 5.83) |

Date : 22-JUN-2011 07:57

Client ID: BFB1P Instrument: V1.i

Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM SRC: ALM

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1630.D
Spectrum: Avg. Scans 176-178 ( 5.97), Background Scan 172
Location of Maximum: 95.00
Number of points: 142

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1348 | 78.00 | 423 | 128.00 | 193 | 177.00 | 3930 |
| 37.00 | 6264 | 79.00 | 995 | 129.00 | 100 | 178.00 | 131 |
| 38.00 | 4917 | 80.00 | 537 | 130.00 | 40 | 179.00 | 56 |
| 39.00 | 2150 | 81.00 | 1505 | 131.00 | 192 | 182.00 | 40 |
| 40.00 | 41 | 82.00 | 577 | 133.00 | 145 | 186.00 | 53 |
| 42.00 | 83 | 83.00 | 37 | 134.00 | 49 | 193.00 | 57 |
| 43.00 | 813 | 85.00 | 134 | 135.00 | 166 | 195.00 | 49 |
| 44.00 | 620 | 86.00 | 49 | 136.00 | 125 | 196.00 | 62 |
| 45.00 | 1123 | 87.00 | 4042 | 137.00 | 123 | 197.00 | 39 |
| 46.00 | 33 | 88.00 | 4750 | 140.00 | 84 | 199.00 | 79 |
| 47.00 | 1745 | 92.00 | 1292 | 141.00 | 609 | 204.00 | 40 |
| 48.00 | 899 | 93.00 | 2693 | 142.00 | 264 | 205.00 | 45 |
| 49.00 | 3698 | 94.00 | 7041 | 143.00 | 702 | 207.00 | 142 |
| 50.00 | 17304 | 95.00 | 88328 | 144.00 | 47 | 209.00 | 103 |
| 51.00 | 5035 | 96.00 | 7072 | 146.00 | 99 | 211.00 | 90 |
| 52.00 | 458 | 97.00 | 157 | 147.00 | 59 | 212.00 | 33 |
| 56.00 | 1223 | 100.00 | 58 | 148.00 | 81 | 214.00 | 68 |
| 57.00 | 1841 | 101.00 | 70 | 150.00 | 139 | 215.00 | 39 |
| 58.00 | 155 | 103.00 | 81 | 151.00 | 48 | 219.00 | 35 |
| 60.00 | 503 | 104.00 | 274 | 152.00 | 85 | 236.00 | 38 |
| 61.00 | 3091 | 105.00 | 43 | 153.00 | 126 | 237.00 | 52 |
| 62.00 | 2058 | 106.00 | 297 | 154.00 | 155 | 240.00 | 45 |
| 63.00 | 2534 | 107.00 | 61 | 155.00 | 278 | 242.00 | 54 |
| 64.00 | 213 | 110.00 | 98 | 156.00 | 89 | 249.00 | 36 |
| 66.00 | 140 | 111.00 | 35 | 157.00 | 248 | 265.00 | 42 |
| 67.00 | 198 | 112.00 | 240 | 160.00 | 39 | 267.00 | 56 |
| 68.00 | 7456 | 113.00 | 41 | 161.00 | 206 | 268.00 | 38 |
| 69.00 | 6826 | 116.00 | 247 | 167.00 | 54 | 269.00 | 215 |
| 70.00 | 716 | 117.00 | 110 | 168.00 | 129 | 270.00 | 100 |
| 71.00 | 150 | 118.00 | 100 | 169.00 | 402 | 271.00 | 91 |
| 72.00 | 309 | 119.00 | 327 | 170.00 | 330 | 281.00 | 193 |
| 73.00 | 2320 | 122.00 | 95 | 171.00 | 286 | 283.00 | 41 |
| 74.00 | 9702 | 124.00 | 109 | 172.00 | 237 | 290.00 | 44 |
| 75.00 | 32824 | 125.00 | 69 | 174.00 | 70168 | 291.00 | 34 |
| 76.00 | 2237 | 126.00 | 71 | 175.00 | 4107 | | |

Date : 22-JUN-2011 07:57

Client ID: BFB1P Instrument: V1.i

Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM SRC: ALM

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1630.D
Spectrum: Avg. Scans 176-178 ( 5.97), Background Scan 172
Location of Maximum: 95.00
Number of points: 142

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 77.00 | 395 | 127.00 | 2 | 176.00 | 67368 | | |

Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V1.I\110623.B\V1M1650.D
Lab Smp Id: BFB1Q Client Smp ID: BFB1Q
Inj Date : 23-JUN-2011 06:46
Operator : ALM SRC: ALM Inst ID: V1.i
Smp Info : 2UL,BFB1Q,BFB1Q
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110623.B\bfb8260.m
Meth Date : 24-May-2011 14:54 vbrizard Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: SOIL
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vf | 1.000 | Volumetric correction factor |
| Cpnd Variable | | Local Compound Variable |

| RT | EXP RT | REL RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | FINAL (ug/Kg) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 5.983 | 5.900 | ( 0.000) | 95 | 125328 | | | 0.00- 100.00 | 100.00 |
| 5.983 | 5.900 | ( 0.000) | 50 | 23416 | | | 15.00- 40.00 | 18.68 |
| 5.983 | 5.900 | ( 0.000) | 75 | 46776 | | | 30.00- 60.00 | 37.32 |
| 5.983 | 5.900 | ( 0.000) | 96 | 9674 | | | 5.00- 9.00 | 7.72 |
| 5.983 | 5.900 | ( 0.000) | 173 | 0 | 0.0 | 0.0 | 0.00- 2.00 | 0.00 |
| 5.983 | 5.900 | ( 0.000) | 174 | 101152 | | | 50.00- 0.00 | 80.71 |
| 5.983 | 5.900 | ( 0.000) | 175 | 8368 | | | 5.00- 9.00 | 8.27 |
| 5.983 | 5.900 | ( 0.000) | 176 | 97152 | | | 95.00- 101.00 | 96.05 |
| 5.983 | 5.900 | ( 0.000) | 177 | 6568 | | | 5.00- 9.00 | 6.76 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1650.D Page 2

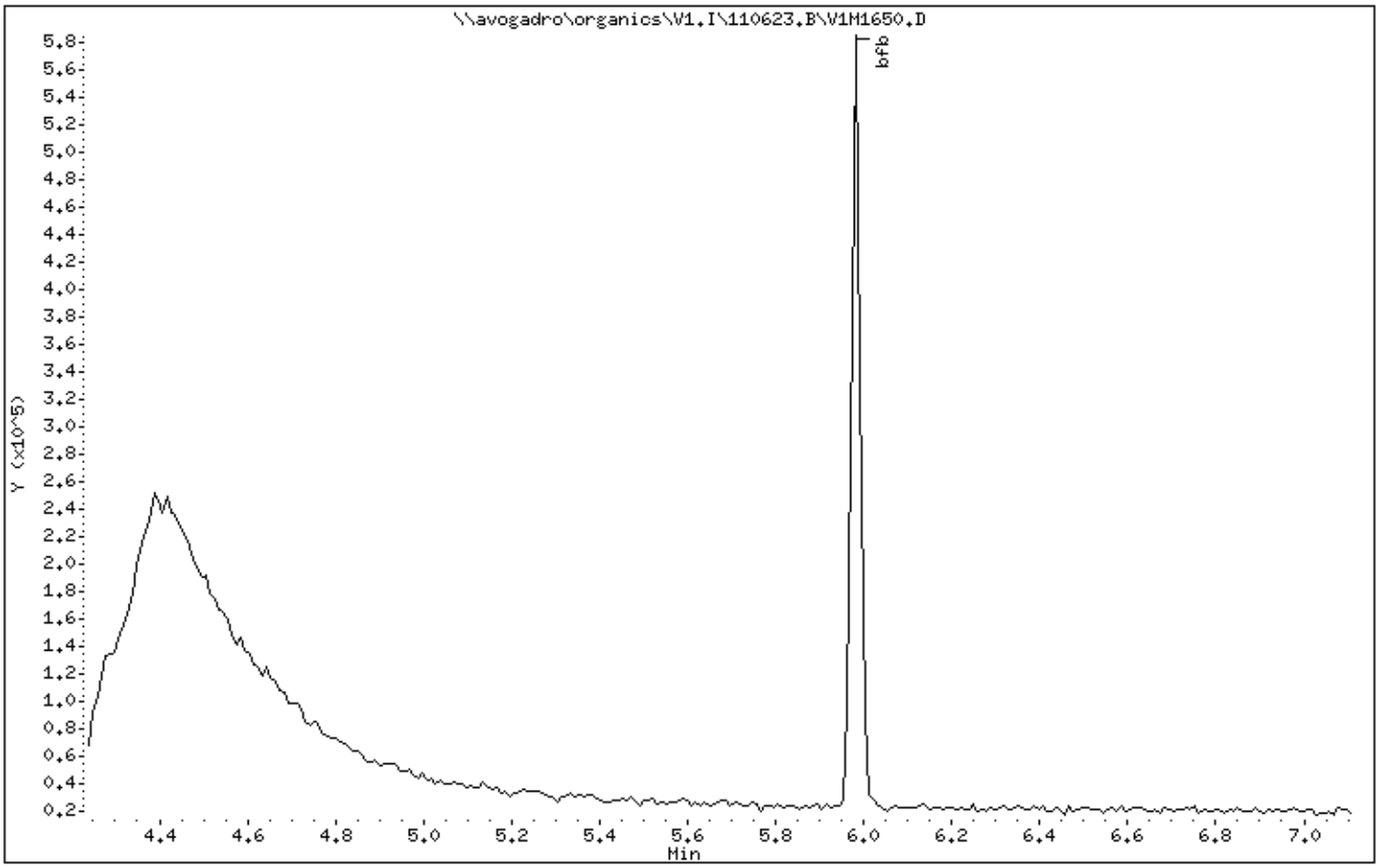
Date : 23-JUN-2011 06:46

Client ID: BFB1Q Instrument: V1.i

Sample Info: 2UL,BFB1Q,BFB1Q

Operator: ALM SRC: ALM

Column phase: DB-624 Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110623.B\V1M1650.D



Date : 23-JUN-2011 06:46

Client ID: BFB1Q

Instrument: V1.i

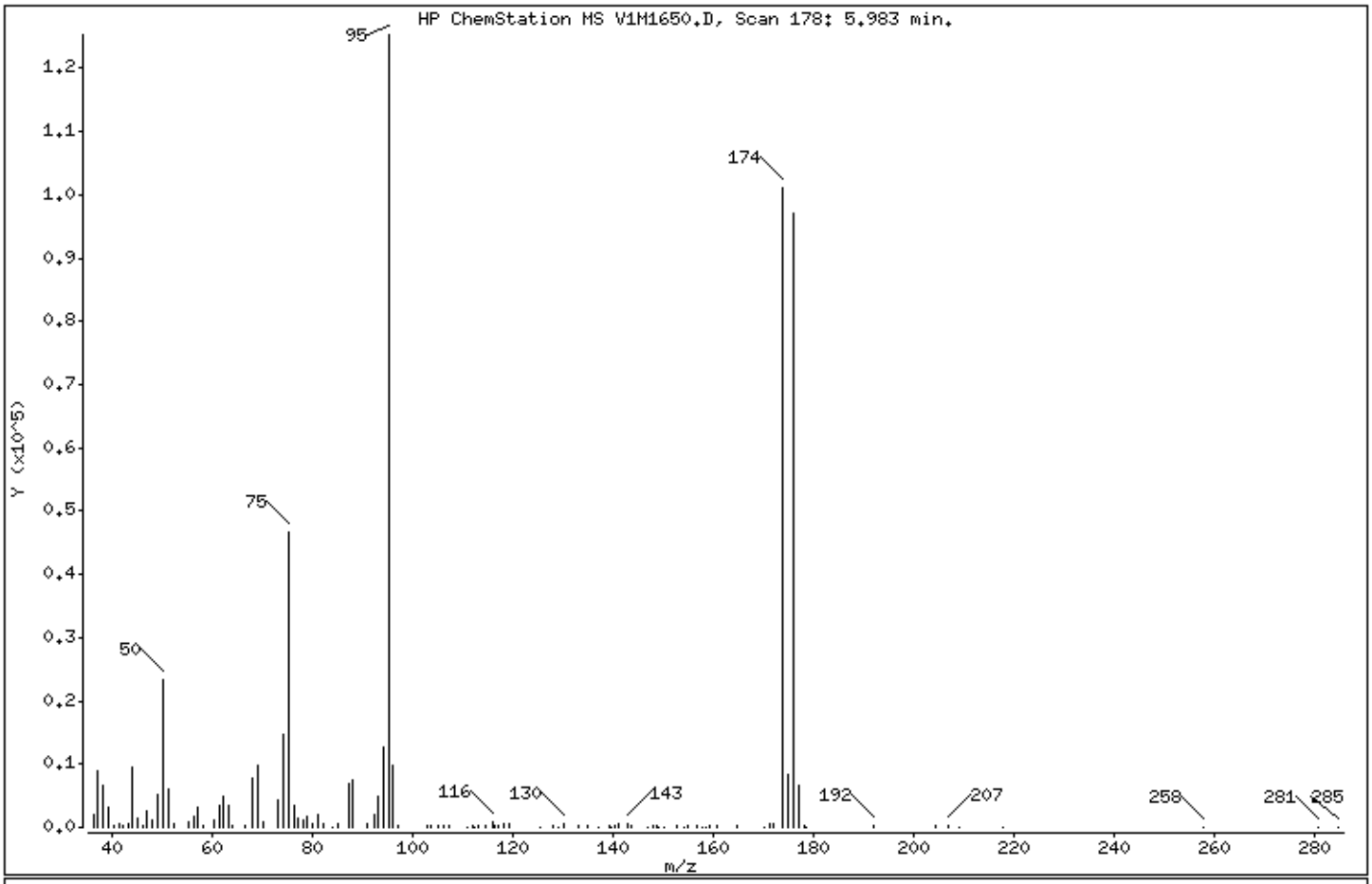
Sample Info: 2UL,BFB1Q,BFB1Q

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 18.68 |
| 75 | 30.00 - 60.00% of mass 95 | 37.32 |
| 96 | 5.00 - 9.00% of mass 95 | 7.72 |
| 173 | Less than 2.00% of mass 174 | 0.00 ( 0.00) |
| 174 | Greater than 50.00% of mass 95 | 80.71 |
| 175 | 5.00 - 9.00% of mass 174 | 6.68 ( 8.27) |
| 176 | 95.00 - 101.00% of mass 174 | 77.52 ( 96.05) |
| 177 | 5.00 - 9.00% of mass 176 | 5.24 ( 6.76) |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1650.D

Date : 23-JUN-2011 06:46

Client ID: BFB1Q

Instrument: V1.i

Sample Info: 2UL,BFB1Q,BFB1Q

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25

Data File: V1M1650.D
Spectrum: HP ChemStation MS V1M1650.D, Scan 178: 5.983 min.
Location of Maximum: 95.05
Number of points: 111

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.10 | 2137 | 68.00 | 7851 | 107.05 | 249 | 150.30 | 112 |
| 37.05 | 8929 | 69.10 | 9772 | 110.75 | 110 | 152.85 | 260 |
| 38.05 | 6765 | 70.20 | 885 | 111.85 | 256 | 154.00 | 124 |
| 38.95 | 3173 | 73.05 | 4348 | 112.45 | 140 | 154.80 | 213 |
| 40.10 | 419 | 74.10 | 14755 | 113.15 | 182 | 156.75 | 250 |
| 41.20 | 580 | 75.10 | 46776 | 114.60 | 235 | 157.65 | 131 |
| 41.90 | 272 | 76.10 | 3419 | 115.80 | 815 | 158.35 | 103 |
| 42.10 | 291 | 77.05 | 1499 | 116.45 | 219 | 159.10 | 237 |
| 42.95 | 716 | 78.15 | 1059 | 116.95 | 425 | 160.70 | 283 |
| 43.95 | 9610 | 78.85 | 1678 | 118.05 | 546 | 164.55 | 191 |
| 44.95 | 1415 | 80.00 | 559 | 119.05 | 494 | 170.25 | 140 |
| 46.00 | 247 | 80.80 | 2071 | 125.40 | 142 | 171.20 | 628 |
| 46.90 | 2466 | 82.00 | 476 | 127.95 | 417 | 171.80 | 514 |
| 47.80 | 1028 | 84.05 | 115 | 129.15 | 130 | 173.95 | 101152 |
| 49.05 | 5296 | 85.10 | 628 | 130.05 | 627 | 174.85 | 8368 |
| 50.05 | 23416 | 87.00 | 6929 | 132.90 | 236 | 175.95 | 97152 |
| 51.10 | 5925 | 87.95 | 7514 | 134.95 | 244 | 176.90 | 6568 |
| 52.10 | 681 | 90.90 | 590 | 136.90 | 111 | 178.00 | 183 |
| 55.05 | 748 | 92.10 | 1921 | 139.10 | 184 | 178.60 | 109 |
| 56.05 | 1848 | 93.00 | 4760 | 139.65 | 101 | 191.85 | 203 |
| 57.00 | 3249 | 94.05 | 12769 | 140.15 | 164 | 204.45 | 165 |
| 58.00 | 323 | 95.05 | 125328 | 140.95 | 460 | 206.90 | 292 |
| 60.05 | 1077 | 96.05 | 9674 | 142.90 | 610 | 208.95 | 121 |
| 61.15 | 3449 | 96.90 | 314 | 143.70 | 205 | 217.90 | 107 |
| 62.05 | 4973 | 102.80 | 145 | 146.75 | 137 | 258.00 | 121 |
| 63.00 | 3589 | 103.70 | 272 | 147.90 | 219 | 280.80 | 138 |
| 63.90 | 423 | 105.05 | 207 | 148.50 | 159 | 284.90 | 116 |
| 66.25 | 183 | 105.95 | 333 | 149.00 | 126 | | |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-59942

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-59942

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1654.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1654.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1654.D
Lab Smp Id: MB-59942  Client Smp ID: MB-59942
Inj Date  : 23-JUN-2011 09:13
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,MB-59942,MB-59942,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 33  QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| 30 Tetrahydrofuran | 72 | 5.495 | 5.479 | (0.854) | 1729 | 5.02087 | 5(Q) |
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.676 | (0.884) | 156235 | 47.8768 | 48 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.050 | (0.942) | 34899 | 44.2661 | 44 |
| * 41 Fluorobenzene | 96 | 6.430 | 6.434 | (1.000) | 623671 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.286 | (0.819) | 552053 | 51.2161 | 51 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.128 | (1.000) | 432341 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.601 | 11.595 | (1.146) | 207424 | 50.5946 | 50 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.964 | (1.000) | 203945 | 50.0000 | |

QC Flag Legend

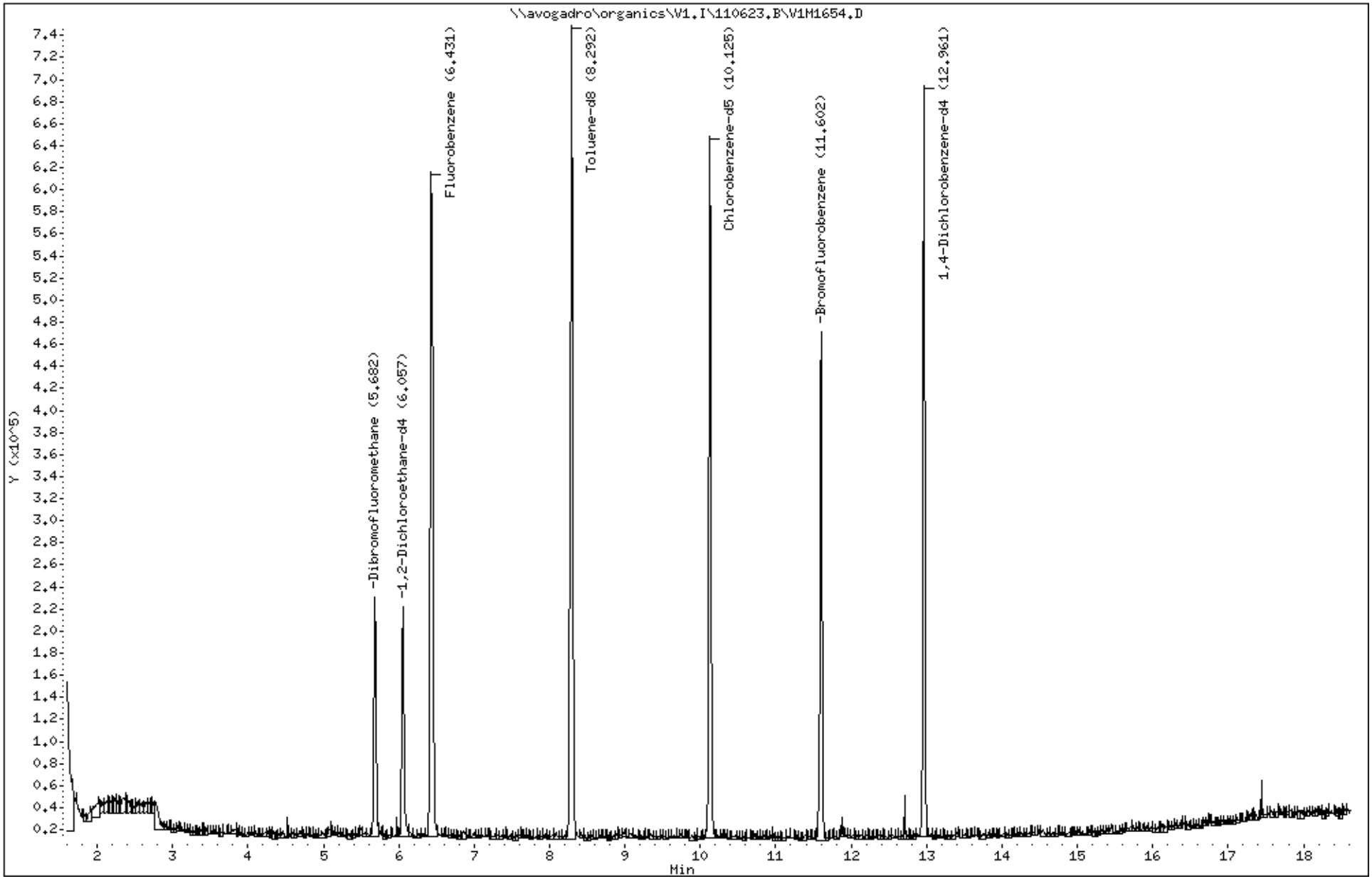
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110623.B\V1M1654.D
Date : 23-JUN-2011 09:13
Client ID: MB-59942
Sample Info: 5ML,MB-59942,MB-59942,59942

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



Data File: \\avogadro\organics\V1.I\110623.B\V1M1654.D

Date : 23-JUN-2011 09:13

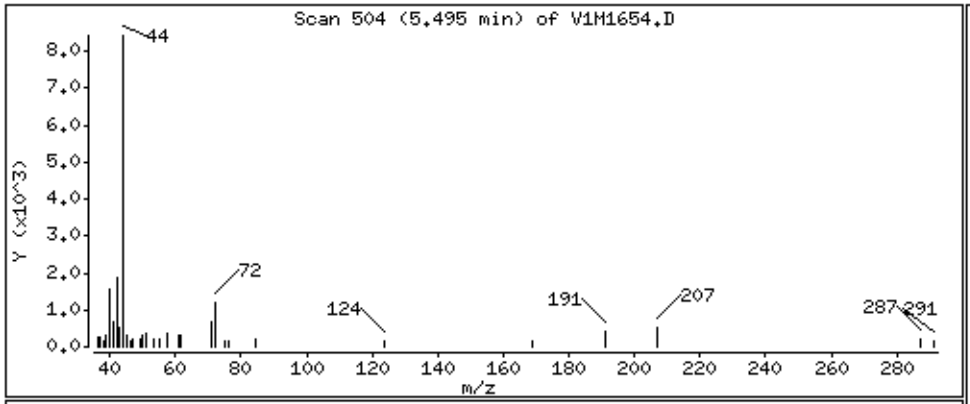
Client ID: MB-59942 Instrument: V1.i

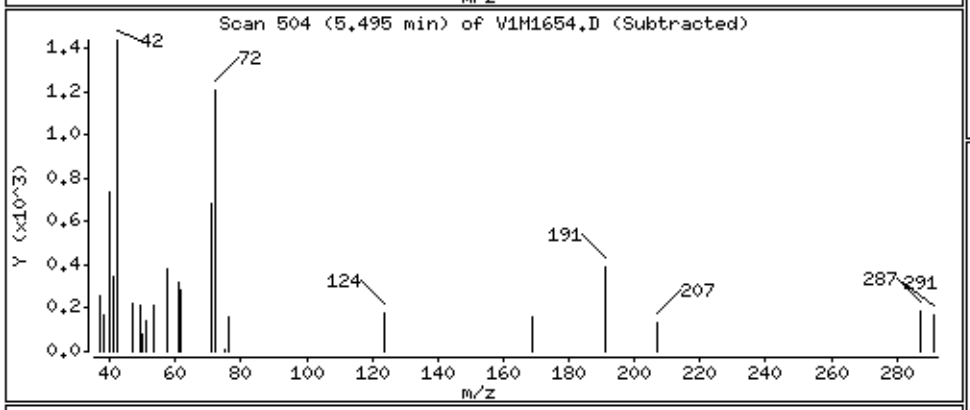
Sample Info: 5ML,MB-59942,MB-59942,59942

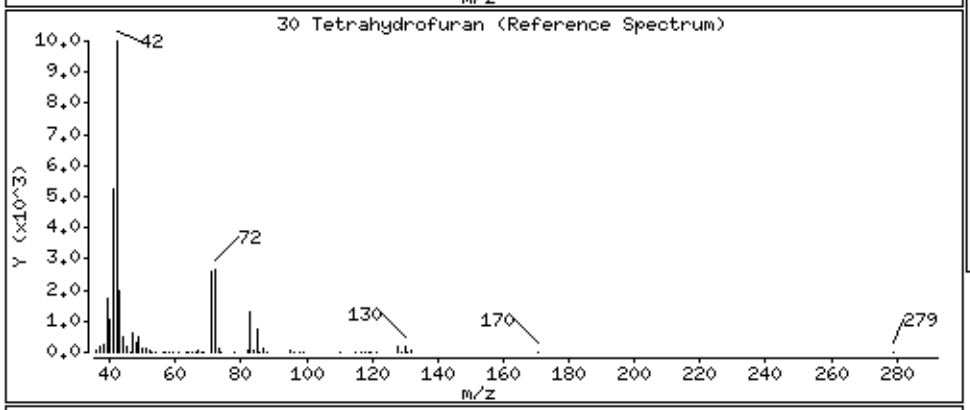
Operator: ALM SRC: LIMS

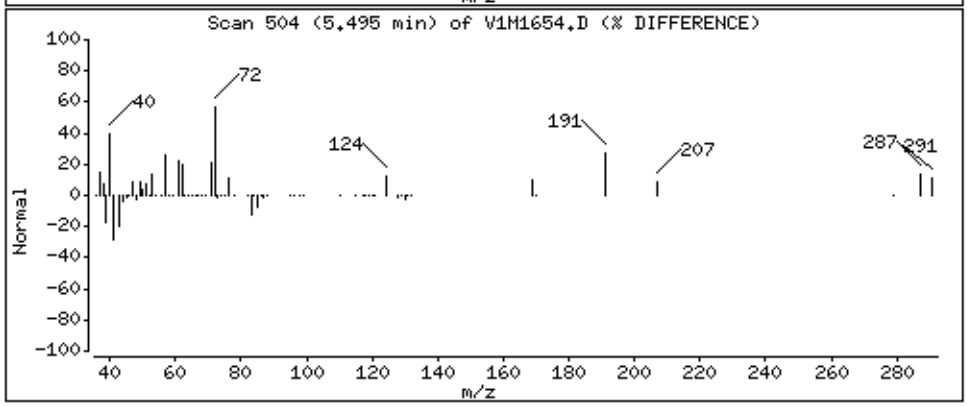
Column phase: DB-624 Column diameter: 0.25

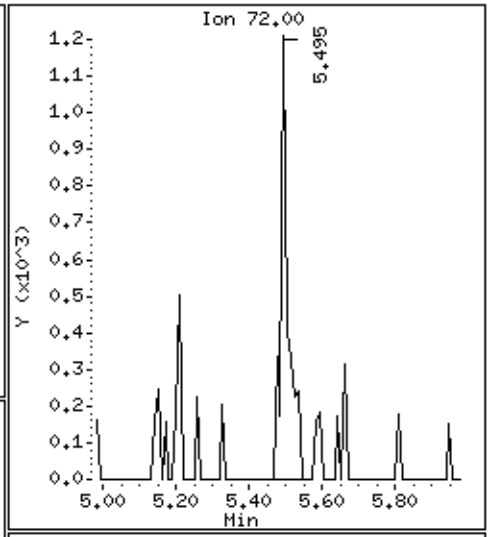
30 Tetrahydrofuran Concentration: 5 ug/Kg

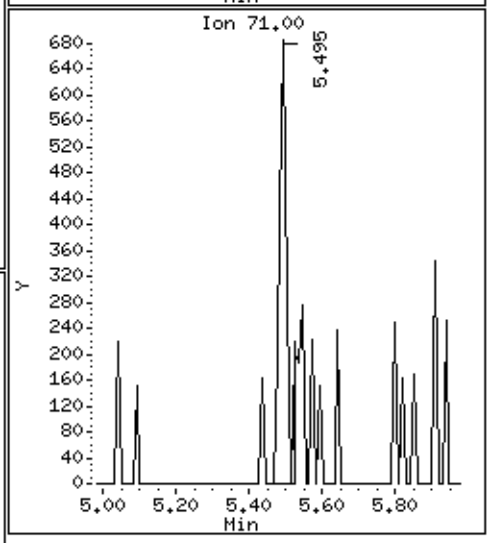


1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB22-0911-2011
0615MS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-03BMS

Sample wt/vol: 5.50 (g/mL) G Lab File ID: V1M1672.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 24 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 64 | | 0.73 | 2.4 | 5.9 |
| 71-43-2 | Benzene | 52 | | 0.73 | 2.4 | 5.9 |
| 108-88-3 | Toluene | 50 | | 0.56 | 2.4 | 5.9 |
| 100-41-4 | Ethylbenzene | 50 | | 0.59 | 2.4 | 5.9 |
| 1330-20-7 | m,p-Xylene | 98 | | 1.9 | 4.8 | 5.9 |
| 95-47-6 | o-Xylene | 51 | | 0.56 | 2.4 | 5.9 |
| 1330-20-7 | Xylene (Total) | 150 | | 0.56 | 2.4 | 5.9 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1672.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1672.D
Lab Smp Id: K1059-03BMS  Client Smp ID: 06SB22-0911-2011061
Inj Date  : 23-JUN-2011 17:56
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1059-03BMS,,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 51  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.500 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

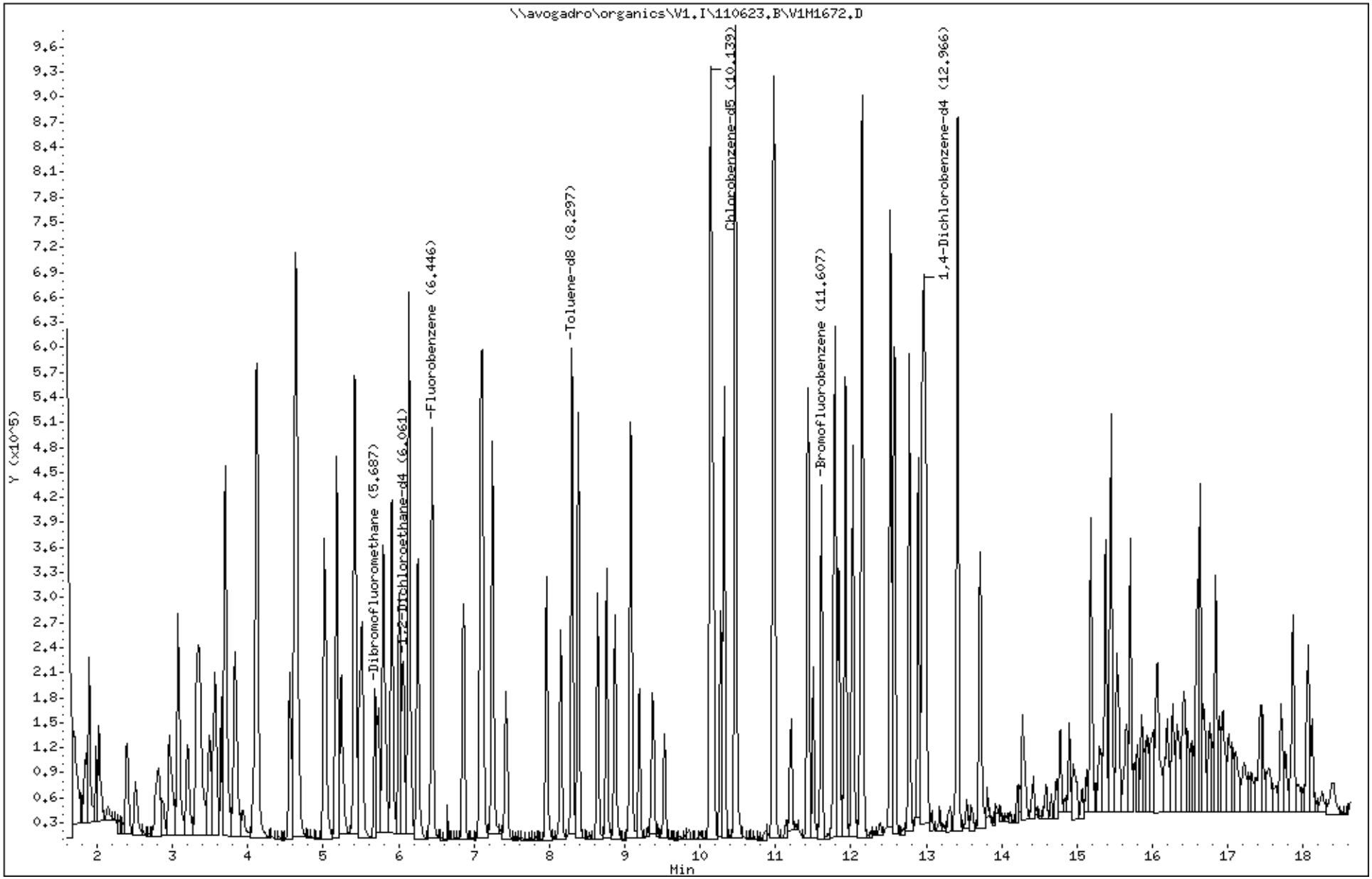
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 20 Methyl tert-butyl ether | 73 | 4.121 | 4.110 | (0.639) | 307841 | 50.0000 | 54 |
| $ 32 Dibromofluoromethane | 113 | 5.687 | 5.676 | (0.882) | 125953 | 50.0000 | 47 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.061 | 6.050 | (0.940) | 28540 | 50.0000 | 44 |
| 38 Benzene | 78 | 6.140 | 6.129 | (0.953) | 464700 | 50.0000 | 44 |
| * 41 Fluorobenzene | 96 | 6.445 | 6.434 | (1.000) | 514188 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.297 | 8.286 | (0.818) | 431158 | 50.0000 | 50 |
| 52 Toluene | 91 | 8.385 | 8.374 | (1.301) | 447654 | 50.0000 | 42 |
| * 60 Chlorobenzene-d5 | 117 | 10.139 | 10.128 | (1.000) | 346977 | 50.0000 | |
| 64 Ethylbenzene | 106 | 10.316 | 10.305 | (1.017) | 139080 | 50.0000 | 42 |
| 65 m,p-Xylene | 106 | 10.464 | 10.463 | (1.032) | 340296 | 100.000 | 82 |
| 66 o-Xylene | 106 | 10.966 | 10.955 | (1.082) | 168973 | 50.0000 | 42 |
| $ 70 Bromofluorobenzene | 95 | 11.606 | 11.595 | (1.145) | 171599 | 50.0000 | 52 |
| M 81 Xylene (Total) | 106 | | | | 509269 | 150.000 | 120 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.975 | 12.964 | (1.000) | 173585 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1672.D
Date : 23-JUN-2011 17:56
Client ID: 06SB22-0911-2011061
Sample Info: 5ML,K1059-03BMS,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB22-0911-2011
0615MSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-03BMSD

Sample wt/vol: 7.00 (g/mL) G Lab File ID: V1M1673.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 24 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 52 | | 0.57 | 1.9 | 4.7 |
| 71-43-2 | Benzene | 42 | | 0.57 | 1.9 | 4.7 |
| 108-88-3 | Toluene | 39 | | 0.44 | 1.9 | 4.7 |
| 100-41-4 | Ethylbenzene | 40 | | 0.47 | 1.9 | 4.7 |
| 1330-20-7 | m,p-Xylene | 80 | | 1.5 | 3.7 | 4.7 |
| 95-47-6 | o-Xylene | 41 | | 0.44 | 1.9 | 4.7 |
| 1330-20-7 | Xylene (Total) | 120 | | 0.44 | 1.9 | 4.7 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1673.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1673.D
Lab Smp Id: K1059-03BMSD  Client Smp ID: 06SB22-0911-2011061
Inj Date  : 23-JUN-2011 18:24
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1059-03BMSD,,59942
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 52  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

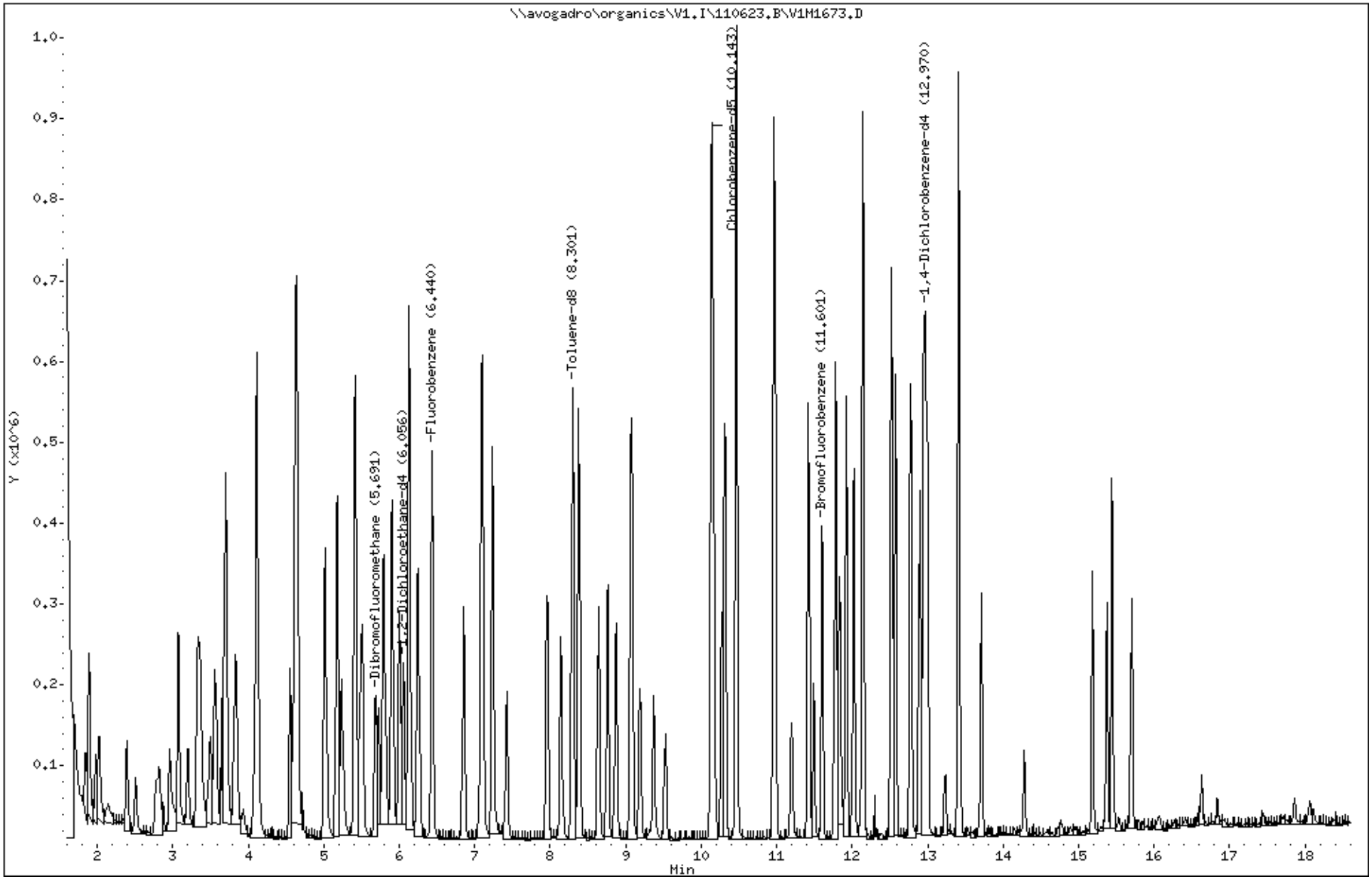
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 20 Methyl tert-butyl ether | 73 | 4.115 | 4.110 | (0.639) | 311126 | 50.0000 | 56 |
| $ 32 Dibromofluoromethane | 113 | 5.681 | 5.676 | (0.882) | 130229 | 50.0000 | 50 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.055 | 6.050 | (0.940) | 29870 | 50.0000 | 47 |
| 38 Benzene | 78 | 6.134 | 6.129 | (0.953) | 465561 | 50.0000 | 45 |
| * 41 Fluorobenzene | 96 | 6.439 | 6.434 | (1.000) | 499192 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.301 | 8.286 | (0.819) | 433355 | 50.0000 | 51 |
| 52 Toluene | 91 | 8.380 | 8.374 | (1.301) | 429145 | 50.0000 | 42 |
| * 60 Chlorobenzene-d5 | 117 | 10.133 | 10.128 | (1.000) | 339076 | 50.0000 | |
| 64 Ethylbenzene | 106 | 10.310 | 10.305 | (1.017) | 138814 | 50.0000 | 43 |
| 65 m,p-Xylene | 106 | 10.468 | 10.463 | (1.033) | 346088 | 100.000 | 86 |
| 66 o-Xylene | 106 | 10.960 | 10.955 | (1.082) | 172168 | 50.0000 | 44 |
| $ 70 Bromofluorobenzene | 95 | 11.600 | 11.595 | (1.145) | 167436 | 50.0000 | 52 |
| M 81 Xylene (Total) | 106 | | | | 518256 | 150.000 | 130 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.970 | 12.964 | (1.000) | 164946 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1673.D
Date : 23-JUN-2011 18:24
Client ID: 06SB22-0911-2011061
Sample Info: 5ML,K1059-03BMSD,,59942

Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

LCS-59942

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-59942

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1652.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 54 | | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 54 | | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 54 | | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 56 | | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 110 | | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 54 | | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 170 | | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1652.D
Report Date: 24-May-2011 15:01

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1652.D
Lab Smp Id: LCS-59942 Client Smp ID: LCS-59942
Inj Date : 23-JUN-2011 08:01
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,LCS-59942,LCS-59942,59942
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 31 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.696 | 1.696 | (0.264) | 102579 | 50.0000 | 55 |
| 2 Chloromethane | 50 | 1.903 | 1.903 | (0.296) | 348438 | 50.0000 | 56 |
| 3 Vinyl Chloride | 62 | 2.021 | 2.021 | (0.314) | 239856 | 50.0000 | 56 |
| 4 Bromomethane | 94 | 2.386 | 2.386 | (0.371) | 129802 | 50.0000 | 53 |
| 5 Chloroethane | 64 | 2.504 | 2.504 | (0.389) | 135176 | 50.0000 | 55 |
| 6 Trichlorofluoromethane | 101 | 2.770 | 2.770 | (0.431) | 184850 | 50.0000 | 59 |
| 127 Ethanol | 46 | 2.947 | 2.947 | (0.458) | 99091 | 5000.00 | 7200(Q) |
| 7 Ether | 59 | 3.065 | 3.065 | (0.476) | 198928 | 50.0000 | 55 |
| 8 Acrolein | 56 | 3.203 | 3.203 | (0.498) | 239666 | 250.000 | 260 |
| 9 1,1-Dichloroethene | 96 | 3.322 | 3.322 | (0.516) | 186487 | 50.0000 | 57 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.331 | 3.331 | (0.518) | 167682 | 50.0000 | 54 |
| 11 Acetone | 58 | 3.361 | 3.361 | (0.522) | 20940 | 50.0000 | 46(Q) |
| 12 Iodomethane | 142 | 3.479 | 3.479 | (0.541) | 331845 | 50.0000 | 52 |
| 13 Carbon Disulfide | 76 | 3.548 | 3.548 | (0.551) | 712284 | 50.0000 | 56 |
| 14 Acetonitrile | 40 | 3.686 | 3.686 | (0.573) | 148945 | 500.000 | 350(Q) |
| 15 Methyl Acetate | 43 | 3.706 | 3.706 | (0.576) | 202542 | 50.0000 | 50 |
| 16 Methylene Chloride | 84 | 3.814 | 3.814 | (0.593) | 204409 | 50.0000 | 52 |
| 17 tert-Butanol | 59 | 3.922 | 3.922 | (0.610) | 41571 | 100.000 | 120 |
| 18 Acrylonitrile | 53 | 4.060 | 4.060 | (0.631) | 78828 | 50.0000 | 54 |
| 20 Methyl tert-butyl ether | 73 | 4.110 | 4.110 | (0.639) | 391341 | 50.0000 | 54 |
| 19 trans-1,2-Dichloroethene | 96 | 4.110 | 4.110 | (0.639) | 199183 | 50.0000 | 55 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1652.D
Report Date: 24-May-2011 15:01

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 21 1,1-Dichloroethane | 63 | 4.543 | 4.543 | (0.706) | 380169 | 50.0000 | 53 |
| | 22 Vinyl acetate | 43 | 4.602 | 4.602 | (0.715) | 1095987 | 50.0000 | 54 |
| | 23 Diisopropyl Ether | 45 | 4.622 | 4.622 | (0.718) | 1170531 | 50.0000 | 55 |
| | 24 Ethyl tert-butyl ether | 59 | 5.016 | 5.016 | (0.780) | 572314 | 50.0000 | 52 |
| M | 27 1,2-dichloroethene, (Total) | 100 | | | | 401663 | 100.000 | 110 |
| | 25 cis-1,2-Dichloroethene | 96 | 5.163 | 5.163 | (0.803) | 202480 | 50.0000 | 53 |
| | 26 2,2-Dichloropropane | 77 | 5.173 | 5.173 | (0.804) | 110502 | 50.0000 | 50 |
| | 28 2-Butanone | 72 | 5.183 | 5.183 | (0.806) | 20820 | 50.0000 | 60(Q) |
| | 29 Bromochloromethane | 128 | 5.420 | 5.420 | (0.842) | 104847 | 50.0000 | 55 |
| | 30 Tetrahydrofuran | 72 | 5.479 | 5.479 | (0.852) | 34514 | 100.000 | 97 |
| | 31 Chloroform | 83 | 5.508 | 5.508 | (0.856) | 273621 | 50.0000 | 53 |
| $ | 32 Dibromofluoromethane | 113 | 5.676 | 5.676 | (0.882) | 163658 | 50.0000 | 48 |
| | 33 1,1,1-Trichloroethane | 97 | 5.715 | 5.715 | (0.888) | 173082 | 50.0000 | 56 |
| | 34 Cyclohexane | 56 | 5.784 | 5.784 | (0.899) | 435662 | 50.0000 | 57 |
| | 36 Carbon Tetrachloride | 117 | 5.902 | 5.902 | (0.917) | 169060 | 50.0000 | 54 |
| | 35 1,1-Dichloropropene | 110 | 5.902 | 5.902 | (0.917) | 87055 | 50.0000 | 54 |
| $ | 37 1,2-Dichloroethane-d4 | 102 | 6.050 | 6.050 | (0.940) | 37610 | 50.0000 | 46 |
| | 38 Benzene | 78 | 6.129 | 6.129 | (0.953) | 725816 | 50.0000 | 54 |
| | 39 1,2-Dichloroethane | 62 | 6.139 | 6.139 | (0.954) | 198735 | 50.0000 | 54 |
| | 40 tert-Amyl methyl ether | 73 | 6.247 | 6.247 | (0.971) | 395356 | 50.0000 | 52 |
| * | 41 Fluorobenzene | 96 | 6.434 | 6.434 | (1.000) | 647007 | 50.0000 | |
| | 42 Trichloroethene | 130 | 6.848 | 6.848 | (1.064) | 199907 | 50.0000 | 54 |
| | 43 Methylcyclohexane | 83 | 7.084 | 7.084 | (1.101) | 305176 | 50.0000 | 55 |
| | 44 1,2-Dichloropropane | 63 | 7.104 | 7.104 | (1.104) | 248883 | 50.0000 | 57 |
| | 46 Dibromomethane | 93 | 7.232 | 7.232 | (1.124) | 104895 | 50.0000 | 54 |
| | 47 1,4-Dioxane | 88 | 7.252 | 7.252 | (1.127) | 26268 | 1000.00 | 1000 |
| | 48 Bromodichloromethane | 83 | 7.419 | 7.419 | (1.153) | 197911 | 50.0000 | 55 |
| | 45 2-Chloroethyl vinyl ether | 63 | 7.774 | 7.774 | (1.208) | 20044 | 50.0000 | 40(Q) |
| | 49 cis-1,3-Dichloropropene | 75 | 7.951 | 7.951 | (1.236) | 301844 | 50.0000 | 55 |
| | 50 4-Methyl-2-pentanone | 43 | 8.138 | 8.138 | (1.265) | 230302 | 50.0000 | 53 |
| $ | 51 Toluene-d8 | 98 | 8.286 | 8.286 | (0.818) | 564003 | 50.0000 | 51 |
| | 52 Toluene | 91 | 8.374 | 8.374 | (1.302) | 719137 | 50.0000 | 54 |
| | 53 trans-1,3-Dichloropropene | 75 | 8.631 | 8.631 | (1.341) | 230920 | 50.0000 | 54 |
| | 54 1,1,2-Trichloroethane | 97 | 8.857 | 8.857 | (1.377) | 134075 | 50.0000 | 52 |
| | 55 Tetrachloroethene | 164 | 9.064 | 9.064 | (0.895) | 139737 | 50.0000 | 55 |
| | 56 1,3-Dichloropropane | 76 | 9.074 | 9.074 | (0.896) | 243059 | 50.0000 | 54 |
| | 57 2-Hexanone | 43 | 9.182 | 9.182 | (0.907) | 174832 | 50.0000 | 55 |
| | 58 Dibromochloromethane | 129 | 9.369 | 9.369 | (0.925) | 161070 | 50.0000 | 54 |
| | 59 1,2-Dibromoethane | 107 | 9.517 | 9.517 | (0.940) | 141276 | 50.0000 | 54 |
| * | 60 Chlorobenzene-d5 | 117 | 10.128 | 10.128 | (1.000) | 447005 | 50.0000 | |
| | 63 1-Chlorohexane | 91 | 10.137 | 10.137 | (1.001) | 262015 | 50.0000 | 58 |
| | 61 Chlorobenzene | 112 | 10.157 | 10.157 | (1.003) | 485499 | 50.0000 | 55 |
| | 62 1,1,1,2-Tetrachloroethane | 131 | 10.266 | 10.266 | (1.014) | 163829 | 50.0000 | 56 |
| | 64 Ethylbenzene | 106 | 10.305 | 10.305 | (1.018) | 237205 | 50.0000 | 56 |
| | 65 m,p-Xylene | 106 | 10.463 | 10.463 | (1.033) | 598211 | 100.000 | 110 |
| | 66 o-Xylene | 106 | 10.955 | 10.955 | (1.082) | 277823 | 50.0000 | 54 |
| | 67 Styrene | 104 | 10.975 | 10.975 | (1.084) | 511887 | 50.0000 | 58 |
| | 68 Bromoform | 173 | 11.191 | 11.191 | (1.105) | 102149 | 50.0000 | 57(T) |
| | 69 Isopropylbenzene | 105 | 11.418 | 11.418 | (1.127) | 729002 | 50.0000 | 58 |
| | 126 trans-1,4-Dichloro-2-butene | 75 | 11.487 | 11.487 | (1.134) | 63321 | 50.0000 | 55 |
| $ | 70 Bromofluorobenzene | 95 | 11.595 | 11.595 | (1.145) | 212309 | 50.0000 | 50 |
| | 72 Bromobenzene | 156 | 11.773 | 11.773 | (0.908) | 183356 | 50.0000 | 51 |
| | 71 1,1,2,2-Tetrachloroethane | 83 | 11.763 | 11.763 | (0.907) | 180081 | 50.0000 | 52 |
| | 73 1,2,3-Trichloropropane | 75 | 11.822 | 11.822 | (0.912) | 190682 | 50.0000 | 50 |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1652.D
Report Date: 24-May-2011 15:01

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 74 n-Propylbenzene | 120 | 11.910 | 11.910 | (0.919) | 195411 | 50.0000 | 54 |
| | 75 2-Chlorotoluene | 126 | 12.009 | 12.009 | (0.926) | 187695 | 50.0000 | 53 |
| | 76 1,3,5-Trimethylbenzene | 105 | 12.127 | 12.127 | (0.935) | 598645 | 50.0000 | 55 |
| | 77 4-Chlorotoluene | 126 | 12.137 | 12.137 | (0.936) | 192478 | 50.0000 | 53 |
| | 78 tert-Butylbenzene | 119 | 12.511 | 12.511 | (0.965) | 616782 | 50.0000 | 55 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.560 | 12.560 | (0.969) | 592711 | 50.0000 | 54 |
| M | 81 Xylene (Total) | 106 | | | | 876034 | 150.000 | 170 |
| | 80 sec-Butylbenzene | 105 | 12.767 | 12.767 | (0.985) | 841218 | 50.0000 | 55 |
| | 82 1,3-Dichlorobenzene | 146 | 12.886 | 12.886 | (0.994) | 358112 | 50.0000 | 51 |
| | 83 4-Isopropyltoluene | 119 | 12.935 | 12.935 | (0.998) | 652197 | 50.0000 | 55 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.964 | 12.964 | (1.000) | 220503 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.984 | 12.984 | (1.002) | 371041 | 50.0000 | 52 |
| | 86 n-Butylbenzene | 91 | 13.408 | 13.408 | (1.034) | 650696 | 50.0000 | 57 |
| | 87 1,2-Dichlorobenzene | 146 | 13.417 | 13.417 | (1.035) | 344899 | 50.0000 | 54 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.274 | 14.274 | (1.101) | 20629 | 50.0000 | 47(Q) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.180 | 15.180 | (1.171) | 202074 | 50.0000 | 54 |
| | 90 Hexachlorobutadiene | 225 | 15.377 | 15.377 | (1.186) | 110917 | 50.0000 | 58(Q) |
| | 91 Naphthalene | 128 | 15.446 | 15.446 | (1.191) | 425071 | 50.0000 | 51 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.703 | 15.703 | (1.211) | 167761 | 50.0000 | 50 |

## QC Flag Legend

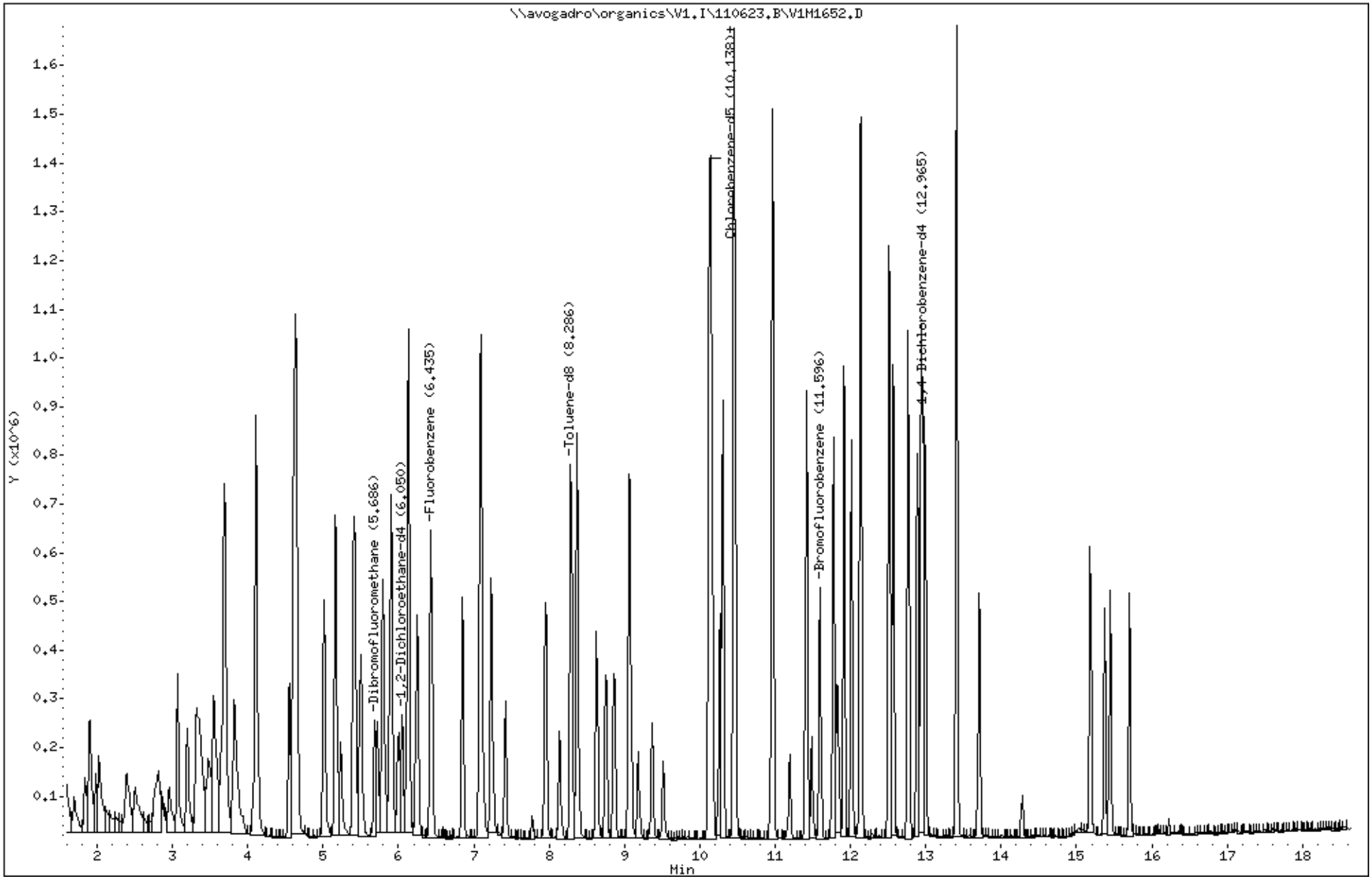
T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110623.B\V1M1652.D
Date : 23-JUN-2011 08:01
Client ID: LCS-59942
Sample Info: 5ML,LCS-59942,LCS-59942,59942

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260L ANALYST: [illegible] BATCH: 110622.B Start: 22-JUN-11 07:57
ICAL DATE: 6-22-11 End: 22-JUN-11 15:06

Comments:

Standards: BFB VW110504A 2 uL
IS/SS VW110621A 100 uL
STD. VW110614A uL
ICV VW110614B 2.5 uL

Reviewed By: [illegible] 6/24/11

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1630 | 07:57 | BFB1P | BFB1P | | SL | | | | | | | | | 1 | | OK | |
| V1M1633 | 09:07 | VSTD0201P | VSTD0201P | | SL | | 110 | 99 | 97 | | | | | 1 | | OK 1 uL | |
| V1M1634 | 09:34 | VSTD0501P | VSTD0501P | | SL | | 100 | 100 | 100 | | | | | 1 | | OK 2.5 uL | |
| V1M1635 | 10:02 | VSTD1001P | VSTD1001P | | SL | | 111 | 101 | 101 | | | | | 1 | | OK 5 uL 25 uL | |
| V1M1636 | 10:30 | VSTD2001P | VSTD2001P | | SL | | 112 | 103 | 105 | | | | | 1 | | OK 10 uL | |
| V1M1640 | 12:41 | VSTD0051P | VSTD0051P | | SL | | 101 | 94 | 92 | | | | | 1 | | OK 0.25 uL | |
| V1M1643 | 15:06 | VICV0501P | VICV0501P | | SL | | 103 | 97 | 94 | 99 | 85 | 98 | 94 | 1 | R | OK | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

[illegible] 6-23-11

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260L
ICAL DATE: 6-22-11

ANALYST: [illegible]

BATCH: 110623.B

Start: 23-JUN-11 06:46
End: 23-JUN-11 18:52

Comments:

Standards: BFB VM110514A 2 uL
ISBS VM110621A AUTO uL
SMO VM110614A 2.5 uL
uL

Reviewed By: [illegible] 6/24/11

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1650 | 06:46 | BFB1Q | BFB1Q | | SL | | | | | | | | | 1 | | OK | |
| V1M1651 | 07:01 | VSTD0501Q | VSTD0501Q | | | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1652 | 08:01 | LCS-59942 | LCS-59942 | 59942 | SL | | 99 | 103 | 106 | 97 | 92 | 101 | 100 | 1 | | OK | |
| V1M1653 | 08:45 | MB-59942 | MB-59942 | 59942 | SL | | 95 | 96 | 85 | 95 | 83 | 101 | 96 | 1 | | NOT USED | |
| V1M1654 | 09:13 | MB-59942 | MB-59942 | 59942 | SL | | 96 | 100 | 98 | 96 | 88 | 102 | 101 | 1 | | OK | |
| V1M1655 | 09:41 | K1059-10B | 06TBSO-20110614 | 59942 | SL | 1 | 80 | 87 | 87 | 103 | 101 | 97 | 101 | 1 | | OK | |
| V1M1656 | 10:09 | K1056-01B | MW-5 24-26' | 59942 | SL | 1 | 97 | 103 | 99 | 98 | 82 | 102 | 97 | 1 | | OK | |
| V1M1657 | 10:37 | K1056-02B | MW-5A 25-27' | 59942 | SL | 1 | 99 | 103 | 100 | 98 | 82 | 102 | 93 | 1 | | OK | |
| V1M1658 | 11:21 | K1059-01B | 06SB28-1820-201 | 59942 | SL | 1 | 97 | 102 | 104 | 104 | 96 | 100 | 100 | 1 | | OK | |
| V1M1659 | 11:49 | K1059-02B | 06SB28-2325-201 | 59942 | SL | 1 | 97 | 103 | 106 | 100 | 96 | 100 | 98 | 1 | | OK | |
| V1M1660 | 12:17 | K1059-03B | 06SB22-0911-201 | 59942 | SL | 1 | 96 | 106 | 101 | 99 | 92 | 96 | 95 | 1 | | OK | |
| V1M1661 | 12:46 | K1059-04B | 06SB22-1719-201 | 59942 | SL | 1 | 96 | 104 | 102 | 99 | 96 | 97 | 99 | 1 | | OK | |
| V1M1662 | 13:14 | K1059-05B | 06SBDUP01-20110 | 59942 | SL | 1 | 93 | 102 | 100 | 103 | 104 | 99 | 96 | 1 | | OK | |
| V1M1663 | 13:43 | K1059-06B | 06SB24-1719-201 | 59942 | SL | 1 | 95 | 104 | 107 | 98 | 89 | 95 | 101 | 1 | | OK | |
| V1M1664 | 14:11 | K1059-07B | 06SB24-1921-201 | 59942 | SL | 1 | 94 | 105 | 107 | 96 | 102 | 96 | 106 | 1 | | OK | |
| V1M1665 | 14:39 | K1059-08B | 06SB21-1517-201 | 59942 | SL | 1 | 94 | 101 | 102 | 100 | 95 | 97 | 100 | 1 | | OK | |
| V1M1666 | 15:07 | K1059-09B | 06SB21-1719-201 | 59942 | SL | 1 | 96 | 104 | 137 | 98 | 95 | 102 | 514* | 1 | | OK - MATRIX EFFECT | |
| V1M1667 | 15:36 | K1059-11B | 06SBDUP02-20110 | 59942 | SL | 1 | 91 | 94 | 98 | 93 | 93 | 104 | 112* | 1 | | OK | |
| V1M1668 | 16:04 | K1059-12B | 06SB23-0709-201 | 59942 | SL | 1 | 89 | 94 | 92 | 97 | 95 | 100 | 100 | 1 | | OK | |
| V1M1669 | 16:32 | K1059-13B | 06SB23-0911-201 | 59942 | SL | 1 | 86 | 92 | 88 | 100 | 95 | 100 | 98 | 1 | | OK | |
| V1M1670 | 17:00 | K1059-14B | 06SB26-1416-201 | 59942 | SL | 1 | 84 | 85 | 70 | 97 | 97 | 194* | 206* | 1 | | RR TO CONFIRM JUK REPORTED } MATRIX | |
| V1M1671 | 17:28 | K1059-15B | 06SB26-2426-201 | 59942 | SL | 1 | 80 | 79 | 72 | 97 | 98 | 154* | 193* | 1 | | RR TO CONFIRM JUK REPORTED } EFFECT | |
| V1M1672 | 17:56 | K1059-03BMS | 06SB22-0911-201 | 59942 | SL | 2 | 79 | 80 | 83 | 94 | 88 | 100 | 104 | 1 | | OK | |
| V1M1673 | 18:24 | K1059-03BMSD | 06SB22-0911-201 | 59942 | SL | 3 | 77 | 78 | 79 | 100 | 95 | 102 | 104 | 1 | | OK | |
| V1M1674 | 18:52 | VBLK | VBLK | | SL | | 70 | 71 | 70 | 93 | 86 | 100 | 97 | 1 | T | NOT USED | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

[illegible] 6-24-11

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260B ANALYST: [illegible] BATCH: 110629.B Start: 29-JUN-11 07:07
ICAL DATE: 6-22-11 End: 29-JUN-11 19:54

Comments:

Standards: BFB VW110504A 2 uL
IS/SS VW110621A AUTO uL
SSD VW110624A 2.5 uL
uL

Reviewed By: [illegible] 6/30/11 Manual Integration: [illegible] MI Review: [illegible]

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1770 | 07:07 | BFB1U | BFB1U | | SL | | | | | | | | | 1 | | OK | |
| V1M1771 | 07:23 | VSTD0501U | VSTD0501U | | | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1772 | 08:10 | LCS-60062 | LCS-60062 | 60062 | SL | | 105 | 101 | 108 | 98 | 92 | 100 | 102 | 1 | R | OK | |
| V1M1773 | 08:51 | MB-60062 | MB-60062 | 60062 | SL | | 102 | 101 | 98 | 97 | 92 | 100 | 93 | 1 | | NOT USED | |
| V1M1774 | 09:18 | MB-60062 | MB-60062 | 60062 | SL | | 102 | 102 | 104 | 100 | 89 | 97 | 94 | 1 | | NOT USED | |
| V1M1775 | 09:46 | MB-60062 | MB-60062 | 60062 | SL | | 99 | 98 | 97 | 100 | 88 | 100 | 94 | 1 | | NOT USED | |
| V1M1776 | 10:22 | MB-60062 | MB-60062 | 60062 | SL | | 99 | 98 | 100 | 97 | 91 | 100 | 95 | 1 | | OK | |
| V1M1777 | 11:01 | K1072-02B | 80230-MIP4C-41 | 60062 | SL | 1 | 101 | 100 | 91 | 96 | 86 | 100 | 91 | 1 | | OK | |
| V1M1778 | 11:29 | K1072-03B | 80230-MIP4B-45 | 60062 | SL | 1 | 101 | 99 | 98 | 97 | 80 | 102 | 98 | 1 | | OK | |
| V1M1779 | 11:57 | K1126-01A | RS-BF-50-062711 | 60062 | SL | 1 | 101 | 100 | 104 | 101 | 87 | 102 | 98 | 1 | | OK | |
| V1M1780 | 12:28 | K1126-02A | RS-BF-51-062711 | 60062 | SL | 1 | 102 | 101 | 101 | 98 | 94 | 98 | 96 | 1 | | OK | |
| V1M1781 | 12:56 | K1126-03A | RS-BF-52-062711 | 60062 | SL | 1 | 99 | 101 | 99 | 102 | 86 | 99 | 95 | 1 | | OK | |
| V1M1782 | 13:24 | K1129-01C | ESL-BS-062711 | 60062 | SL | 1 | 100 | 100 | 107 | 101 | 82 | 99 | 94 | 1 | | OK | |
| V1M1783 | 13:52 | K1130-01C | ESL-CFS-062711 | 60062 | SL | 1 | 101 | 100 | 97 | 102 | 84 | 98 | 95 | 1 | | OK | |
| V1M1784 | 14:20 | K1059-14B | 06SB26-1416-201 | 60062 | SL | 2 | 83 | 71 | 74 | 99 | 94 | 308* | 272* | 1 | E | MI_14 MANUAL EXPERT CALIBRATED INT DISPOSITIONED | |
| V1M1785 | 14:48 | K1059-15B | 06SB26-2426-201 | 60062 | SL | 2 | 96 | 76 | 84 | 101 | 84 | 272* | 496* | 1 | | | |
| V1M1786 | 15:15 | VBLK | VBLK | | | | 96 | 90 | 93 | 91 | 80 | 103 | 100 | 1 | | NOT USED | |
| V1M1787 | 15:43 | VBLK | VBLK | | | | 91 | 85 | 84 | 93 | 77 | 105 | 100 | 1 | | NOT USED | |
| V1M1788 | 16:12 | K1099-03A | SB-03-60-62 | 60062 | SL | 1 | 87 | 83 | 85 | 94 | 82 | 105 | 101 | 1 | E | TM INFO LAL | |
| V1M1789 | 16:40 | K1111-01B | MW-3 11-13' | 60062 | SL | 1 | 89 | 85 | 88 | 90 | 78 | 102 | 96 | 1 | | OK | |
| V1M1790 | 17:08 | K1111-02B | MW-4 17-19' | 60062 | SL | 1 | 88 | 86 | 84 | 94 | 76 | 102 | 99 | 1 | | OK | |
| V1M1791 | 17:36 | K1111-03B | MW-6 24-26' | 60062 | SL | 1 | 90 | 83 | 86 | 92 | 76 | 106 | 101 | 1 | | OK | |
| V1M1792 | 18:03 | K1111-04B | MW-8 25-29' | 60062 | SL | 1 | 86 | 83 | 81 | 95 | 81 | 105 | 102 | 1 | | OK | |
| V1M1793 | 18:31 | K1111-04BMS | MW-8 25-29'MS | 60062 | SL | 2 | 88 | 85 | 90 | 94 | 80 | 102 | 102 | 1 | R | OK | |
| V1M1794 | 18:59 | K1111-04BMSD | MW-8 25-29'MSD | 60062 | SL | 3 | 90 | 87 | 86 | 93 | 84 | 102 | 100 | 1 | R | OK | |
| V1M1795 | 19:26 | VBLK | VBLK | | | | 86 | 83 | 84 | 95 | 90 | 101 | 101 | 1 | T | NOT USED | |
| V1M1796 | 19:54 | VBLK | VBLK | | | | 87 | 82 | 82 | 95 | 81 | 102 | 101 | 1 | T | NOT USED | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

[illegible] 6-30-11

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# MITKEM LABORATORIES: Volatile Organics Low/Medium Level Soil Extraction Log

| Date | Lab ID | | Analysis | Initial Wt. (g) | Final Wt. (g) | Sample Wt. (g) | Extraction Volume (mL) | Sample Type | Solvent&Lot# by/Date* | Comments/ Time of Encore transfer | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6-17-11 | K1042 | 08A1 | SOM | 27.00 | 32.87 | 5.8 | 5.0 | E | DI H2O | | [illegible] |
| | K1042 | 08A2 | | 27.07 | 33.81 | 6.7 | | | | | [illegible] |
| 6-17-11 | K1042 | 08A3 | | 26.93 | 33.05 | 6.1 | | | | | [illegible] |
| 6-18-11 | K1042 | 09A1 | | 27.47 | 32.71 | 5.2 | | | | | DRM |
| | | 09A2 | | 27.24 | 32.23 | 5.0 | | | | | |
| | | 09A3 | | 26.83 | 31.82 | 5.0 | | | | | |
| | | 10A1 | | 27.19 | 32.19 | 5.0 | | | | | |
| | | 10A2 | | 27.17 | 32.15 | 5.0 | | | | | |
| 6-18-11 | K1042 | 10A3 | SOM | 27.24 | 32.23 | 5.0 | 5.0 | E | DI H2O | | DRM |
| 6/21/11 | MB-59942 | | 8260_L | NA | NA | 5.0 | 5.0 | E | DI H2O | | VEB |
| | LCS-59942 | | | NA | NA | 5.0 | 5.0 | E | DI H2O | | |
| | K1056 | 01B | | NA | NA | 5.4 | 5.0 | E | DI H2O | | |
| | K1056 | 02B | | NA | NA | 5.3 | 5.0 | E | DI H2O | | |
| | K1059 | 01B | | 35.18 | 42.22 | 7.0 | 5.0 | C | DI H2O | | |
| 6/21/11 | K1059 | 02B | 8260_L | 34.70 | 43.14 | 8.4 | 5.0 | C | DI H2O | | VEB |

*=Date added, if different than Rec. date

**Sample Type: A. MeOH Pre-preserved; B. DI H2O/Freeze; C. NaHSO4 Pre-preserved; D. Encore; E. Unpreserved Jars**

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**Logbook ID: 90.0189-03/11**



**Reviewed By:** [illegible] 6-24-11

# MITKEM LABORATORIES: Volatile Organics Low/Medium Level Soil Extraction Log

| Date | Lab ID | | Analysis | Initial Wt. (g) | Final Wt. (g) | Sample Wt. (g) | Extraction Volume (mL) | Sample Type | Solvent&Lot# by/Date* | Comments/ Time of Encore transfer | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/21/11 | K1059 | 03B1 | 8260_L | 34.63 | 42.74 | 8.1 | 5.0 | C | DI H2O | | VEB |
| | | 03B2 | | 33.98 | 39.39 | 5.5 | | | | | |
| | | 03B3 | | 35.10 | 42.08 | 7.0 | | | | | |
| | | 04B | | 35.43 | 41.89 | 6.5 | | | | | |
| | | 05B | | 33.88 | 41.08 | 7.2 | | | | | |
| | | 06B | | 35.25 | 43.19 | 7.9 | | | | | |
| | | 07B | | 35.08 | 42.45 | 7.4 | | | | | |
| | | 08B | | 34.63 | 42.78 | 8.2 | | | | | |
| | | 09B | | 33.91 | 40.80 | 6.9 | | | | | |
| | | 10B | | ~~33.56~~ NA VEB 6/21/11 | ~~32.42~~ NA | 5.0 | | | | Trip Blank | |
| | | 11B | | 35.05 | 42.39 | 7.3 | | | | | |
| | | 12B | | 34.66 | 42.37 | 7.7 | | | | | |
| | | 13B | | 35.03 | 43.94 | 8.9 | | | | | |
| | | 14B | | 33.92 | 41.82 | 7.9 | | | | | |
| 6/21/11 | K1059 | 15B | 8260_L | 34.91 | 43.35 | 8.4 | 5.0 | C | DI H2O | | VEB |

*=Date added, if different than Rec. date

**Sample Type: A. MeOH Pre-preserved; B. DI H2O/Freeze; C. NaHSO4 Pre-preserved; D. Encore; E. Unpreserved Jars**

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Logbook ID: 90.0189-03/11



Reviewed By: G 7/8/11

# MITKEM LABORATORIES: VOLATILE SAMPLES RECEIVING LOGBOOK

| VOA Log-In Date | Workorder | Client ID | Sample Numbers | Relinquished by: | Received by: | Pres. Used | F/R | Returned to R1 |
|---|---|---|---|---|---|---|---|---|
| 6/6/11 | K1042 | EPA | 01-06 | [illegible] | [illegible] | US | | |
| 6/16/11 | K1045 | RIRRC | 01 | [illegible] | | H | R10 | |
| 6-17-11 | K1042 | EPA | 07, 08 | [illegible] | | US | R9 | |
| 6-17-11 | K1047 | Sevenson | 01 & 02 | DRM | | H | R10 | |
| 6-17-11 | K1050 | EPA | 01 | DRM | | H | R10 | |
| 6-18-11 | K1042 | EPA | 09 & 10 | DRM | | US | R9 | |
| 6-18-11 | ~~K0155~~ DRM 6/21/11 K1055 | CRA | 02 & 03 | DRM | | H | R9 | |
| 6-18-11 | K1056 | Shaw | 01 & 02 | DRM | | US | R9 | |
| 6/20/11 | K1059 | Tetra Navy | 01 - 15 | VEB | | N/M | ~~R9~~ R9 VEB 6/20/11 | |
| 6/21/11 | K1062 | Labella | 01 | DRM | | US | R9 | |
| | K1064 | Sovereign | 01 - 06 | DRM | | H | R9 | |
| | K1065 | EPA | 01, 02, 04-08 | DRM | | T | R4 | |
| | K1066 | EPA | 01 - 19 | DRM | | T | R4 | |
| 6-21-11 | K1067 | RIRRC | 01-03 | DRM | [illegible] | H | R9 | |

Logbook ID 90.0191-12/10

Reviewed By: [illegible] 6/22/11

**"Preservative Used" Key**

| | | | | |
|---|---|---|---|---|
| **UA** = Unpreserved Aqueous | **H** = HCL | **A** = Air | **M** = MeOH | **E** = Encore |
| **US** = Unpreserved Soil | **N** = $NaHSO_4$ | | **F** = Freeze | **T** = Trace, HCL |

# * Semivolatile Organics *

**REPORT NARRATIVE**

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London**

**Laboratory Workorder / SDG #: K1059, Soils**

**CT ETPH, CT ETPH by GC-FID**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3545A

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on sample: 06SB22-0911-20110615 (K1059-03AMS/MSD).

Percent recoveries and replicate RPDs were within the QC limits.

### E. Dilutions:

The following samples were analyzed at dilution:

06SB21-1719-20110616 (K1059-09A) : Dilution Factor: 4
06SB26-1416-20110617 (K1059-14A) : Dilution Factor: 4
06SB26-2426-20110617 (K1059-15A) : Dilution Factor: 4

**F. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Mitkem, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____7/22/11_____

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB28-1820-20110614 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-01 **Collection Date:** 06/14/11 12:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | ND | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 13:43 | 59935 |
| Surrogate: ortho-Terphenyl | 66.5 | | | 50-150 | %REC | 1 | 06/24/2011 13:43 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5479.D
Lab Smp Id: K1059-01A BN: 59935 Client Smp ID: 06SB28-1820-20110614
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 13:43 Operator: TM
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 27 13:17:40 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.20 | 12555286 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 25438196 | 66.467 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 66.47% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 66506662 | 198.752 ug/mL |

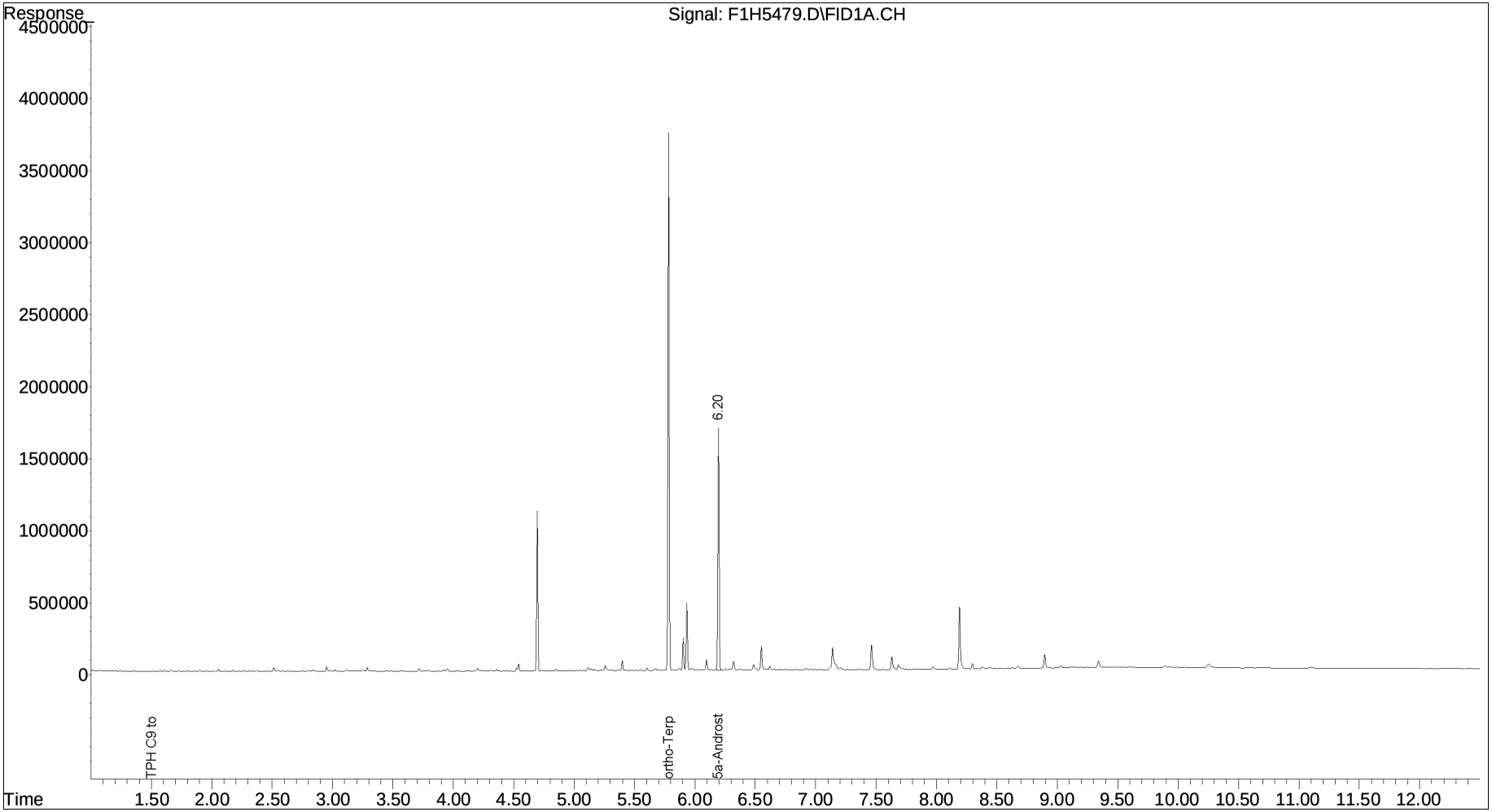
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 126266472
Corrected Range Area (IS,SS): 88272990
Instrument Blank Area (F1H5475): 21766328

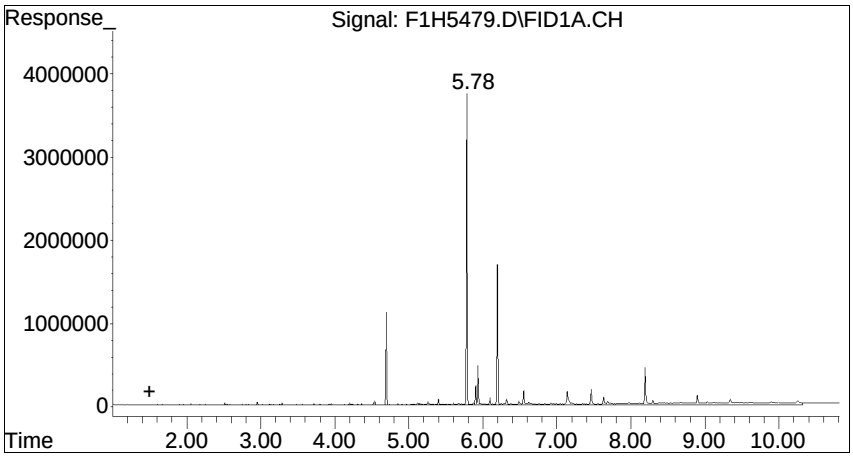
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5479.D
Lab Smp Id: K1059-01A BN: 59935 Client Smp ID: 06SB28-1820-20110614
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 13:43 Operator: TM
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Jun 27 13:17:40 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 66506662
Conc: 198.75 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB28-2325-20110614
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-02
**Collection Date:** 06/14/11 14:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | ND | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 14:03 | 59935 |
| Surrogate: ortho-Terphenyl | 59.4 | | | 50-150 | %REC | 1 | 06/24/2011 14:03 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5480.D
Lab Smp Id: K1059-02A BN: 59935 Client Smp ID: 06SB28-2325-20110614
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 14:03 Operator: TM
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 27 13:17:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 11062993 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 22722783 | 59.372 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 59.37% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 54543442 | 163.001 ug/mL |

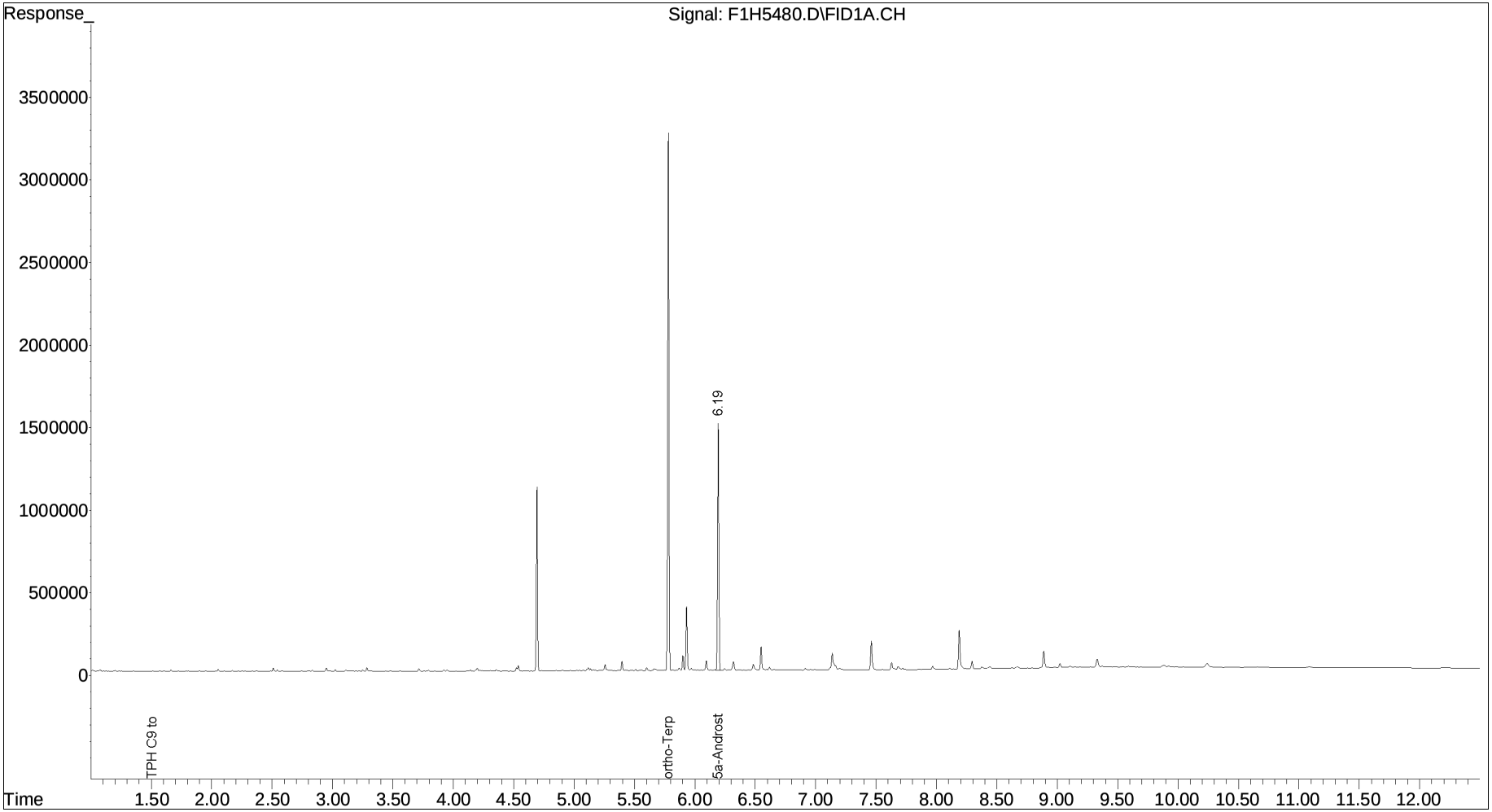
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 110095546
Corrected Range Area (IS,SS): 76309770
Instrument Blank Area (F1H5475): 21766328

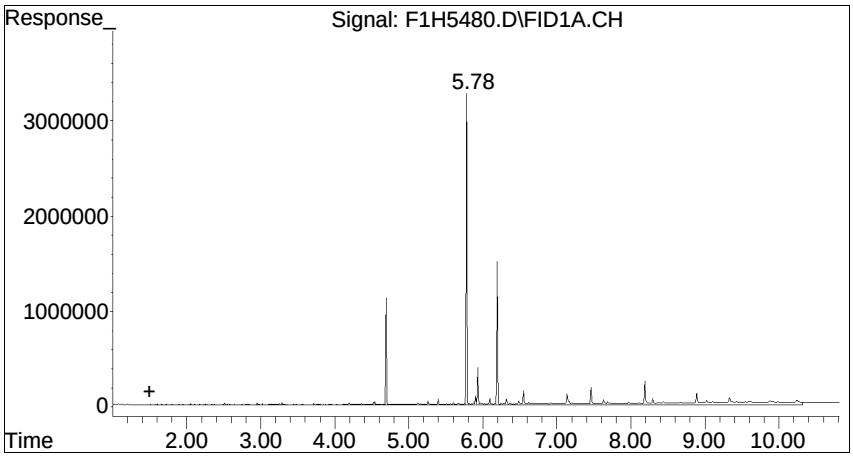
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5480.D
Lab Smp Id: K1059-02A BN: 59935 Client Smp ID: 06SB28-2325-20110614
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 14:03 Operator: TM
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Jun 27 13:17:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 54543442
Conc: 163.00 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB22-0911-20110615 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-03 **Collection Date:** 06/15/11 8:50

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 20 | | 3.3 | 18 | mg/Kg | 1 | 06/24/2011 14:23 | 59935 |
| Surrogate: ortho-Terphenyl | 60.1 | | | 50-150 | %REC | 1 | 06/24/2011 14:23 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5481.D
Lab Smp Id: K1059-03A BN: 59935 Client Smp ID: 06SB22-0911-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 14:23 Operator: TM
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 27 13:17:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 11141413 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 22985457 | 60.058 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 60.06% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 79830715 | 238.571 ug/mL |

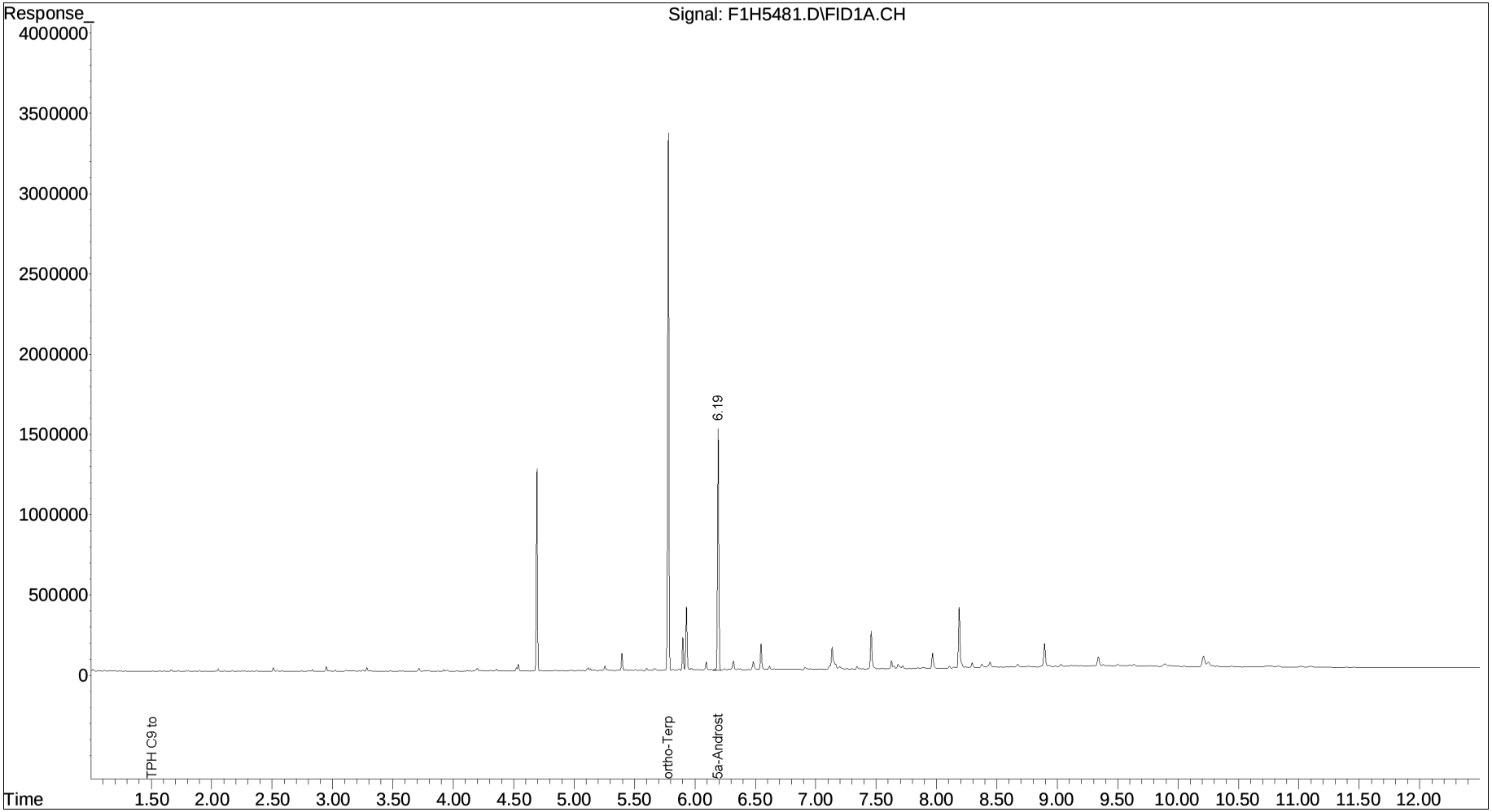
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 135723913
Corrected Range Area (IS,SS): 101597043
Instrument Blank Area (F1H5475): 21766328

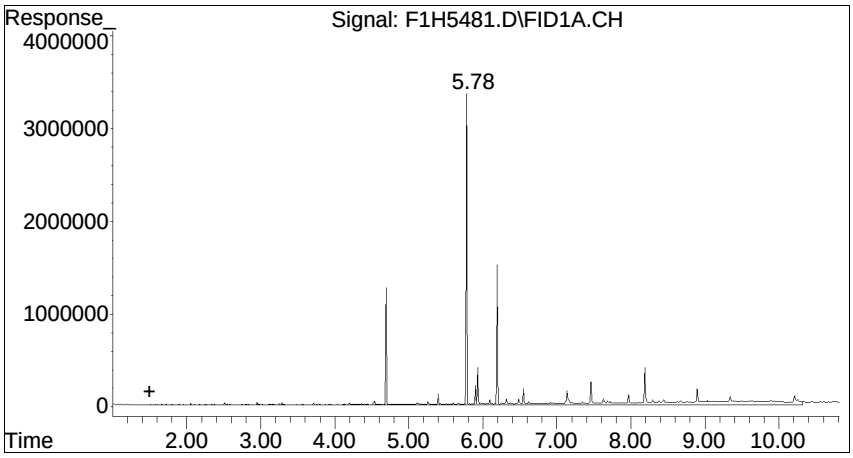
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5481.D
Lab Smp Id: K1059-03A BN: 59935 Client Smp ID: 06SB22-0911-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 14:23 Operator: TM
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Jun 27 13:17:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 79830715
Conc: 238.57 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB22-1719-20110615 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-04 **Collection Date:** 06/15/11 9:30

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 30 | | 3.1 | 17 | mg/Kg | 1 | 06/24/2011 17:06 | 59935 |
| Surrogate: ortho-Terphenyl | 83.9 | | | 50-150 | %REC | 1 | 06/24/2011 17:06 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5489.D
Lab Smp Id: K1059-04A BN: 59935 Client Smp ID: 06SB22-1719-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 17:06 Operator: TM
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 27 13:18:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13342559 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 32123670 | 83.935 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 83.94% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 125062744 | 373.745 ug/mL |

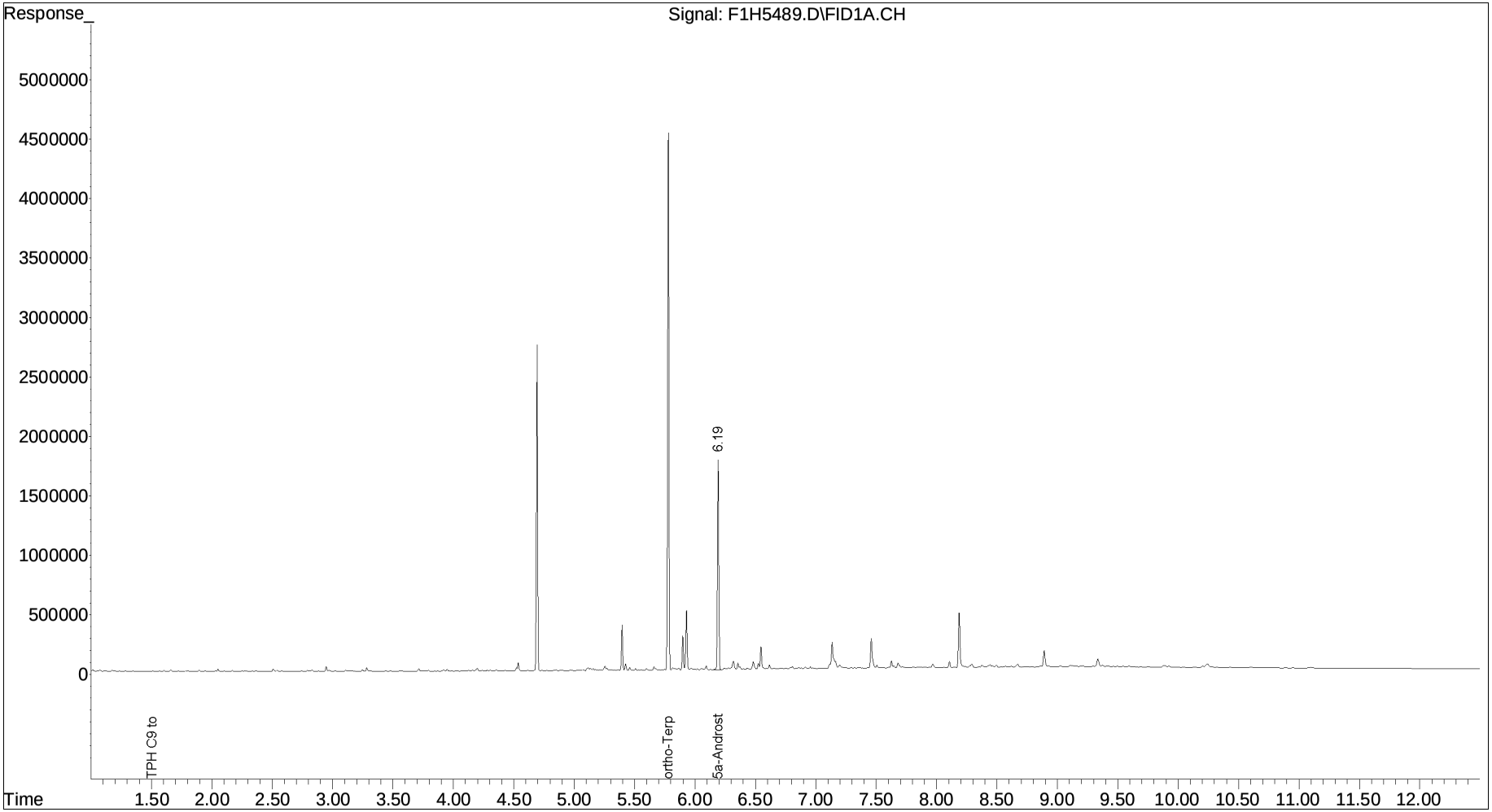
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 193744132
Corrected Range Area (IS,SS): 148277903
Instrument Blank Area (F1H5488): 23215159

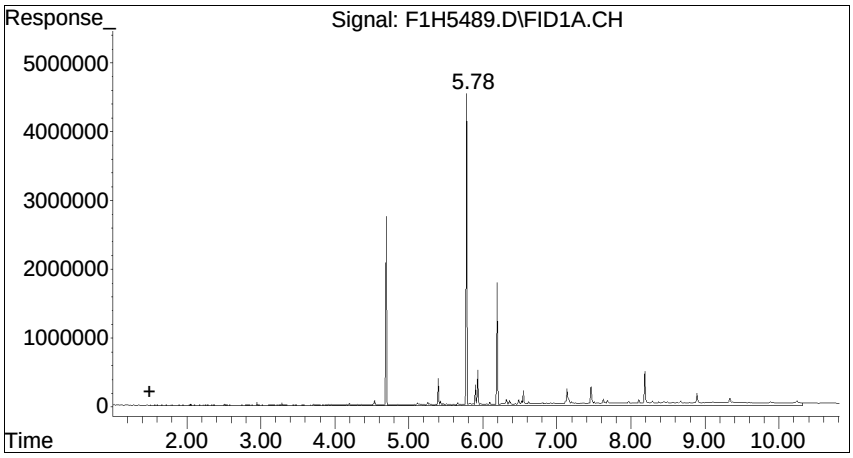
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5489.D
Lab Smp Id: K1059-04A BN: 59935 Client Smp ID: 06SB22-1719-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 17:06 Operator: TM
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Jun 27 13:18:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 125062744
Conc: 373.74 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SBDUP01-20110615 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-05 **Collection Date:** 06/15/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 23 | | 3.1 | 17 | mg/Kg | 1 | 06/24/2011 17:26 | 59935 |
| Surrogate: ortho-Terphenyl | 76.6 | | | 50-150 | %REC | 1 | 06/24/2011 17:26 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5490.D
Lab Smp Id: K1059-05A BN: 59935 Client Smp ID: 06SBDUP01-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 17:26 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 27 13:18:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13905618 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 29306109 | 76.573 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 76.57% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 99547078 | 297.492 ug/mL |

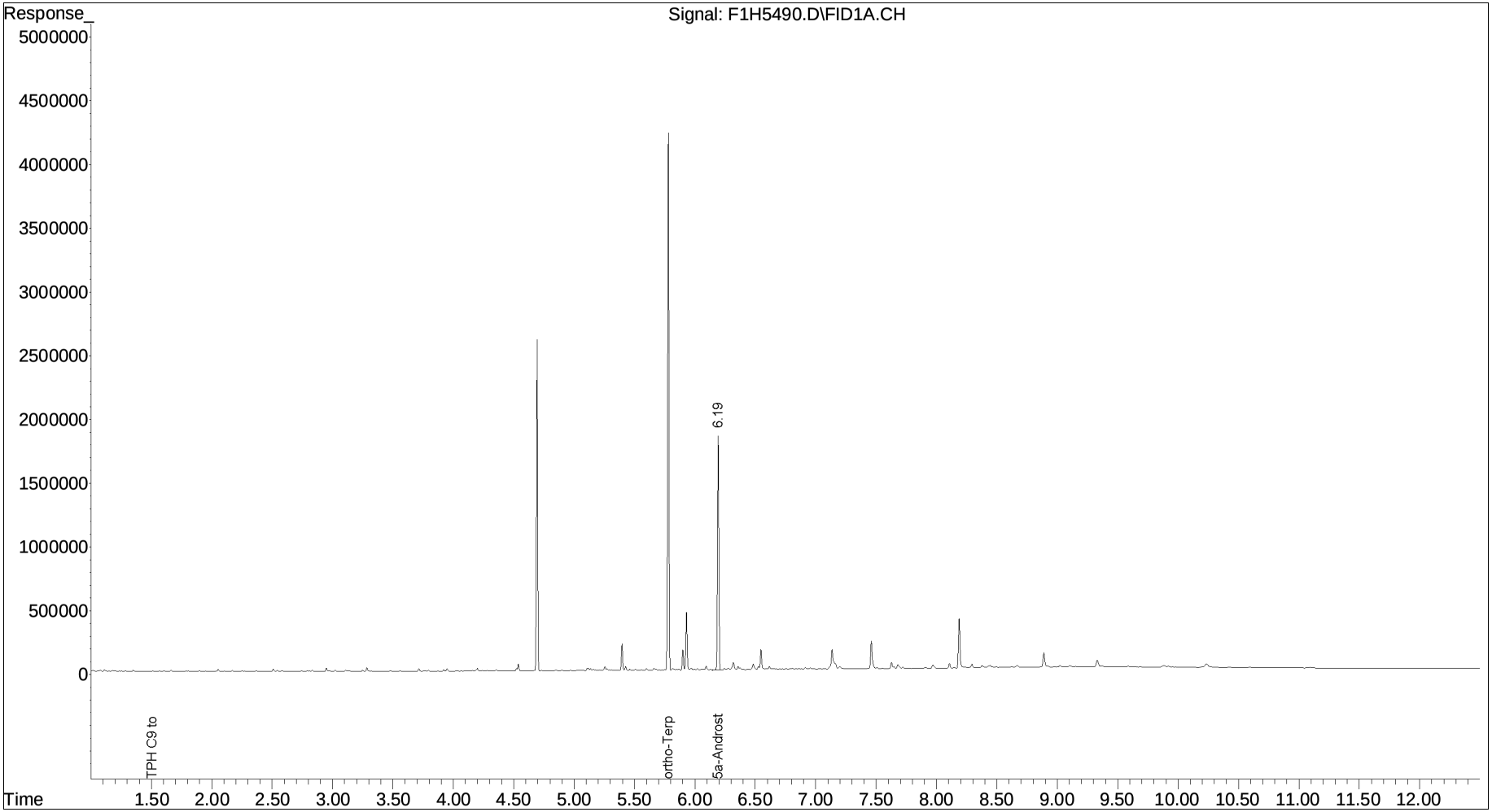
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 165973964
Corrected Range Area (IS,SS): 122762237
Instrument Blank Area (F1H5488): 23215159

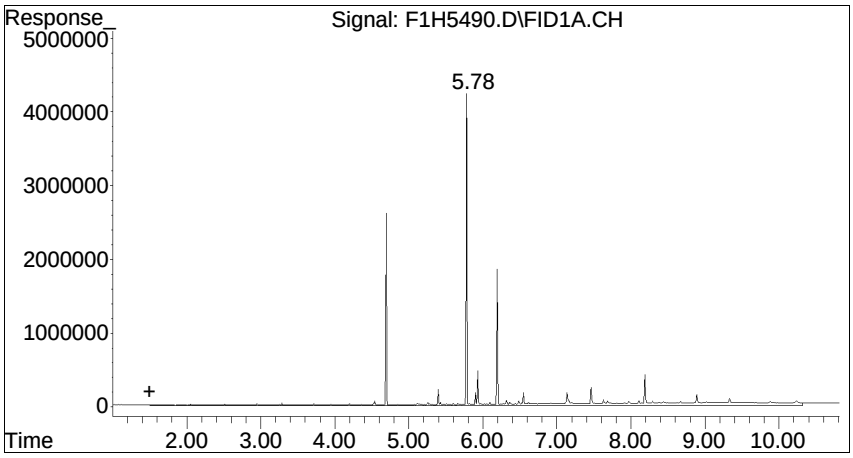
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5490.D
Lab Smp Id: K1059-05A BN: 59935 Client Smp ID: 06SBDUP01-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 17:26 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jun 27 13:18:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 99547078
Conc: 297.49 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB24-1719-20110615 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-06 **Collection Date:** 06/15/11 13:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 33 | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 17:46 | 59935 |
| Surrogate: ortho-Terphenyl | 88.1 | | | 50-150 | %REC | 1 | 06/24/2011 17:46 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5491.D
Lab Smp Id: K1059-06A BN: 59935 Client Smp ID: 06SB24-1719-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 17:46 Operator: TM
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 27 13:18:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 14593835 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 33715738 | 88.095 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 88.09% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 147166247 | 439.800 ug/mL |

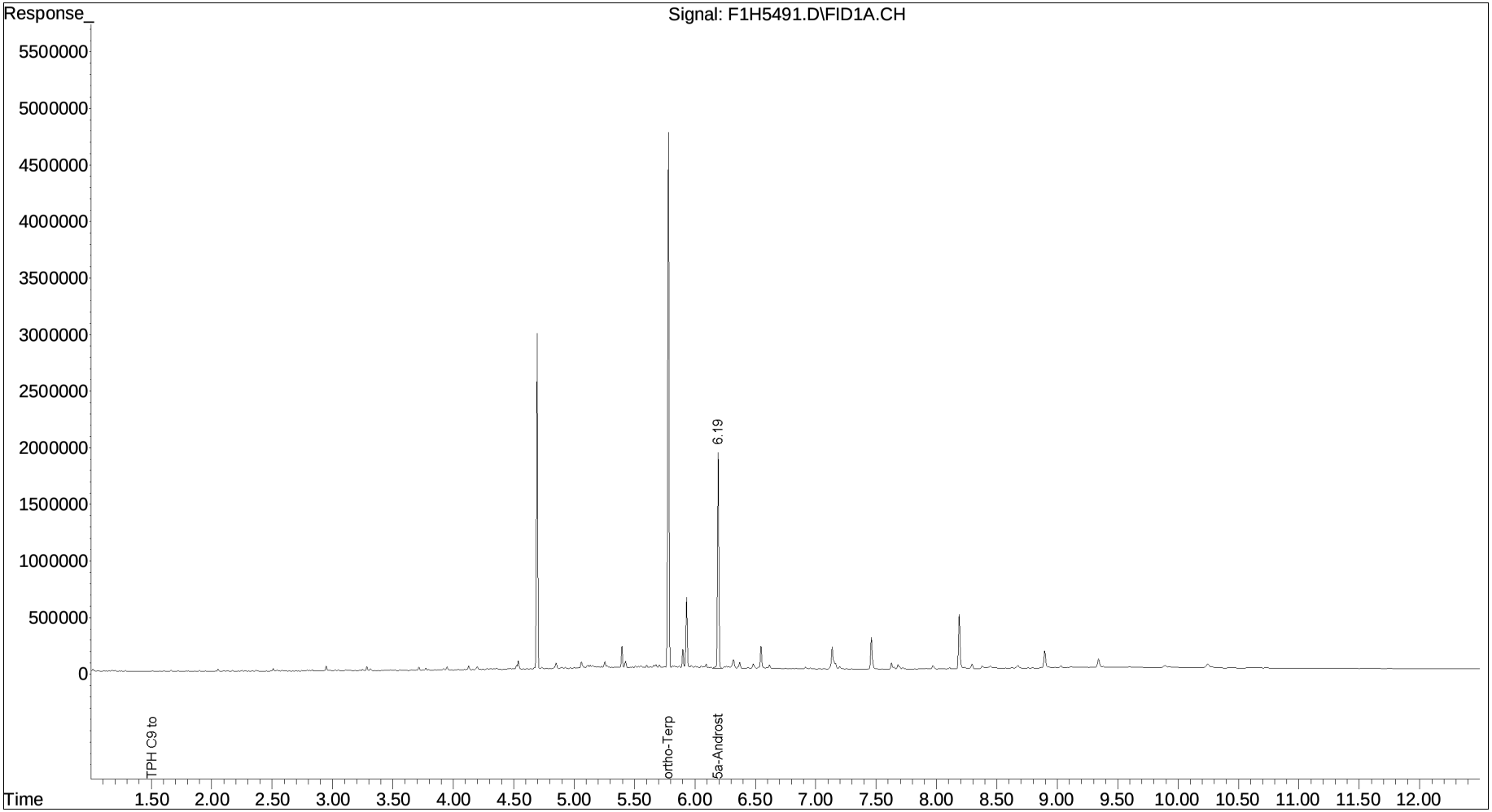
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 218690979
Corrected Range Area (IS,SS): 170381406
Instrument Blank Area (F1H5488): 23215159

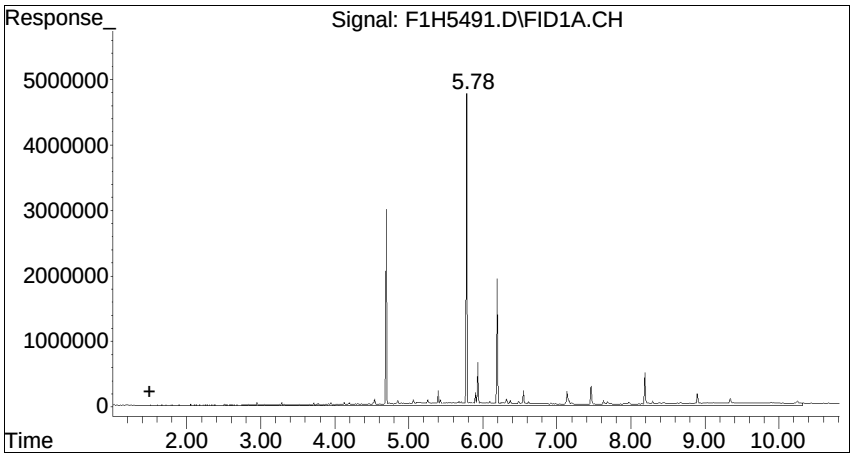
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5491.D
Lab Smp Id: K1059-06A BN: 59935 Client Smp ID: 06SB24-1719-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 17:46 Operator: TM
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jun 27 13:18:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 147166247
Conc: 439.80 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB24-1921-20110615 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-07 **Collection Date:** 06/15/11 14:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 23 | | 2.9 | 15 | mg/Kg | 1 | 06/24/2011 18:06 | 59935 |
| Surrogate: ortho-Terphenyl | 69.8 | | | 50-150 | %REC | 1 | 06/24/2011 18:06 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5492.D
Lab Smp Id: K1059-07A BN: 59935 Client Smp ID: 06SB24-1921-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 18:06 Operator: TM
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 27 13:18:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13251696 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 26695626 | 69.752 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 69.75% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 106363139 | 317.862 ug/mL |

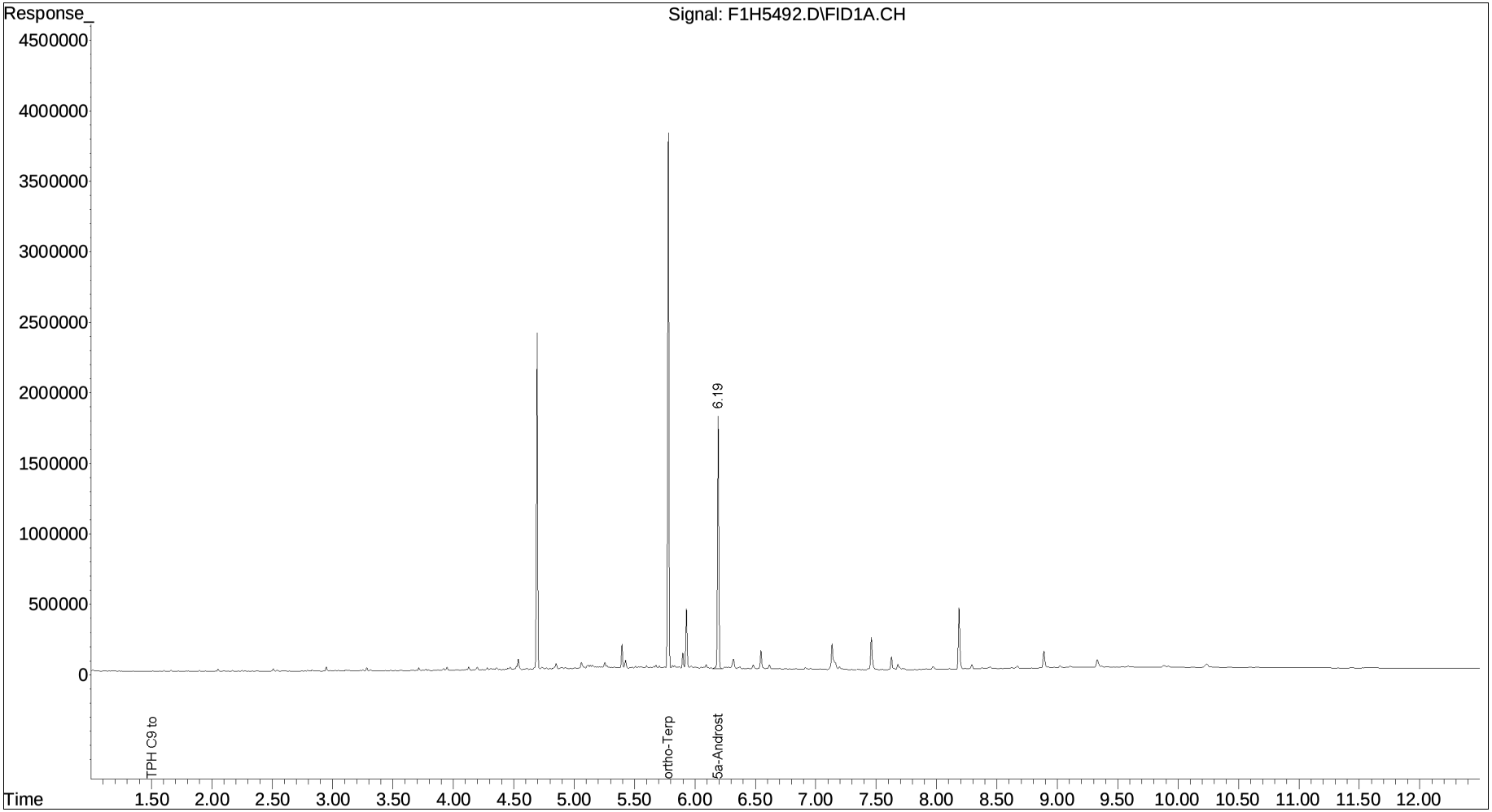
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 169525620
Corrected Range Area (IS,SS): 129578298
Instrument Blank Area (F1H5488): 23215159

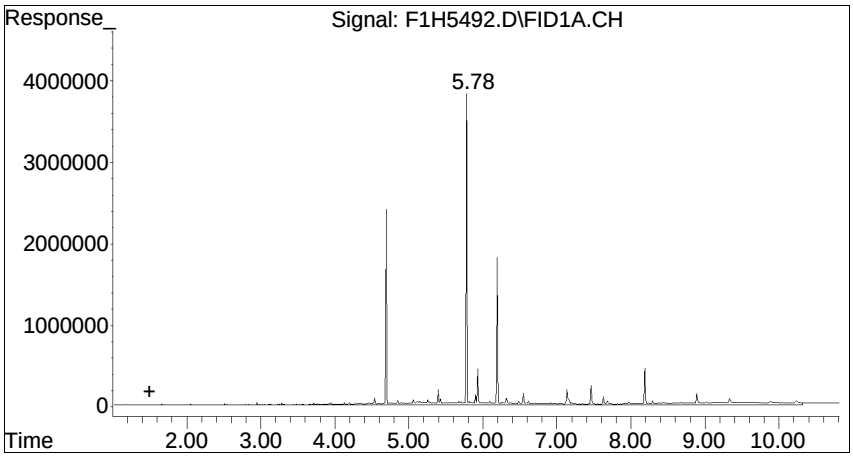
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5492.D
Lab Smp Id: K1059-07A BN: 59935 Client Smp ID: 06SB24-1921-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 18:06 Operator: TM
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jun 27 13:18:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 106363139
Conc: 317.86 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB21-1517-20110616
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-08
**Collection Date:** 06/16/11 10:05

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 400 | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 18:26 | 59935 |
| Surrogate: ortho-Terphenyl | 75.9 | | | 50-150 | %REC | 1 | 06/24/2011 18:26 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5493.D
Lab Smp Id: K1059-08A BN: 59935 Client Smp ID: 06SB21-1517-20110616
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 18:26 Operator: TM
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 27 13:18:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13104033 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 29064370 | 75.942 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 75.94% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 1801683922 | 5384.259 ug/mL |

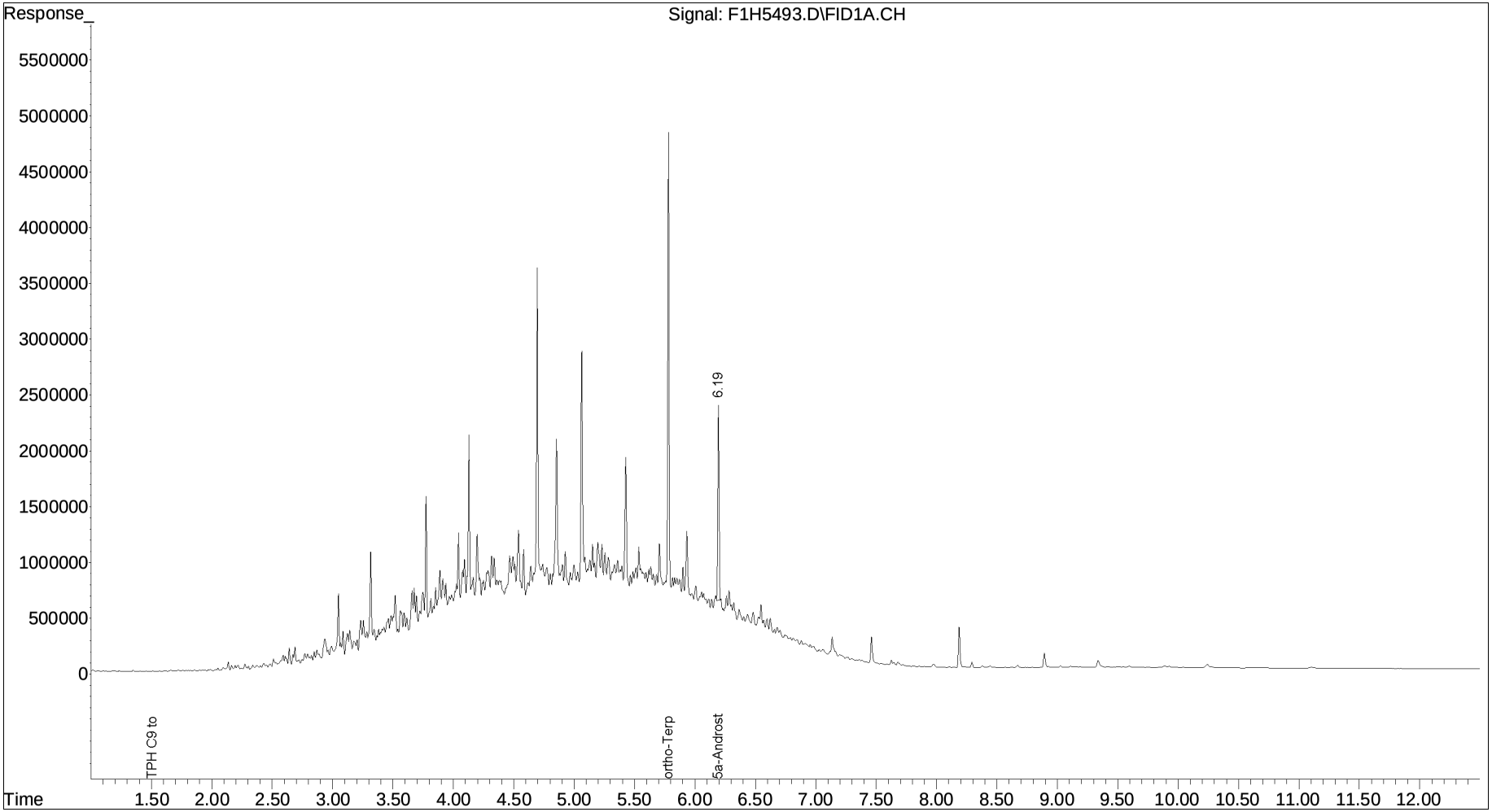
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 1867067485
Corrected Range Area (IS,SS): 1824899081
Instrument Blank Area (F1H5488): 23215159

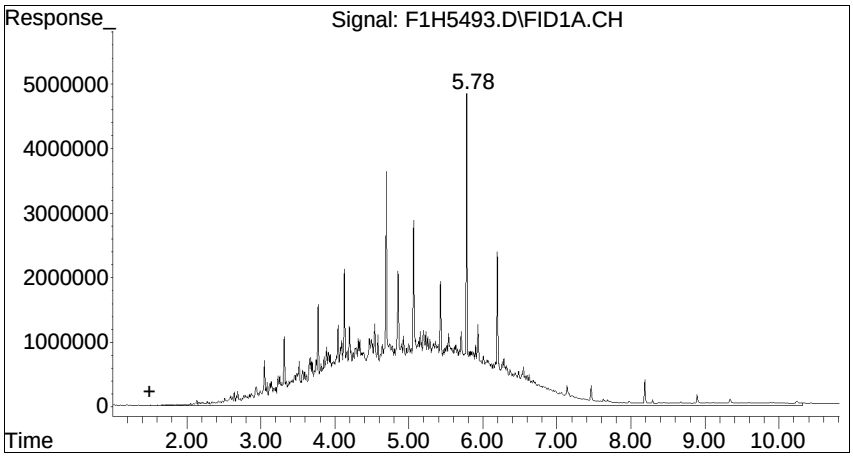
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5493.D
Lab Smp Id: K1059-08A BN: 59935 Client Smp ID: 06SB21-1517-20110616
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 18:26 Operator: TM
ALS Vial : 14 Sample Multiplier: 1

Quant Time: Jun 27 13:18:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 1801683922
Conc: 5384.26 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB21-1719-20110616
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-09
**Collection Date:** 06/16/11 10:10

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 1900 | | 12 | 62 | mg/Kg | 4 | 06/27/2011 13:10 | 59935 |
| Surrogate: ortho-Terphenyl | 85.6 | | | 50-150 | %REC | 4 | 06/27/2011 13:10 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5536.D
Lab Smp Id: K1059-09A BN: 59935 Client Smp ID: 06SB21-1719-20110616
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jun 2011 13:10 Operator: TM
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Jun 27 15:26:48 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.20 | 16007285 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 8185534 | 21.388 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 21.39% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 2141794954 | 6400.667 ug/mL |

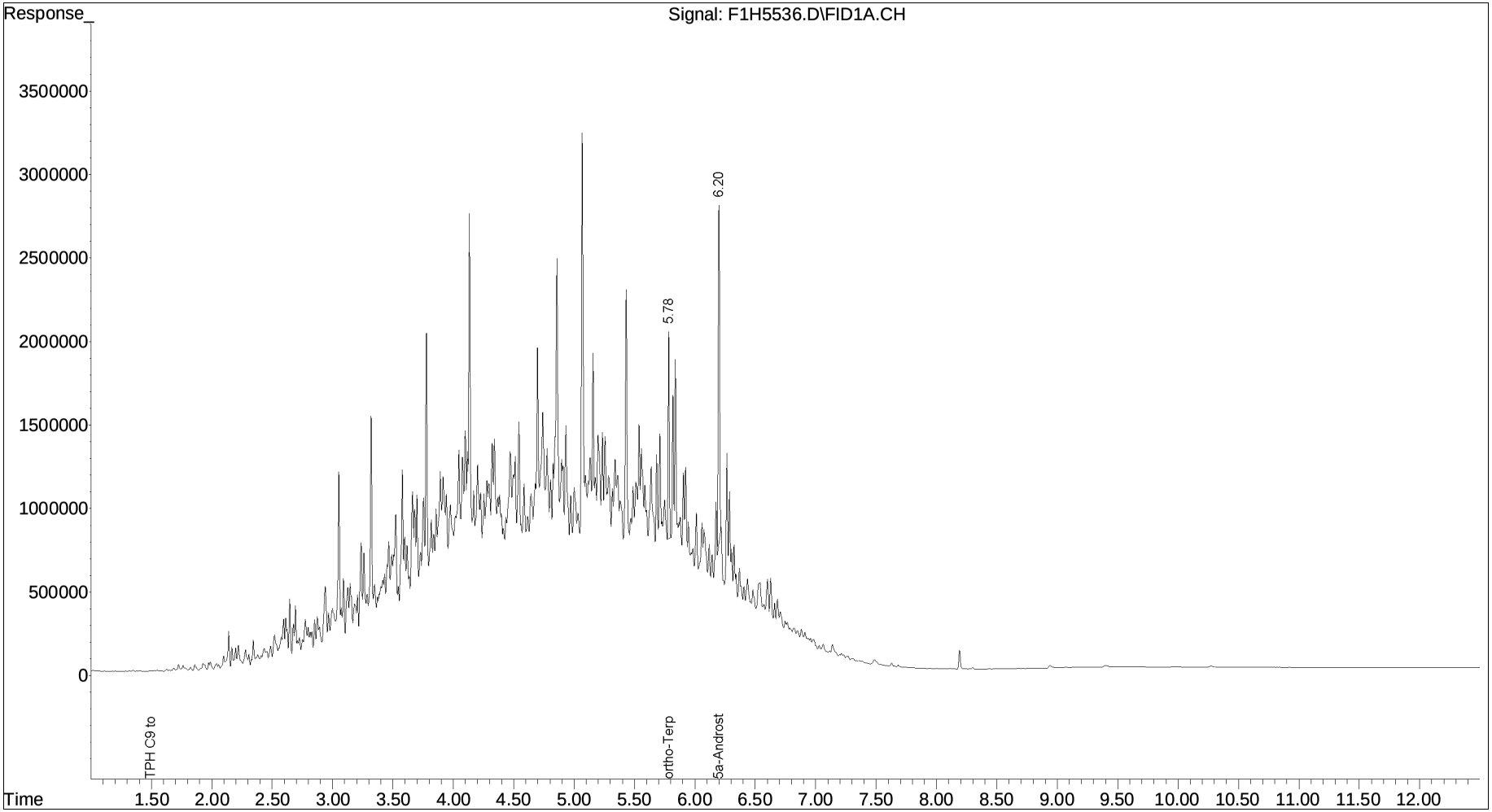
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 2190825905
Corrected Range Area (IS,SS): 2166633086
Instrument Blank Area (F1H5535): 24838132

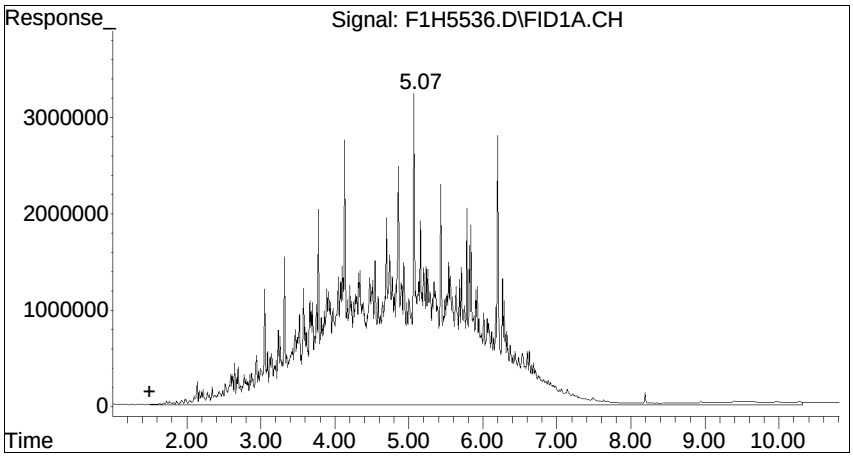
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5536.D
Lab Smp Id: K1059-09A BN: 59935 Client Smp ID: 06SB21-1719-20110616
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jun 2011 13:10 Operator: TM
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Jun 27 15:26:48 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 2141794954
Conc: 6400.67 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SBDUP02-20110615 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-11 **Collection Date:** 06/15/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_S** | | |
| Extractable Total Petroleum Hydrocarbon | 110 | | 2.8 | 15 | mg/Kg | 1 | 06/24/2011 19:06 | 59935 |
| Surrogate: ortho-Terphenyl | 79.5 | | | 50-150 | %REC | 1 | 06/24/2011 19:06 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5495.D
Lab Smp Id: K1059-11A BN: 59935 Client Smp ID: 06SBDUP02-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 19:06 Operator: TM
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 27 13:18:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13944107 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 30408160 | 79.453 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 79.45% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 510144104 | 1524.545 ug/mL |

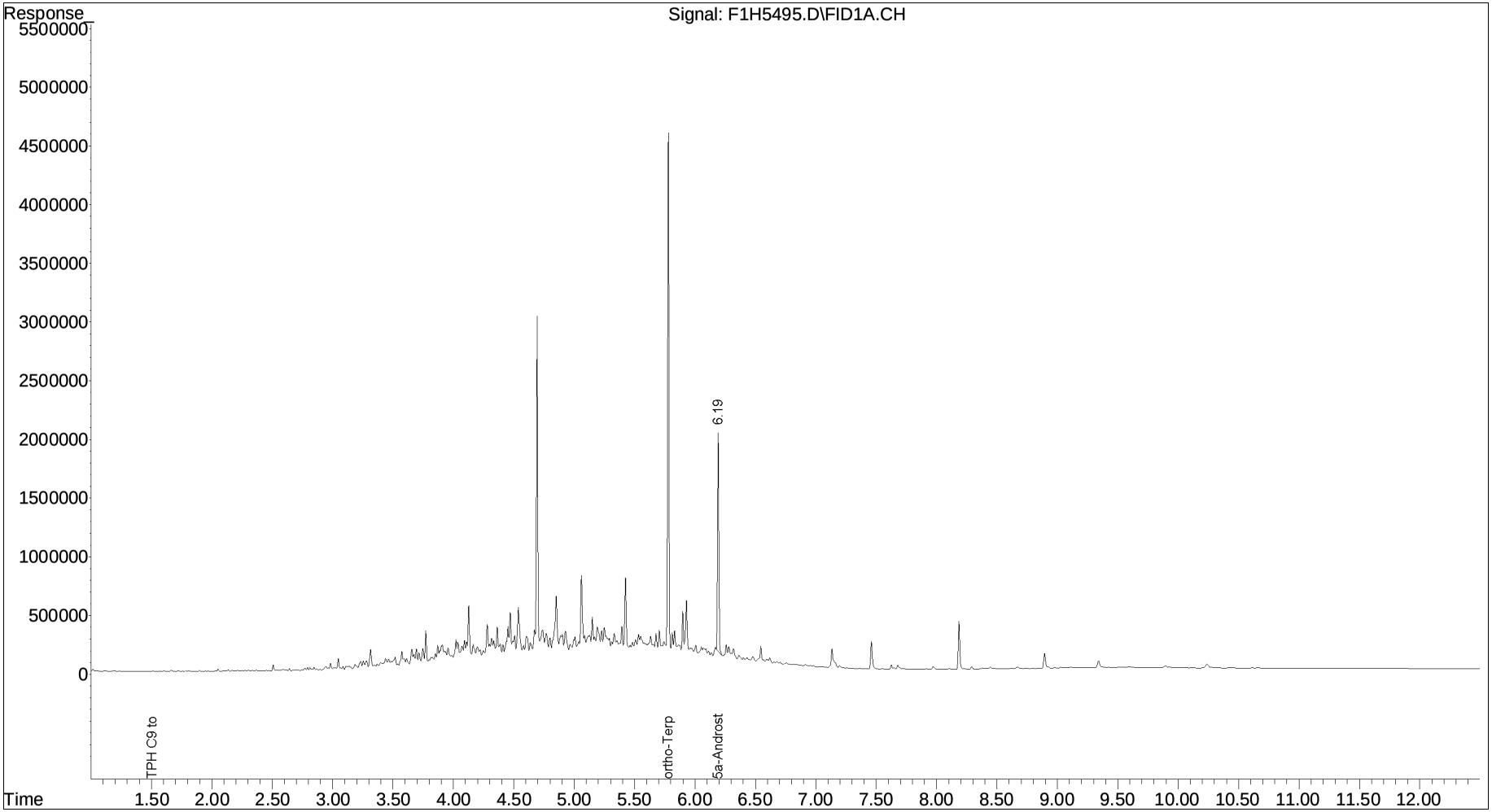
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 577711531
Corrected Range Area (IS,SS): 533359263
Instrument Blank Area (F1H5488): 23215159

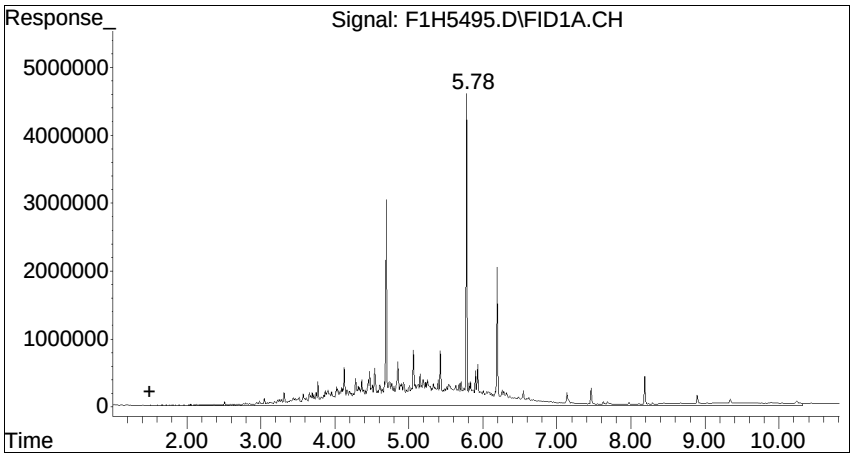
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5495.D
Lab Smp Id: K1059-11A BN: 59935 Client Smp ID: 06SBDUP02-20110615
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 19:06 Operator: TM
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jun 27 13:18:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 510144104
Conc: 1524.54 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB23-0709-20110616
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-12
**Collection Date:** 06/16/11 13:50

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 36 | | 3.0 | 16 | mg/Kg | 1 | 06/24/2011 19:25 | 59935 |
| Surrogate: ortho-Terphenyl | 59.7 | | | 50-150 | %REC | 1 | 06/24/2011 19:25 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5496.D
Lab Smp Id: K1059-12A BN: 59935 Client Smp ID: 06SB23-0709-20110616
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 19:25 Operator: TM
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 27 13:18:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 14002996 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 22845838 | 59.693 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 59.69% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 157220685 | 469.848 ug/mL |

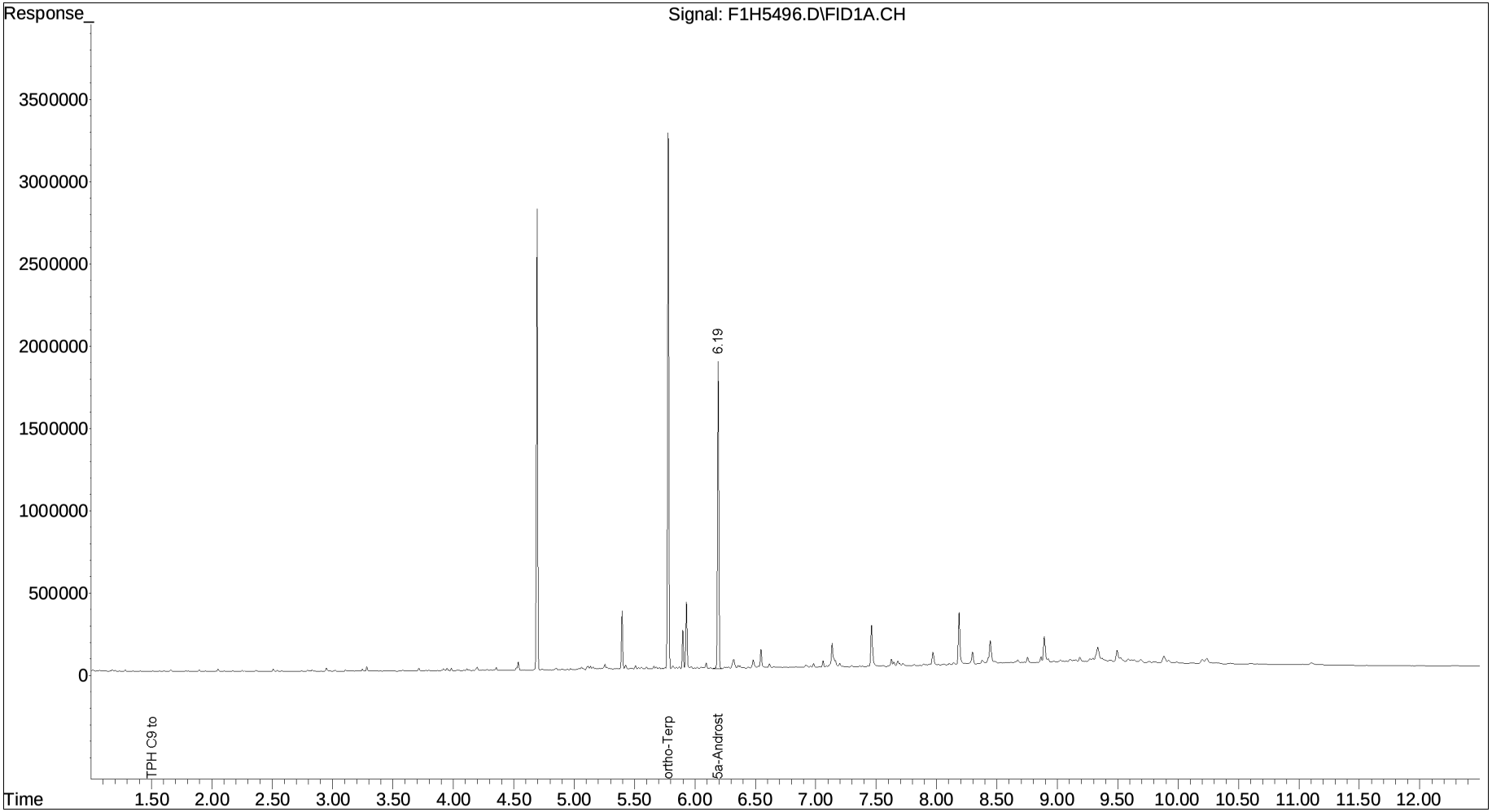
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 217284679
Corrected Range Area (IS,SS): 180435844
Instrument Blank Area (F1H5488): 23215159

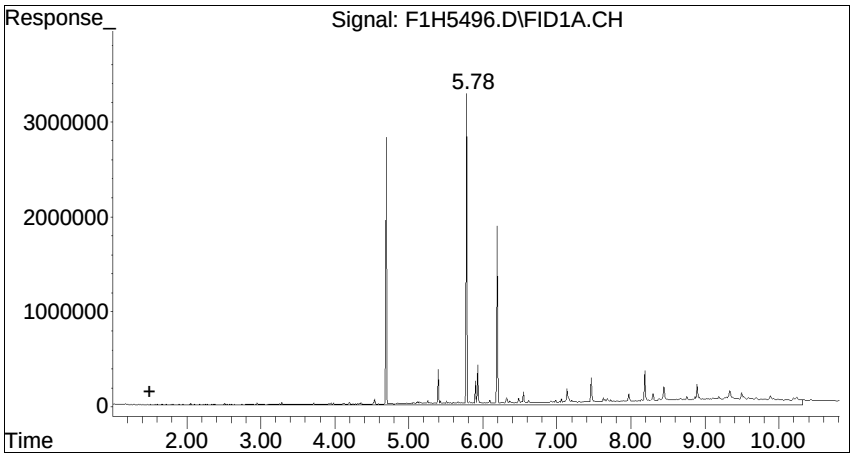
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5496.D
Lab Smp Id: K1059-12A BN: 59935 Client Smp ID: 06SB23-0709-20110616
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 19:25 Operator: TM
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jun 27 13:18:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 157220685
Conc: 469.85 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB23-0911-20110616 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-13 **Collection Date:** 06/16/11 14:10

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 28 | | 3.0 | 16 | mg/Kg | 1 | 06/24/2011 19:45 | 59935 |
| Surrogate: ortho-Terphenyl | 81.6 | | | 50-150 | %REC | 1 | 06/24/2011 19:45 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5497.D
Lab Smp Id: K1059-13A BN: 59935 Client Smp ID: 06SB23-0911-20110616
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 19:45 Operator: TM
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jun 27 13:18:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13064387 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 31213755 | 81.558 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 81.56% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 121503812 | 363.109 ug/mL |

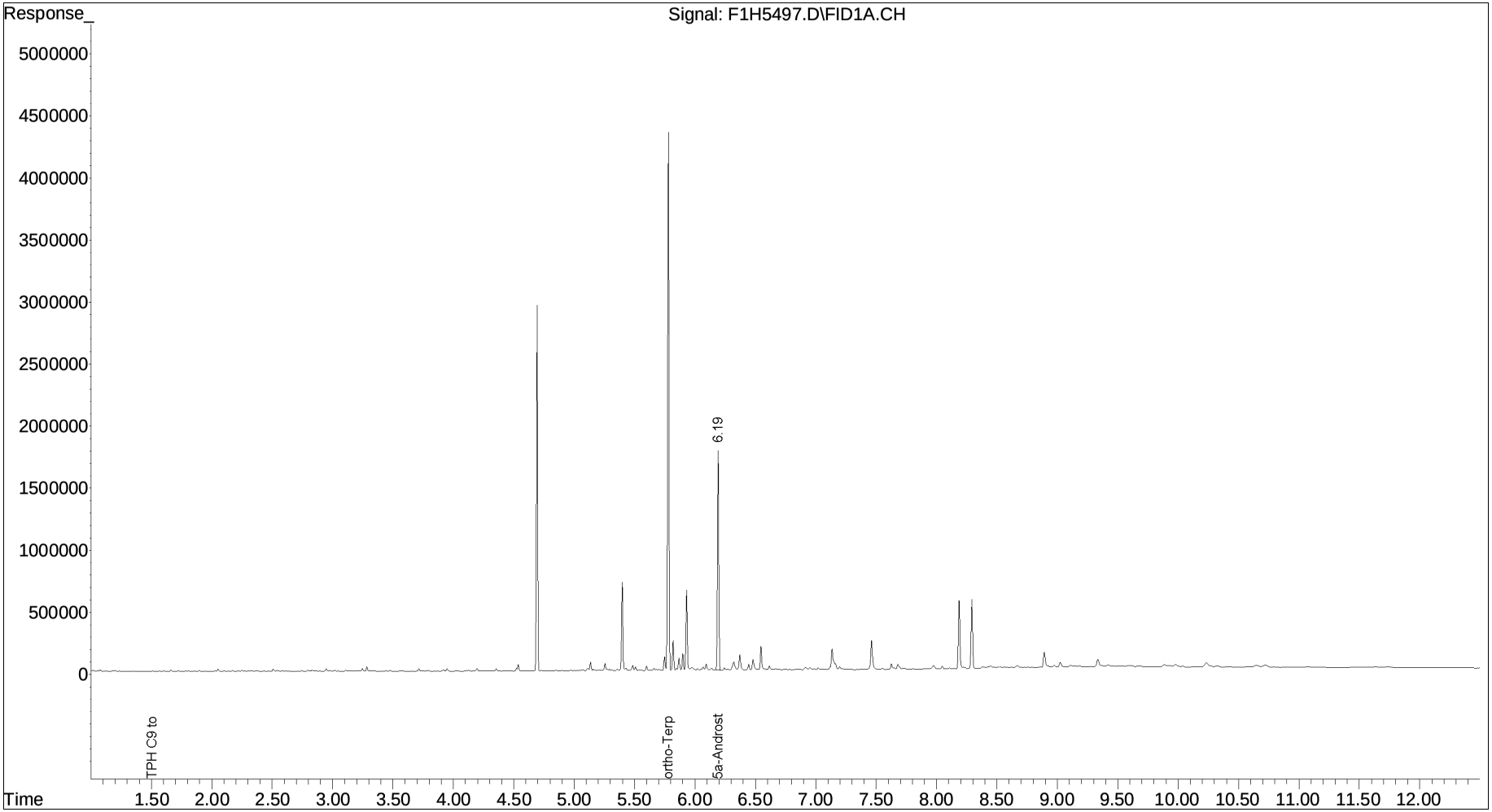
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 188997113
Corrected Range Area (IS,SS): 144718971
Instrument Blank Area (F1H5488): 23215159

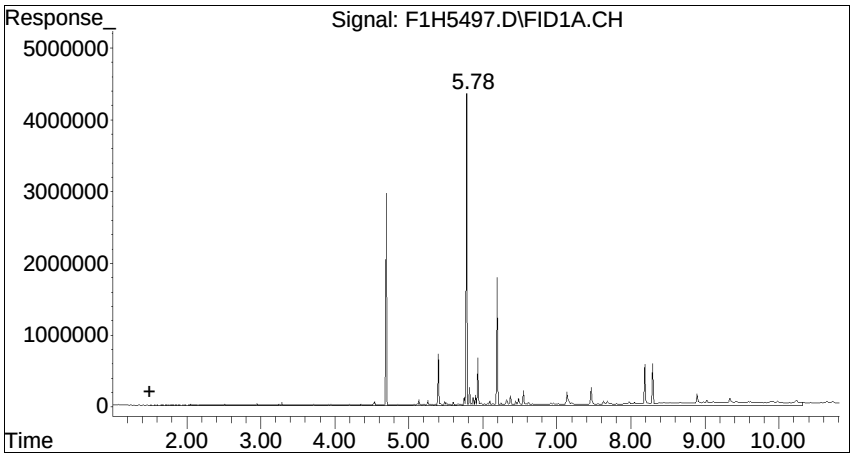
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5497.D
Lab Smp Id: K1059-13A BN: 59935 Client Smp ID: 06SB23-0911-20110616
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 19:45 Operator: TM
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jun 27 13:18:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 121503812
Conc: 363.11 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB26-1416-20110617
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-14
**Collection Date:** 06/17/11 11:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 2400 | | 11 | 61 | mg/Kg | 4 | 06/27/2011 13:30 | 59935 |
| Surrogate: ortho-Terphenyl | 84.5 | | | 50-150 | %REC | 4 | 06/27/2011 13:30 | 59935 |

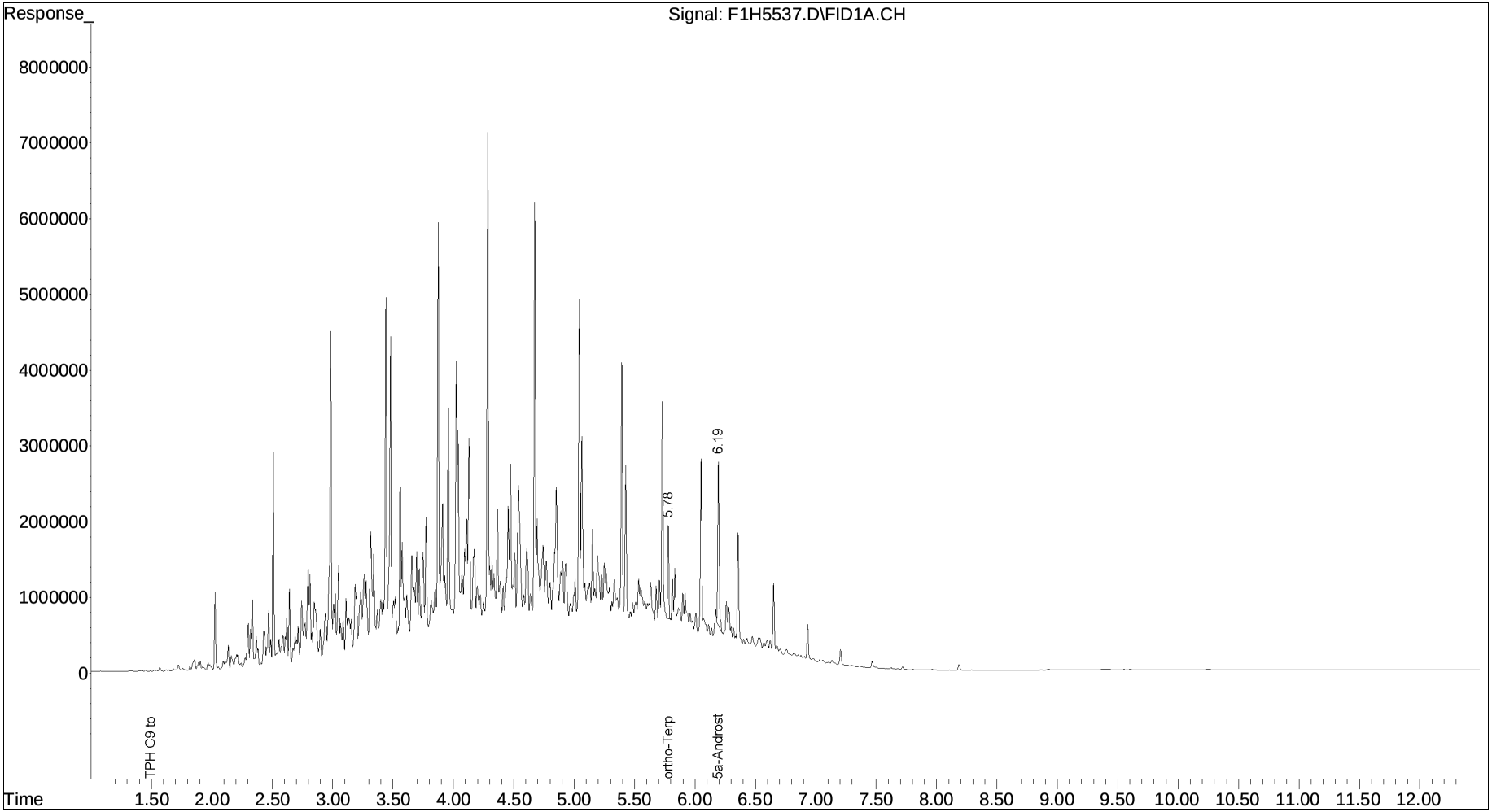
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

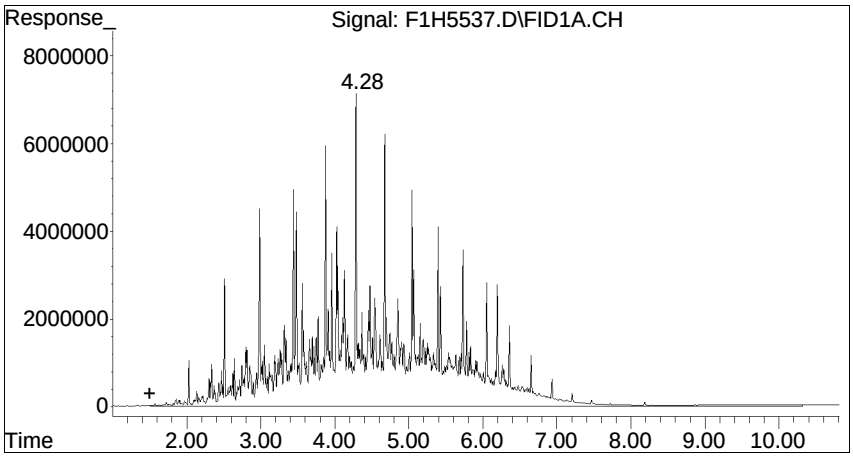
m11.07.13.A

```
Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5537.D
Lab Smp Id: K1059-14A      BN: 59935   Client Smp ID: 06SB26-1416-20110617
Misc      : TPH F 4X DIL               Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  13:30                      Operator: TM
ALS Vial  : 39   Sample Multiplier: 1

Quant Time: Jun 27 15:26:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.19       17672030   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.78        8084678   21.124 ug/mL
Spiked Amount    100.000                       Recovery   =   21.12%

 Target Compounds
 4) H   TPH C9 to C36                 1.50     2748224813 8212.958 ug/mL
           Integration Range:                      1.50 to 10.32 minutes
           Raw Range Area:                     2798819653
           Corrected Range Area (IS,SS):       2773062945
           Instrument Blank Area (F1H5535):      24838132

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5537.D
Lab Smp Id: K1059-14A BN: 59935 Client Smp ID: 06SB26-1416-20110617
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jun 2011 13:30 Operator: TM
ALS Vial : 39 Sample Multiplier: 1

Quant Time: Jun 27 15:26:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 2748224813
Conc: 8212.96 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB26-2426-20110617
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1059-15
**Collection Date:** 06/17/11 12:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_S** | |
| Extractable Total Petroleum Hydrocarbon | 4400 | | 11 | 62 | mg/Kg | 4 | 06/27/2011 13:50 | 59935 |
| Surrogate: ortho-Terphenyl | 84.9 | | | 50-150 | %REC | 4 | 06/27/2011 13:50 | 59935 |

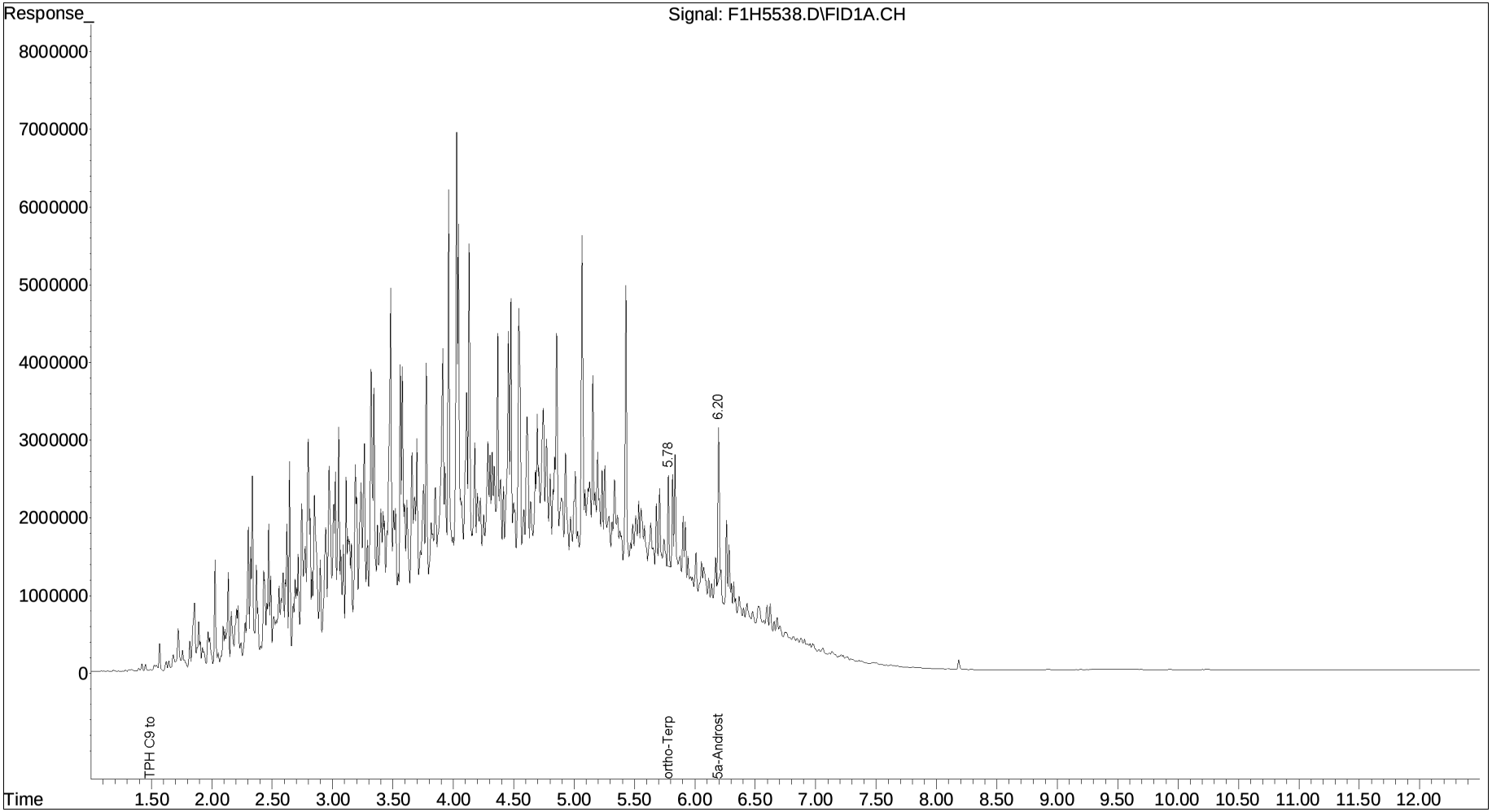
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

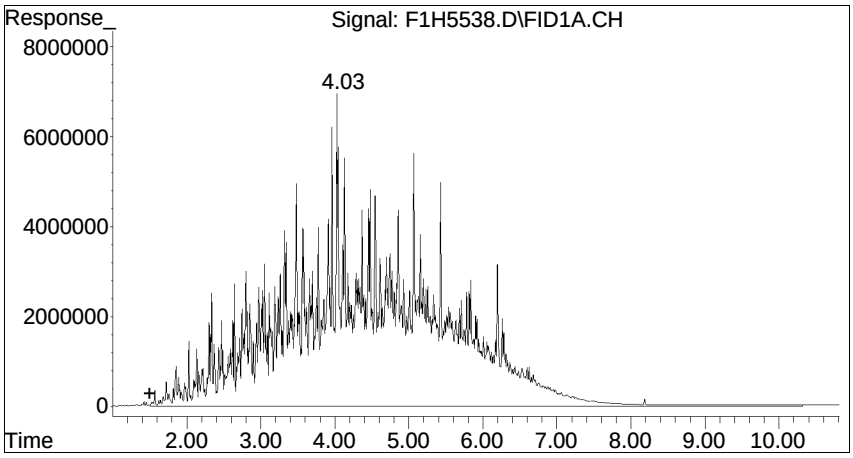
m11.07.13.A

```
Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5538.D
Lab Smp Id: K1059-15A      BN: 59935   Client Smp ID: 06SB26-2426-20110617
Misc      : TPH F 4X DIL               Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  13:50                      Operator: TM
ALS Vial  : 40   Sample Multiplier: 1

Quant Time: Jun 27 15:26:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.20       16248401   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.78        8123829   21.227 ug/mL
Spiked Amount    100.000                       Recovery   =   21.23%

 Target Compounds
 4) H   TPH C9 to C36                 1.50     5006228236 14960.909 ug/mL
           Integration Range:                     1.50 to 10.32 minutes
           Raw Range Area:                    5055438598
           Corrected Range Area (IS,SS):      5031066368
           Instrument Blank Area (F1H5535):     24838132

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5538.D
Lab Smp Id: K1059-15A BN: 59935 Client Smp ID: 06SB26-2426-20110617
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jun 2011 13:50 Operator: TM
ALS Vial : 40 Sample Multiplier: 1

Quant Time: Jun 27 15:26:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 5006228236
Conc: 14960.91 ug/mL m

# Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files
5 =F1H5057.D 20 =F1H5059.D 50 =F1H5061.D
80 =F1H5062.D 100 =F1H5056.D 120 =F1H5063.D

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:29 Operator: TM
Lab Smp Id: FSTD1001A
Misc : TPH F ICAL L5 100 PPM
ALS Vial : 1 Sample Multiplier: 1

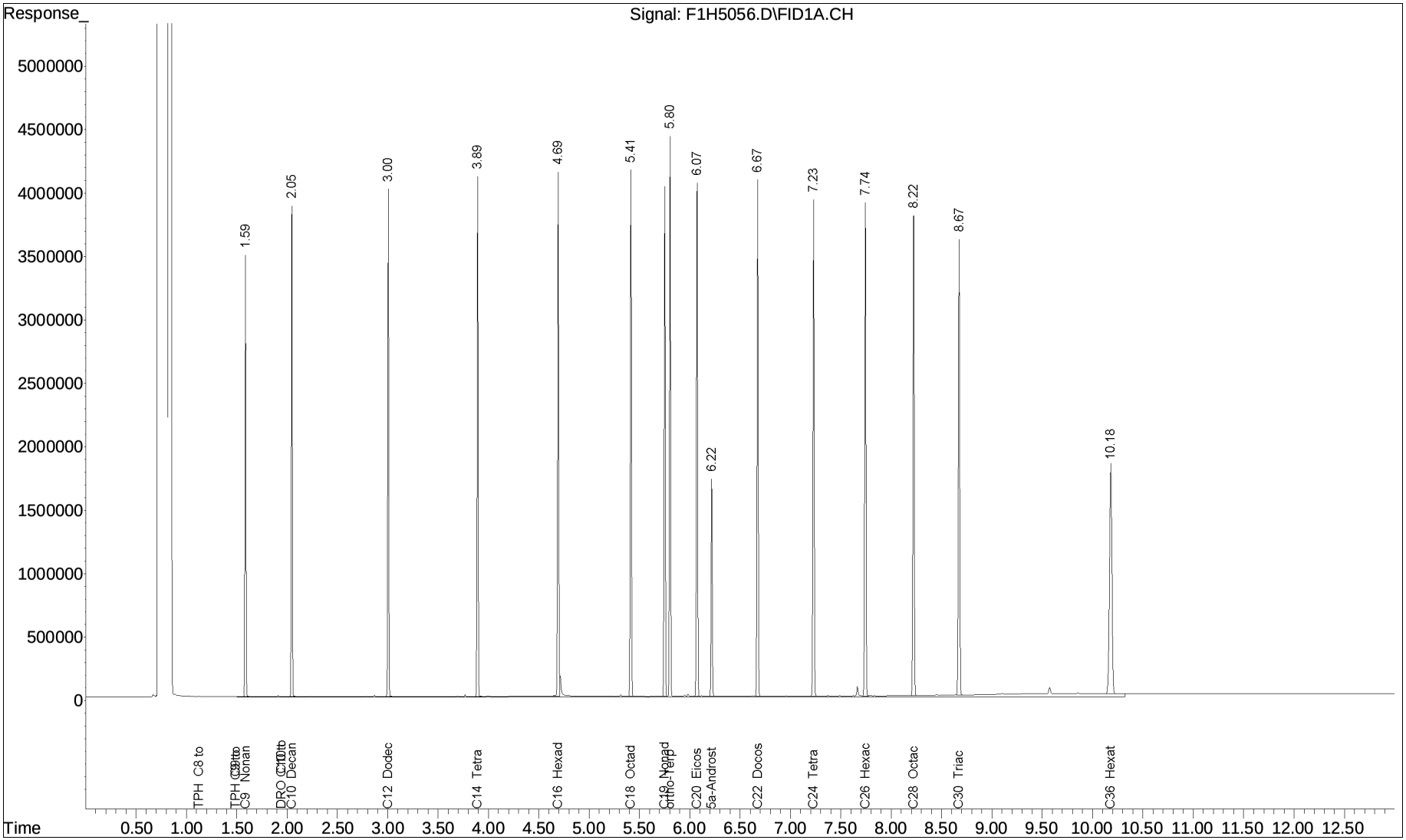
Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 12879904 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 31160170 | 100.000 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.00% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 31160170 | 100.000 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.00% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 291167731 | 1000.000 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 388570246 | |
| 4) H TPH C9 to C36 | 1.50 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 499855743 | |
| 14) T C9 Nonane | 1.59 | 22421438 | 100.000 ug/mL |
| 15) TD C10 Decane | 2.05 | 23376618 | 100.000 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 25406186 | 100.000 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 27157899 | 100.000 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 29466778 | 100.000 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 29700224 | 100.000 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 29939007 | 100.000 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 30251072 | 100.000 ug/mL |
| 22) TD C22 Docosane | 6.67 | 31208588 | 100.000 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 31254521 | 100.000 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 31693702 | 100.000 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 31652142 | 100.000 ug/mL |
| 26) T C30 Triacontane | 8.67 | 31717215 | 100.000 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 30122876 | 100.000 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 291167731 | 1000.000 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 388570246 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 529800277 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 499855743 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:29 Operator: TM
Lab Smp Id: FSTD1001A
Misc : TPH F ICAL L5 100 PPM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

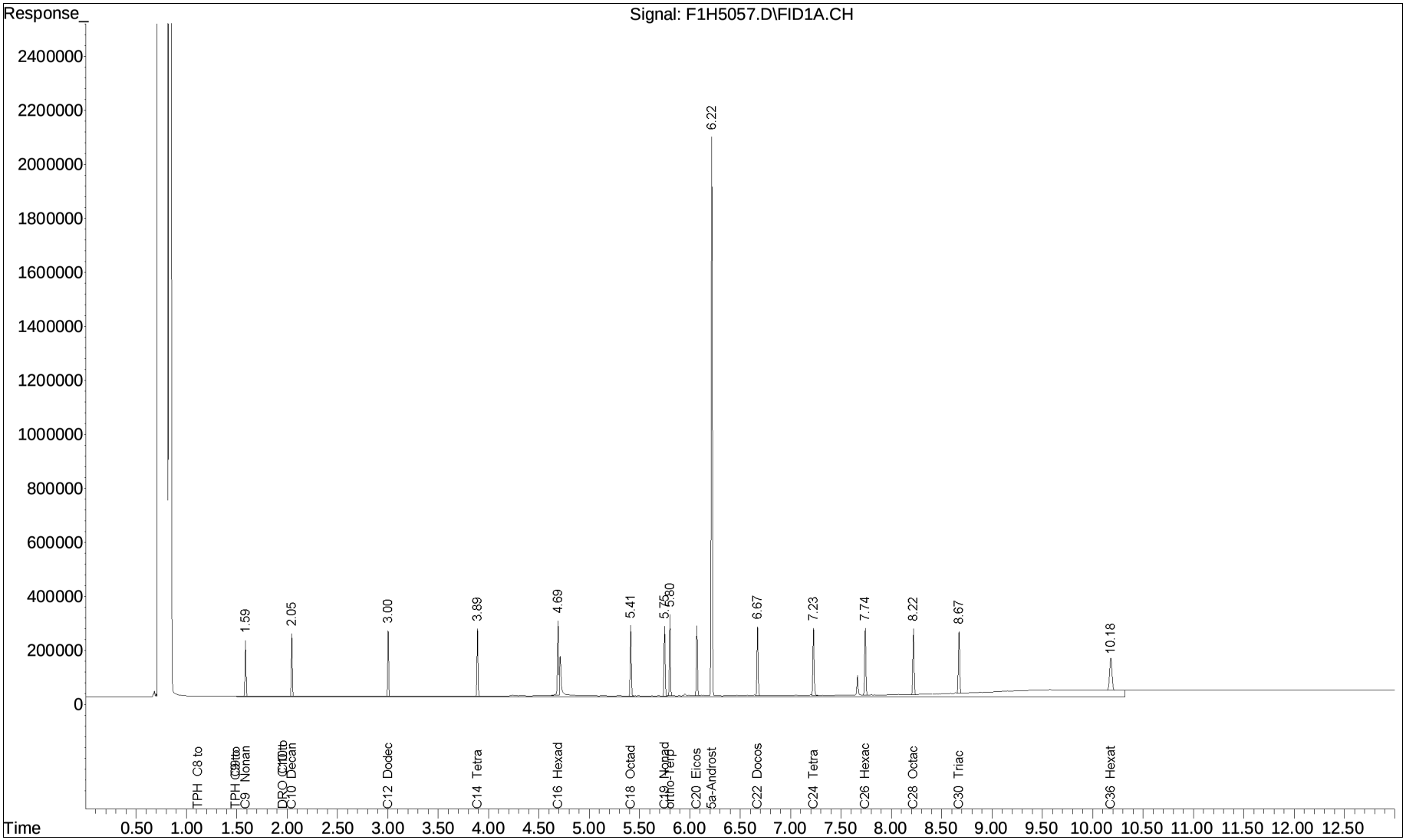
Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15503589 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 2090961 | 6.710 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 6.71% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 2090961 | 5.575 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 5.58% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 18698109 | 64.218 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 4) H TPH C9 to C36 | 1.50 | 25997358 | 89.786 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |
| 14) T C9 Nonane | 1.59 | 1399638 | 5.186 ug/mL |
| 15) TD C10 Decane | 2.05 | 1441090 | 5.121 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 1534860 | 5.019 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 1662279 | 5.085 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 2162678 | 6.097 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 1877639 | 5.252 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 1895661 | 5.260 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 1924161 | 5.284 ug/mL |
| 22) TD C22 Docosane | 6.67 | 1985758 | 5.286 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 2071922 | 5.507 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 2016132 | 5.285 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 2021589 | 5.306 ug/mL |
| 26) T C30 Triacontane | 8.67 | 2024974 | 5.304 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 1978977 | 5.458 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 18698109 | 53.350 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 119238564 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

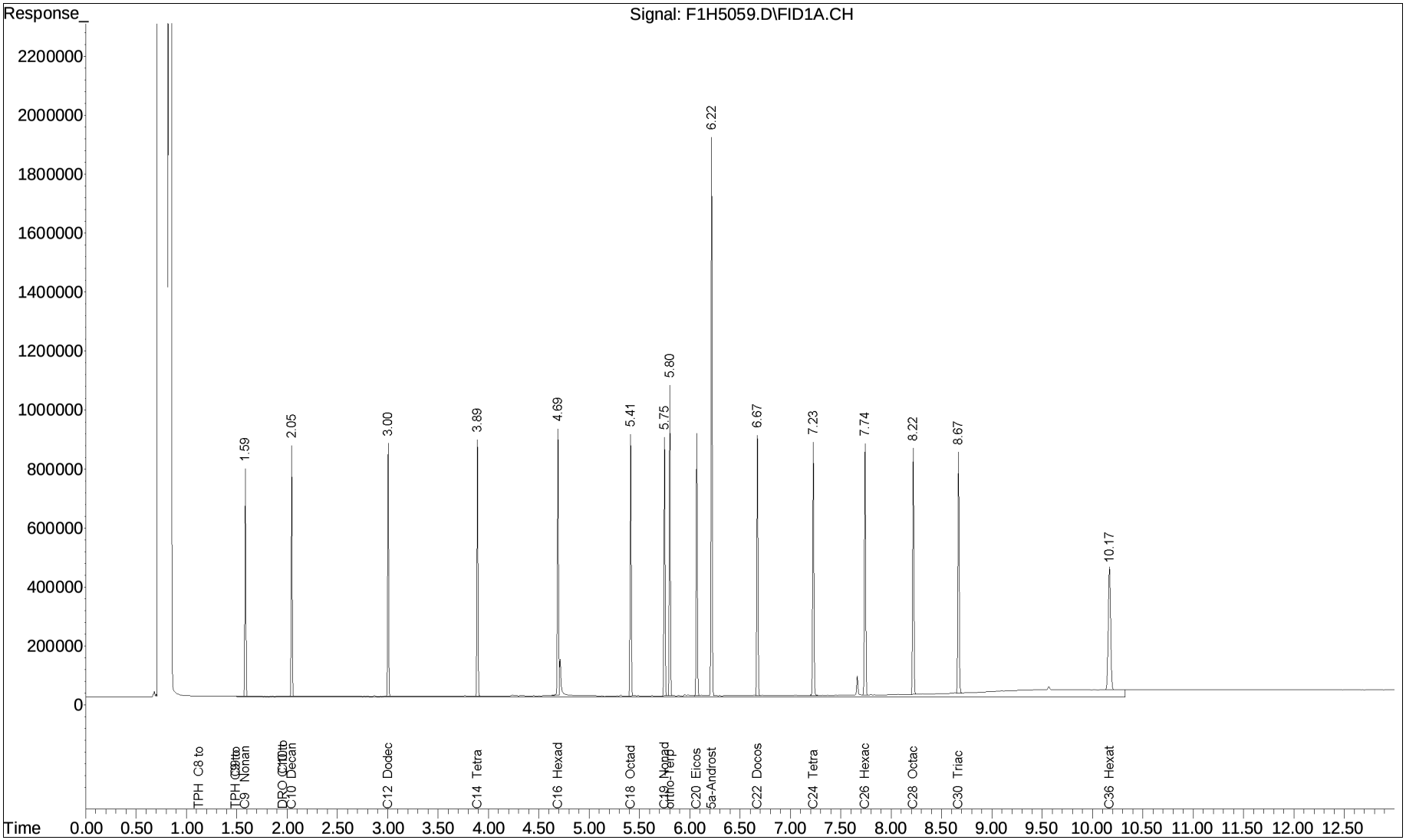
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 13906086 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 7298444 | 23.422 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 23.42% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 7298444 | 21.694 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 21.69% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 63855144 | 219.307 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 4) H TPH C9 to C36 | 1.50 | 89149659 | 307.892 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |
| 14) T C9 Nonane | 1.59 | 4983455 | 20.586 ug/mL |
| 15) TD C10 Decane | 2.05 | 5152139 | 20.413 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 5497093 | 20.040 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 5864184 | 20.000 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 6608052 | 20.771 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 6463647 | 20.157 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 6520032 | 20.171 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 6596335 | 20.196 ug/mL |
| 22) TD C22 Docosane | 6.67 | 6818376 | 20.236 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 6921619 | 20.512 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 6962914 | 20.348 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 6970784 | 20.398 ug/mL |
| 26) T C30 Triacontane | 8.67 | 7008221 | 20.465 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 6782807 | 20.856 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 63855144 | 203.124 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 182160830 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

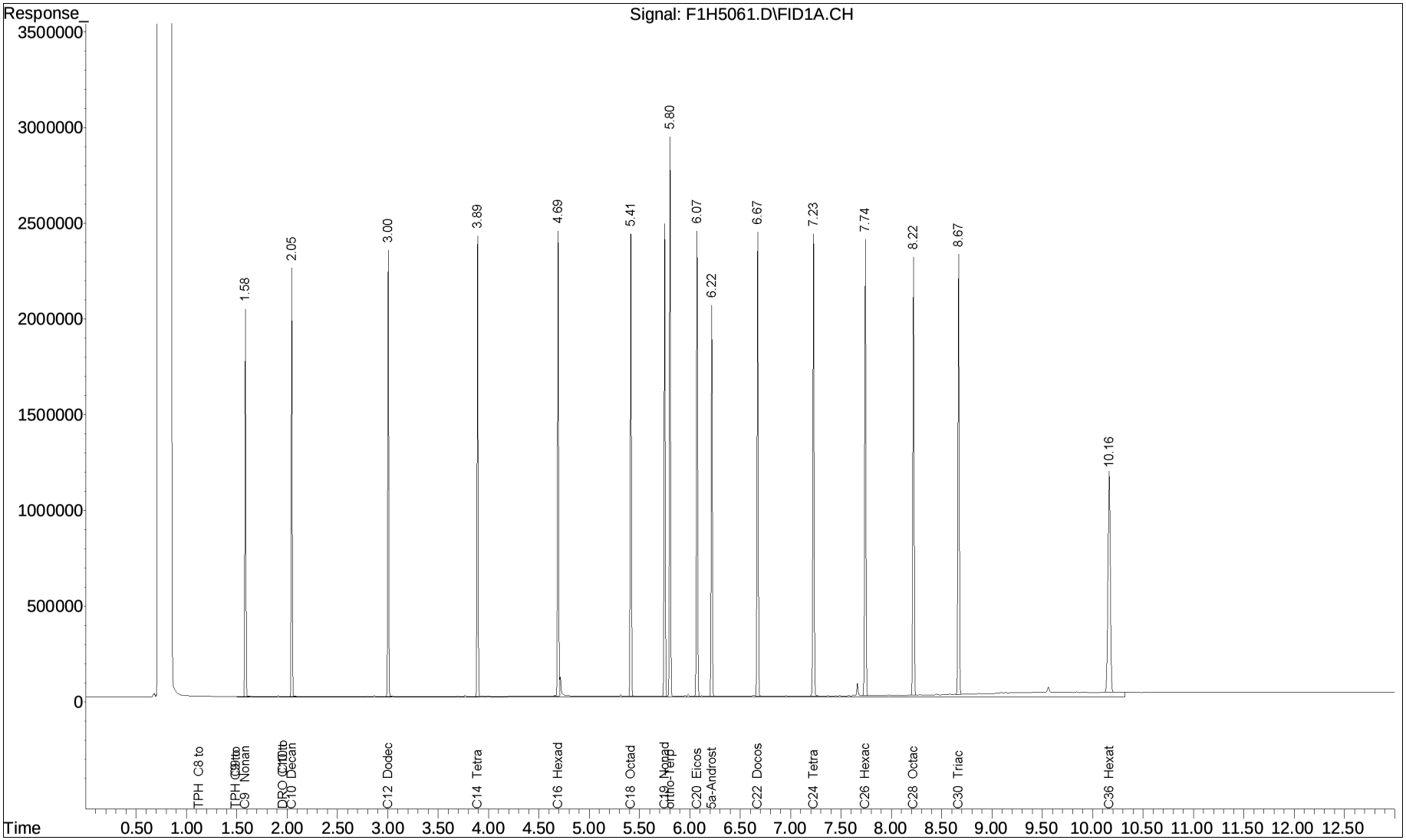
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15053093 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 20182457 | 64.770 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 64.77% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 20182457 | 55.419 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 55.42% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 173750855 | 596.738 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 4) H TPH C9 to C36 | 1.50 | 242968339 | 839.128 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |
| 14) T C9 Nonane | 1.59 | 13257207 | 50.591 ug/mL |
| 15) TD C10 Decane | 2.05 | 13779883 | 50.437 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 14777313 | 49.767 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 15781216 | 49.720 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 17147383 | 49.791 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 17533656 | 50.513 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 17761896 | 50.762 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 18028005 | 50.991 ug/mL |
| 22) TD C22 Docosane | 6.67 | 18786198 | 51.505 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 19014894 | 52.056 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 19402113 | 52.380 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 19500193 | 52.714 ug/mL |
| 26) T C30 Triacontane | 8.67 | 19609585 | 52.901 ug/mL |
| 27) T C36 Hexatriacontane | 10.16 | 18588796 | 52.801 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 173750855 | 510.588 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 348639223 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

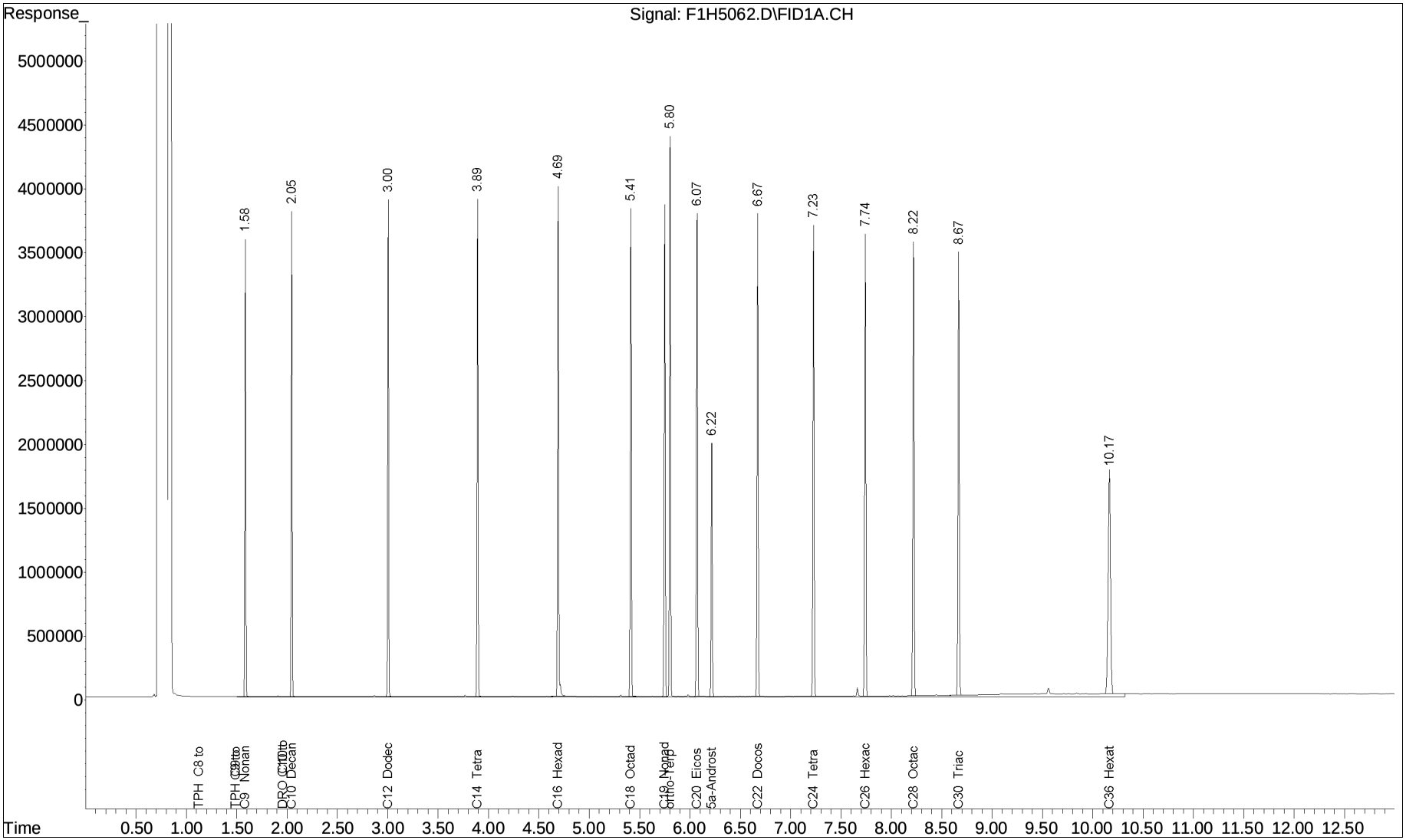
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14536430 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 31352221 | 100.616 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.62% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 31352221 | 89.150 ug/mL |
| Spiked Amount 100.000 | | Recovery = 89.15% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 274825832 | 943.875 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 365334852 | |
| 4) H TPH C9 to C36 | 1.50 | 382959416 | 1322.608 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 470032072 | |
| 14) T C9 Nonane | 1.59 | 21842610 | 86.317 ug/mL |
| 15) TD C10 Decane | 2.05 | 22687679 | 85.993 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 24359575 | 84.954 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 25785396 | 84.126 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 28335914 | 85.204 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 27889846 | 83.203 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 28065799 | 83.061 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 28311223 | 82.923 ug/mL |
| 22) TD C22 Docosane | 6.67 | 29127607 | 82.696 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 29156572 | 82.657 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 29588757 | 82.720 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 29583262 | 82.813 ug/mL |
| 26) T C30 Triacontane | 8.67 | 29723267 | 83.034 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 28501908 | 83.836 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 274825832 | 836.314 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 365334852 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 498002342 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 470032072 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

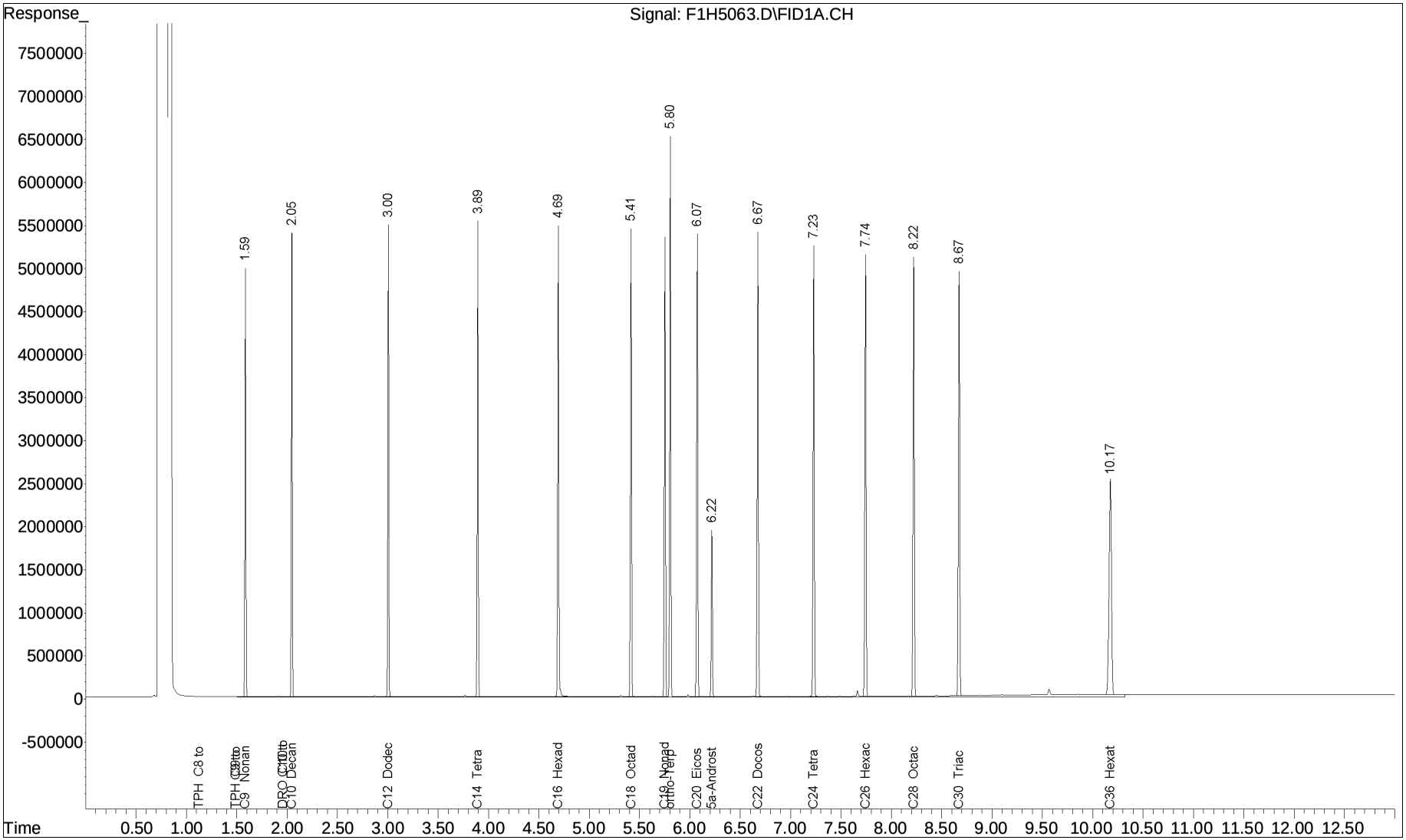
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14100029 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 45746602 | 146.811 ug/mL |
| Spiked Amount 100.000 | | Recovery = 146.81% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 45746602 | 134.107 ug/mL |
| Spiked Amount 100.000 | | Recovery = 134.11% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 395690120 | 1358.977 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 4) H TPH C9 to C36 | 1.50 | 552048300 | 1906.581 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |
| 14) T C9 Nonane | 1.59 | 31667314 | 129.015 ug/mL |
| 15) TD C10 Decane | 2.05 | 32763279 | 128.026 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 34951392 | 125.666 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 36965118 | 124.334 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 40004367 | 124.013 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 40127166 | 123.416 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 40442665 | 123.394 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 40830301 | 123.292 ug/mL |
| 22) TD C22 Docosane | 6.67 | 42060359 | 123.109 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 42170824 | 123.251 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 42892741 | 123.624 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 42924573 | 123.878 ug/mL |
| 26) T C30 Triacontane | 8.67 | 43120936 | 124.190 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 41127265 | 124.717 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 395690120 | 1241.380 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 682482642 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

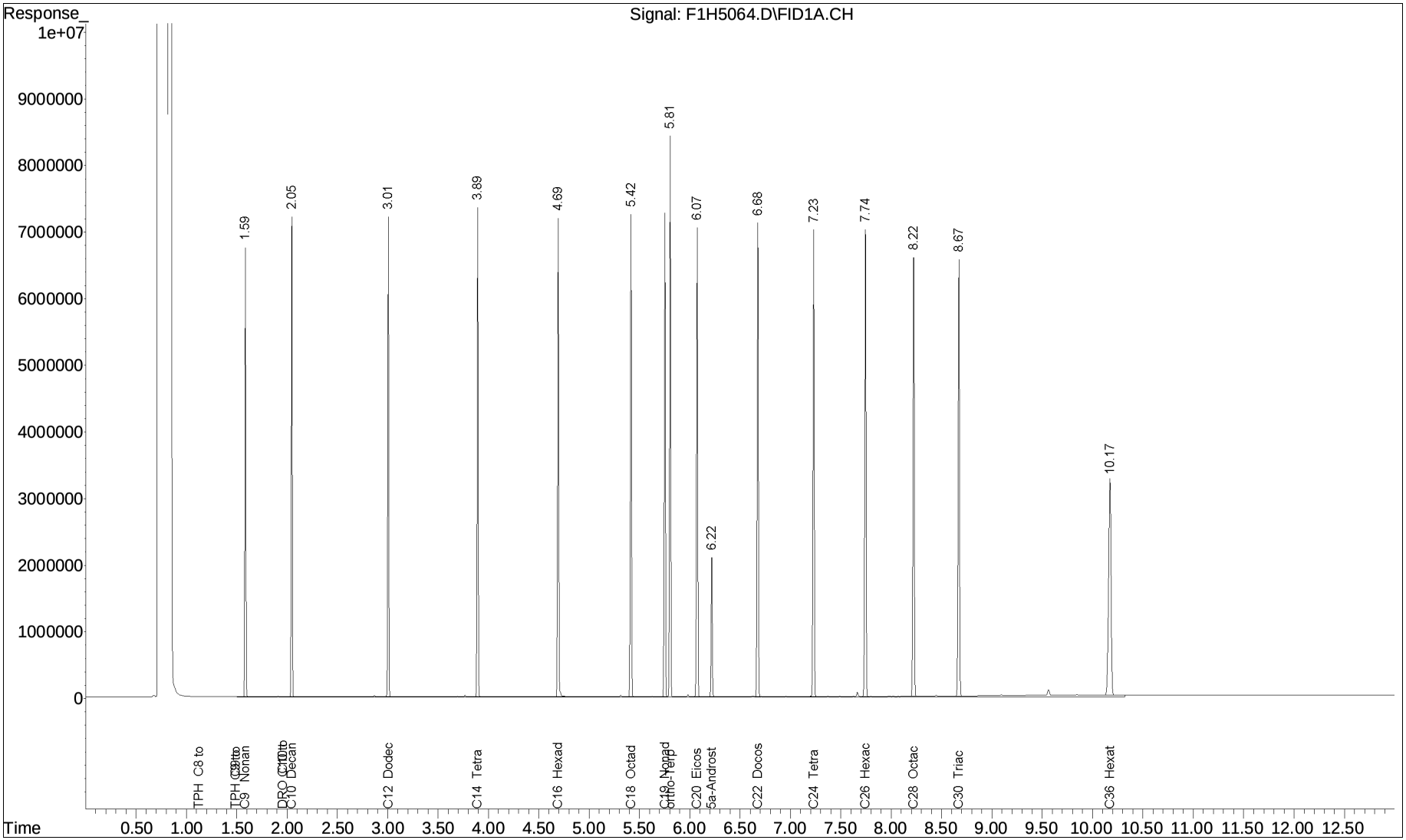
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| **Internal Standards** | | | |
| 11) I 5a-Androstane | 6.22 | 15380119 | 40.000 ug/mL |
| **System Monitoring Compounds** | | | |
| 2) S ortho-Terphenyl | 5.81 | 61137451 | 196.204 ug/mL |
| Spiked Amount 100.000 | | Recovery = 196.20% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 61137451 | 164.309 ug/mL |
| Spiked Amount 100.000 | | Recovery = 164.31% | |
| **Target Compounds** | | | |
| 3) H DRO C10 to C28 | 1.95 | 528997686 | 1816.814 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 4) H TPH C9 to C36 | 1.50 | 737982176 | 2548.732 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |
| 14) T C9 Nonane | 1.59 | 42564959 | 158.980 ug/mL |
| 15) TD C10 Decane | 2.05 | 44140472 | 158.128 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 46705175 | 153.950 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 49224939 | 151.790 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 52797715 | 150.050 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 53530164 | 150.936 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 54017181 | 151.094 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 54585598 | 151.109 ug/mL |
| 22) TD C22 Docosane | 6.68 | 56328880 | 151.151 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 56536079 | 151.484 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 57567895 | 152.111 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 57580771 | 152.345 ug/mL |
| 26) T C30 Triacontane | 8.67 | 57728590 | 152.422 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 54673759 | 151.997 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 528997686 | 1521.470 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 885034126 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

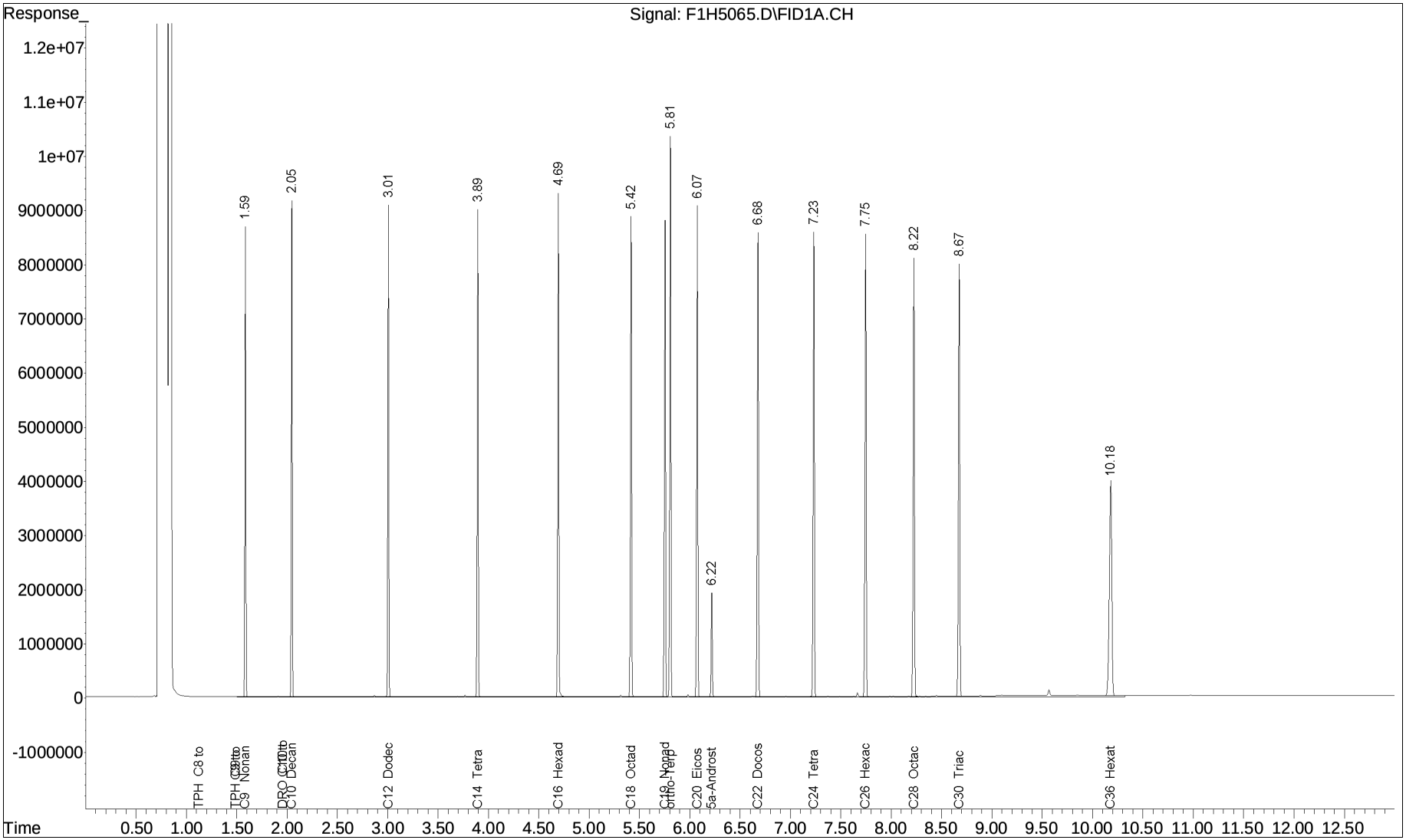
Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14242463 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.81 | 76537919 | 245.627 ug/mL |
| Spiked Amount 100.000 | | Recovery = 245.63% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 76537919 | 222.129 ug/mL |
| Spiked Amount 100.000 | | Recovery = 222.13% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 660496170 | 2268.439 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 4) H TPH C9 to C36 | 1.50 | 920044983 | 3177.513 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |
| 14) T C9 Nonane | 1.59 | 53995894 | 217.783 ug/mL |
| 15) TD C10 Decane | 2.05 | 55714988 | 215.535 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 59169932 | 210.615 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 62307058 | 207.476 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 66177089 | 203.097 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 67106255 | 204.329 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 67536447 | 203.999 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 68088820 | 203.546 ug/mL |
| 22) TD C22 Docosane | 6.68 | 69997641 | 202.832 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 69969405 | 202.452 ug/mL |
| 24) TD C26 Hexacosane | 7.75 | 71069497 | 202.786 ug/mL |
| 25) TD C28 Octacosane | 8.23 | 70895485 | 202.555 ug/mL |
| 26) T C30 Triacontane | 8.68 | 70905826 | 202.169 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 67110646 | 201.476 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 660496170 | 2051.420 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 1082289494 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc  : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 20 May 2011  21:15  Operator: TM
ALS Vial  : 11  Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 3 | H | DRO C10 to C28 | 336.012 | 377.100 E3 | -12.2 | 54 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 372.820 E3 | -11.4 | 54 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.03 |
| 14 | | C9 Nonane | 0.730 | 0.589 | 19.3 | 52 | 0.02 |
| 15 | | C10 Decane | 0.756 | 0.659 | 12.8 | 52 | 0.02 |
| 16 | | C12 Dodecane | 0.808 | 0.728 | 9.9 | 53 | 0.02 |
| 17 | | C14 Tetradecane | 0.859 | 0.782 | 9.0 | 54 | 0.02 |
| 18 | | C16 Hexadecane | 0.957 | 0.835 | 12.7 | 55 | 0.02 |
| 19 | | C18 Octadecane | 0.941 | 0.863 | 8.3 | 54 | 0.02 |
| 20 | | C19 Nonadecane | 0.950 | 0.872 | 8.2 | 55 | 0.02 |
| 21 | | C20 Eicosane | 0.960 | 0.891 | 7.2 | 55 | 0.02 |
| 22 | | C22 Docosane | 0.991 | 0.907 | 8.5 | 55 | 0.02 |
| 23 | | C24 Tetracosane | 1.001 | 0.910 | 9.1 | 55 | 0.02 |
| 24 | | C26 Hexacosane | 1.011 | 0.917 | 9.3 | 55 | 0.02 |
| 25 | | C28 Octacosane | 1.011 | 0.898 | 11.2 | 54 | 0.02 |
| 26 | | C30 Triacontane | 1.015 | 0.901 | 11.2 | 55 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.861 | 11.2 | 57 | 0.04 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.839 | 9.8 | 54 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 2 | S | ortho-Terphenyl | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 13 | S | ortho-Terphenyl ISTD | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc  : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 20 May 2011  21:15  Operator: TM
ALS Vial  : 11  Sample Multiplier: 1

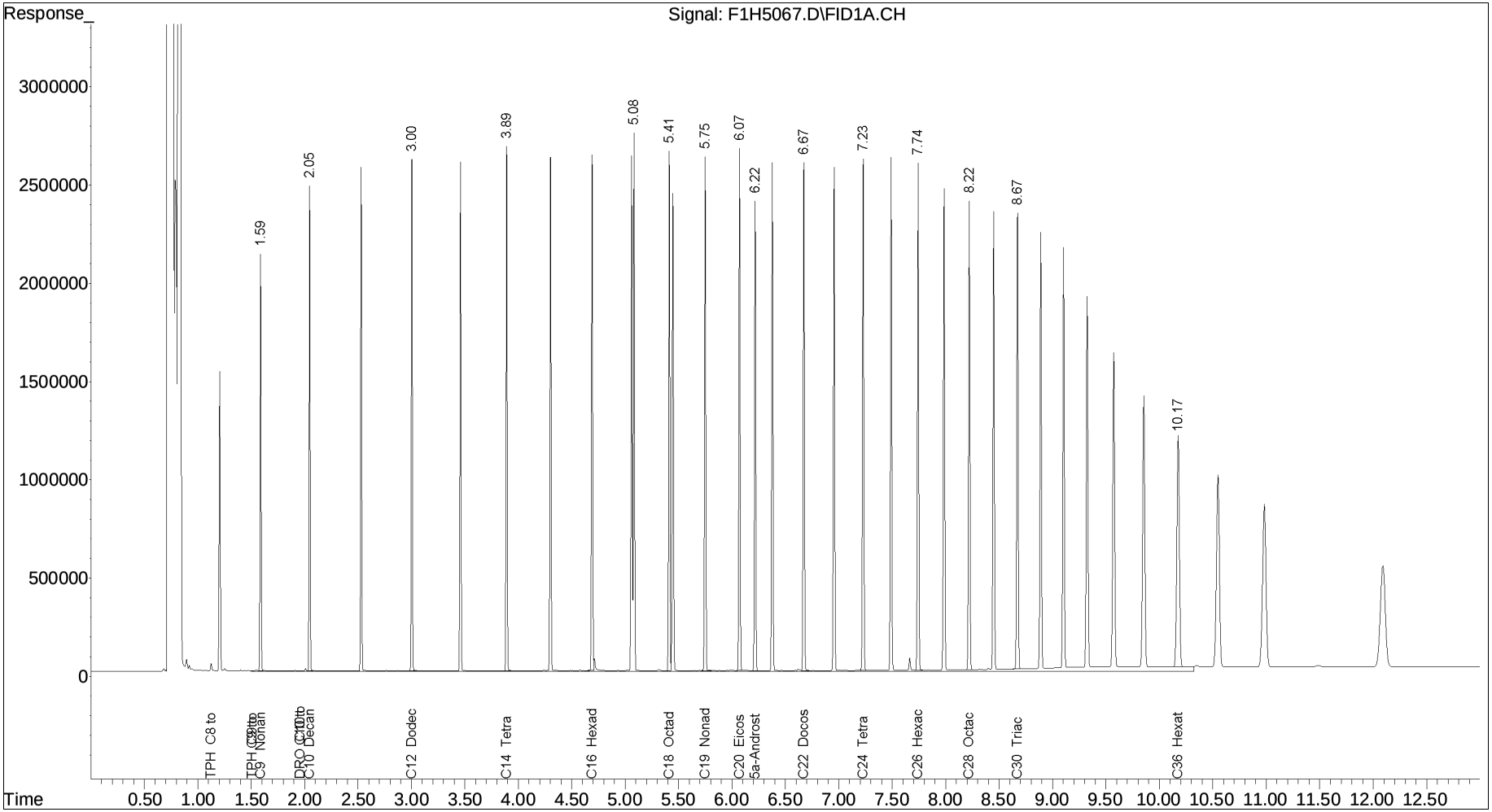
Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.22 | 17977097 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 188549953 | 561.141 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 4) H | TPH C9 to C36 | 1.50 | 260974037 | 779.910 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |
| 14) T | C9 Nonane | 1.59 | 13244545 | 40.397 ug/mL |
| 15) TD | C10 Decane | 2.05 | 14819509 | 43.634 ug/mL |
| 16) TD | C12 Dodecane | 3.00 | 16369493 | 45.093 ug/mL |
| 17) TD | C14 Tetradecane | 3.89 | 17572579 | 45.515 ug/mL |
| 18) TD | C16 Hexadecane | 4.69 | 18757962 | 43.602 ug/mL |
| 19) TD | C18 Octadecane | 5.41 | 19397875 | 45.849 ug/mL |
| 20) T | C19 Nonadecane | 5.75 | 19584711 | 45.894 ug/mL |
| 21) TD | C20 Eicosane | 6.07 | 20013327 | 46.381 ug/mL |
| 22) TD | C22 Docosane | 6.67 | 20387078 | 45.770 ug/mL |
| 23) TD | C24 Tetracosane | 7.23 | 20452636 | 45.460 ug/mL |
| 24) TD | C26 Hexacosane | 7.74 | 20597516 | 45.348 ug/mL |
| 25) TD | C28 Octacosane | 8.22 | 20181978 | 44.399 ug/mL |
| 26) T | C30 Triacontane | 8.67 | 20236921 | 44.371 ug/mL |
| 27) T | C36 Hexatriacontane | 10.18 | 19357909 | 44.387 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 188549953 | 451.335 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 720712646 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV Client Smp ID: FICV
Misc : TPH F ICV Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5474.D
Lab Smp Id: FSTD1001C  Client Smp ID: FSTD1001C
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  11:57  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 24 13:11:39 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 338.039 E3 | 11.7 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 320.534 E3 | 4.6 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 320.490 E3 | 4.2 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.966 | 8.7 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.715 | 2.1 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.764 | -1.1 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.807 | 0.1 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.846 | 1.5 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.888 | 7.2 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.920 | 2.2 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.930 | 2.1 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.943 | 1.8 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.980 | 1.1 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.987 | 1.4 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.011 | 0.0 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.016 | -0.5 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.024 | -0.9 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.994 | -2.5 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.916 | 1.5 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.916 | 1.1 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.916 | 1.1 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5474.D
Lab Smp Id: FSTD1001C  Client Smp ID: FSTD1001C
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  11:57  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

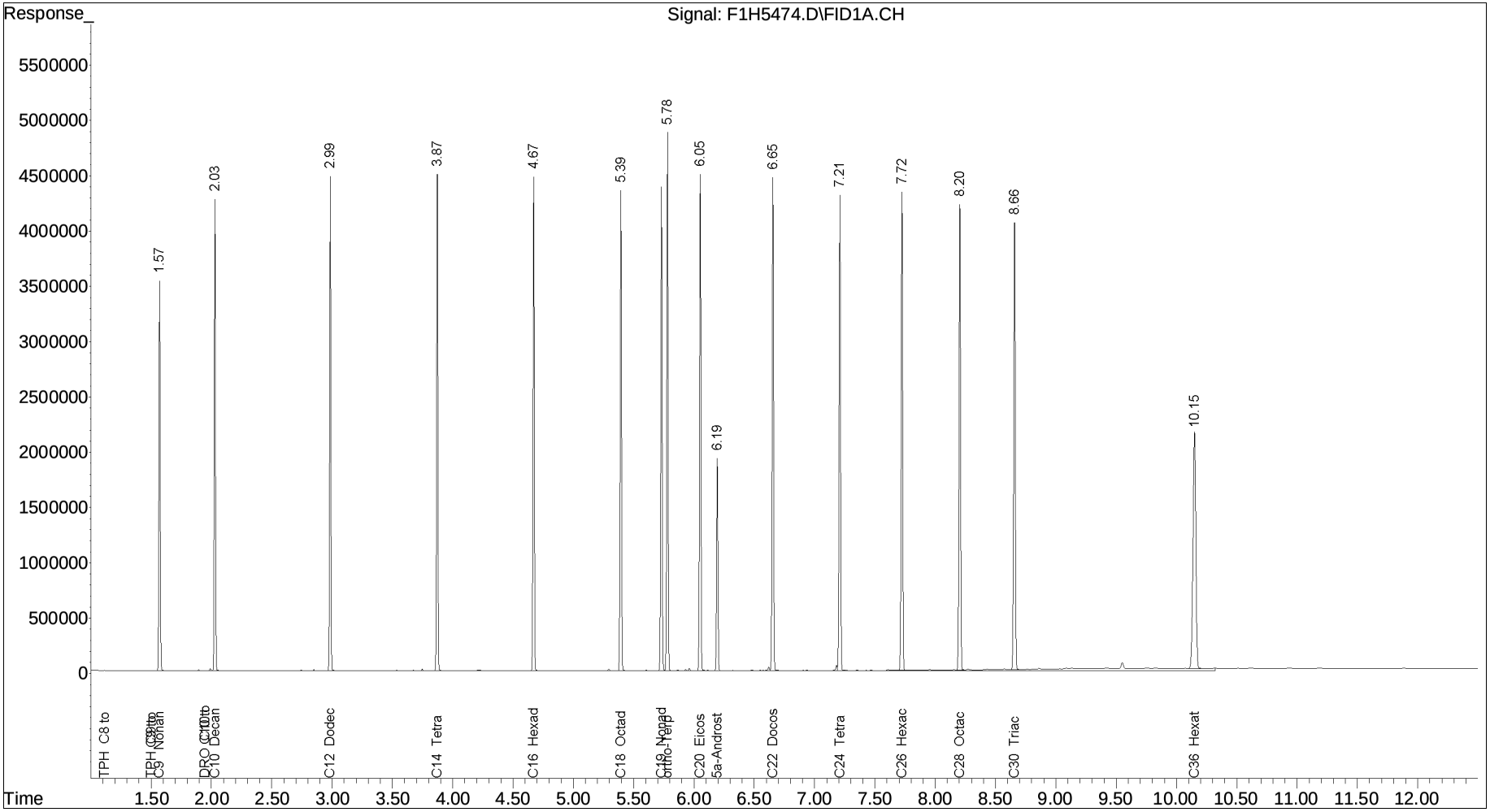
Quant Time: Jun 24 13:11:39 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 13994697 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 33803857 | 88.325 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 88.33% |
| 13) S ortho-Terphenyl ISTD | 5.78 | 33803857 | 91.326 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 91.33% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 320533771 | 953.936 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 407914294 | |
| 4) H TPH C9 to C36 | 1.50 | 448686245 | 1340.881 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 524777073 | |
| 14) T C9 Nonane | 1.57 | 25024756 | 98.048 ug/mL |
| 15) TD C10 Decane | 2.03 | 26735774 | 101.121 ug/mL |
| 16) TD C12 Dodecane | 2.99 | 28247137 | 99.956 ug/mL |
| 17) TD C14 Tetradecane | 3.87 | 29608843 | 98.513 ug/mL |
| 18) TD C16 Hexadecane | 4.67 | 31051344 | 92.717 ug/mL |
| 19) TD C18 Octadecane | 5.39 | 32202307 | 97.772 ug/mL |
| 20) T C19 Nonadecane | 5.73 | 32542047 | 97.959 ug/mL |
| 21) TD C20 Eicosane | 6.05 | 32992350 | 98.219 ug/mL |
| 22) TD C22 Docosane | 6.65 | 34280842 | 98.863 ug/mL |
| 23) TD C24 Tetracosane | 7.21 | 34515568 | 98.550 ug/mL |
| 24) TD C26 Hexacosane | 7.72 | 35360016 | 100.004 ug/mL |
| 25) TD C28 Octacosane | 8.20 | 35539589 | 100.434 ug/mL |
| 26) T C30 Triacontane | 8.66 | 35815349 | 100.875 ug/mL |
| 27) T C36 Hexatriacontane | 10.15 | 34770323 | 102.414 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 320533771 | 985.605 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 407914294 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 448686245 | 1385.403 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 548287965 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 448686245 | 1385.403 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 524777073 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5474.D
Lab Smp Id: FSTD1001C  Client Smp ID: FSTD1001C
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  11:57  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 24 13:11:39 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5487.D
Lab Smp Id: FSTD1001D  Client Smp ID: FSTD1001D
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  16:26  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 08:57:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 385.678 E3 | -0.8 | 114 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 358.807 E3 | -6.8 | 112 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 356.549 E3 | -6.6 | 111 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.970 | 8.3 | 114 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.679 | 7.0 | 108 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.733 | 3.0 | 109 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.789 | 2.4 | 111 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.840 | 2.2 | 113 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.889 | 7.1 | 114 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.924 | 1.8 | 114 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.933 | 1.8 | 114 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.944 | 1.7 | 114 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.972 | 1.9 | 113 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.970 | 3.1 | 112 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.985 | 2.6 | 111 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.982 | 2.9 | 110 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.982 | 3.3 | 109 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.937 | 3.4 | 107 | -0.02 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.903 | 2.9 | 112 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.897 | 3.1 | 111 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.897 | 3.1 | 111 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5487.D
Lab Smp Id: FSTD1001D  Client Smp ID: FSTD1001D
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  16:26  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

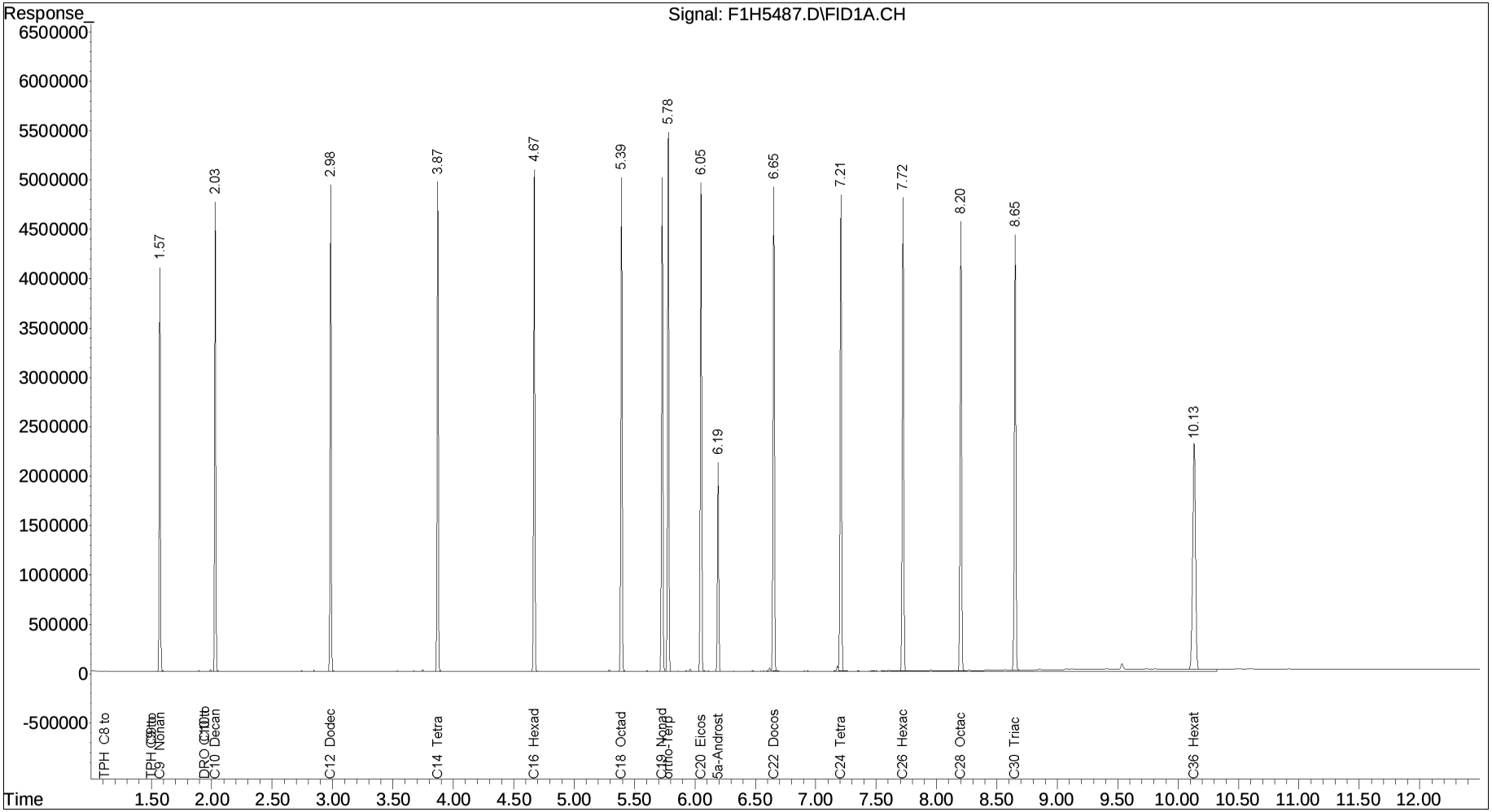
Quant Time: Jun 27 08:57:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 15897545 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 38567773 | 100.773 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.77% | |
| 13) S ortho-Terphenyl ISTD | 5.78 | 38567773 | 91.725 ug/mL |
| Spiked Amount 100.000 | | Recovery = 91.72% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 358806796 | 1067.840 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 457559654 | |
| 4) H TPH C9 to C36 | 1.50 | 499168698 | 1491.745 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 583594717 | |
| 14) T C9 Nonane | 1.57 | 26991989 | 93.097 ug/mL |
| 15) TD C10 Decane | 2.03 | 29119856 | 96.956 ug/mL |
| 16) TD C12 Dodecane | 2.99 | 31342406 | 97.633 ug/mL |
| 17) TD C14 Tetradecane | 3.87 | 33387030 | 97.787 ug/mL |
| 18) TD C16 Hexadecane | 4.67 | 35345788 | 92.907 ug/mL |
| 19) TD C18 Octadecane | 5.39 | 36734240 | 98.182 ug/mL |
| 20) T C19 Nonadecane | 5.73 | 37086190 | 98.275 ug/mL |
| 21) TD C20 Eicosane | 6.05 | 37519224 | 98.326 ug/mL |
| 22) TD C22 Docosane | 6.65 | 38632030 | 98.076 ug/mL |
| 23) TD C24 Tetracosane | 7.21 | 38547513 | 96.888 ug/mL |
| 24) TD C26 Hexacosane | 7.72 | 39164124 | 97.505 ug/mL |
| 25) TD C28 Octacosane | 8.20 | 39014584 | 97.058 ug/mL |
| 26) T C30 Triacontane | 8.65 | 39041620 | 96.800 ug/mL |
| 27) T C36 Hexatriacontane | 10.13 | 37242103 | 96.565 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 358806796 | 971.232 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 457559654 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 499168698 | 1356.795 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 609053583 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 499168698 | 1356.795 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 583594717 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5487.D
Lab Smp Id: FSTD1001D  Client Smp ID: FSTD1001D
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  16:26  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 08:57:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5498.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  20:05  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 08:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 372.571 E3 | 2.7 | 110 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 344.379 E3 | -2.5 | 107 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 340.700 E3 | -1.8 | 106 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 109 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.978 | 7.6 | 110 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.692 | 5.2 | 105 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.748 | 1.1 | 107 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.807 | 0.1 | 109 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.858 | 0.1 | 110 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.903 | 5.6 | 111 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.932 | 1.0 | 110 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.937 | 1.4 | 110 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.943 | 1.8 | 109 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.966 | 2.5 | 107 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.956 | 4.5 | 106 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.967 | 4.4 | 104 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.959 | 5.1 | 103 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.955 | 5.9 | 102 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.897 | 7.5 | 98 | -0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.904 | 2.8 | 107 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.894 | 3.5 | 106 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.894 | 3.5 | 106 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5498.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  20:05  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

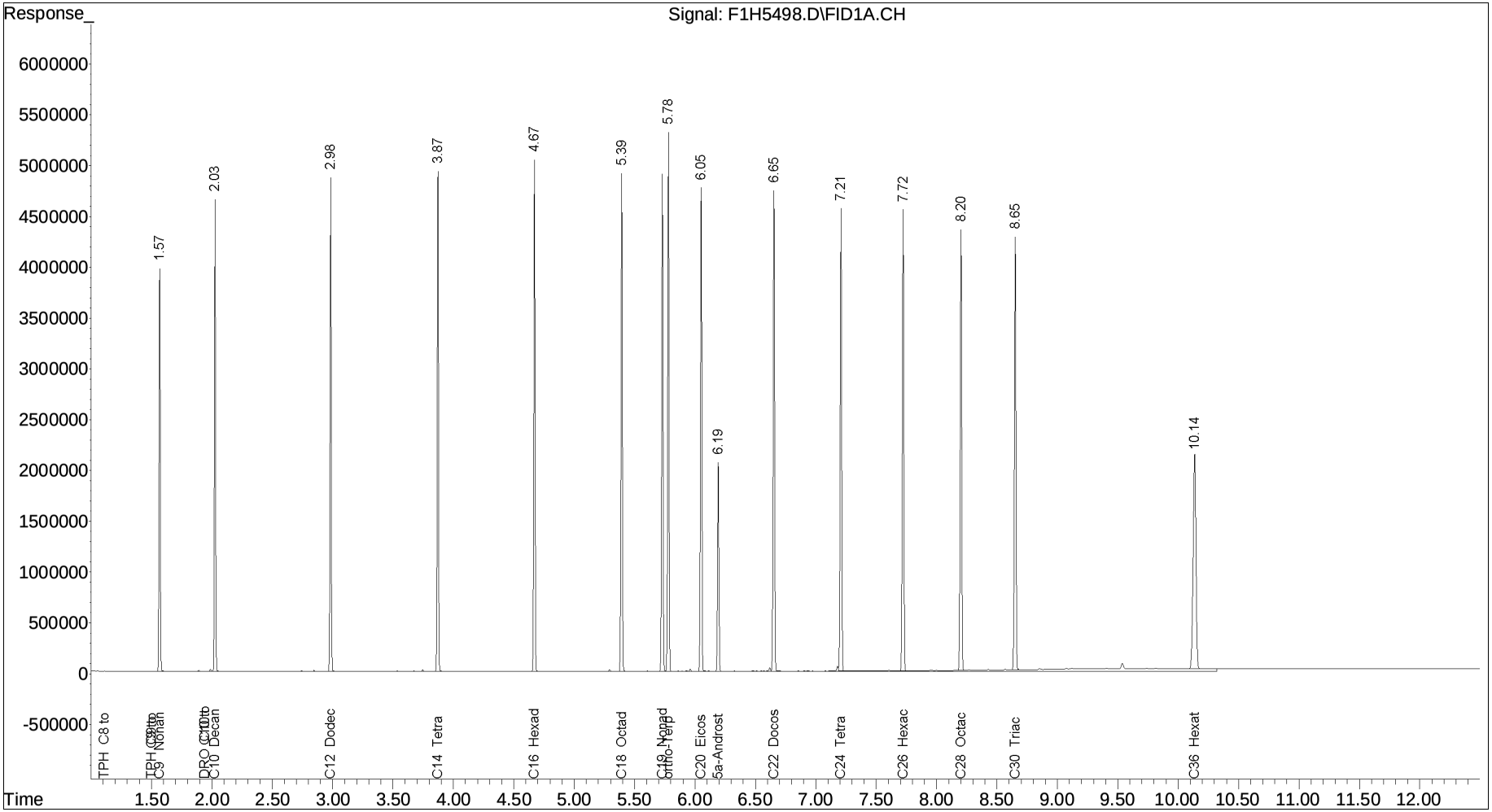
Quant Time: Jun 27 08:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 15239672 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 37257071 | 97.348 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 97.35% |
| 13) S ortho-Terphenyl ISTD | 5.78 | 37257071 | 92.433 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 92.43% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 344379493 | 1024.903 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 440937671 | |
| 4) H TPH C9 to C36 | 1.50 | 476980654 | 1425.437 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 564589452 | |
| 14) T C9 Nonane | 1.57 | 26346614 | 94.794 ug/mL |
| 15) TD C10 Decane | 2.03 | 28502644 | 98.997 ug/mL |
| 16) TD C12 Dodecane | 2.98 | 30761927 | 99.962 ug/mL |
| 17) TD C14 Tetradecane | 3.87 | 32692826 | 99.888 ug/mL |
| 18) TD C16 Hexadecane | 4.67 | 34419840 | 94.379 ug/mL |
| 19) TD C18 Octadecane | 5.39 | 35493743 | 98.962 ug/mL |
| 20) T C19 Nonadecane | 5.73 | 35684005 | 98.642 ug/mL |
| 21) TD C20 Eicosane | 6.05 | 35937812 | 98.247 ug/mL |
| 22) TD C22 Docosane | 6.65 | 36793425 | 97.441 ug/mL |
| 23) TD C24 Tetracosane | 7.21 | 36418472 | 95.488 ug/mL |
| 24) TD C26 Hexacosane | 7.72 | 36828780 | 95.649 ug/mL |
| 25) TD C28 Octacosane | 8.20 | 36530025 | 94.800 ug/mL |
| 26) T C30 Triacontane | 8.65 | 36394933 | 94.134 ug/mL |
| 27) T C36 Hexatriacontane | 10.14 | 34175610 | 92.439 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 344379493 | 972.421 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 440937671 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 476980654 | 1352.453 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 593480065 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 476980654 | 1352.453 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 564589452 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5498.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 24 Jun 2011  20:05  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 08:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5534.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  12:05  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 13:04:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 363.414 E3 | 5.0 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 337.062 E3 | -0.3 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 333.774 E3 | 0.3 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.975 | 7.8 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.682 | 6.6 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.742 | 1.9 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.801 | 0.9 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.852 | 0.8 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.897 | 6.3 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.927 | 1.5 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.933 | 1.8 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.941 | 2.0 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.968 | 2.3 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.964 | 3.7 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.977 | 3.4 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.970 | 4.1 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.968 | 4.6 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.910 | 6.2 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.904 | 2.8 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.895 | 3.3 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.895 | 3.3 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5534.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  12:05  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

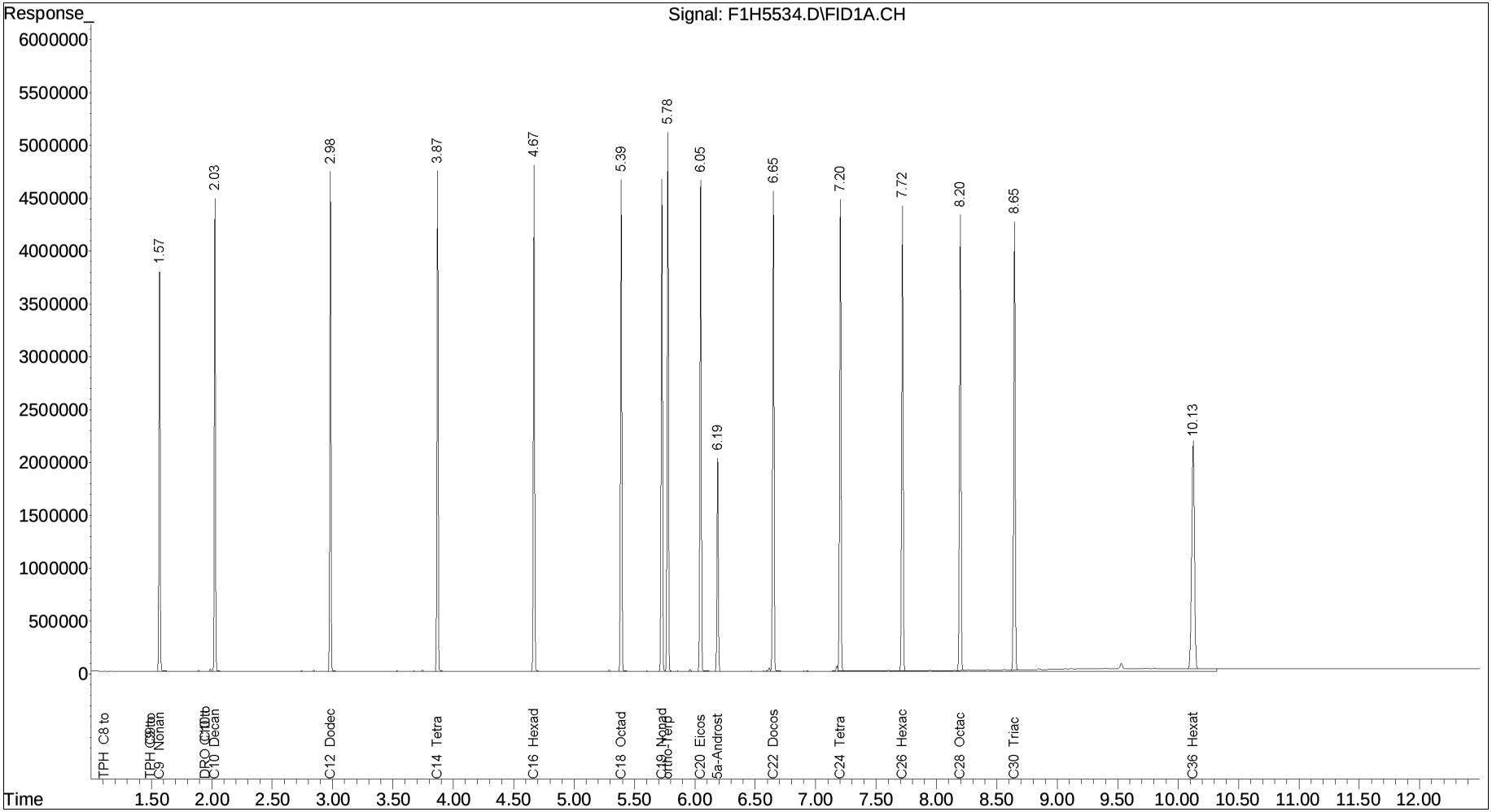
Quant Time: Jun 27 13:04:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 14914902 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 36341358 | 94.955 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 94.95% |
| 13) S ortho-Terphenyl ISTD | 5.78 | 36341358 | 92.124 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 92.12% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 337062210 | 1003.126 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 430839408 | |
| 4) H TPH C9 to C36 | 1.50 | 467283531 | 1396.458 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 552017456 | |
| 14) T C9 Nonane | 1.57 | 25414479 | 93.432 ug/mL |
| 15) TD C10 Decane | 2.03 | 27657190 | 98.153 ug/mL |
| 16) TD C12 Dodecane | 2.98 | 29881825 | 99.216 ug/mL |
| 17) TD C14 Tetradecane | 3.87 | 31777490 | 99.205 ug/mL |
| 18) TD C16 Hexadecane | 4.67 | 33448494 | 93.713 ug/mL |
| 19) TD C18 Octadecane | 5.39 | 34567607 | 98.478 ug/mL |
| 20) T C19 Nonadecane | 5.73 | 34788483 | 98.260 ug/mL |
| 21) TD C20 Eicosane | 6.05 | 35101614 | 98.051 ug/mL |
| 22) TD C22 Docosane | 6.65 | 36095465 | 97.674 ug/mL |
| 23) TD C24 Tetracosane | 7.20 | 35943286 | 96.294 ug/mL |
| 24) TD C26 Hexacosane | 7.72 | 36426663 | 96.664 ug/mL |
| 25) TD C28 Octacosane | 8.20 | 36162577 | 95.890 ug/mL |
| 26) T C30 Triacontane | 8.65 | 36079849 | 95.351 ug/mL |
| 27) T C36 Hexatriacontane | 10.13 | 33938511 | 93.797 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 337062210 | 972.483 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 430839408 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 467283531 | 1353.808 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 580121496 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 467283531 | 1353.808 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 552017456 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5534.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  12:05  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 13:04:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5539.D
Lab Smp Id: FSTD1001I  Client Smp ID: FSTD1001I
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  14:10  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 15:21:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 359.098 | E3 | 6.2 | 99 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 333.009 | E3 | 0.9 | 99 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 330.211 | E3 | 1.3 | 99 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 99 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.976 | | 7.8 | 99 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.687 | | 5.9 | 99 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.746 | | 1.3 | 99 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.804 | | 0.5 | 99 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.853 | | 0.7 | 99 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.897 | | 6.3 | 99 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.926 | | 1.6 | 99 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.932 | | 1.9 | 99 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.940 | | 2.1 | 99 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.967 | | 2.4 | 99 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.964 | | 3.7 | 99 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.978 | | 3.3 | 99 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.974 | | 3.7 | 99 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.974 | | 4.0 | 99 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.921 | | 5.1 | 100 | 0.02 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.905 | | 2.7 | 99 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.897 | | 3.1 | 99 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.897 | | 3.1 | 99 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5539.D
Lab Smp Id: FSTD1001I  Client Smp ID: FSTD1001I
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  14:10  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

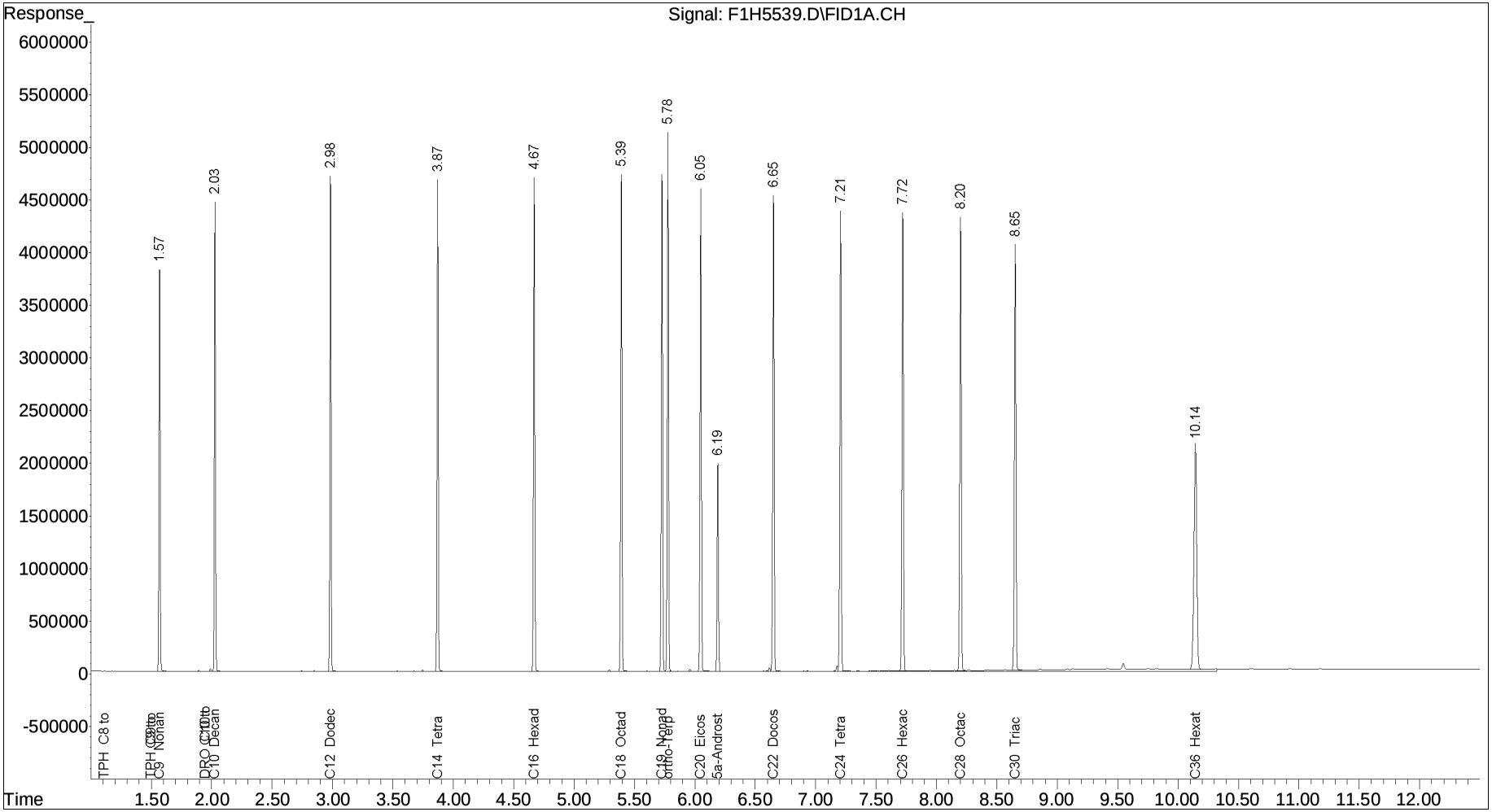
Quant Time: Jun 27 15:21:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 14722202 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 35909839 | 93.828 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 93.83% |
| 13) S ortho-Terphenyl ISTD | 5.78 | 35909839 | 92.222 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 92.22% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 333008790 | 991.063 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 424922741 | |
| 4) H TPH C9 to C36 | 1.50 | 462295527 | 1381.551 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 541544128 | |
| 14) T C9 Nonane | 1.57 | 25269000 | 94.113 ug/mL |
| 15) TD C10 Decane | 2.03 | 27466186 | 98.751 ug/mL |
| 16) TD C12 Dodecane | 2.98 | 29577705 | 99.492 ug/mL |
| 17) TD C14 Tetradecane | 3.87 | 31392469 | 99.286 ug/mL |
| 18) TD C16 Hexadecane | 4.67 | 33002279 | 93.673 ug/mL |
| 19) TD C18 Octadecane | 5.39 | 34079809 | 98.359 ug/mL |
| 20) T C19 Nonadecane | 5.73 | 34300911 | 98.151 ug/mL |
| 21) TD C20 Eicosane | 6.05 | 34599824 | 97.914 ug/mL |
| 22) TD C22 Docosane | 6.65 | 35585209 | 97.554 ug/mL |
| 23) TD C24 Tetracosane | 7.21 | 35464472 | 96.255 ug/mL |
| 24) TD C26 Hexacosane | 7.72 | 36005382 | 96.797 ug/mL |
| 25) TD C28 Octacosane | 8.20 | 35835456 | 96.266 ug/mL |
| 26) T C30 Triacontane | 8.65 | 35835806 | 95.945 ug/mL |
| 27) T C36 Hexatriacontane | 10.14 | 33881021 | 94.864 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 333008790 | 973.364 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 424922741 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 462295527 | 1356.888 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 565984084 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 462295527 | 1356.888 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 541544128 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5539.D
Lab Smp Id: FSTD1001I  Client Smp ID: FSTD1001I
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jun 2011  14:10  Operator: TM
ALS Vial  : 98  Sample Multiplier: 1

Quant Time: Jun 27 15:21:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1059
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

**CTETPH_S**

**CT ETPH -- CT ETPH by GC-FID**

Sample ID: **MB-59935** SampType: **MBLK** TestCode: **CTETPH_S** Prep Date: **06/22/11 14:57** Run ID: **F1_110624A**
Client ID: **MB-59935** Batch ID: **59935** Units: **mg/Kg** Analysis Date: **06/24/11 12:37** SeqNo: **1551570**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 2.6 | 14 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 4.124 | | 1.7 | 6.666 | 0 | 61.9 | 50 | 150 | 0 | | | |

Sample ID: **LCS-59935** SampType: **LCS** TestCode: **CTETPH_S** Prep Date: **06/22/11 14:57** Run ID: **F1_110624A**
Client ID: **LCS-59935** Batch ID: **59935** Units: **mg/Kg** Analysis Date: **06/24/11 12:57** SeqNo: **1551571**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 235.7 | 2.6 | 14 | 333.3 | 0 | 70.7 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 5.310 | | 1.7 | 6.666 | 0 | 79.7 | 50 | 150 | 0 | | | |

Sample ID: **LCSD-59935** SampType: **LCSD** TestCode: **CTETPH_S** Prep Date: **06/22/11 14:57** Run ID: **F1_110624A**
Client ID: **LCSD-59935** Batch ID: **59935** Units: **mg/Kg** Analysis Date: **06/24/11 13:17** SeqNo: **1551572**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 221.3 | 2.6 | 14 | 333.3 | 0 | 66.4 | 60 | 140 | 235.7 | 6.28 | 20 | |
| Surrogate: ortho-Terphenyl | 4.929 | | 1.7 | 6.666 | 0 | 73.9 | 50 | 150 | 0 | | | |

Sample ID: **K1059-03AMS** SampType: **MS** TestCode: **CTETPH_S** Prep Date: **06/22/11 14:57** Run ID: **F1_110624A**
Client ID: **06SB22-0911-201106** Batch ID: **59935** Units: **mg/Kg** Analysis Date: **06/24/11 14:50** SeqNo: **1551576**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 348.7 | 3.4 | 18 | 434.0 | 20.44 | 75.6 | 50 | 150 | 0 | | | |
| Surrogate: ortho-Terphenyl | 7.268 | | 2.2 | 8.679 | 0 | 83.7 | 50 | 150 | 0 | | | |

Sample ID: **K1059-03AMSD** SampType: **MSD** TestCode: **CTETPH_S** Prep Date: **06/22/11 14:57** Run ID: **F1_110624A**
Client ID: **06SB22-0911-201106** Batch ID: **59935** Units: **mg/Kg** Analysis Date: **06/24/11 15:28** SeqNo: **1551577**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 276.5 | 3.4 | 18 | 434.0 | 20.44 | 59.0 | 50 | 150 | 348.7 | 23.1 | 30 | |
| Surrogate: ortho-Terphenyl | 5.832 | | 2.2 | 8.679 | 0 | 67.2 | 50 | 150 | 0 | | | |



**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5476.D
Lab Smp Id: MB-59935 BN: 59935 Client Smp ID: MB-59935
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 12:37 Operator: TM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 27 10:13:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

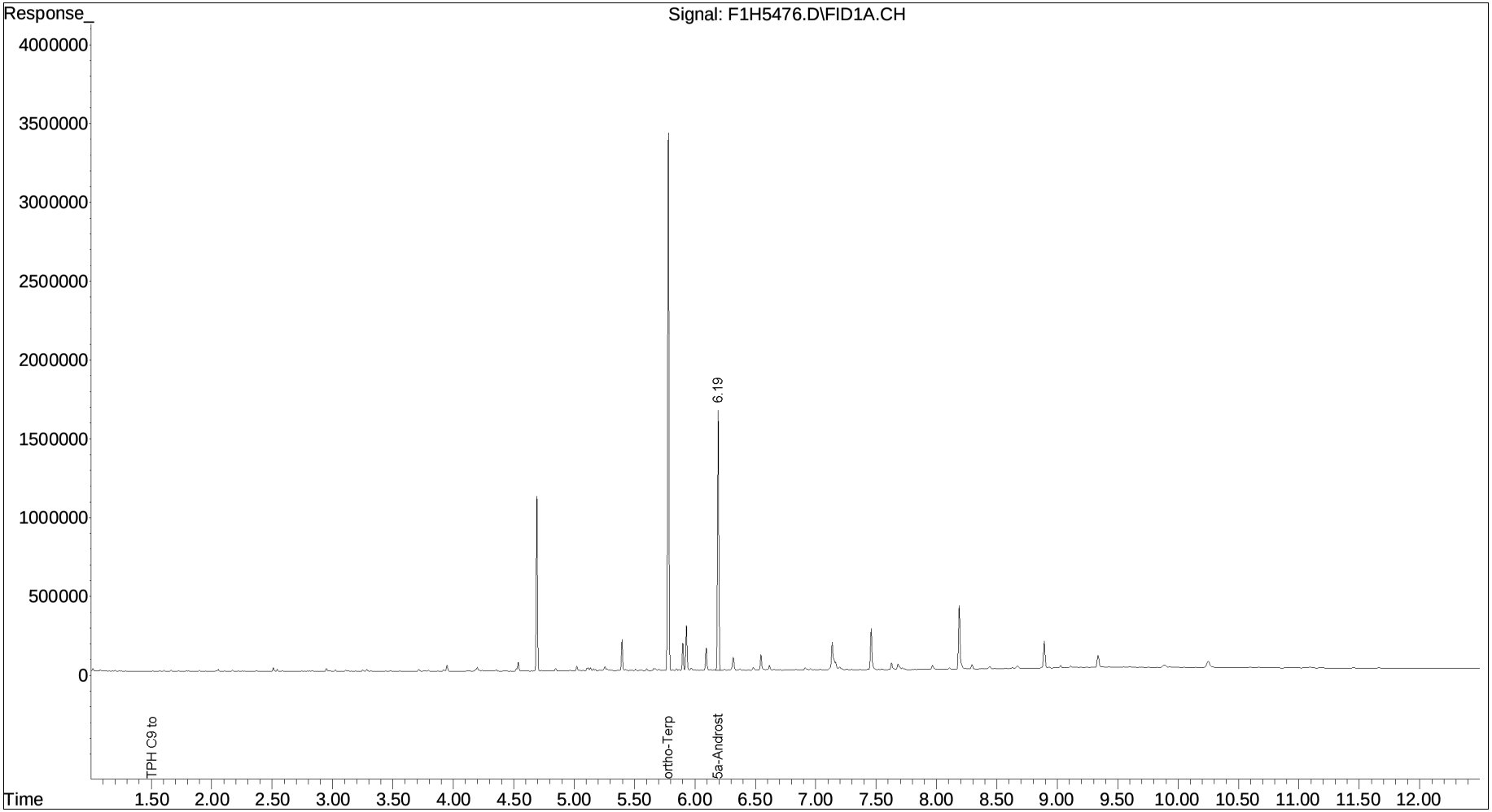
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 12080789 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 23677585 | 61.867 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 61.87% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 61427447 | 183.573 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 118952150 | |
| Corrected Range Area (IS,SS): | | 83193775 | |
| Instrument Blank Area (F1H5475): | | 21766328 | |

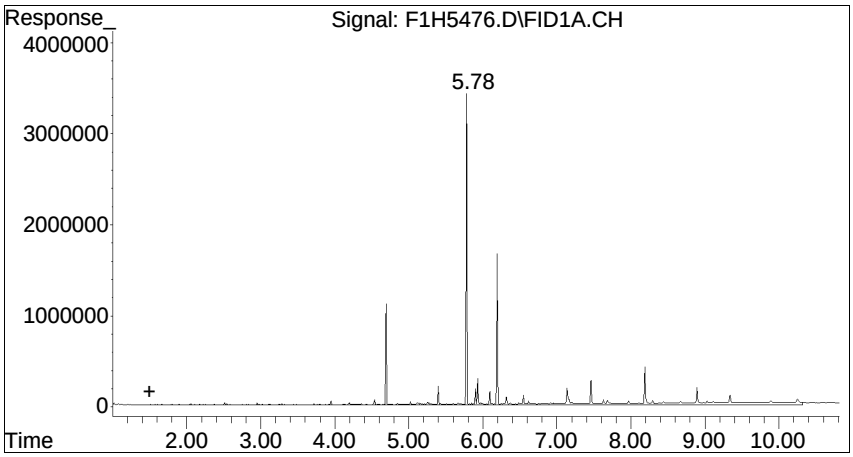
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5476.D
Lab Smp Id: MB-59935 BN: 59935 Client Smp ID: MB-59935
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 12:37 Operator: TM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jun 27 10:13:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 61427447
Conc: 183.57 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5477.D
Lab Smp Id: LCS-59935 BN: 59935 Client Smp ID: LCS-59935
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 12:57 Operator: TM
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 27 13:17:38 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

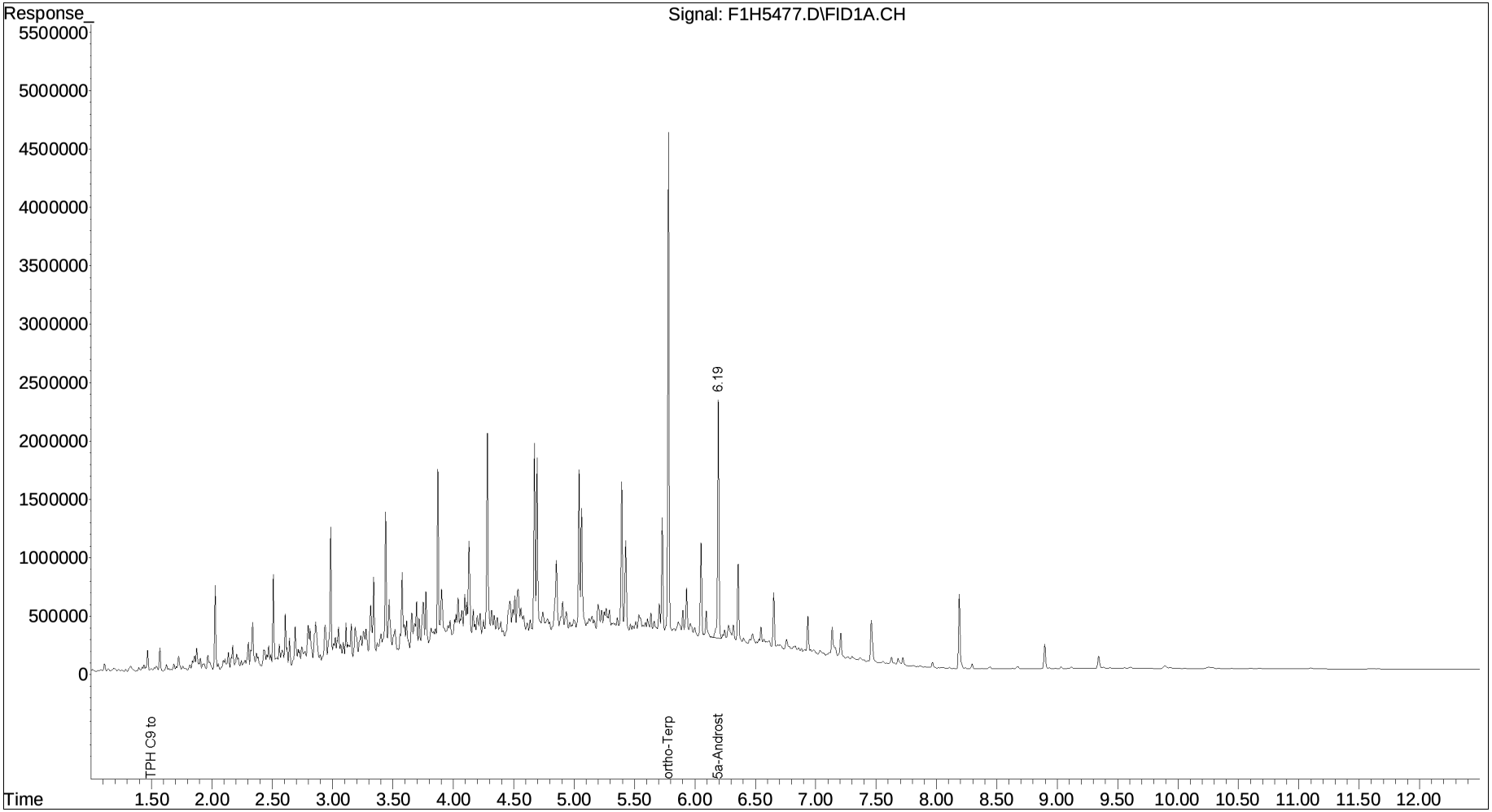
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 16153615 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 30484068 | 79.651 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 79.65% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 1182934940 | 3535.153 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1251338951 | |
| Corrected Range Area (IS,SS): | | 1204701268 | |
| Instrument Blank Area (F1H5475): | | 21766328 | |

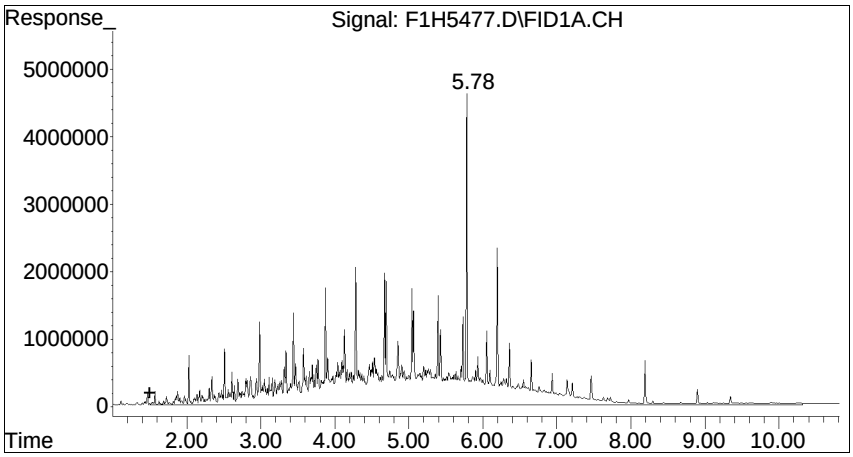
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5477.D
Lab Smp Id: LCS-59935 BN: 59935 Client Smp ID: LCS-59935
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 12:57 Operator: TM
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jun 27 13:17:38 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 1182934940
Conc: 3535.15 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5478.D
Lab Smp Id: LCSD-59935 BN: 59935 Client Smp ID: LCSD-59935
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 13:17 Operator: TM
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 27 13:17:38 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

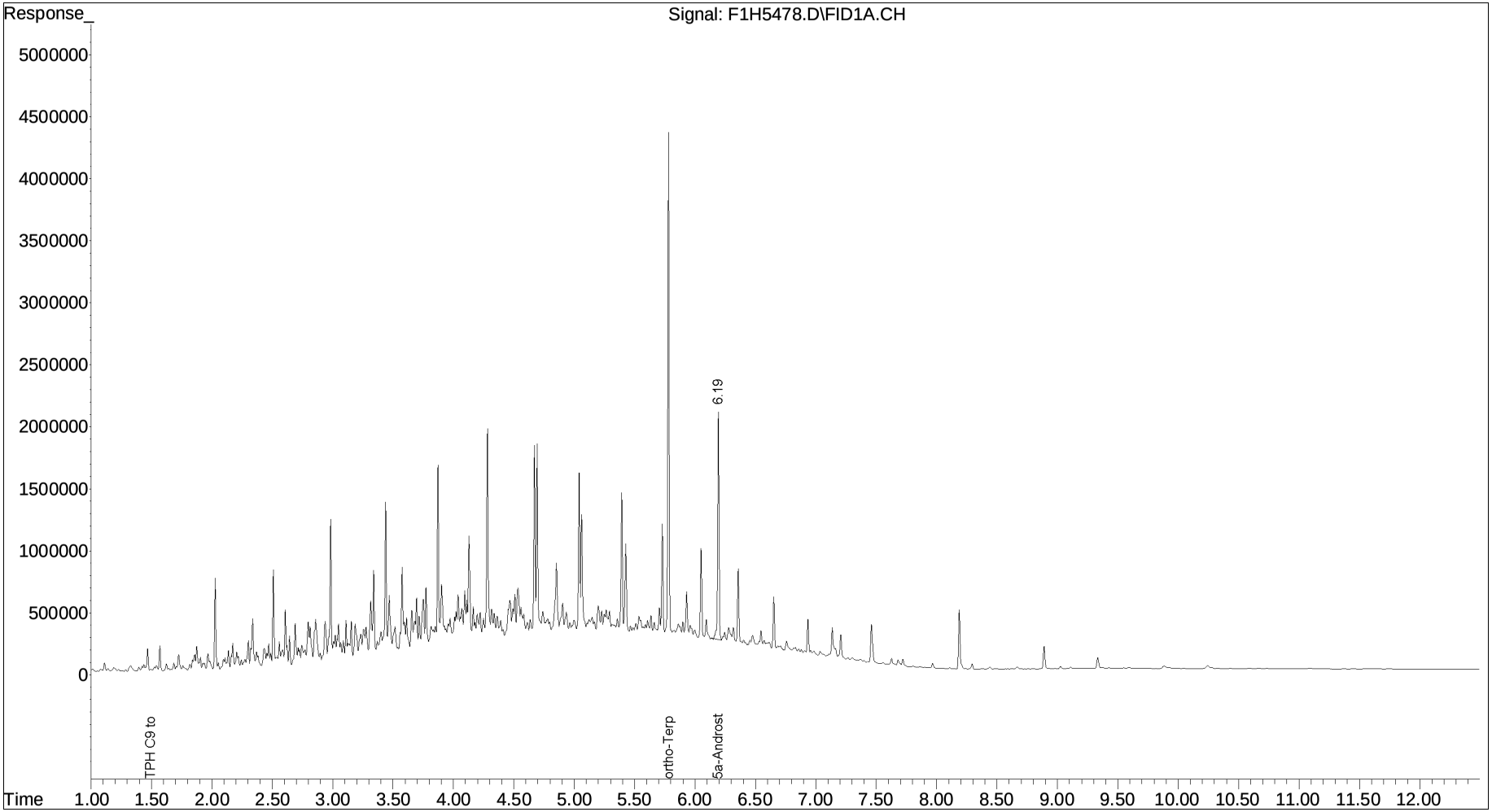
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 14519153 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 28294431 | 73.930 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 73.93% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 1110873641 | 3319.801 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1175453553 | |
| Corrected Range Area (IS,SS): | | 1132639969 | |
| Instrument Blank Area (F1H5475): | | 21766328 | |

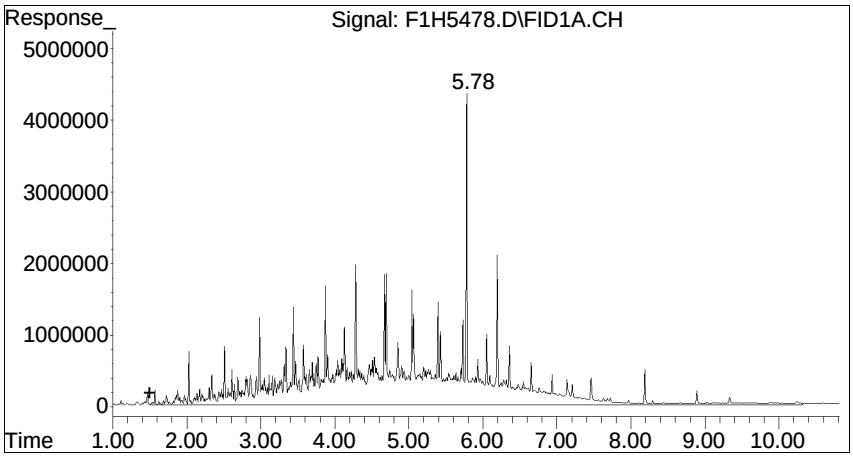
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5478.D
Lab Smp Id: LCSD-59935 BN: 59935 Client Smp ID: LCSD-59935
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 13:17 Operator: TM
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Jun 27 13:17:38 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 1110873641
Conc: 3319.80 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5482.D
Lab Smp Id: K1059-03AMS BN: 59935 Client Smp ID: 06SB22-0911-20110615MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 14:50 Operator: TM
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 27 13:17:43 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

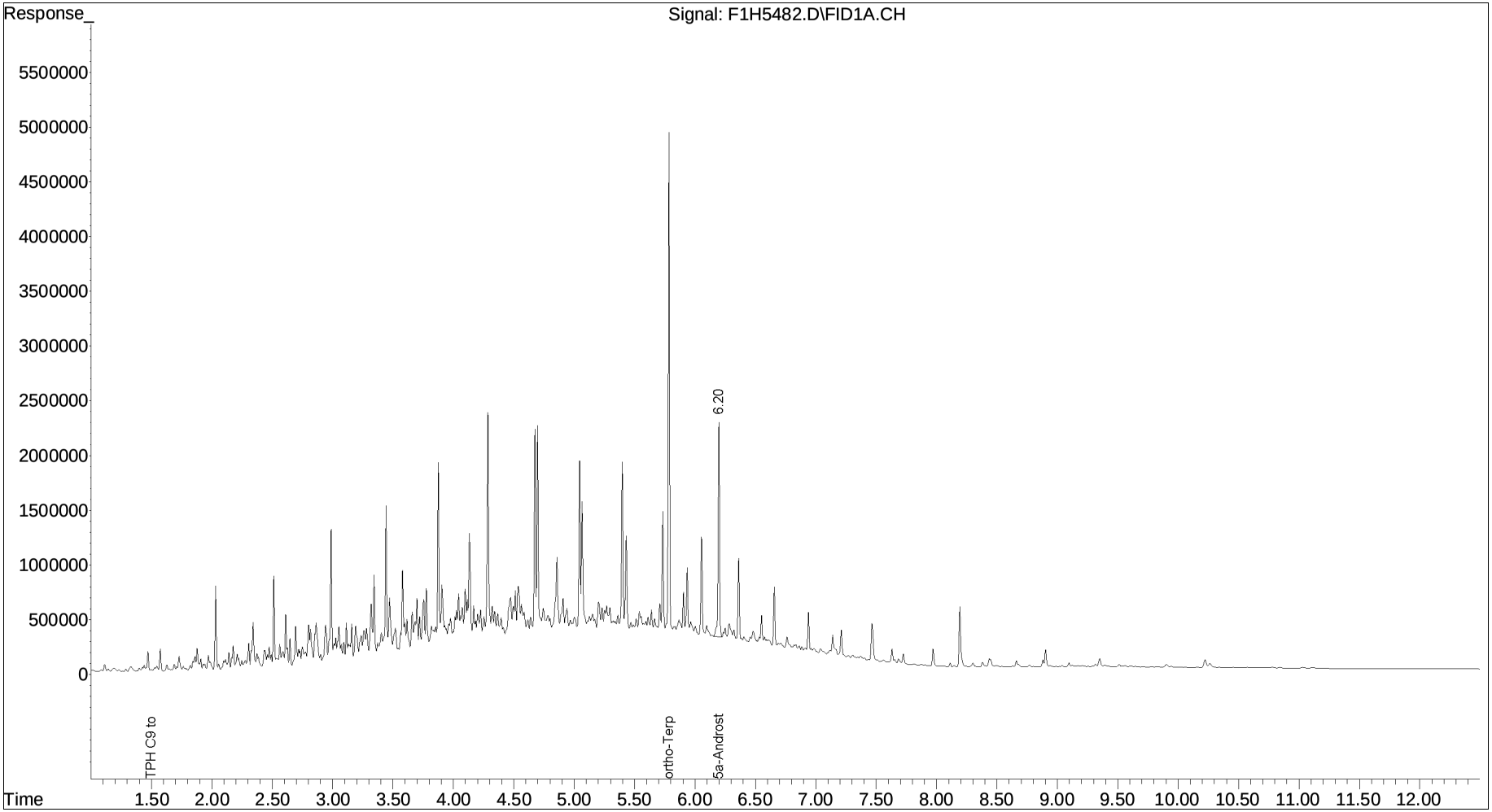
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.20 | 15897649 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 32045249 | 83.730 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 83.73% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 1344199752 | 4017.086 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1413908978 | |
| Corrected Range Area (IS,SS): | | 1365966080 | |
| Instrument Blank Area (F1H5475): | | 21766328 | |

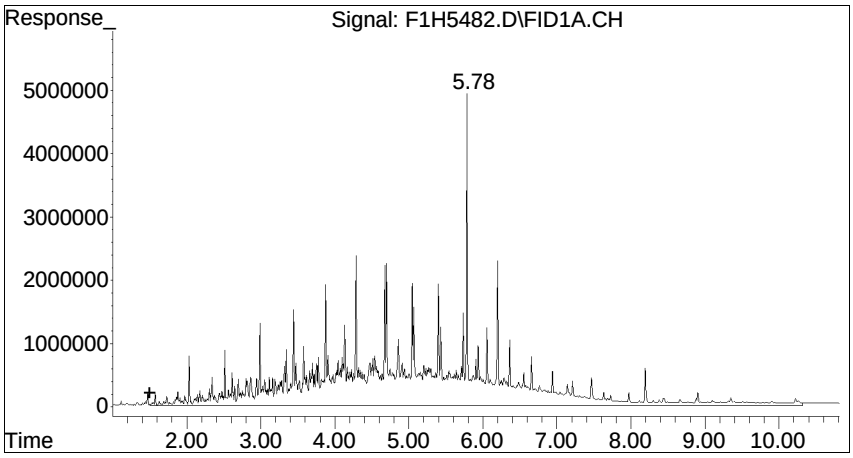
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5482.D
Lab Smp Id: K1059-03AMS BN: 59935 Client Smp ID: 06SB22-0911-20110615MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 14:50 Operator: TM
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Jun 27 13:17:43 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 1344199752
Conc: 4017.09 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5484.D
Lab Smp Id: K1059-03AMSD BN: 59935Client Smp ID: 06SB22-0911-20110615MSD
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 15:28 Operator: TM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 27 13:17:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

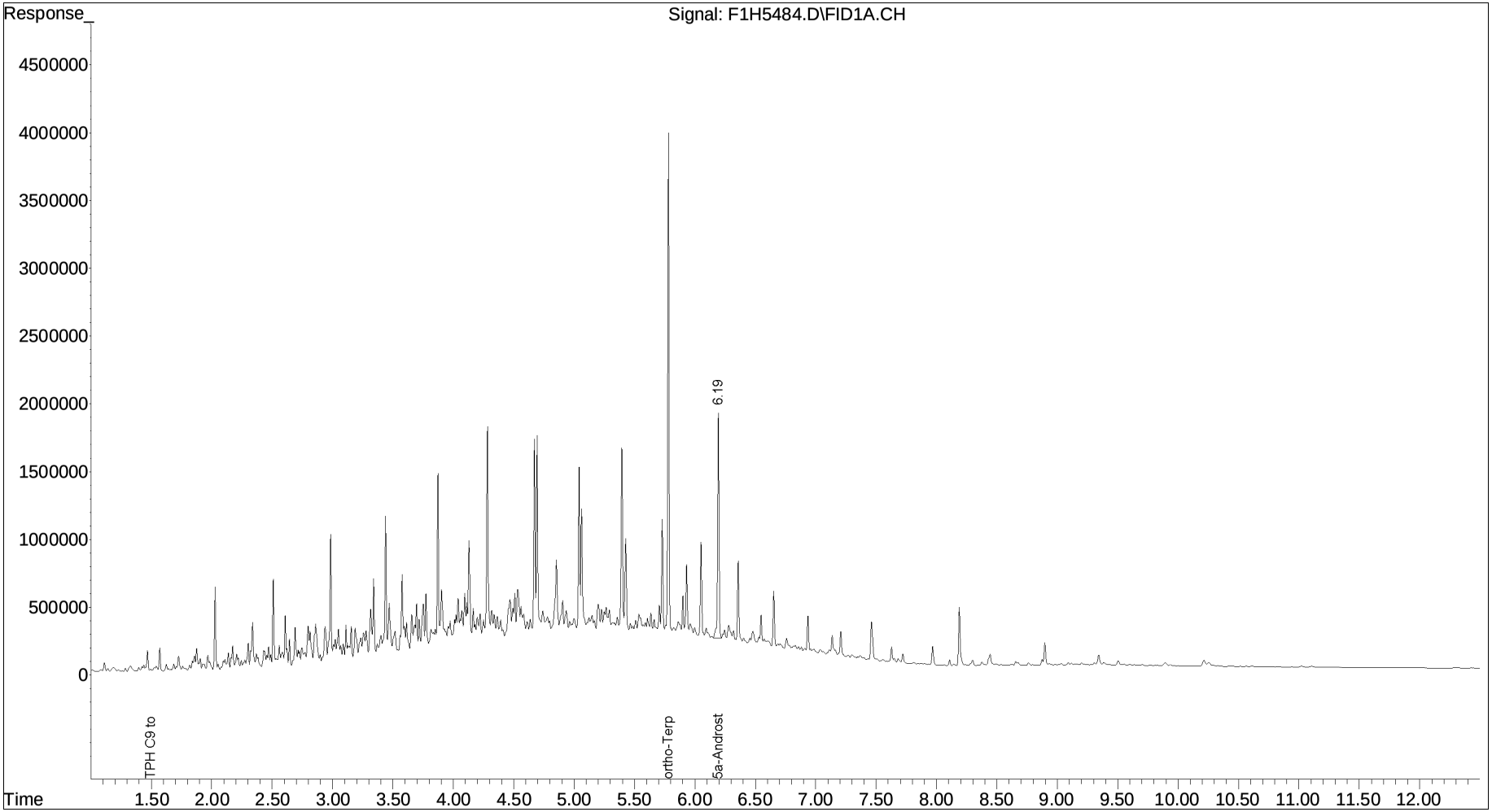
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 13485301 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 25716045 | 67.193 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 67.19% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 1066070250 | 3185.908 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1127037924 | |
| Corrected Range Area (IS,SS): | | 1087836578 | |
| Instrument Blank Area (F1H5475): | | 21766328 | |

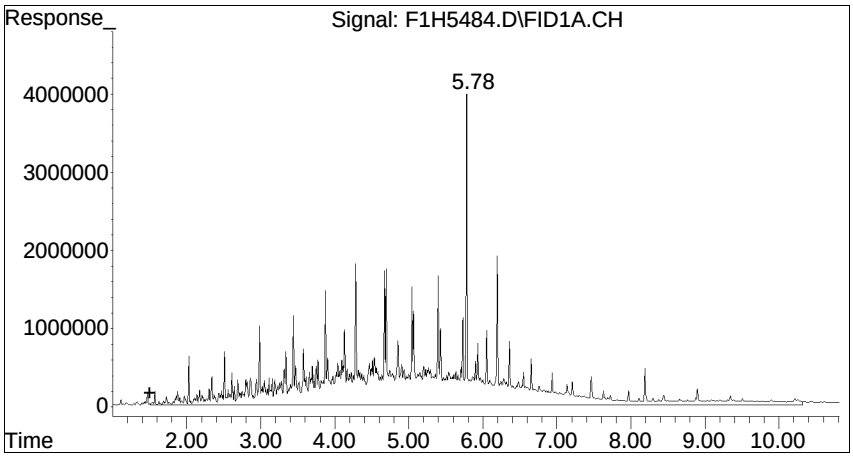
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5484.D
Lab Smp Id: K1059-03AMSD BN: 59935Client Smp ID: 06SB22-0911-20110615MSD
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 15:28 Operator: TM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Jun 27 13:17:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 1066070250
Conc: 3185.91 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **6/22/2011 2:57:53 P**
Prep End Date: **6/23/2011 9:45:00 A**
Prep Batch ID: **59935**

Prep Code: **CTETPH_S_PR**
Technician: **Jill L Cartwright**

Prep Type: **PFEX/SW3545**

Prep Factor Units: **mL / g**

QC Matrix: **NASO4**
QC Matrix Lot: **106147**

Solvent (1): **MECL2**
Solvent (1) Lot: **DD852**

Solvent (3): **N/A**
Solvent (3) Lot: **N/A**

Solvent (5): **N/A**
Solvent (5) Lot: **N/A**

Clean Up (1): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (3): **N/A**
Clean Up (1) Lot: **N/A**

Filter?: **FILTER**
Filter Lot: **FC002266**

Solvent (2): **N/A**
Solvent (2) Lot: **N/A**

Solvent (4): **N/A**
Solvent (4) Lot: **N/A**

Solvent (6): **N/A**
Solvent (6) Lot: **N/A**

Clean Up (2): **N/A**
Clean Up (2) Lot: **N/A**

Clean Up (4): **N/A**
Clean Up (4) Lot: **N/A**

Start Time: **N/A**
End Time: **N/A**

Cycles/Hour **0**

Sonicator Tuned? **N/A**

Bath Temp1 (C): **N/A**

Therm ID1: **N/A**

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | | | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-01A | 06SB26-1820-20110614 | | S | 15.08 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-02A | 06SB26-2325-20110614 | | S | 15.16 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03A | 06SB22-0911-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03AMS | 06SB22-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-03AMSD | 06SB22-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-04A | 06SB22-1719-20110615 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-05A | 06SBDUP01-20110615 | | S | 15.14 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-06A | 06SB24-1719-20110615 | | S | 15.19 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-07A | 06SB24-1921-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-08A | 06SB21-1517-20110616 | | S | 15.31 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-09A | 06SB21-1719-20110616 | | S | 15.07 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-11A | 06SBDUP02-20110615 | | S | 15.35 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-12A | 06SB23-0709-20110616 | | S | 15.15 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-13A | 06SB23-0911-20110616 | | S | 15.25 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-14A | 06SB26-1416-20110617 | | S | 15.13 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-15A | 06SB26-2426-20110617 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 4 |

Antonio AP Cardoso — 06/23/2011
Analyst Reviewed — Date

Timothy McDaniel — 06/23/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

6/23/11

Logbook ID: 50.0147-06/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | KM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700L | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

KM 5/24/11

# Injection Log

AQ: TPH-ACF
GT: TPH0520F

Directory: O:\F1.I\110624.B

INLET MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5470.d | 1. | | | 24 Jun 2011 11:11 |
| 2 | 96 | F1h5471.d | 1. | ICAL 7159 | | 24 Jun 2011 11:29 |
| 3 | 99 | F1h5472.d | 1. | | | 24 Jun 2011 11:44 |
| 4 | 99 | F1h5473.d | 1. | | | 24 Jun 2011 11:47 |
| 5 | 98 | F1h5474.d | 1. | FSTD1001C | TPH F ICAL L5 100... | 24 Jun 2011 11:57 |
| 6 | 100 | F1h5475.d | 1. | IBLK | TPH F | 24 Jun 2011 12:17 |
| 7 | 2 | F1h5476.d | 1. | MB-59935,,59935 | TPH F | 24 Jun 2011 12:37 |
| 8 | 3 | F1h5477.d | 1. | LCS-59935,,59935 | TPH F | 24 Jun 2011 12:57 |
| 9 | 4 | F1h5478.d | 1. | LCSD-59935,,59935 | TPH F | 24 Jun 2011 13:17 |
| 10 | 5 | F1h5479.d | 1. | K1059-01A,,59935 | TPH F | 24 Jun 2011 13:43 |
| 11 | 6 | F1h5480.d | 1. | K1059-02A,,59935 | TPH F | 24 Jun 2011 14:03 |
| 12 | 7 | F1h5481.d | 1. | K1059-03A,,59935 | TPH F | 24 Jun 2011 14:23 |
| 13 | 8 | F1h5482.d | 1. | K1059-03AMS,,59935 | TPH F | 24 Jun 2011 14:50 |
| 14 | 2 | F1h5483.d | 1. | ~~MB-59935,,59935~~ NO | TPH F | 24 Jun 2011 15:08 |
| 15 | 9 | F1h5484.d | 1. | K1059-03AMSD,,59935 | TPH F | 24 Jun 2011 15:28 |
| 16 | 35 | F1h5485.d | 1. | K1074-01D,,59948 | TPH F | 24 Jun 2011 15:49 |
| 17 | 36 | F1h5486.d | 1. | K1074-02D,,59948 | TPH F | 24 Jun 2011 16:09 |
| 18 | 98 | F1h5487.d | 1. | FSTD1001D | TPH F ICAL L5 100... | 24 Jun 2011 16:26 |
| 19 | 100 | F1h5488.d | 1. | IBLK | TPH F | 24 Jun 2011 16:46 |
| 20 | 10 | F1h5489.d | 1. | K1059-04A,,59935 | TPH F | 24 Jun 2011 17:06 |
| 21 | 11 | F1h5490.d | 1. | K1059-05A,,59935 | TPH F | 24 Jun 2011 17:26 |
| 22 | 12 | F1h5491.d | 1. | K1059-06A,,59935 | TPH F | 24 Jun 2011 17:46 |
| 23 | 13 | F1h5492.d | 1. | K1059-07A,,59935 | TPH F | 24 Jun 2011 18:06 |
| 24 | 14 | F1h5493.d | 1. | K1059-08A,,59935 | TPH F | 24 Jun 2011 18:26 |
| 25 | 15 | F1h5494.d | 1. | K1059-09A,,59935 - PR 2-4X | TPH F | 24 Jun 2011 18:46 |
| 26 | 16 | F1h5495.d | 1. | K1059-11A,,59935 | TPH F | 24 Jun 2011 19:06 |
| 27 | 17 | F1h5496.d | 1. | K1059-12A,,59935 | TPH F | 24 Jun 2011 19:25 |
| 28 | 18 | F1h5497.d | 1. | K1059-13A,,59935 | TPH F | 24 Jun 2011 19:45 |
| 29 | 98 | F1h5498.d | 1. | FSTD1001E | TPH F ICAL L5 100... | 24 Jun 2011 20:05 |
| 30 | 100 | F1h5499.d | 1. | IBLK | TPH F | 24 Jun 2011 20:25 |
| 31 | 19 | F1h5500.d | 1. | K1059-14A,,59935 PR 4X | TPH F | 24 Jun 2011 20:45 |
| 32 | 20 | F1h5501.d | 1. | K1059-15A,,59935 PR 5X | TPH F | 24 Jun 2011 21:05 |
| 33 | 21 | F1h5502.d | 1. | MB-59948,,59948 | TPH F | 24 Jun 2011 21:25 |
| 34 | 22 | F1h5503.d | 1. | LCS-59948,,59948 | TPH F | 24 Jun 2011 21:45 |
| 35 | 23 | F1h5504.d | 1. | LCSD-59948,,59948 | TPH F | 24 Jun 2011 22:04 |
| 36 | 24 | F1h5505.d | 1. | K1064-01J,,59948 | TPH F | 24 Jun 2011 22:24 |
| 37 | 25 | F1h5506.d | 1. | K1064-02J,,59948 | TPH F | 24 Jun 2011 22:44 |
| 38 | 26 | F1h5507.d | 1. | K1064-03J,,59948 | TPH F | 24 Jun 2011 23:04 |
| 39 | 27 | F1h5508.d | 1. | K1064-04J,,59948 | TPH F | 24 Jun 2011 23:23 |
| 40 | 28 | F1h5509.d | 1. | K1064-05J,,59948 | TPH F | 24 Jun 2011 23:43 |
| 41 | 98 | F1h5510.d | 1. | FSTD1001F | TPH F ICAL L5 100... | 25 Jun 2011 00:03 |
| 42 | 100 | F1h5511.d | 1. | IBLK | TPH F | 25 Jun 2011 00:23 |
| 43 | 29 | F1h5512.d | 1. | K1064-07J,,59948 | TPH F | 25 Jun 2011 00:43 |
| 44 | 30 | F1h5513.d | 1. | K1064-08J,,59948 | TPH F | 25 Jun 2011 01:03 |
| 45 | 31 | F1h5514.d | 1. | K1064-09J,,59948 | TPH F | 25 Jun 2011 01:23 |
| 46 | 32 | F1h5515.d | 1. | K1064-10J,,59948 | TPH F | 25 Jun 2011 01:43 |
| 47 | 33 | F1h5516.d | 1. | K1064-11J,,59948 | TPH F | 25 Jun 2011 02:03 |
| 48 | 34 | F1h5517.d | 1. | K1064-12J,,59948 | TPH F | 25 Jun 2011 02:22 |
| 49 | 37 | F1h5518.d | 1. | K1083-01D,,59948 | TPH F | 25 Jun 2011 02:42 |
| 50 | 98 | F1h5519.d | 1. | FSTD1001G | TPH F ICAL L5 100... | 25 Jun 2011 03:02 |
| 51 | 100 | F1h5520.d | 1. | IBLK | TPH F | 25 Jun 2011 03:22 |
| 52 | 99 | F1h5521.d | 1. | | | 25 Jun 2011 03:38 |
| 53 | 99 | F1h5522.d | 1. | | | 25 Jun 2011 03:42 |
| 54 | 99 | F1h5523.d | 1. | | | 25 Jun 2011 03:46 |
| 55 | 99 | F1h5524.d | 1. | | | 25 Jun 2011 03:49 |

6/27/11

# Injection Log

AQ : TPH-DRO
QT: TPH0520F

Directory: O:\F1.I\110627.B

Inject Mains : None

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5530.d | 1. | ICAL 7159 | | 27 Jun 2011 11:16 |
| 2 | 96 | F1h5531.d | 1. | | | 27 Jun 2011 11:36 |
| 3 | 99 | F1h5532.d | 1. | | | 27 Jun 2011 11:52 |
| 4 | 99 | F1h5533.d | 1. | | | 27 Jun 2011 11:56 |
| 5 | 98 | F1h5534.d | 1. | FSTD1001H | TPH F ICAL L5 100... | 27 Jun 2011 12:05 |
| 6 | 100 | F1h5535.d | 1. | IBLK | TPH F | 27 Jun 2011 12:25 |
| 7 | 38 | F1h5536.d | 1. | K1059-09A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:10 |
| 8 | 39 | F1h5537.d | 1. | K1059-14A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:30 |
| 9 | 40 | F1h5538.d | 1. | K1059-15A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:50 |
| 10 | 98 | F1h5539.d | 1. | FSTD1001I | TPH F ICAL L5 100... | 27 Jun 2011 14:10 |
| 11 | 100 | F1h5540.d | 1. | IBLK | TPH F | 27 Jun 2011 14:30 |

6/27/11

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **6/22/2011 2:57:53 P**
Prep End Date: **6/23/2011 9:45:00 A**
Prep Batch ID: **59935**

Prep Code: **CTETPH_S_PR**
Technician: **Jill L Cartwright**

Prep Type: **PFEX/SW3545**

Prep Factor Units: **mL / g**

QC Matrix: **NASO4**
QC Matrix Lot: **106147**

Solvent (1): **MECL2**
Solvent (1) Lot: **DD852**

Solvent (3): **N/A**
Solvent (3) Lot: **N/A**

Solvent (5): **N/A**
Solvent (5) Lot: **N/A**

Clean Up (1): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (3): **N/A**
Clean Up (1) Lot: **N/A**

Filter?: **FILTER**
Filter Lot: **FC002266**

Solvent (2): **N/A**
Solvent (2) Lot: **N/A**

Solvent (4): **N/A**
Solvent (4) Lot: **N/A**

Solvent (6): **N/A**
Solvent (6) Lot: **N/A**

Clean Up (2): **N/A**
Clean Up (2) Lot: **N/A**

Clean Up (4): **N/A**
Clean Up (4) Lot: **N/A**

Start Time: **N/A**
End Time: **N/A**

Cycles/Hour **0**

Sonicator Tuned? **N/A**

Bath Temp1 (C): **N/A**

Therm ID1: **N/A**

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | | | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-01A | 06SB26-1820-20110614 | | S | 15.08 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-02A | 06SB26-2325-20110614 | | S | 15.16 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03A | 06SB22-0911-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03AMS | 06SB22-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-03AMSD | 06SB22-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-04A | 06SB22-1719-20110615 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-05A | 06SBDUP01-20110615 | | S | 15.14 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-06A | 06SB24-1719-20110615 | | S | 15.19 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-07A | 06SB24-1921-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-08A | 06SB21-1517-20110616 | | S | 15.31 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-09A | 06SB21-1719-20110616 | | S | 15.07 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-11A | 06SBDUP02-20110615 | | S | 15.35 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-12A | 06SB23-0709-20110616 | | S | 15.15 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-13A | 06SB23-0911-20110616 | | S | 15.25 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-14A | 06SB26-1416-20110617 | | S | 15.13 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-15A | 06SB26-2426-20110617 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 4 |

Antonio AP Cardoso — 06/23/2011
Analyst Reviewed — Date

Timothy McDaniel — 06/23/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

6/23/11

Logbook ID: 50.0147-06/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | KM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700L | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

KM 5/24/11

# Injection Log

AQ: TPH-ACF
GT: TPH0520F

Directory: O:\F1.I\110624.B

INLET MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5470.d | 1. | | | 24 Jun 2011 11:11 |
| 2 | 96 | F1h5471.d | 1. | ICAL 7159 | | 24 Jun 2011 11:29 |
| 3 | 99 | F1h5472.d | 1. | | | 24 Jun 2011 11:44 |
| 4 | 99 | F1h5473.d | 1. | | | 24 Jun 2011 11:47 |
| 5 | 98 | F1h5474.d | 1. | FSTD1001C | TPH F ICAL L5 100... | 24 Jun 2011 11:57 |
| 6 | 100 | F1h5475.d | 1. | IBLK | TPH F | 24 Jun 2011 12:17 |
| 7 | 2 | F1h5476.d | 1. | MB-59935,,59935 | TPH F | 24 Jun 2011 12:37 |
| 8 | 3 | F1h5477.d | 1. | LCS-59935,,59935 | TPH F | 24 Jun 2011 12:57 |
| 9 | 4 | F1h5478.d | 1. | LCSD-59935,,59935 | TPH F | 24 Jun 2011 13:17 |
| 10 | 5 | F1h5479.d | 1. | K1059-01A,,59935 | TPH F | 24 Jun 2011 13:43 |
| 11 | 6 | F1h5480.d | 1. | K1059-02A,,59935 | TPH F | 24 Jun 2011 14:03 |
| 12 | 7 | F1h5481.d | 1. | K1059-03A,,59935 | TPH F | 24 Jun 2011 14:23 |
| 13 | 8 | F1h5482.d | 1. | K1059-03AMS,,59935 | TPH F | 24 Jun 2011 14:50 |
| 14 | 2 | F1h5483.d | 1. | ~~MB-59935,,59935~~ NO QC | TPH F | 24 Jun 2011 15:08 |
| 15 | 9 | F1h5484.d | 1. | K1059-03AMSD,,59935 | TPH F | 24 Jun 2011 15:28 |
| 16 | 35 | F1h5485.d | 1. | K1074-01D,,59948 | TPH F | 24 Jun 2011 15:49 |
| 17 | 36 | F1h5486.d | 1. | K1074-02D,,59948 | TPH F | 24 Jun 2011 16:09 |
| 18 | 98 | F1h5487.d | 1. | FSTD1001D | TPH F ICAL L5 100... | 24 Jun 2011 16:26 |
| 19 | 100 | F1h5488.d | 1. | IBLK | TPH F | 24 Jun 2011 16:46 |
| 20 | 10 | F1h5489.d | 1. | K1059-04A,,59935 | TPH F | 24 Jun 2011 17:06 |
| 21 | 11 | F1h5490.d | 1. | K1059-05A,,59935 | TPH F | 24 Jun 2011 17:26 |
| 22 | 12 | F1h5491.d | 1. | K1059-06A,,59935 | TPH F | 24 Jun 2011 17:46 |
| 23 | 13 | F1h5492.d | 1. | K1059-07A,,59935 | TPH F | 24 Jun 2011 18:06 |
| 24 | 14 | F1h5493.d | 1. | K1059-08A,,59935 | TPH F | 24 Jun 2011 18:26 |
| 25 | 15 | F1h5494.d | 1. | K1059-09A,,59935 - PR 2-4X | TPH F | 24 Jun 2011 18:46 |
| 26 | 16 | F1h5495.d | 1. | K1059-11A,,59935 | TPH F | 24 Jun 2011 19:06 |
| 27 | 17 | F1h5496.d | 1. | K1059-12A,,59935 | TPH F | 24 Jun 2011 19:25 |
| 28 | 18 | F1h5497.d | 1. | K1059-13A,,59935 | TPH F | 24 Jun 2011 19:45 |
| 29 | 98 | F1h5498.d | 1. | FSTD1001E | TPH F ICAL L5 100... | 24 Jun 2011 20:05 |
| 30 | 100 | F1h5499.d | 1. | IBLK | TPH F | 24 Jun 2011 20:25 |
| 31 | 19 | F1h5500.d | 1. | K1059-14A,,59935 PR 4X | TPH F | 24 Jun 2011 20:45 |
| 32 | 20 | F1h5501.d | 1. | K1059-15A,,59935 PR 5X | TPH F | 24 Jun 2011 21:05 |
| 33 | 21 | F1h5502.d | 1. | MB-59948,,59948 | TPH F | 24 Jun 2011 21:25 |
| 34 | 22 | F1h5503.d | 1. | LCS-59948,,59948 | TPH F | 24 Jun 2011 21:45 |
| 35 | 23 | F1h5504.d | 1. | LCSD-59948,,59948 | TPH F | 24 Jun 2011 22:04 |
| 36 | 24 | F1h5505.d | 1. | K1064-01J,,59948 | TPH F | 24 Jun 2011 22:24 |
| 37 | 25 | F1h5506.d | 1. | K1064-02J,,59948 | TPH F | 24 Jun 2011 22:44 |
| 38 | 26 | F1h5507.d | 1. | K1064-03J,,59948 | TPH F | 24 Jun 2011 23:04 |
| 39 | 27 | F1h5508.d | 1. | K1064-04J,,59948 | TPH F | 24 Jun 2011 23:23 |
| 40 | 28 | F1h5509.d | 1. | K1064-05J,,59948 | TPH F | 24 Jun 2011 23:43 |
| 41 | 98 | F1h5510.d | 1. | FSTD1001F | TPH F ICAL L5 100... | 25 Jun 2011 00:03 |
| 42 | 100 | F1h5511.d | 1. | IBLK | TPH F | 25 Jun 2011 00:23 |
| 43 | 29 | F1h5512.d | 1. | K1064-07J,,59948 | TPH F | 25 Jun 2011 00:43 |
| 44 | 30 | F1h5513.d | 1. | K1064-08J,,59948 | TPH F | 25 Jun 2011 01:03 |
| 45 | 31 | F1h5514.d | 1. | K1064-09J,,59948 | TPH F | 25 Jun 2011 01:23 |
| 46 | 32 | F1h5515.d | 1. | K1064-10J,,59948 | TPH F | 25 Jun 2011 01:43 |
| 47 | 33 | F1h5516.d | 1. | K1064-11J,,59948 | TPH F | 25 Jun 2011 02:03 |
| 48 | 34 | F1h5517.d | 1. | K1064-12J,,59948 | TPH F | 25 Jun 2011 02:22 |
| 49 | 37 | F1h5518.d | 1. | K1083-01D,,59948 | TPH F | 25 Jun 2011 02:42 |
| 50 | 98 | F1h5519.d | 1. | FSTD1001G | TPH F ICAL L5 100... | 25 Jun 2011 03:02 |
| 51 | 100 | F1h5520.d | 1. | IBLK | TPH F | 25 Jun 2011 03:22 |
| 52 | 99 | F1h5521.d | 1. | | | 25 Jun 2011 03:38 |
| 53 | 99 | F1h5522.d | 1. | | | 25 Jun 2011 03:42 |
| 54 | 99 | F1h5523.d | 1. | | | 25 Jun 2011 03:46 |
| 55 | 99 | F1h5524.d | 1. | | | 25 Jun 2011 03:49 |

6/27/11

# Injection Log

AQ : TPH-DRO
QT: TPH0520F

Directory: O:\F1.I\110627.B

Inject Mains : None

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5530.d | 1. | ICAL 7159 | | 27 Jun 2011 11:16 |
| 2 | 96 | F1h5531.d | 1. | | | 27 Jun 2011 11:36 |
| 3 | 99 | F1h5532.d | 1. | | | 27 Jun 2011 11:52 |
| 4 | 99 | F1h5533.d | 1. | | | 27 Jun 2011 11:56 |
| 5 | 98 | F1h5534.d | 1. | FSTD1001H | TPH F ICAL L5 100... | 27 Jun 2011 12:05 |
| 6 | 100 | F1h5535.d | 1. | IBLK | TPH F | 27 Jun 2011 12:25 |
| 7 | 38 | F1h5536.d | 1. | K1059-09A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:10 |
| 8 | 39 | F1h5537.d | 1. | K1059-14A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:30 |
| 9 | 40 | F1h5538.d | 1. | K1059-15A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:50 |
| 10 | 98 | F1h5539.d | 1. | FSTD1001I | TPH F ICAL L5 100... | 27 Jun 2011 14:10 |
| 11 | 100 | F1h5540.d | 1. | IBLK | TPH F | 27 Jun 2011 14:30 |

6/27/11

**Client:** TETRA_NAVY

**Work Order:** K1059 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Soil**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 01A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 01A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 01A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 01A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 01A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 01A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 01B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 01B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 01C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 02A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 02A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 02A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 02A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 02A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 02A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 02B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 02B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 02C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 03A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 03A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 03A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 03A | 002 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03A | 002 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 03A | 002 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 03A | 002 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03B | 003 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03B | 004 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |

**Client:** TETRA_NAVY

**Work Order:** K1059 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Soil**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 03C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 03C | 002 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 04A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 04A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 04A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 04A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 04A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 04A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 04B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 04B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 04C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 05A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 05A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 05A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 05A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 05A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 05A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 05B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 05B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 05C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 06A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 06A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 06A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 06A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 06A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 06A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 06B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 06B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 06C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |

**Client:** TETRA_NAVY

**Work Order:** K1059 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Soil**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 07A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 07A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 07A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 07A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 07A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 07A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 07B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 07B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 07C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 08A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 08A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 08A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 08A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 08A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 08A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 08B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 08B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 08C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 09A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 09A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 09A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 09A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 09A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 09A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 09B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 09B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 09C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 10B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 10B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 10C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |

**Client:** TETRA_NAVY

**Work Order:** K1059 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Soil**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 11A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 11A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 11A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 11A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 11A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 11A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 11B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 11B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 11C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 12A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 12A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 12A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 12A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 12A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 12A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 12B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 12B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 12C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 13A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 13A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 13A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 13A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 13A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 13A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 13B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 13B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 13C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 14A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 14A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 14A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 14A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 14A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 14A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |

**Client:** TETRA_NAVY

**Work Order:** K1059 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Soil**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 14B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 14B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 14C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 15A | 001 | CTETPH_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 15A | 001 | CTETPH_S | Out | Jill L Cartwright | 6/22/2011 4:45:23 PM |
| 15A | 001 | CTETPH_S | In | Jill L Cartwright | 6/22/2011 5:27:28 PM |
| 15A | 001 | PMoist | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 15A | 001 | PMoist | Out | Shirley S Ng | 7/6/2011 4:28:25 PM |
| 15A | 001 | PMoist | In | Shirley S Ng | 7/6/2011 5:08:05 PM |
| 15B | 001 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 15B | 002 | SW8260_LOW_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |
| 15C | 001 | SW8260_MED_S | In | LOGIN: vbrizard | 6/20/2011 4:19:00 PM |

**Last Page of Data Report**

Report Date:
28-Jul-11 09:00

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

# *Laboratory Report*

Tetra Tech NUS Inc.
661 Andersen Drive, Foster Plaza #7
Pittsburgh, PA 15220

Attn: Tobrena Skeen

Work Order: K1100
Project : CTO-WE56, NSB New London
Project #:

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| K1100-01 | 06SB27-0911-20110620 | Soil | 20-Jun-11 13:10 | 24-Jun-11 11:00 |
| K1100-02 | 06SB27-1315-20110620 | Soil | 20-Jun-11 13:35 | 24-Jun-11 11:00 |
| K1100-03 | 06TBSO-20110620 | Soil | 20-Jun-11 12:00 | 24-Jun-11 11:00 |
| K1100-04 | 06SB2S-0507-20110621 | Soil | 21-Jun-11 08:40 | 24-Jun-11 11:00 |
| K1100-05 | 06SB2S-1820-20110621 | Soil | 21-Jun-11 10:30 | 24-Jun-11 11:00 |
| K1100-06 | 06RB-20110621 | Aqueous | 21-Jun-11 10:45 | 24-Jun-11 11:00 |
| K1100-07 | 06TBAQ-20110621 | Aqueous | 21-Jun-11 09:00 | 24-Jun-11 11:00 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Mitkem Laboratories is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| Texas | T104704422-08-TX |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-05-030 |

Authorized by:

Yihai Ding
Laboratory Director

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1100**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 07/14/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** *DoD*
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100-01A | 06SB27-0911-20110620 | 06/20/2011 13:10 | 06/24/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1100-01A | 06SB27-0911-20110620 | 06/20/2011 13:10 | 06/24/2011 | Soil | PMoist | / | | | | | F4 |
| K1100-01B | 06SB27-0911-20110620 | 06/20/2011 13:10 | 06/24/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1100-01C | 06SB27-0911-20110620 | 06/20/2011 13:10 | 06/24/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1100-02A | 06SB27-1315-20110620 | 06/20/2011 13:35 | 06/24/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1100-02A | 06SB27-1315-20110620 | 06/20/2011 13:35 | 06/24/2011 | Soil | PMoist | / | | | | | F4 |
| K1100-02B | 06SB27-1315-20110620 | 06/20/2011 13:35 | 06/24/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1100-02C | 06SB27-1315-20110620 | 06/20/2011 13:35 | 06/24/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1100-03B | 06TBSO-20110620 | 06/20/2011 12:00 | 06/24/2011 | Soil | SW8260_LOW_S | PMOIST = 0, TRIP BLANK / MBTEX, | | | | Y | VOA |
| K1100-03C | 06TBSO-20110620 | 06/20/2011 12:00 | 06/24/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1100-04A | 06SB2S-0507-20110621 | 06/21/2011 08:40 | 06/24/2011 | Soil | CTETPH_S | / | | | | | F4 |
| K1100-04A | 06SB2S-0507-20110621 | 06/21/2011 08:40 | 06/24/2011 | Soil | PMoist | / | | | | | F4 |
| K1100-04B | 06SB2S-0507-20110621 | 06/21/2011 08:40 | 06/24/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | | Y | VOA |
| K1100-04C | 06SB2S-0507-20110621 | 06/21/2011 08:40 | 06/24/2011 | Soil | SW8260_MED_S | / | Y | Y | | Y | VOA |
| K1100-05A | 06SB2S-1820-20110621 | 06/21/2011 10:30 | 06/24/2011 | Soil | CTETPH_S | / | | | Y | | F4 |
| K1100-05A | 06SB2S-1820-20110621 | 06/21/2011 10:30 | 06/24/2011 | Soil | PMoist | / | | | Y | | F4 |
| K1100-05B | 06SB2S-1820-20110621 | 06/21/2011 10:30 | 06/24/2011 | Soil | SW8260_LOW_S | / MBTEX, | | | Y | Y | VOA |
| K1100-05C | 06SB2S-1820-20110621 | 06/21/2011 10:30 | 06/24/2011 | Soil | SW8260_MED_S | / | Y | Y | Y | Y | VOA |
| K1100-06A | 06RB-20110621 | 06/21/2011 10:45 | 06/24/2011 | Aqueous | SW8260_W | / MBTEX, | | | | Y | VOA |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1100**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 07/14/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** *DoD*
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100-06B | 06RB-20110621 | 06/21/2011 10:45 | 06/24/2011 | Aqueous | CTETPH_W | / | | | | | F4 |
| K1100-07A | 06TBAQ-20110621 | 06/21/2011 09:00 | 06/24/2011 | Aqueous | SW8260_W | / MBTEX, | | | | Y | VOA |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Sample Transmittal Documentation

MITKEM LABORATORIES

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 1 of 1

**Special Handling:**

TAT- Indicate Date Needed: _____

- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Dave Kane
240 Continental Dr.
Suite 200
Newark DE 19713

Project Mgr.: Dave Kane

Invoice To: _____

P.O. No.: _____ RQN: _____

Project No.: 112602634

Site Name: Polans Park

Location: Groton CT State: _____

Sampler(s): R Clark

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= DI 11= _____

List preservative code below: 9+10 – 2

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

QA/QC Reporting Level

☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | BTEX | GRPH | BTEX | | | | | | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 06SB27-0911 | 20110620 | 1310 | g | SO | 3 | | 1 | | ✓ | ✓ | | | | | | | Frozen 6/20/11 6pm |
| 2 | 06SB27-1315 | 20110620 | 1335 | g | SO | 3 | | 1 | | ✓ | ✓ | | | | | | | Frozen 6/20/11 6pm |
| 3 | 06TBSO-20110620 | 6/20/11 | 1200 | g | ~~Aq~~ | 3 | | — | | ✓ | ~~Aq~~ | | | | | | | |
| 4 | 06SB25-0507 | 20110621 | 0840 | g | SO | 3 | | 1 | | ✓ | ✓ | | | | | | | Frozen 6/21/11 7pm |
| 5 | 06SB25-1820 | 20110621 | 1030 | g | SO | 6 | | 2 | | ✓ | ✓ | | | | | | | Lab QC MS/MSD ↓ |
| 6 | 06RB-20110621 | 6/21/11 | 1045 | g | AQ | 2 | 2 | | | ~~Aq~~ | ✓ | ✓ | | | | | | Rinsate |
| 7 | 06TBAQ-20110621 | 6/21/11 | 0900 | g | AQ | 2 | | | | ~~Aq~~ | | ✓ | | | | | | |

☐ E-mail to _____

EDD Format _____

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 6/23/11 | 1030 |
| [signature] | [signature] | 6/24/11 | 1100 |

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 6.0c



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# SPECTRUM ANALYTICAL, INC. RI DIVISION

## Sample Condition Form



Received By: SV | Reviewed By: [illegible] | Date: 6/24/11 | Mitkem Work Order #: K1100

Client Project: New London | Client: Tetra Navy

| | | Lab Sample ID | | Preservation (pH) $HNO_3$ | $H_2SO_4$ | HCl | NaOH | $H_3PO_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) Cooler Sealed | Yes / No | K1100 | 01 | | | | | | F/M | |
| | | | 02 | | | | | | | |
| 2) Custody Seal(s) | Present / Absent | | 03 | | | | | | | |
| | Coolers / Bottles | | 04 | | | | | | | |
| | Intact / Broken | | 05 | | | | | | F/M | |
| | | | 06 | | | | | | H | |
| 3) Custody Seal Number(s) | NA | K1100 | 07 | | | | | | H | |
| 4) Chain-of-Custody | Present / Absent | | | | | | | | | |
| 5) Cooler Temperature | 6.0°C | | | | | | | | | |
| IR Temp Gun ID | MT-1 | | | | | | | | | |
| Coolant Condition | Ice | | | | | | | | | |
| 6) Airbill(s) | Present / Absent | | | | | | | | | |
| Airbill Number(s) | courier | | | | | | | | | |
| 7) Samples Bottles | Intact / Broken / Leaking | | | | | | | | | |
| 8) Date Received | 6/24/11 | | | | | | | | | |
| 9) Time Received | 11:00 | | | | | | | | | |

6/24/11

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

# * Volatiles *

**REPORT NARRATIVE**

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London, Soils**

**Laboratory Workorder / SDG #: K1100**

**SW846 8260C, VOC by GC-MS**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times. Sample aliquots for low level analysis, contained in pre-weighed vials preserved with DI water, were frozen upon receipt at the laboratory, within less than 48 hours of sample collection. Samples were initially frozen in the field, then after pick-up were held overnight at the Spectrum, Agawam, MA laboratory freezer prior to transfer to Spectrum, Warwick, RI (Mitkem).

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C, for the BTEX plus MTBE list of compounds.

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030

Soil Samples were prepared following procedures in laboratory test code: SW5035

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA
Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

06SB2S-1820-20110621 (K1100-05BMSD), recovery is above criteria for Bromofluorobenzene at 121% with criteria of (77-111).

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

**2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):**

Matrix spikes were performed on sample: 06SB2S-1820-20110621 (K1100-05BMS/MSD).

Percent recoveries and replicate RPDs were within the QC limits.

**E. Internal Standards:**

Internal standard peak areas were within the QC limits.

**F. Dilutions:**

No sample in this SDG required analysis at dilution.

**G. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Mitkem, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:____ _____

Date:_____7/27/11_____

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Level: (TRACE or LOW) LOW

| | CLIENT SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 01 | LCS-60018 | 87 | 103 | 106 | 100 | | | | 0 |
| 02 | LCSD-60018 | 88 | 94 | 106 | 101 | | | | 0 |
| 03 | MB-60018 | 86 | 99 | 106 | 95 | | | | 0 |
| 04 | 06TBAQ-20110621 | 91 | 98 | 105 | 93 | | | | 0 |
| 05 | 06RB-20110621 | 85 | 101 | 102 | 93 | | | | 0 |

| | | QC LIMITS |
|---|---|---|
| VDMC1 | (DBFM) Dibromofluoromethane | (85-115) |
| VDMC2 | (DCE) = 1,2-Dichloroethane-d4 | (70-120) |
| VDMC3 | (TOL) = Toluene-d8 | (85-120) |
| VDMC4 | (BFB) = Bromofluorobenzene | (75-120) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

som11.07.01.A

2D - FORM II VOA-4

SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Level: (LOW/MED) LOW

| | CLIENT SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 01 | LCS-60011 | 97 | 95 | 99 | 101 | | | | 0 |
| 02 | MB-60011 | 98 | 91 | 103 | 101 | | | | 0 |
| 03 | 06SB27-0911-20110620 | 94 | 91 | 102 | 96 | | | | 0 |
| 04 | 06SB27-1315-20110620 | 92 | 83 | 90 | 95 | | | | 0 |
| 05 | 06SB2S-0507-20110621 | 97 | 81 | 101 | 99 | | | | 0 |
| 06 | 06SB2S-1820-20110621 | 95 | 77 | 104 | 100 | | | | 0 |
| 07 | 06TBSO-20110620 | 95 | 80 | 100 | 101 | | | | 0 |
| 08 | LCS-60105 | 96 | 88 | 104 | 100 | | | | 0 |
| 09 | MB-60105 | 95 | 82 | 105 | 100 | | | | 0 |
| 10 | 06SB2S-1820-20110621MS | 95 | 83 | 102 | 105 | | | | 0 |
| 11 | 06SB2S-1820-20110621MSD | 95 | 72 | 103 | 121 * | | | | 1 |

| | | QC LIMITS |
|---|---|---|
| VDMC1 | (DBFM) Dibromofluoromethane | (65-132) |
| VDMC2 | (DCE) = 1,2-Dichloroethane-d4 | (65-128) |
| VDMC3 | (TOL) = Toluene-d8 | (85-115) |
| VDMC4 | (BFB) = Bromofluorobenzene | (77-111) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

som11.07.01.A

3B - FORM III VOA-2

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix Spike - EPA Sample No.: 06SB2S-1820-20110621 Level: (LOW/MED) LOW

| COMPOUND | SPIKE ADDED (µg/Kg) | SAMPLE CONCENTRATION (µg/Kg) | MS CONCENTRATION (µg/Kg) | MS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 37.4603 | 0.0000 | 35.7854 | 96 | | 75-126 |
| Benzene | 37.4603 | 0.0000 | 36.9897 | 99 | | 75-125 |
| Toluene | 37.4603 | 0.0000 | 35.4062 | 95 | | 70-125 |
| Ethylbenzene | 37.4603 | 0.0000 | 35.7238 | 95 | | 75-125 |
| m,p-Xylene | 74.9206 | 0.0000 | 71.7639 | 96 | | 80-125 |
| o-Xylene | 37.4603 | 0.0000 | 36.8493 | 98 | | 75-125 |
| Xylene (Total) | 112.3810 | 0.0000 | 108.6132 | 97 | | 83-125 |

| COMPOUND | SPIKE ADDED (µg/Kg) | MSD CONCENTRATION (µg/Kg) | MSD %REC | # | %RPD | # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 35.5636 | 33.9241 | 95 | | 0 | | 0-40 | 75-126 |
| Benzene | 35.5636 | 34.1891 | 96 | | 3 | | 0-40 | 75-125 |
| Toluene | 35.5636 | 32.8718 | 92 | | 2 | | 0-40 | 70-125 |
| Ethylbenzene | 35.5636 | 33.4519 | 94 | | 1 | | 0-40 | 75-125 |
| m,p-Xylene | 71.1272 | 66.7973 | 94 | | 2 | | 0-40 | 80-125 |
| o-Xylene | 35.5636 | 34.5651 | 97 | | 1 | | 0-40 | 75-125 |
| Xylene (Total) | 106.6908 | 101.3624 | 95 | | 2 | | 0-40 | 83-125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS:

3 - FORM III
SOIL LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-60011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCS-60011 LCS Lot No.:

Date Extracted: 06/27/2011 Date Analyzed (1): 06/27/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 50.6344 | 101 | | 75 - 126 |
| Benzene | 50.0000 | 0.0000 | 57.2146 | 114 | | 75 - 125 |
| Toluene | 50.0000 | 0.0000 | 55.7930 | 112 | | 70 - 125 |
| Ethylbenzene | 50.0000 | 0.0000 | 58.3472 | 117 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 114.9872 | 115 | | 80 - 125 |
| o-Xylene | 50.0000 | 0.0000 | 56.5518 | 113 | | 75 - 125 |
| Xylene (Total) | 150.0000 | 0.0000 | 171.5390 | 114 | | 83 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCS-60018 LCS Lot No.:

Date Extracted: 06/28/2011 Date Analyzed (1): 06/28/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 43.4457 | 87 | | 65 - 125 |
| Benzene | 50.0000 | 0.0000 | 48.1648 | 96 | | 80 - 120 |
| Toluene | 50.0000 | 0.0000 | 44.9450 | 90 | | 75 - 120 |
| Ethylbenzene | 50.0000 | 0.0000 | 43.5957 | 87 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 90.4271 | 90 | | 75 - 130 |
| o-Xylene | 50.0000 | 0.0000 | 46.1703 | 92 | | 80 - 120 |
| Xylene (Total) | 150.0000 | 0.0000 | 136.5974 | 91 | | 81 - 121 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3 - FORM III
SOIL LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-60105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCS-60105 LCS Lot No.:

Date Extracted: 06/30/2011 Date Analyzed (1): 06/30/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 55.5903 | 111 | | 75 - 126 |
| Benzene | 50.0000 | 0.0000 | 58.6914 | 117 | | 75 - 125 |
| Toluene | 50.0000 | 0.0000 | 57.1020 | 114 | | 70 - 125 |
| Ethylbenzene | 50.0000 | 0.0000 | 58.3228 | 117 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 115.6322 | 116 | | 80 - 125 |
| o-Xylene | 50.0000 | 0.0000 | 57.4384 | 115 | | 75 - 125 |
| Xylene (Total) | 150.0000 | 0.0000 | 173.0706 | 115 | | 83 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCSD-60018 LCS Lot No.:

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD %REC | # | %RPD | # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 43.5056 | 87 | | 0 | | 40 | 65 - 125 |
| Benzene | 50.0000 | 44.8881 | 90 | | 6 | | 40 | 80 - 120 |
| Toluene | 50.0000 | 42.1028 | 84 | | 7 | | 40 | 75 - 120 |
| Ethylbenzene | 50.0000 | 43.2876 | 87 | | 0 | | 40 | 75 - 125 |
| m,p-Xylene | 100.0000 | 87.6213 | 88 | | 2 | | 40 | 75 - 130 |
| o-Xylene | 50.0000 | 44.7467 | 89 | | 3 | | 40 | 80 - 120 |
| Xylene (Total) | 150.0000 | 132.3680 | 88 | | 3 | | 40 | 81 - 121 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-60011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1715.D Lab Sample ID: MB-60011

Instrument ID: V1

Matrix: (SOIL/SED/WATER) SOIL Date Analyzed: 06/27/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 12:08

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-60011 | LCS-60011 | V1M1713.D | 11:05 |
| 02 | 06SB27-0911-20110620 | K1100-01B | V1M1727.D | 17:44 |
| 03 | 06SB27-1315-20110620 | K1100-02B | V1M1728.D | 18:12 |
| 04 | 06SB2S-0507-20110621 | K1100-04B | V1M1729.D | 18:40 |
| 05 | 06SB2S-1820-20110621 | K1100-05B | V1M1730.D | 19:08 |
| 06 | 06TBSO-20110620 | K1100-03B | V1M1732.D | 20:03 |

COMMENTS:

som11.07.01.A

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1749.D Lab Sample ID: MB-60018

Instrument ID: V1

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 06/28/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 11:32

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-60018 | LCS-60018 | V1M1746.D | 10:09 |
| 02 | LCSD-60018 | LCSD-60018 | V1M1747.D | 10:37 |
| 03 | 06TBAQ-20110621 | K1100-07A | V1M1756.D | 14:46 |
| 04 | 06RB-20110621 | K1100-06A | V1M1757.D | 15:15 |

COMMENTS:

som11.07.01.A



SW846

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-60105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1807.D Lab Sample ID: MB-60105

Instrument ID: V1

Matrix: (SOIL/SED/WATER) SOIL Date Analyzed: 06/30/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 11:27

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-60105 | LCS-60105 | V1M1805.D | 10:17 |
| 02 | 06SB2S-1820-20110621MS | K1100-05BMS | V1M1823.D | 18:45 |
| 03 | 06SB2S-1820-20110621MSD | K1100-05BMSD | V1M1824.D | 19:12 |

COMMENTS:

som11.07.01.A

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

CLIENT SAMPLE NO.

BFB1F

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1404.D BFB Injection Date: 06/01/2011

Instrument ID: V1 BFB Injection Time: 11:43

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19.3 |
| 75 | 30.0 - 60.0% of mass 95 | 37.0 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 6.2 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 68.7 |
| 175 | 5.0 - 9.0% of mass 174 | 5.8 (8.4)1 |
| 176 | 95.0 - 101.0% of mass 174 | 66.3 (96.5)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.3 (6.4)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501F | VSTD0501F | V1M1405.D | 06/01/2011 | 11:59 |
| 02 | VSTD0201F | VSTD0201F | V1M1406.D | 06/01/2011 | 12:48 |
| 03 | VSTD0051F | VSTD0051F | V1M1407.D | 06/01/2011 | 13:18 |
| 04 | VSTD2001F | VSTD2001F | V1M1408.D | 06/01/2011 | 13:50 |
| 05 | VSTD1001F | VSTD1001F | V1M1409.D | 06/01/2011 | 14:22 |
| 06 | VICV0501F | VICV0501F | V1M1410.D | 06/01/2011 | 14:54 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

CLIENT SAMPLE NO.

BFB1P

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1630.D BFB Injection Date: 06/22/2011

Instrument ID: V1 BFB Injection Time: 7:57

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19.6 |
| 75 | 30.0 - 60.0% of mass 95 | 37.2 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 8.0 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 79.4 |
| 175 | 5.0 - 9.0% of mass 174 | 4.6 (5.9)1 |
| 176 | 95.0 - 101.0% of mass 174 | 76.3 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.4 (5.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0201P | VSTD0201P | V1M1633.D | 06/22/2011 | 9:07 |
| 02 | VSTD0501P | VSTD0501P | V1M1634.D | 06/22/2011 | 9:34 |
| 03 | VSTD1001P | VSTD1001P | V1M1635.D | 06/22/2011 | 10:02 |
| 04 | VSTD2001P | VSTD2001P | V1M1636.D | 06/22/2011 | 10:30 |
| 05 | VSTD0051P | VSTD0051P | V1M1640.D | 06/22/2011 | 12:41 |
| 06 | VICV0501P | VICV0501P | V1M1643.D | 06/22/2011 | 15:06 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

CLIENT SAMPLE NO.

BFB1S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1710.D BFB Injection Date: 06/27/2011

Instrument ID: V1 BFB Injection Time: 9:13

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 20.5 |
| 75 | 30.0 - 60.0% of mass 95 | 34.1 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 7.5 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 90.8 |
| 175 | 5.0 - 9.0% of mass 174 | 4.6 (5.1)1 |
| 176 | 95.0 - 101.0% of mass 174 | 87.0 (95.8)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.1 (5.9)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501S | VSTD0501S | V1M1712.D | 06/27/2011 | 10:14 |
| 02 | LCS-60011 | LCS-60011 | V1M1713.D | 06/27/2011 | 11:05 |
| 03 | MB-60011 | MB-60011 | V1M1715.D | 06/27/2011 | 12:08 |
| 04 | 06SB27-0911-20110620 | K1100-01B | V1M1727.D | 06/27/2011 | 17:44 |
| 05 | 06SB27-1315-20110620 | K1100-02B | V1M1728.D | 06/27/2011 | 18:12 |
| 06 | 06SB2S-0507-20110621 | K1100-04B | V1M1729.D | 06/27/2011 | 18:40 |
| 07 | 06SB2S-1820-20110621 | K1100-05B | V1M1730.D | 06/27/2011 | 19:08 |
| 08 | 06TBSO-20110620 | K1100-03B | V1M1732.D | 06/27/2011 | 20:03 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

CLIENT SAMPLE NO.

BFB1T

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1743.D BFB Injection Date: 06/28/2011

Instrument ID: V1 BFB Injection Time: 8:40

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 21.1 |
| 75 | 30.0 - 60.0% of mass 95 | 38.8 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 5.8 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 79.1 |
| 175 | 5.0 - 9.0% of mass 174 | 6.9 (8.7)1 |
| 176 | 95.0 - 101.0% of mass 174 | 75.9 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.5 (7.3)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501T | VSTD0501T | V1M1745.D | 06/28/2011 | 9:32 |
| 02 | LCS-60018 | LCS-60018 | V1M1746.D | 06/28/2011 | 10:09 |
| 03 | LCSD-60018 | LCSD-60018 | V1M1747.D | 06/28/2011 | 10:37 |
| 04 | MB-60018 | MB-60018 | V1M1749.D | 06/28/2011 | 11:32 |
| 05 | 06TBAQ-20110621 | K1100-07A | V1M1756.D | 06/28/2011 | 14:46 |
| 06 | 06RB-20110621 | K1100-06A | V1M1757.D | 06/28/2011 | 15:15 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

CLIENT SAMPLE NO.

BFB1V

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1801.D BFB Injection Date: 06/30/2011

Instrument ID: V1 BFB Injection Time: 8:06

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 17.9 |
| 75 | 30.0 - 60.0% of mass 95 | 37.8 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 6.7 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 87.9 |
| 175 | 5.0 - 9.0% of mass 174 | 7.9 (9.0)1 |
| 176 | 95.0 - 101.0% of mass 174 | 86.0 (97.8)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.2 (6.0)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501V | VSTD0501V | V1M1804.D | 06/30/2011 | 9:40 |
| 02 | LCS-60105 | LCS-60105 | V1M1805.D | 06/30/2011 | 10:17 |
| 03 | MB-60105 | MB-60105 | V1M1807.D | 06/30/2011 | 11:27 |
| 04 | 06SB2S-1820-20110621MS | K1100-05BMS | V1M1823.D | 06/30/2011 | 18:45 |
| 05 | 06SB2S-1820-20110621MSD | K1100-05BMSD | V1M1824.D | 06/30/2011 | 19:12 |

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501S Date Analyzed: 06/27/2011

Lab File ID (Standard): V1M1712.D Time Analyzed: 10:14

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA | # | RT | # | IS2 (S2 ) AREA | # | RT | # | IS3 (S3 ) AREA | # | RT | # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 561893 | | 6.421 | | 386662 | | 10.114 | | 181336 | | 12.951 | |
| | UPPER LIMIT | 1123786 | | 6.921 | | 773324 | | 10.614 | | 362672 | | 13.451 | |
| | LOWER LIMIT | 280947 | | 5.921 | | 193331 | | 9.614 | | 90668 | | 12.451 | |
| | SAMPLE NO. | | | | | | | | | | | | |
| 01 | LCS-60011 | 442607 | | 6.416 | | 308863 | | 10.109 | | 156646 | | 12.956 | |
| 02 | MB-60011 | 442136 | | 6.421 | | 305978 | | 10.115 | | 144023 | | 12.951 | |
| 03 | 06SB27-0911-20110620 | 458926 | | 6.441 | | 317833 | | 10.124 | | 143573 | | 12.961 | |
| 04 | 06SB27-1315-20110620 | 449571 | | 6.431 | | 312647 | | 10.125 | | 142754 | | 12.962 | |
| 05 | 06SB2S-0507-20110621 | 444360 | | 6.430 | | 310415 | | 10.123 | | 144214 | | 12.960 | |
| 06 | 06SB2S-1820-20110621 | 461240 | | 6.431 | | 307869 | | 10.114 | | 146077 | | 12.961 | |
| 07 | 06TBSO-20110620 | 439035 | | 6.426 | | 298632 | | 10.119 | | 132839 | | 12.956 | |

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/01/2011 06/01/2011

EPA Sample No.(VSTD#####): VSTD0501T Date Analyzed: 06/28/2011

Lab File ID (Standard): V1M1745.D Time Analyzed: 9:32

Instrument ID: V1 Heated Purge: (Y/N) N

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 573607 | 6.422 | 396074 | 10.125 | 205894 | 12.962 |
| | UPPER LIMIT | 1147214 | 6.922 | 792148 | 10.625 | 411788 | 13.462 |
| | LOWER LIMIT | 286804 | 5.922 | 198037 | 9.625 | 102947 | 12.462 |
| | SAMPLE NO. | | | | | | |
| 01 | LCS-60018 | 566142 | 6.425 | 406742 | 10.118 | 196551 | 12.955 |
| 02 | LCSD-60018 | 560521 | 6.439 | 395026 | 10.123 | 194408 | 12.960 |
| 03 | MB-60018 | 542986 | 6.436 | 384066 | 10.120 | 183590 | 12.967 |
| 04 | 06TBAQ-20110621 | 538402 | 6.430 | 393521 | 10.124 | 185704 | 12.961 |
| 05 | 06RB-20110621 | 536095 | 6.433 | 393666 | 10.127 | 185634 | 12.964 |

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501V Date Analyzed: 06/30/2011

Lab File ID (Standard): V1M1804.D Time Analyzed: 9:40

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 378961 | 6.426 | 263400 | 10.119 | 121468 | 12.956 |
| | UPPER LIMIT | 757922 | 6.926 | 526800 | 10.619 | 242936 | 13.456 |
| | LOWER LIMIT | 189481 | 5.926 | 131700 | 9.619 | 60734 | 12.456 |
| | SAMPLE NO. | | | | | | |
| 01 | LCS-60105 | 343655 | 6.437 | 237100 | 10.140 | 119194 | 12.967 |
| 02 | MB-60105 | 364360 | 6.431 | 247541 | 10.124 | 118759 | 12.961 |
| 03 | 06SB2S-1820-20110621MS | 359490 | 6.445 | 245876 | 10.129 | 120588 | 12.966 |
| 04 | 06SB2S-1820-20110621MSD | 366760 | 6.431 | 245412 | 10.115 | 126572 | 12.961 |

IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB27-0911-2011
0620

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-01B

Sample wt/vol: 7.70 (g/mL) G Lab File ID: V1M1727.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 9.5 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.44 | 1.4 | 3.6 |
| 71-43-2 | Benzene | 1.4 | U | 0.44 | 1.4 | 3.6 |
| 108-88-3 | Toluene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 100-41-4 | Ethylbenzene | 1.4 | U | 0.36 | 1.4 | 3.6 |
| 1330-20-7 | m,p-Xylene | 2.9 | U | 1.1 | 2.9 | 3.6 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 1330-20-7 | Xylene (Total) | 1.4 | U | 0.34 | 1.4 | 3.6 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1727.D
Report Date: 28-May-2011 14:21

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1727.D
Lab Smp Id: K1100-01B  Client Smp ID: 06SB27-0911-2011062
Inj Date  : 27-JUN-2011 17:44
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-01B,,60011
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 46
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.700 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

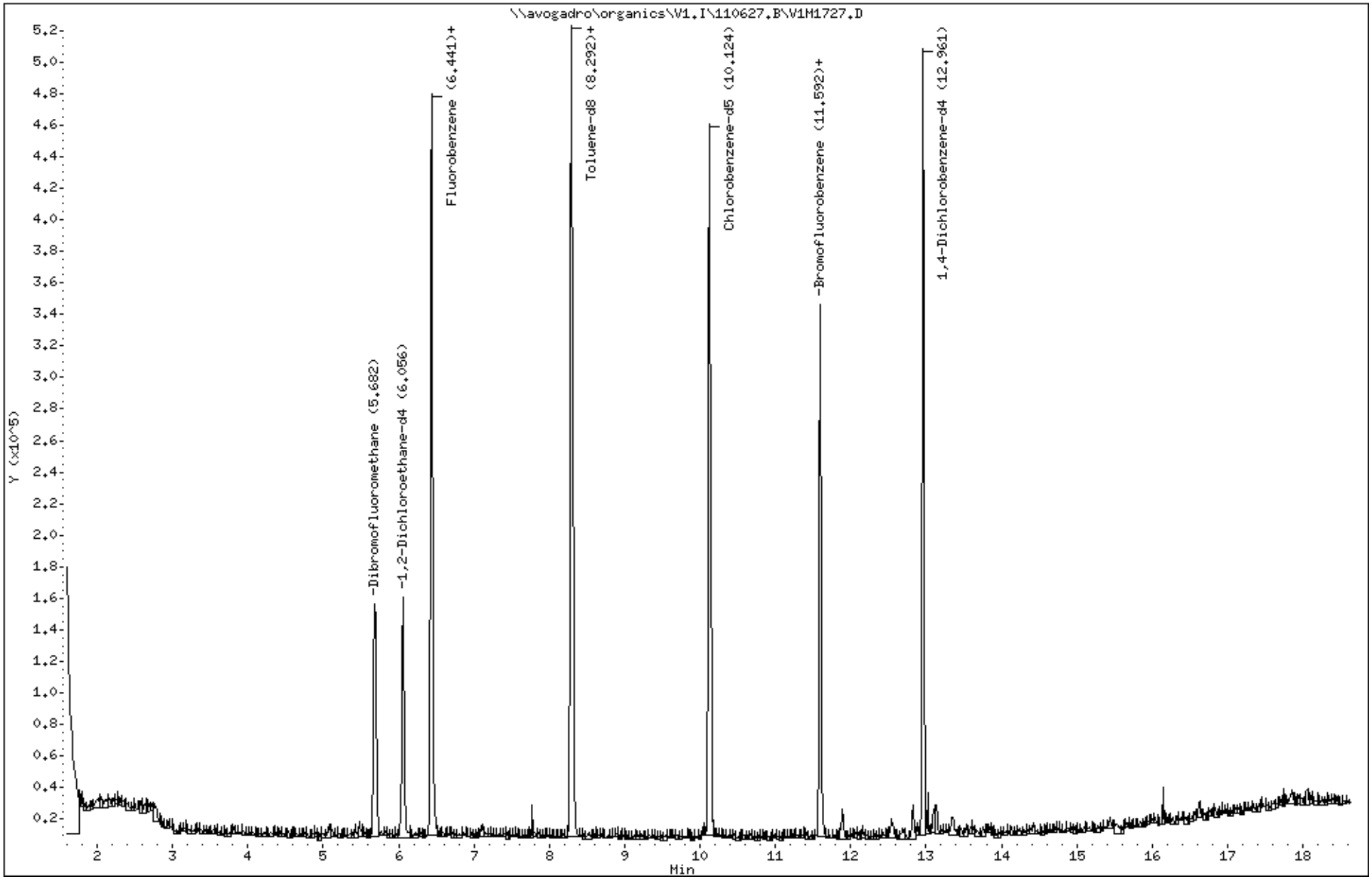
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.684 | (0.882) | 112668 | 46.9202 | 30 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.049 | (0.940) | 26391 | 45.4912 | 30 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.433 | (1.000) | 458926 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.285 | (0.819) | 406092 | 51.2481 | 33 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.126 | (1.000) | 317833 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.591 | 11.594 | (1.145) | 145137 | 48.1561 | 31 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.960 | 12.963 | (1.000) | 143573 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1727.D
Date : 27-JUN-2011 17:44
Client ID: 06SB27-0911-2011062
Sample Info: 5ML,K1100-01B,,60011

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB27-1315-2011
0620

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-02B

Sample wt/vol: 8.70 (g/mL) G Lab File ID: V1M1728.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 11 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 71-43-2 | Benzene | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 108-88-3 | Toluene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.32 | 1.3 | 3.2 |
| 1330-20-7 | m,p-Xylene | 2.6 | U | 1.0 | 2.6 | 3.2 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.30 | 1.3 | 3.2 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1728.D
Report Date: 28-May-2011 14:21

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1728.D
Lab Smp Id: K1100-02B  Client Smp ID: 06SB27-1315-2011062
Inj Date  : 27-JUN-2011 18:12
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-02B,,60011
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 47
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 8.700 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

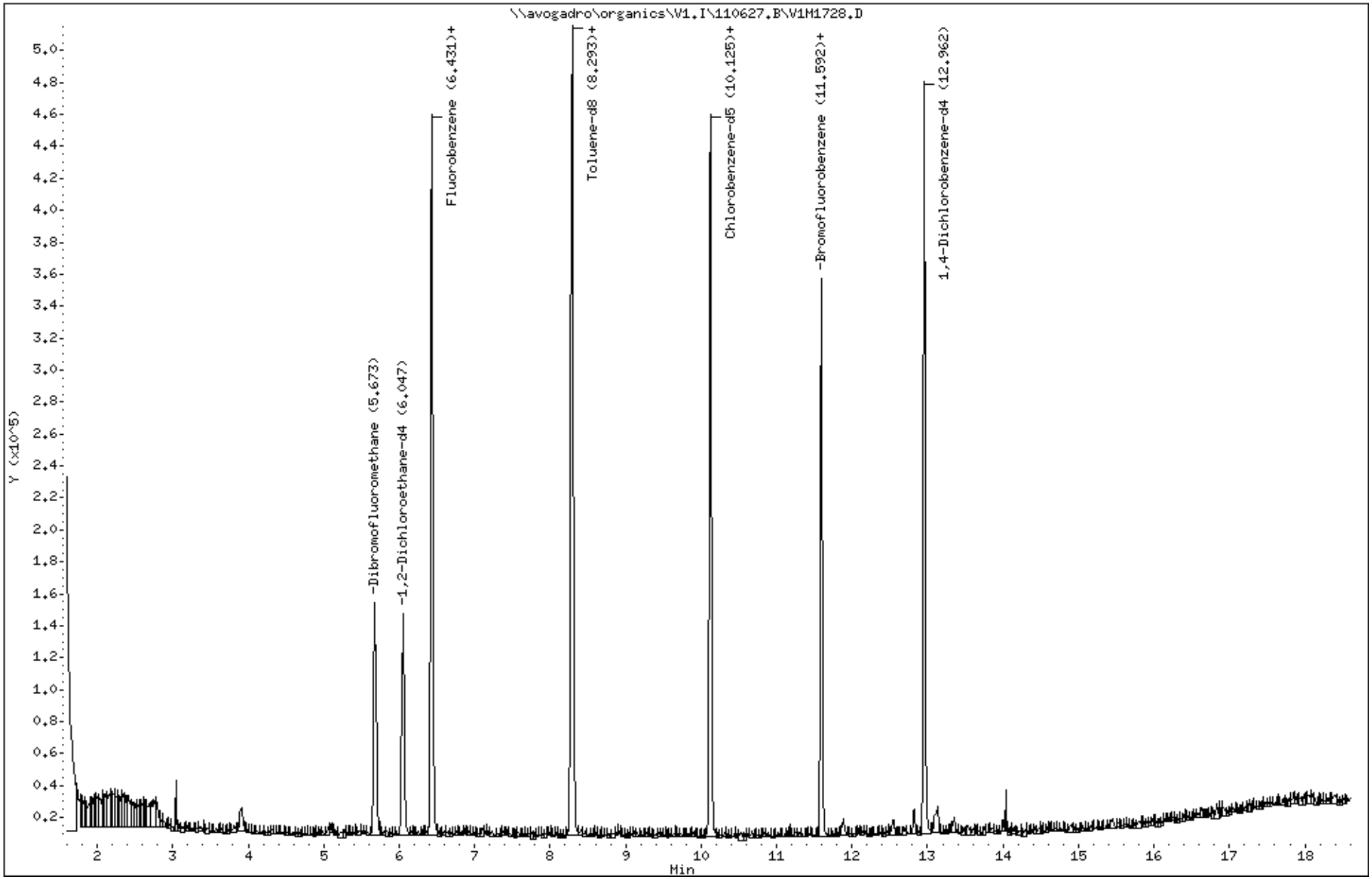
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.684 | (0.884) | 108365 | 46.0673 | 26 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.047 | 6.049 | (0.940) | 23478 | 41.3121 | 24 |
| * 41 Fluorobenzene | 96 | 6.431 | 6.433 | (1.000) | 449571 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.285 | (0.819) | 350293 | 44.9396 | 26 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.126 | (1.000) | 312647 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.592 | 11.594 | (1.145) | 141412 | 47.6984 | 27 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.963 | (1.000) | 142754 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1728.D
Date : 27-JUN-2011 18:12
Client ID: 06SB27-1315-2011062
Sample Info: 5ML,K1100-02B,,60011

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06TBSO-20110620

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-03B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1732.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1732.D
Report Date: 28-May-2011 14:21

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1732.D
Lab Smp Id: K1100-03B  Client Smp ID: 06TBSO-20110620
Inj Date  : 27-JUN-2011 20:03
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-03B,,60011
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 51
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

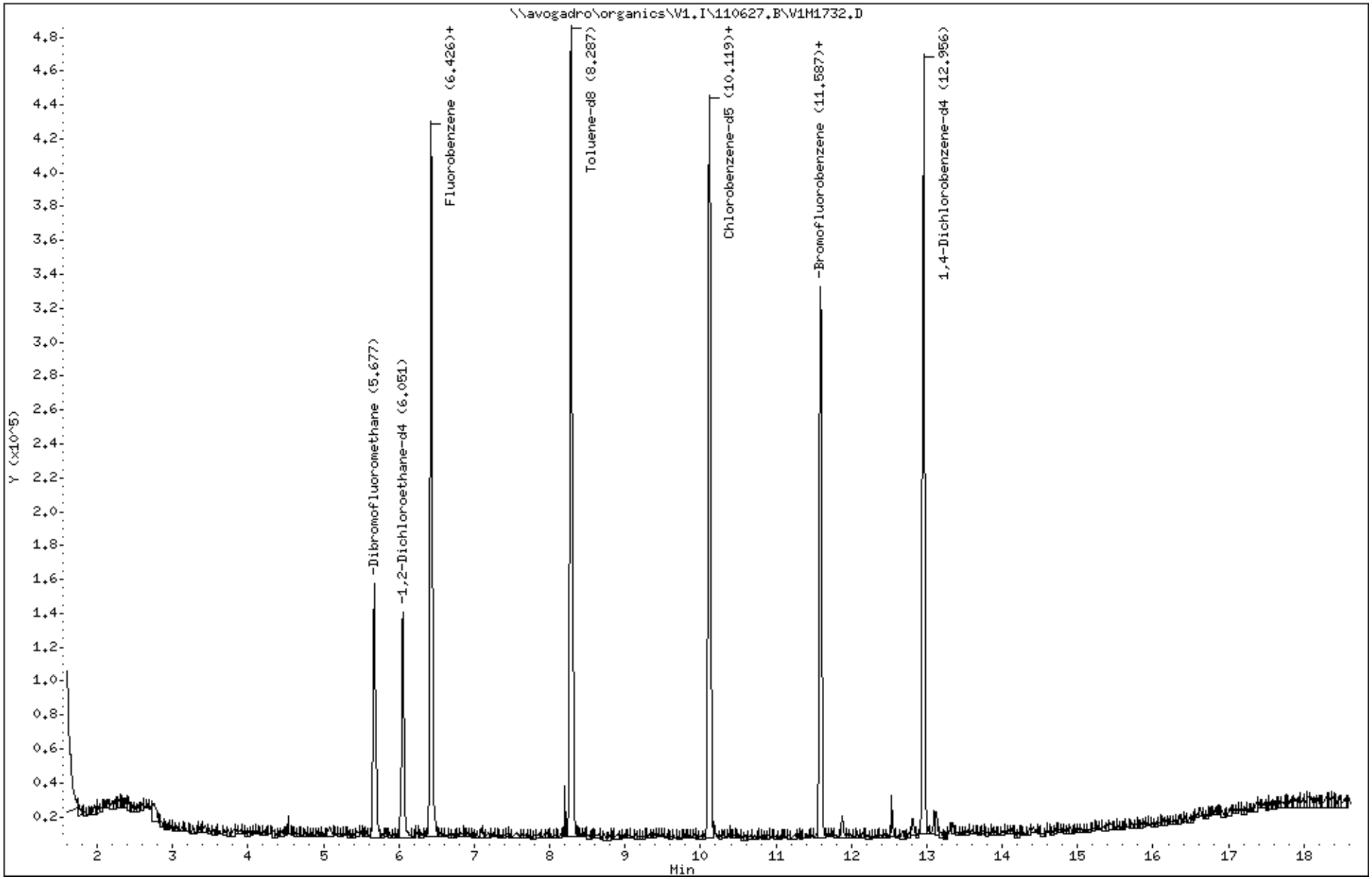
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.677 | 5.684 | (0.884) | 108979 | 47.4401 | 47 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.051 | 6.049 | (0.942) | 22124 | 39.8638 | 40 |
| * 41 Fluorobenzene | 96 | 6.425 | 6.433 | (1.000) | 439035 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.287 | 8.285 | (0.819) | 373688 | 50.1909 | 50 |
| * 60 Chlorobenzene-d5 | 117 | 10.119 | 10.126 | (1.000) | 298632 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.586 | 11.594 | (1.145) | 142836 | 50.4398 | 50 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.955 | 12.963 | (1.000) | 132839 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1732.D
Date : 27-JUN-2011 20:03
Client ID: 06TBSO-20110620
Sample Info: 5ML,K1100-03B,,60011

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB2S-0507-2011
0621

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-04B

Sample wt/vol: 8.60 (g/mL) G Lab File ID: V1M1729.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 9.1 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 71-43-2 | Benzene | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 108-88-3 | Toluene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.32 | 1.3 | 3.2 |
| 1330-20-7 | m,p-Xylene | 2.6 | U | 1.0 | 2.6 | 3.2 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.30 | 1.3 | 3.2 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1729.D
Report Date: 28-May-2011 14:21

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1729.D
Lab Smp Id: K1100-04B  Client Smp ID: 06SB2S-0507-2011062
Inj Date  : 27-JUN-2011 18:40
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-04B,,60011
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 48
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 8.600 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

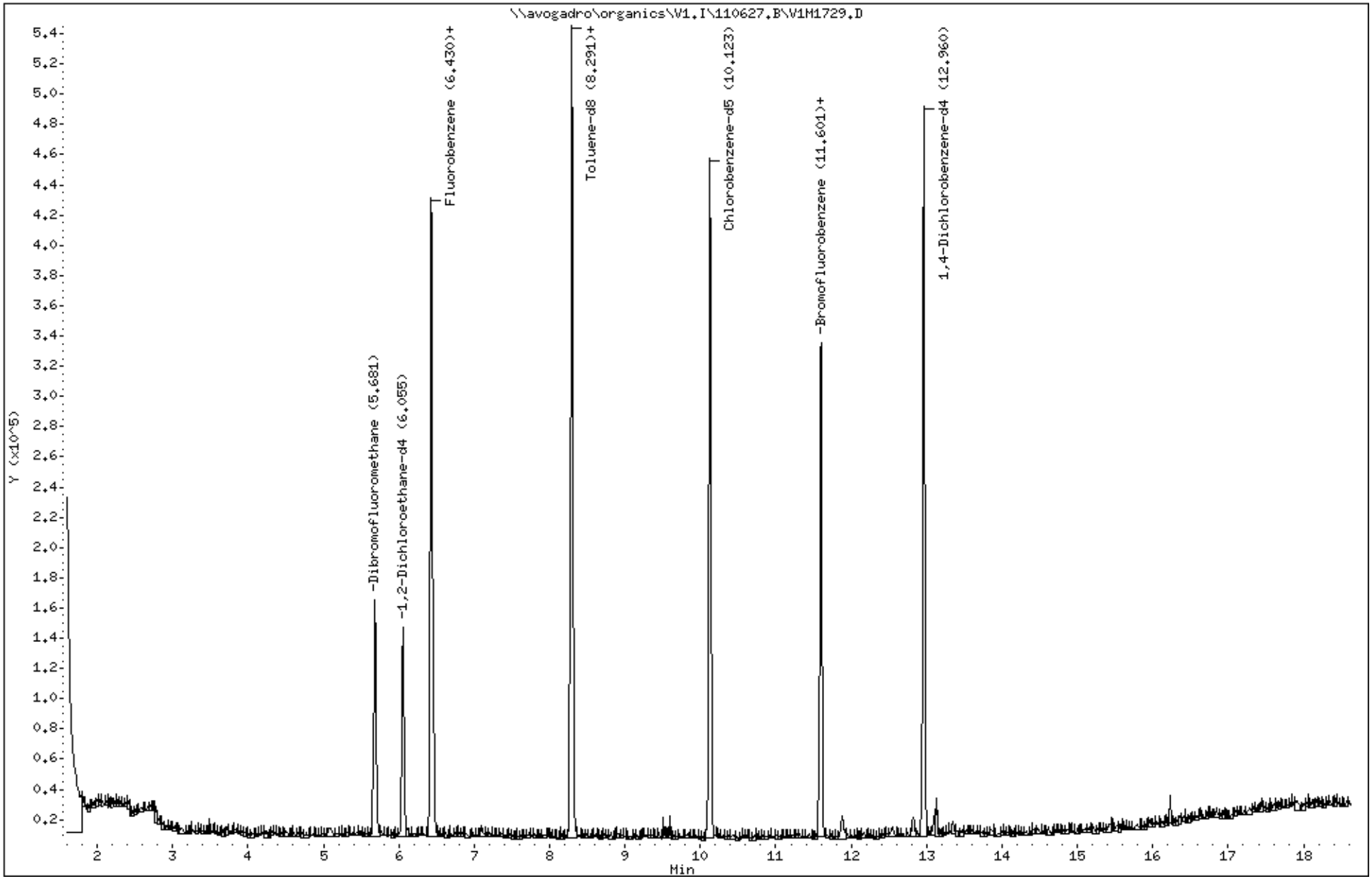
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.681 | 5.684 | (0.884) | 112851 | 48.5370 | 28 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.055 | 6.049 | (0.942) | 22821 | 40.6269 | 24 |
| * 41 Fluorobenzene | 96 | 6.429 | 6.433 | (1.000) | 444360 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.291 | 8.285 | (0.819) | 389250 | 50.2965 | 29 |
| * 60 Chlorobenzene-d5 | 117 | 10.123 | 10.126 | (1.000) | 310415 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.590 | 11.594 | (1.145) | 146094 | 49.6320 | 29 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.959 | 12.963 | (1.000) | 144214 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1729.D
Date : 27-JUN-2011 18:40
Client ID: 06SB2S-0507-2011062
Sample Info: 5ML,K1100-04B,,60011

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB2S-1820-2011
0621

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-05B

Sample wt/vol: 8.00 (g/mL) G Lab File ID: V1M1730.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 11 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 71-43-2 | Benzene | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 108-88-3 | Toluene | 1.4 | U | 0.33 | 1.4 | 3.5 |
| 100-41-4 | Ethylbenzene | 1.4 | U | 0.35 | 1.4 | 3.5 |
| 1330-20-7 | m,p-Xylene | 2.8 | U | 1.1 | 2.8 | 3.5 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.33 | 1.4 | 3.5 |
| 1330-20-7 | Xylene (Total) | 1.4 | U | 0.33 | 1.4 | 3.5 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1730.D
Report Date: 28-May-2011 14:21

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1730.D
Lab Smp Id: K1100-05B  Client Smp ID: 06SB2S-1820-2011062
Inj Date  : 27-JUN-2011 19:08
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-05B,,60011
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 49
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 8.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

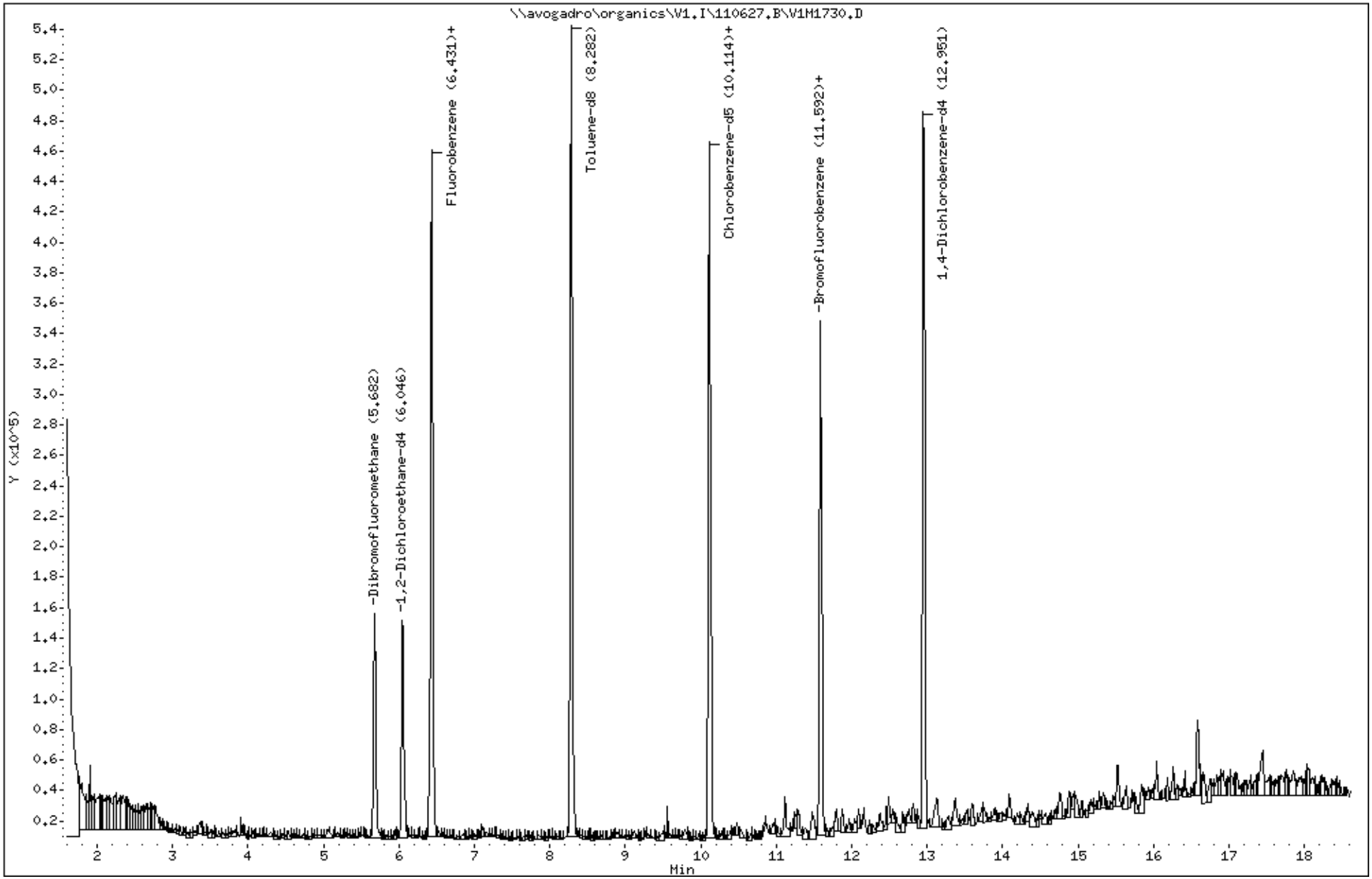
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.672 | 5.684 | (0.882) | 114706 | 47.5293 | 30 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.049 | (0.940) | 22593 | 38.7490 | 24 |
| * 41 Fluorobenzene | 96 | 6.430 | 6.433 | (1.000) | 461240 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.282 | 8.285 | (0.819) | 398128 | 51.8691 | 32 |
| * 60 Chlorobenzene-d5 | 117 | 10.114 | 10.126 | (1.000) | 307869 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.591 | 11.594 | (1.146) | 146567 | 50.2044 | 31 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.960 | 12.963 | (1.000) | 146077 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1730.D
Date : 27-JUN-2011 19:08
Client ID: 06SB2S-1820-2011062
Sample Info: 5ML,K1100-05B,,60011

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06RB-20110621

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K1100-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1757.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.50 | U | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 0.50 | U | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 0.50 | U | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 0.50 | U | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 1.0 | U | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 0.50 | U | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 1.0 | U | 0.36 | 1.0 | 5.0 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1757.D
Report Date: 29-Jun-2011 14:29

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1757.D
Lab Smp Id: K1100-06A  Client Smp ID: 06RB-20110621
Inj Date  : 28-JUN-2011 15:15
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-06A,,60052
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110628.B\v18260Gadd.m
Meth Date : 29-Jun-2011 14:29 amarquis  Quant Type: ISTD
Cal Date  : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 44
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

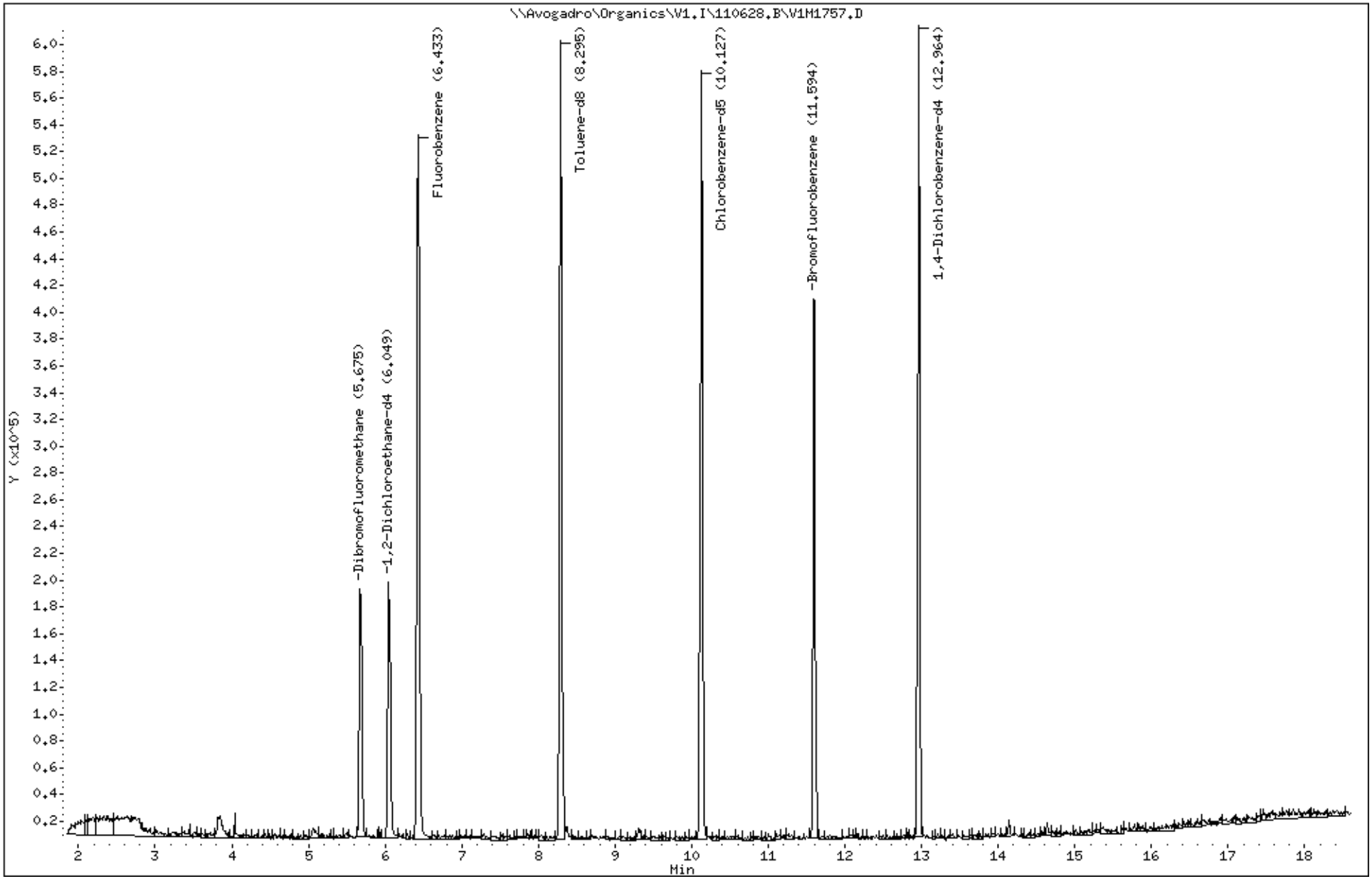
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL ( ug/L) |
|---|---|---|---|---|---|---|---|
| $ 36 Dibromofluoromethane | 113 | 5.674 | 5.681 | (0.882) | 135781 | 42.5123 | 42 |
| $ 42 1,2-Dichloroethane-d4 | 102 | 6.059 | 6.055 | (0.942) | 34210 | 50.6909 | 51 |
| * 46 Fluorobenzene | 96 | 6.433 | 6.439 | (1.000) | 536095 | 50.0000 | |
| $ 58 Toluene-d8 | 98 | 8.294 | 8.291 | (0.819) | 464333 | 50.8934 | 51 |
| * 68 Chlorobenzene-d5 | 117 | 10.126 | 10.123 | (1.000) | 393666 | 50.0000 | |
| $ 79 Bromofluorobenzene | 95 | 11.604 | 11.590 | (1.146) | 178834 | 46.4822 | 46 |
| * 92 1,4-Dichlorobenzene-d4 | 152 | 12.963 | 12.959 | (1.000) | 185634 | 50.0000 | |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1757.D
Date : 28-JUN-2011 15:15
Client ID: 06RB-20110621
Sample Info: 5ML,K1100-06A,,60052
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06TBAQ-20110621

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K1100-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1756.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.50 | U | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 0.50 | U | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 0.50 | U | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 0.50 | U | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 1.0 | U | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 0.50 | U | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 1.0 | U | 0.36 | 1.0 | 5.0 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1756.D
Report Date: 29-Jun-2011 14:29

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1756.D
Lab Smp Id: K1100-07A  Client Smp ID: 06TBAQ-20110621
Inj Date  : 28-JUN-2011 14:46
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-07A,,60052
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110628.B\v18260Gadd.m
Meth Date : 29-Jun-2011 14:29 amarquis  Quant Type: ISTD
Cal Date  : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 43
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

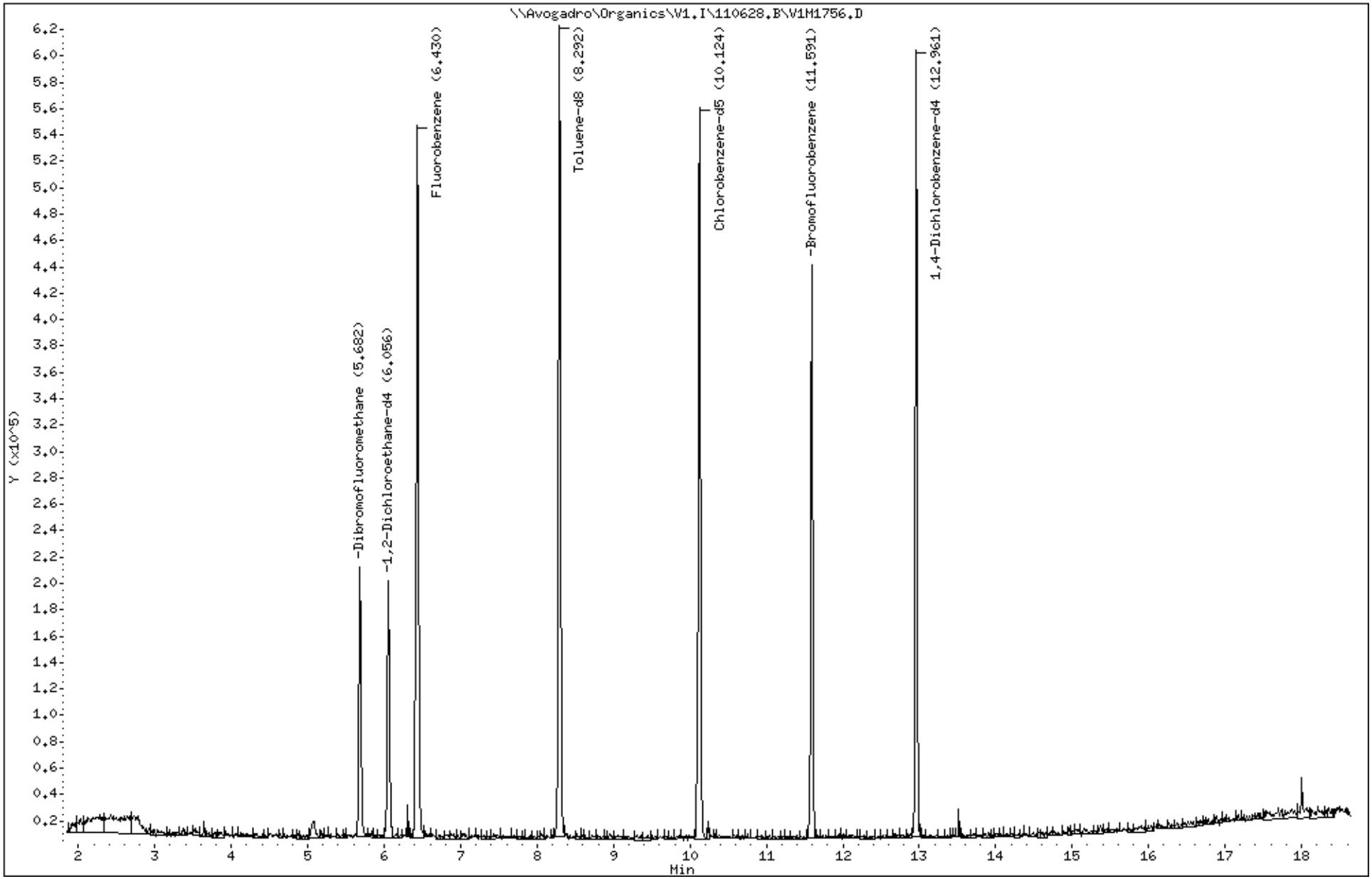
| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL ( ug/L) |
|---|---|---|---|---|---|---|---|
| $ 36 Dibromofluoromethane | 113 | 5.681 | 5.681 | (0.884) | 145311 | 45.3011 | 45 |
| $ 42 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.055 | (0.942) | 33084 | 48.8124 | 49 |
| * 46 Fluorobenzene | 96 | 6.430 | 6.439 | (1.000) | 538402 | 50.0000 | |
| $ 58 Toluene-d8 | 98 | 8.291 | 8.291 | (0.819) | 477583 | 52.3649 | 52 |
| * 68 Chlorobenzene-d5 | 117 | 10.123 | 10.123 | (1.000) | 393521 | 50.0000 | |
| $ 79 Bromofluorobenzene | 95 | 11.591 | 11.590 | (1.145) | 179097 | 46.5677 | 46 |
| * 92 1,4-Dichlorobenzene-d4 | 152 | 12.960 | 12.959 | (1.000) | 185704 | 50.0000 | |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1756.D
Date : 28-JUN-2011 14:46
Client ID: 06TBAQ-20110621
Sample Info: 5ML,K1100-07A,,60052
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



6A - FORM VI VOA-1

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/01/2011 06/01/2011

Heated Purge: (Y/N) N Calibration Time(s): 11:59 14:22

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1407.D RRF020 = V1M1406.D

RRF050 = V1M1405.D RRF100 = V1M1409.D RRF200 = V1M1408.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.712 | 0.676 | 0.676 | 0.716 | 0.719 | 0.700 | 3.1 |
| Benzene | 1.036 | 0.987 | 0.919 | 0.957 | 0.980 | 0.976 | 4.4 |
| Toluene | 1.062 | 0.995 | 0.931 | 0.984 | 1.009 | 0.996 | 4.7 |
| Ethylbenzene | 0.468 | 0.439 | 0.420 | 0.469 | 0.476 | 0.454 | 5.3 |
| m,p-Xylene | 0.597 | 0.551 | 0.529 | 0.574 | 0.585 | 0.567 | 4.8 |
| o-Xylene | 0.546 | 0.548 | 0.512 | 0.565 | 0.561 | 0.546 | 3.8 |
| Xylene (Total) | 0.580 | 0.550 | 0.523 | 0.571 | 0.577 | 0.560 | 4.2 |

6B - FORM VI VOA-2

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/01/2011 06/01/2011

Heated Purge: (Y/N) N Calibration Time(s): 11:59 14:22

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1407.D RRF020 = V1M1406.D

RRF050 = V1M1405.D RRF100 = V1M1409.D RRF200 = V1M1408.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 0.301 | 0.302 | 0.307 | 0.284 | 0.296 | 0.298 | 3.0 |
| 1,2-Dichloroethane-d4 | 0.062 | 0.062 | 0.064 | 0.064 | 0.063 | 0.063 | 1.8 |
| Toluene-d8 | 1.163 | 1.139 | 1.141 | 1.179 | 1.173 | 1.159 | 1.6 |
| Bromofluorobenzene | 0.494 | 0.494 | 0.477 | 0.483 | 0.495 | 0.489 | 1.7 |

6A - FORM VI VOA-1

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 9:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.555 | 0.543 | 0.645 | 0.466 | 0.582 | 0.558 | 11.6 |
| Benzene | 1.075 | 0.959 | 1.230 | 0.868 | 1.044 | 1.035 | 13.1 |
| Toluene | 1.063 | 0.967 | 1.217 | 0.863 | 1.034 | 1.029 | 12.7 |
| Ethylbenzene | 0.530 | 0.449 | 0.533 | 0.395 | 0.483 | 0.478 | 12.1 |
| m,p-Xylene | 0.627 | 0.587 | 0.652 | 0.506 | 0.600 | 0.594 | 9.3 |
| o-Xylene | 0.627 | 0.569 | 0.612 | 0.481 | 0.574 | 0.573 | 9.9 |
| Xylene (Total) | 0.627 | 0.581 | 0.639 | 0.498 | 0.591 | 0.587 | 9.4 |

6B - FORM VI VOA-2

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 9:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 0.299 | 0.268 | 0.292 | 0.212 | 0.237 | 0.262 | 14.1 |
| 1,2-Dichloroethane-d4 | 0.069 | 0.067 | 0.073 | 0.050 | 0.057 | 0.063 | 14.9 |
| Toluene-d8 | 1.430 | 1.313 | 1.337 | 1.025 | 1.127 | 1.247 | 13.3 |
| Bromofluorobenzene | 0.547 | 0.507 | 0.499 | 0.379 | 0.438 | 0.474 | 13.9 |

# ICV Report
## V1
## V1_110601A
## VICV0501F
## 06/01/2011 14:54

| AT | Analyte | Spike Am | CalcVal | Recovery | Low Limit | High Limit |
|---|---|---|---|---|---|---|
| A | Dichlorodifluoromethane | 50.00 | 45.65 | 91.3 | 80 | 120 |
| A | Chloromethane | 50.00 | 49.15 | 98.3 | 80 | 120 |
| A | Vinyl chloride | 50.00 | 48.62 | 97.2 | 80 | 120 |
| A | Bromomethane | 50.00 | 47.07 | 94.1 | 80 | 120 |
| A | Chloroethane | 50.00 | 48.62 | 97.2 | 80 | 120 |
| A | Trichlorofluoromethane | 50.00 | 45.21 | 90.4 | 80 | 120 |
| A | 1,1-Dichloroethene | 50.00 | 53.08 | 106.2 | 80 | 120 |
| A | Acetone | 50.00 | 55.31 | 110.6 | 80 | 120 |
| A | Iodomethane | 50.00 | 50.05 | 100.1 | 80 | 120 |
| A | Carbon disulfide | 50.00 | 49.31 | 98.6 | 80 | 120 |
| A | Methylene chloride | 50.00 | 56.79 | 113.6 | 80 | 120 |
| A | trans-1,2-Dichloroethene | 50.00 | 47.12 | 94.2 | 80 | 120 |
| A | Methyl tert-butyl ether | 50.00 | 49.32 | 98.6 | 80 | 120 |
| A | 1,1-Dichloroethane | 50.00 | 50.05 | 100.1 | 80 | 120 |
| A | Vinyl acetate | 50.00 | 49.92 | 99.8 | 80 | 120 |
| A | 2-Butanone | 50.00 | 56.25 | 112.5 | 80 | 120 |
| A | cis-1,2-Dichloroethene | 50.00 | 49.79 | 99.6 | 80 | 120 |
| A | 2,2-Dichloropropane | 50.00 | 44.88 | 89.8 | 80 | 120 |
| A | Bromochloromethane | 50.00 | 47.27 | 94.5 | 80 | 120 |
| A | Chloroform | 50.00 | 46.91 | 93.8 | 80 | 120 |
| A | 1,1,1-Trichloroethane | 50.00 | 42.85 | 85.7 | 80 | 120 |
| A | 1,1-Dichloropropene | 50.00 | 46.86 | 93.7 | 80 | 120 |
| A | Carbon tetrachloride | 50.00 | 43.61 | 87.2 | 80 | 120 |
| A | 1,2-Dichloroethane | 50.00 | 44.50 | 89.0 | 80 | 120 |
| A | Benzene | 50.00 | 49.06 | 98.1 | 80 | 120 |
| A | Trichloroethene | 50.00 | 45.43 | 90.9 | 80 | 120 |
| A | 1,2-Dichloropropane | 50.00 | 49.13 | 98.3 | 80 | 120 |
| A | Dibromomethane | 50.00 | 47.78 | 95.6 | 80 | 120 |
| A | Bromodichloromethane | 50.00 | 45.98 | 92.0 | 80 | 120 |
| A | cis-1,3-Dichloropropene | 50.00 | 46.68 | 93.4 | 80 | 120 |
| A | 4-Methyl-2-pentanone | 50.00 | 51.73 | 103.5 | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | Toluene | 50.00 | 49.46 | 98.9 | | 80 | 120 |
| A | trans-1,3-Dichloropropene | 50.00 | 47.21 | 94.4 | | 80 | 120 |
| A | 1,1,2-Trichloroethane | 50.00 | 51.56 | 103.1 | | 80 | 120 |
| A | 1,3-Dichloropropane | 50.00 | 48.51 | 97.0 | | 80 | 120 |
| A | Tetrachloroethene | 50.00 | 48.13 | 96.3 | | 80 | 120 |
| A | 2-Hexanone | 50.00 | 52.71 | 105.4 | | 80 | 120 |
| A | Dibromochloromethane | 50.00 | 49.11 | 98.2 | | 80 | 120 |
| A | 1,2-Dibromoethane | 50.00 | 49.99 | 100.0 | | 80 | 120 |
| A | Chlorobenzene | 50.00 | 49.41 | 98.8 | | 80 | 120 |
| A | 1,1,1,2-Tetrachloroethane | 50.00 | 46.67 | 93.3 | | 80 | 120 |
| A | Ethylbenzene | 50.00 | 49.42 | 98.8 | | 80 | 120 |
| A | m,p-Xylene | 100.0 | 96.67 | 96.7 | | 80 | 120 |
| A | o-Xylene | 50.00 | 49.27 | 98.5 | | 80 | 120 |
| A | Styrene | 50.00 | 50.03 | 100.1 | | 80 | 120 |
| A | Bromoform | 50.00 | 49.83 | 99.7 | | 80 | 120 |
| A | Isopropylbenzene | 50.00 | 47.88 | 95.8 | | 80 | 120 |
| A | 1,1,2,2-Tetrachloroethane | 50.00 | 51.31 | 102.6 | | 80 | 120 |
| A | Bromobenzene | 50.00 | 47.84 | 95.7 | | 80 | 120 |
| A | 1,2,3-Trichloropropane | 50.00 | 49.41 | 98.8 | | 80 | 120 |
| A | n-Propylbenzene | 50.00 | 50.54 | 101.1 | | 80 | 120 |
| A | 2-Chlorotoluene | 50.00 | 48.94 | 97.9 | | 80 | 120 |
| A | 1,3,5-Trimethylbenzene | 50.00 | 48.92 | 97.8 | | 80 | 120 |
| A | 4-Chlorotoluene | 50.00 | 49.30 | 98.6 | | 80 | 120 |
| A | tert-Butylbenzene | 50.00 | 49.94 | 99.9 | | 80 | 120 |
| A | 1,2,4-Trimethylbenzene | 50.00 | 49.12 | 98.2 | | 80 | 120 |
| A | sec-Butylbenzene | 50.00 | 51.45 | 102.9 | | 80 | 120 |
| A | 4-Isopropyltoluene | 50.00 | 50.40 | 100.8 | | 80 | 120 |
| A | 1,3-Dichlorobenzene | 50.00 | 49.21 | 98.4 | | 80 | 120 |
| A | 1,4-Dichlorobenzene | 50.00 | 49.78 | 99.6 | | 80 | 120 |
| A | n-Butylbenzene | 50.00 | 51.13 | 102.3 | | 80 | 120 |
| A | 1,2-Dichlorobenzene | 50.00 | 48.89 | 97.8 | | 80 | 120 |
| A | 1,2-Dibromo-3-chloropropane | 50.00 | 46.42 | 92.8 | | 80 | 120 |
| A | 1,2,4-Trichlorobenzene | 50.00 | 51.82 | 103.6 | | 80 | 120 |
| A | Hexachlorobutadiene | 50.00 | 50.12 | 100.2 | | 80 | 120 |
| A | 1,2,3-Trichlorobenzene | 50.00 | 52.04 | 104.1 | | 80 | 120 |
| A | Naphthalene | 50.00 | 51.78 | 103.6 | | 80 | 120 |
| M | Xylene (Total) | 150.0 | 145.9 | 97.3 | | 80 | 120 |
| X | 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.00 | 60.06 | 120.1 | S | 80 | 120 |
| X | 1,2-Dichloroethene, Total | 100.0 | 96.91 | 96.9 | | 80 | 120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| X | 1,2-Dichlorotetrafluoroethane | 50.00 | 54.03 | 108.1 | 80 | 120 |
| X | 1,4-Dioxane | 1000 | 976.8 | 97.7 | 80 | 120 |
| X | 1-Chlorohexane | 50.00 | 49.25 | 98.5 | 80 | 120 |
| X | 2-Chloro-1,3-butadiene | 50.00 | 46.61 | 93.2 | 80 | 120 |
| X | 2-Chloroethyl vinyl ether | 50.00 | 51.54 | 103.1 | 80 | 120 |
| X | Acetonitrile | 500.0 | 511.8 | 102.4 | 80 | 120 |
| X | Acrolein | 250.0 | 242.2 | 96.9 | 80 | 120 |
| X | Acrylonitrile | 50.00 | 52.24 | 104.5 | 80 | 120 |
| X | Allyl chloride | 50.00 | 42.73 | 85.5 | 80 | 120 |
| X | Cyclohexane | 50.00 | 50.48 | 101.0 | 80 | 120 |
| X | Diethyl ether | 50.00 | 50.49 | 101.0 | 80 | 120 |
| X | Diisopropyl ether | 50.00 | 49.36 | 98.7 | 80 | 120 |
| X | Ethanol | 5000 | 4367 | 87.3 | 80 | 120 |
| X | Ethyl methacrylate | 50.00 | 50.16 | 100.3 | 80 | 120 |
| X | Ethyl tert-butyl ether | 50.00 | 47.80 | 95.6 | 80 | 120 |
| X | Hexachloroethane | 50.00 | 48.04 | 96.1 | 80 | 120 |
| X | Isobutyl alcohol | 1000 | 1087 | 108.7 | 80 | 120 |
| X | Methacrylonitrile | 100.0 | 104.1 | 104.1 | 80 | 120 |
| X | Methyl acetate | 50.00 | 50.97 | 101.9 | 80 | 120 |
| X | Methyl methacrylate | 50.00 | 49.88 | 99.8 | 80 | 120 |
| X | Methylcyclohexane | 50.00 | 52.72 | 105.4 | 80 | 120 |
| X | Propionitrile | 500.0 | 517.3 | 103.5 | 80 | 120 |
| X | tert-Amyl Methyl ether | 50.00 | 48.71 | 97.4 | 80 | 120 |
| X | tert-Butyl Alcohol | 100.0 | 100.4 | 100.4 | 80 | 120 |
| X | Tetrahydrofuran | 100.0 | 107.3 | 107.3 | 80 | 120 |
| X | trans-1,4-Dichloro-2-butene | 50.00 | 51.67 | 103.3 | 80 | 120 |

# ICV Report
## V1
## V1_110622A
## VICV0501P
## 06/22/2011 15:06

| AT | Analyte | Spike Am | CalcVal | Recovery | Low Limit | High Limit |
|---|---|---|---|---|---|---|
| A | Dichlorodifluoromethane | 50.00 | 56.16 | 112.3 | 80 | 120 |
| A | Chloromethane | 50.00 | 53.27 | 106.5 | 80 | 120 |
| A | Vinyl chloride | 50.00 | 53.24 | 106.5 | 80 | 120 |
| A | Bromomethane | 50.00 | 49.79 | 99.6 | 80 | 120 |
| A | Chloroethane | 50.00 | 53.02 | 106.0 | 80 | 120 |
| A | Trichlorofluoromethane | 50.00 | 49.55 | 99.1 | 80 | 120 |
| A | 1,1-Dichloroethene | 50.00 | 56.02 | 112.0 | 80 | 120 |
| A | Acetone | 50.00 | 55.33 | 110.7 | 80 | 120 |
| A | Iodomethane | 50.00 | 47.21 | 94.4 | 80 | 120 |
| A | Carbon disulfide | 50.00 | 48.84 | 97.7 | 80 | 120 |
| A | Methylene chloride | 50.00 | 50.17 | 100.3 | 80 | 120 |
| A | trans-1,2-Dichloroethene | 50.00 | 54.70 | 109.4 | 80 | 120 |
| A | Methyl tert-butyl ether | 50.00 | 51.18 | 102.4 | 80 | 120 |
| A | 1,1-Dichloroethane | 50.00 | 53.12 | 106.2 | 80 | 120 |
| A | Vinyl acetate | 50.00 | 50.00 | 100.0 | 80 | 120 |
| A | 2-Butanone | 50.00 | 52.89 | 105.8 | 80 | 120 |
| A | cis-1,2-Dichloroethene | 50.00 | 51.23 | 102.5 | 80 | 120 |
| A | 2,2-Dichloropropane | 50.00 | 48.44 | 96.9 | 80 | 120 |
| A | Bromochloromethane | 50.00 | 52.30 | 104.6 | 80 | 120 |
| A | Chloroform | 50.00 | 51.29 | 102.6 | 80 | 120 |
| A | 1,1,1-Trichloroethane | 50.00 | 53.20 | 106.4 | 80 | 120 |
| A | 1,1-Dichloropropene | 50.00 | 52.38 | 104.8 | 80 | 120 |
| A | Carbon tetrachloride | 50.00 | 51.71 | 103.4 | 80 | 120 |
| A | 1,2-Dichloroethane | 50.00 | 48.67 | 97.3 | 80 | 120 |
| A | Benzene | 50.00 | 53.89 | 107.8 | 80 | 120 |
| A | Trichloroethene | 50.00 | 51.96 | 103.9 | 80 | 120 |
| A | 1,2-Dichloropropane | 50.00 | 51.26 | 102.5 | 80 | 120 |
| A | Dibromomethane | 50.00 | 52.95 | 105.9 | 80 | 120 |
| A | Bromodichloromethane | 50.00 | 51.76 | 103.5 | 80 | 120 |
| A | cis-1,3-Dichloropropene | 50.00 | 51.56 | 103.1 | 80 | 120 |
| A | 4-Methyl-2-pentanone | 50.00 | 51.08 | 102.2 | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | Toluene | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | trans-1,3-Dichloropropene | 50.00 | 51.97 | 103.9 | | 80 | 120 |
| A | 1,1,2-Trichloroethane | 50.00 | 52.29 | 104.6 | | 80 | 120 |
| A | 1,3-Dichloropropane | 50.00 | 50.45 | 100.9 | | 80 | 120 |
| A | Tetrachloroethene | 50.00 | 55.32 | 110.6 | | 80 | 120 |
| A | 2-Hexanone | 50.00 | 48.99 | 98.0 | | 80 | 120 |
| A | Dibromochloromethane | 50.00 | 49.25 | 98.5 | | 80 | 120 |
| A | 1,2-Dibromoethane | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| A | Chlorobenzene | 50.00 | 50.52 | 101.0 | | 80 | 120 |
| A | 1,1,1,2-Tetrachloroethane | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | Ethylbenzene | 50.00 | 53.67 | 107.3 | | 80 | 120 |
| A | m,p-Xylene | 100.0 | 107.2 | 107.2 | | 80 | 120 |
| A | o-Xylene | 50.00 | 53.92 | 107.8 | | 80 | 120 |
| A | Styrene | 50.00 | 53.87 | 107.7 | | 80 | 120 |
| A | Bromoform | 50.00 | 52.59 | 105.2 | | 80 | 120 |
| A | Isopropylbenzene | 50.00 | 54.49 | 109.0 | | 80 | 120 |
| A | 1,1,2,2-Tetrachloroethane | 50.00 | 52.46 | 104.9 | | 80 | 120 |
| A | Bromobenzene | 50.00 | 56.08 | 112.2 | | 80 | 120 |
| A | 1,2,3-Trichloropropane | 50.00 | 50.68 | 101.4 | | 80 | 120 |
| A | n-Propylbenzene | 50.00 | 56.19 | 112.4 | | 80 | 120 |
| A | 2-Chlorotoluene | 50.00 | 54.57 | 109.1 | | 80 | 120 |
| A | 1,3,5-Trimethylbenzene | 50.00 | 55.99 | 112.0 | | 80 | 120 |
| A | 4-Chlorotoluene | 50.00 | 55.21 | 110.4 | | 80 | 120 |
| A | tert-Butylbenzene | 50.00 | 55.49 | 111.0 | | 80 | 120 |
| A | 1,2,4-Trimethylbenzene | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| A | sec-Butylbenzene | 50.00 | 56.17 | 112.3 | | 80 | 120 |
| A | 4-Isopropyltoluene | 50.00 | 57.00 | 114.0 | | 80 | 120 |
| A | 1,3-Dichlorobenzene | 50.00 | 52.32 | 104.6 | | 80 | 120 |
| A | 1,4-Dichlorobenzene | 50.00 | 53.43 | 106.9 | | 80 | 120 |
| A | n-Butylbenzene | 50.00 | 56.87 | 113.7 | | 80 | 120 |
| A | 1,2-Dichlorobenzene | 50.00 | 54.27 | 108.5 | | 80 | 120 |
| A | 1,2-Dibromo-3-chloropropane | 50.00 | 47.16 | 94.3 | | 80 | 120 |
| A | 1,2,4-Trichlorobenzene | 50.00 | 54.95 | 109.9 | | 80 | 120 |
| A | Hexachlorobutadiene | 50.00 | 60.29 | 120.6 | S | 80 | 120 |
| A | 1,2,3-Trichlorobenzene | 50.00 | 52.28 | 104.6 | | 80 | 120 |
| A | Naphthalene | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| M | Xylene (Total) | 150.0 | 161.1 | 107.4 | | 80 | 120 |
| X | 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.00 | 51.31 | 102.6 | | 80 | 120 |
| X | 1,4-Dioxane | 1000 | 936.4 | 93.6 | | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | 1-Chlorohexane | 50.00 | 55.23 | 110.5 | | 80 | 120 |
| X | 2-Chloroethyl vinyl ether | 50.00 | 35.14 | 70.3 | S | 80 | 120 |
| X | Acetonitrile | 500.0 | 257.7 | 51.5 | S | 80 | 120 |
| X | Acrolein | 250.0 | 244.8 | 97.9 | | 80 | 120 |
| X | Acrylonitrile | 50.00 | 53.61 | 107.2 | | 80 | 120 |
| X | Cyclohexane | 50.00 | 53.47 | 106.9 | | 80 | 120 |
| X | Diethyl ether | 50.00 | 52.98 | 106.0 | | 80 | 120 |
| X | Diisopropyl ether | 50.00 | 51.19 | 102.4 | | 80 | 120 |
| X | Ethanol | 5000 | 4796 | 95.9 | | 80 | 120 |
| X | Ethyl tert-butyl ether | 50.00 | 50.70 | 101.4 | | 80 | 120 |
| X | Methyl acetate | 50.00 | 51.26 | 102.5 | | 80 | 120 |
| X | Methylcyclohexane | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| X | tert-Amyl Methyl ether | 50.00 | 49.59 | 99.2 | | 80 | 120 |
| X | tert-Butyl Alcohol | 100.0 | 115.5 | 115.5 | | 80 | 120 |
| X | Tetrahydrofuran | 100.0 | 93.11 | 93.1 | | 80 | 120 |
| X | trans-1,4-Dichloro-2-butene | 50.00 | 52.52 | 105.0 | | 80 | 120 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1405.D
Report Date: 13-May-2011 11:06

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110601.B\V1M1405.D
Lab Smp Id: VSTD0501F  Client Smp ID: VSTD0501F
Inj Date : 01-JUN-2011 11:59
Operator : SZ  SRC: SZ  Inst ID: V1.i
Smp Info : 5ML,VSTD0501F,VSTD0501F
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110601.B\v18260Gadd.m
Meth Date : 13-May-2011 11:04 vbrizard  Quant Type: ISTD
Cal Date : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 29  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.688 | 1.688 | (0.263) | 125375 | 50.0000 | 48 |
| 2 Freon114 | 85 | 1.836 | 1.836 | (0.286) | 160227 | 50.0000 | 51 |
| 3 Chloromethane | 50 | 1.895 | 1.895 | (0.295) | 338653 | 50.0000 | 47 |
| 4 Vinyl Chloride | 62 | 2.023 | 2.023 | (0.315) | 228082 | 50.0000 | 45 |
| 5 Bromomethane | 94 | 2.387 | 2.387 | (0.372) | 152339 | 50.0000 | 46 |
| 6 Chloroethane | 64 | 2.496 | 2.496 | (0.388) | 139580 | 50.0000 | 46 |
| 7 Trichlorofluoromethane | 101 | 2.762 | 2.762 | (0.430) | 211086 | 50.0000 | 48 |
| 126 Ethanol | 46 | 2.949 | 2.949 | (0.459) | 135598 | 5000.00 | 4400(A) |
| 8 Ether | 59 | 3.067 | 3.067 | (0.477) | 238688 | 50.0000 | 47 |
| 9 Acrolein | 56 | 3.185 | 3.185 | (0.496) | 205291 | 250.000 | 290(A) |
| 10 1,1-Dichloroethene | 96 | 3.323 | 3.323 | (0.517) | 204845 | 50.0000 | 51 |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.333 | 3.333 | (0.519) | 132834 | 50.0000 | 40 |
| 12 Acetone | 58 | 3.353 | 3.353 | (0.522) | 60617 | 50.0000 | 50 |
| 13 Iodomethane | 142 | 3.491 | 3.491 | (0.543) | 346933 | 50.0000 | 46 |
| 14 Carbon Disulfide | 76 | 3.550 | 3.550 | (0.552) | 684282 | 50.0000 | 46 |
| 15 Acetonitrile | 41 | 3.638 | 3.638 | (0.566) | 390566 | 500.000 | 500(A) |
| 16 Allyl Chloride | 39 | 3.678 | 3.678 | (0.572) | 305413 | 50.0000 | 48 |
| 17 Methyl Acetate | 43 | 3.697 | 3.697 | (0.575) | 347670 | 50.0000 | 45 |
| 19 tert-Butanol | 59 | 3.924 | 3.924 | (0.611) | 71123 | 100.000 | 91 |
| 18 Methylene Chloride | 84 | 3.835 | 3.835 | (0.597) | 220466 | 50.0000 | 54 |
| 20 Acrylonitrile | 53 | 4.052 | 4.052 | (0.631) | 132799 | 50.0000 | 47 |
| 21 trans-1,2-Dichloroethene | 96 | 4.101 | 4.101 | (0.638) | 211976 | 50.0000 | 46 |
| 22 Methyl tert-butyl ether | 73 | 4.101 | 4.101 | (0.638) | 580213 | 50.0000 | 48 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1405.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 23 1,1-Dichloroethane | 63 | 4.545 | 4.545 | (0.707) | 425521 | 50.0000 | 48 |
| | 24 Vinyl acetate | 43 | 4.594 | 4.594 | (0.715) | 1352453 | 50.0000 | 47 |
| | 25 Diisopropyl Ether | 45 | 4.623 | 4.623 | (0.720) | 1231617 | 50.0000 | 48 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.643 | 4.643 | (0.723) | 359843 | 50.0000 | 46 |
| | 27 Ethyl tert-butyl ether | 59 | 5.007 | 5.007 | (0.779) | 761485 | 50.0000 | 47 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.155 | 5.155 | (0.802) | 238826 | 50.0000 | 47 |
| | 29 2,2-Dichloropropane | 77 | 5.155 | 5.155 | (0.802) | 126654 | 50.0000 | 46 |
| | 30 2-Butanone | 72 | 5.165 | 5.165 | (0.804) | 43402 | 50.0000 | 47 |
| | 32 Propionitrile | 54 | 5.224 | 5.224 | (0.813) | 455578 | 500.000 | 450(A) |
| | 33 Methacrylonitrile | 41 | 5.392 | 5.392 | (0.839) | 500565 | 100.000 | 92 |
| | 34 Bromochloromethane | 128 | 5.411 | 5.411 | (0.842) | 137320 | 50.0000 | 48 |
| | 31 Tetrahydrofuran | 72 | 5.470 | 5.470 | (0.851) | 62221 | 100.000 | 91 |
| | 35 Chloroform | 83 | 5.500 | 5.500 | (0.856) | 343715 | 50.0000 | 47 |
| $ | 36 Dibromofluoromethane | 113 | 5.667 | 5.667 | (0.882) | 263910 | 50.0000 | 52 |
| | 37 1,1,1-Trichloroethane | 97 | 5.707 | 5.707 | (0.888) | 205377 | 50.0000 | 47 |
| | 38 Cyclohexane | 56 | 5.776 | 5.776 | (0.899) | 361338 | 50.0000 | 46 |
| | 39 1,1-Dichloropropene | 110 | 5.894 | 5.894 | (0.917) | 99101 | 50.0000 | 45 |
| | 40 Carbon Tetrachloride | 117 | 5.894 | 5.894 | (0.917) | 198302 | 50.0000 | 46 |
| | 41 Isobutyl Alcohol | 43 | 5.992 | 5.992 | (0.933) | 351185 | 1000.00 | 830(A) |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.042 | 6.042 | (0.940) | 54713 | 50.0000 | 51 |
| | 43 Benzene | 78 | 6.120 | 6.120 | (0.952) | 788669 | 50.0000 | 47 |
| | 44 1,2-Dichloroethane | 62 | 6.130 | 6.130 | (0.954) | 285758 | 50.0000 | 50 |
| | 45 tert-Amyl methyl ether | 73 | 6.239 | 6.239 | (0.971) | 564594 | 50.0000 | 47 |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 450802 | 100.000 | (a) |
| * | 46 Fluorobenzene | 96 | 6.426 | 6.426 | (1.000) | 858519 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.839 | 6.839 | (1.064) | 227465 | 50.0000 | 45 |
| | 48 Methylcyclohexane | 83 | 7.076 | 7.076 | (1.101) | 242428 | 50.0000 | 47 |
| | 49 1,2-Dichloropropane | 63 | 7.096 | 7.096 | (1.104) | 250922 | 50.0000 | 47 |
| | 51 Methyl Methacrylate | 69 | 7.224 | 7.224 | (1.124) | 190584 | 50.0000 | 45 |
| | 52 Dibromomethane | 93 | 7.224 | 7.224 | (1.124) | 155428 | 50.0000 | 48 |
| | 53 1,4-Dioxane | 88 | 7.243 | 7.243 | (1.127) | 41620 | 1000.00 | 860(A) |
| | 54 Bromodichloromethane | 83 | 7.401 | 7.401 | (1.152) | 263817 | 50.0000 | 49 |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.765 | 7.765 | (1.208) | 27856 | 50.0000 | 50 |
| | 56 cis-1,3-Dichloropropene | 75 | 7.943 | 7.943 | (1.236) | 366409 | 50.0000 | 49 |
| | 57 4-Methyl-2-pentanone | 43 | 8.120 | 8.120 | (1.264) | 598151 | 50.0000 | 46 |
| $ | 58 Toluene-d8 | 98 | 8.278 | 8.278 | (0.819) | 741239 | 50.0000 | 49 |
| | 59 Toluene | 91 | 8.356 | 8.356 | (1.300) | 798861 | 50.0000 | 47 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.622 | 8.622 | (1.342) | 325577 | 50.0000 | 50 |
| | 61 Ethyl Methacrylate | 69 | 8.740 | 8.740 | (1.360) | 268497 | 50.0000 | 47 |
| | 62 1,1,2-Trichloroethane | 97 | 8.849 | 8.849 | (1.377) | 192000 | 50.0000 | 47 |
| | 63 Tetrachloroethene | 164 | 9.046 | 9.046 | (0.895) | 148662 | 50.0000 | 45 |
| | 64 1,3-Dichloropropane | 76 | 9.066 | 9.066 | (0.897) | 334457 | 50.0000 | 46 |
| | 65 2-Hexanone | 43 | 9.174 | 9.174 | (0.907) | 448329 | 50.0000 | 46 |
| | 66 Dibromochloromethane | 129 | 9.351 | 9.351 | (0.925) | 248090 | 50.0000 | 49 |
| | 67 1,2-Dibromoethane | 107 | 9.499 | 9.499 | (0.940) | 227493 | 50.0000 | 46 |
| | 69 1-Chlorohexane | 91 | 10.119 | 10.119 | (1.001) | 248509 | 50.0000 | 45 |
| * | 68 Chlorobenzene-d5 | 117 | 10.110 | 10.110 | (1.000) | 649852 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.149 | 10.149 | (1.004) | 553577 | 50.0000 | 46 |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.257 | 10.257 | (1.015) | 213454 | 50.0000 | 47 |
| | 72 Ethylbenzene | 106 | 10.297 | 10.297 | (1.019) | 272648 | 50.0000 | 46 |
| | 73 m,p-Xylene | 106 | 10.444 | 10.444 | (1.033) | 687804 | 100.000 | 93 |
| | 74 o-Xylene | 106 | 10.947 | 10.947 | (1.083) | 332728 | 50.0000 | 47 |
| | 75 Styrene | 104 | 10.957 | 10.957 | (1.084) | 564076 | 50.0000 | 47 |
| | 76 Bromoform | 173 | 11.173 | 11.173 | (1.105) | 149232 | 50.0000 | 49 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1405.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 Isopropylbenzene | 105 | 11.400 | 11.400 | (1.128) | 797208 | 50.0000 | 47 |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.469 | 11.469 | (1.134) | 80423 | 50.0000 | 57 |
| $ | 79 Bromofluorobenzene | 95 | 11.577 | 11.577 | (1.145) | 309958 | 50.0000 | 49 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.754 | 11.754 | (0.908) | 279201 | 50.0000 | 45 |
| | 81 Bromobenzene | 156 | 11.764 | 11.764 | (0.909) | 226526 | 50.0000 | 47 |
| | 82 1,2,3-Trichloropropane | 75 | 11.804 | 11.804 | (0.912) | 327659 | 50.0000 | 50 |
| | 83 n-Propylbenzene | 120 | 11.902 | 11.902 | (0.919) | 211535 | 50.0000 | 47 |
| | 84 2-Chlorotoluene | 126 | 12.001 | 12.001 | (0.927) | 215116 | 50.0000 | 46 |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.109 | 12.109 | (0.935) | 637619 | 50.0000 | 47 |
| | 86 4-Chlorotoluene | 126 | 12.129 | 12.129 | (0.937) | 231832 | 50.0000 | 47 |
| M | 94 Xylene (Total) | 106 | | | | 1020532 | 150.000 | (a) |
| | 87 tert-Butylbenzene | 119 | 12.503 | 12.503 | (0.966) | 628219 | 50.0000 | 47 |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.552 | 12.552 | (0.970) | 666763 | 50.0000 | 48 |
| | 89 sec-Butylbenzene | 105 | 12.749 | 12.749 | (0.985) | 753439 | 50.0000 | 49 |
| | 90 1,3-Dichlorobenzene | 146 | 12.877 | 12.877 | (0.995) | 403731 | 50.0000 | 48 |
| | 91 4-Isopropyltoluene | 119 | 12.917 | 12.917 | (0.998) | 615720 | 50.0000 | 48 |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.946 | 12.946 | (1.000) | 318991 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.976 | 12.976 | (1.002) | 412273 | 50.0000 | 46 |
| | 95 n-Butylbenzene | 91 | 13.389 | 13.389 | (1.034) | 551589 | 50.0000 | 50 |
| | 96 1,2-Dichlorobenzene | 146 | 13.399 | 13.399 | (1.035) | 391989 | 50.0000 | 48 |
| | 97 Hexachloroethane | 117 | 13.685 | 13.685 | (1.057) | 128879 | 50.0000 | 47 |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.256 | 14.256 | (1.101) | 37596 | 50.0000 | 43 |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.162 | 15.162 | (1.171) | 181392 | 50.0000 | 49 |
| | 100 Hexachlorobutadiene | 225 | 15.350 | 15.350 | (1.186) | 65384 | 50.0000 | 59 |
| | 101 Naphthalene | 128 | 15.418 | 15.418 | (1.191) | 619654 | 50.0000 | 46 |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.684 | 15.684 | (1.211) | 159751 | 50.0000 | 49 |

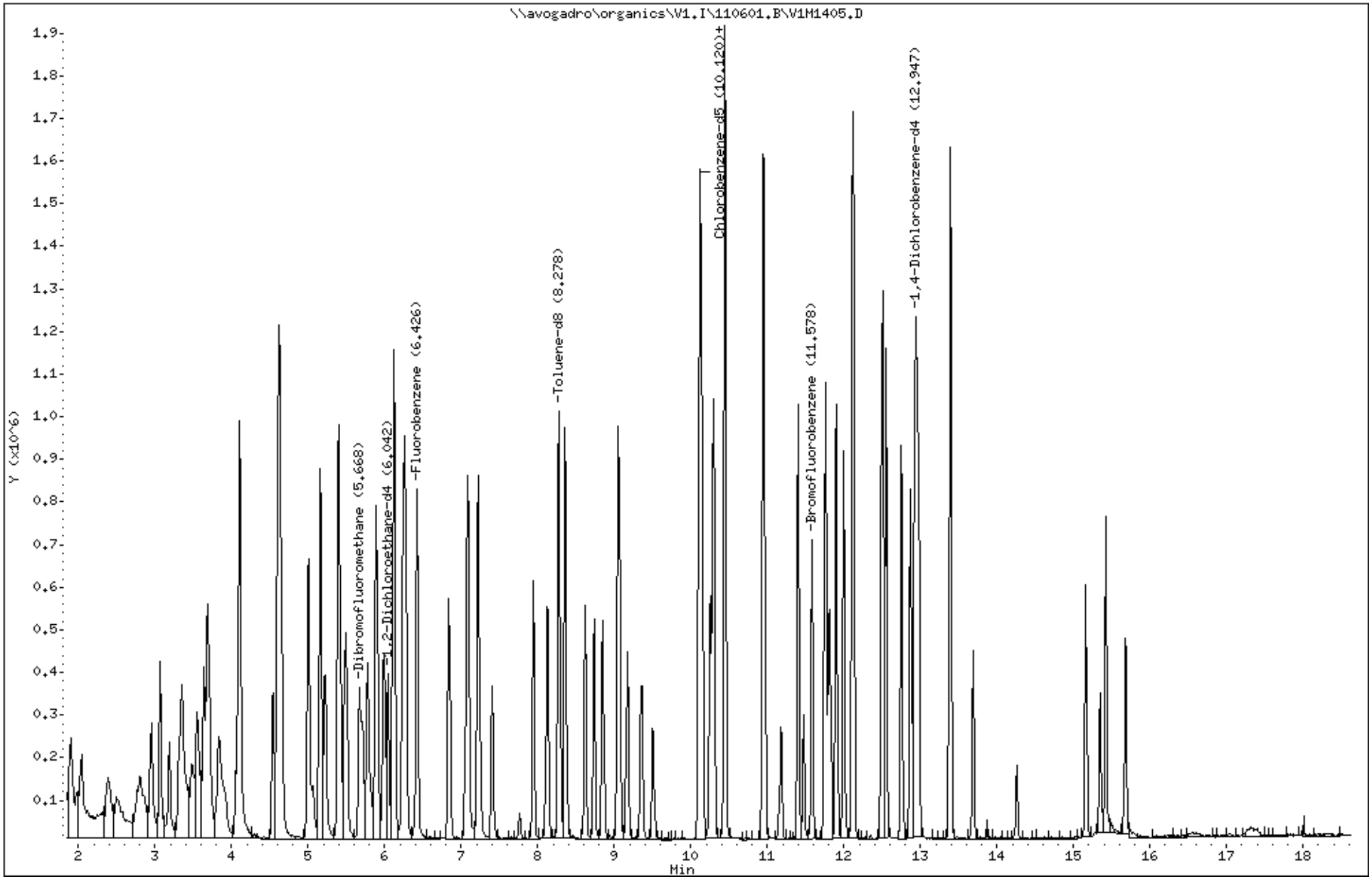
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\avogadro\organics\V1.I\110601.B\V1M1405.D
Date : 01-JUN-2011 11:59
Client ID: VSTD0501F
Sample Info: 5ML,VSTD0501F,VSTD0501F
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: SZ SRC: SZ
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110601.B\V1M1406.D
Report Date: 13-May-2011 11:06

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110601.B\V1M1406.D
Lab Smp Id: VSTD0201F  Client Smp ID: VSTD0201F
Inj Date  : 01-JUN-2011 12:48
Operator  : SZ  SRC: SZ  Inst ID: V1.i
Smp Info  : 5ML,VSTD0201F,VSTD0201F
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110601.B\v18260Gadd.m
Meth Date : 13-May-2011 11:04 vbrizard  Quant Type: ISTD
Cal Date  : 01-JUN-2011 12:48  Cal File: V1M1406.D
Als bottle: 30  Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.697 | 1.688 | (0.265) | 55221 | 20.0000 | 21 |
| 2 Freon114 | 85 | 1.835 | 1.836 | (0.286) | 62729 | 20.0000 | 20 |
| 3 Chloromethane | 50 | 1.894 | 1.895 | (0.295) | 155149 | 20.0000 | 21 |
| 4 Vinyl Chloride | 62 | 2.032 | 2.023 | (0.317) | 106641 | 20.0000 | 21 |
| 5 Bromomethane | 94 | 2.386 | 2.387 | (0.372) | 72595 | 20.0000 | 22 |
| 6 Chloroethane | 64 | 2.504 | 2.496 | (0.390) | 63142 | 20.0000 | 21 |
| 7 Trichlorofluoromethane | 101 | 2.780 | 2.762 | (0.433) | 91180 | 20.0000 | 20 |
| 126 Ethanol | 46 | 2.948 | 2.949 | (0.460) | 49987 | 2000.00 | 1900(aA) |
| 8 Ether | 59 | 3.066 | 3.067 | (0.478) | 102945 | 20.0000 | 20 |
| 9 Acrolein | 56 | 3.184 | 3.185 | (0.496) | 60270 | 100.000 | 83 |
| 10 1,1-Dichloroethene | 96 | 3.342 | 3.323 | (0.521) | 84555 | 20.0000 | 20 |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.342 | 3.333 | (0.521) | 72789 | 20.0000 | 23 |
| 12 Acetone | 58 | 3.352 | 3.353 | (0.523) | 27152 | 20.0000 | 21 |
| 13 Iodomethane | 142 | 3.489 | 3.491 | (0.544) | 162808 | 20.0000 | 21 |
| 14 Carbon Disulfide | 76 | 3.558 | 3.550 | (0.555) | 300957 | 20.0000 | 21 |
| 15 Acetonitrile | 41 | 3.637 | 3.638 | (0.567) | 143474 | 200.000 | 190 |
| 16 Allyl Chloride | 39 | 3.677 | 3.678 | (0.573) | 139275 | 20.0000 | 21 |
| 17 Methyl Acetate | 43 | 3.706 | 3.697 | (0.578) | 149634 | 20.0000 | 20 |
| 19 tert-Butanol | 59 | 3.923 | 3.924 | (0.612) | 28269 | 40.0000 | 39 |
| 18 Methylene Chloride | 84 | 3.824 | 3.835 | (0.596) | 92868 | 20.0000 | 20 |
| 20 Acrylonitrile | 53 | 4.051 | 4.052 | (0.632) | 56107 | 20.0000 | 20 |
| 21 trans-1,2-Dichloroethene | 96 | 4.100 | 4.101 | (0.639) | 95919 | 20.0000 | 21 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1406.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 22 Methyl tert-butyl ether | 73 | 4.100 | 4.101 | (0.639) | 238346 | 20.0000 | 20 |
| | 23 1,1-Dichloroethane | 63 | 4.533 | 4.545 | (0.707) | 183174 | 20.0000 | 20 |
| | 24 Vinyl acetate | 43 | 4.593 | 4.594 | (0.716) | 597378 | 20.0000 | 21 |
| | 25 Diisopropyl Ether | 45 | 4.612 | 4.623 | (0.719) | 542713 | 20.0000 | 21 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.642 | 4.643 | (0.724) | 161363 | 20.0000 | 21 |
| | 27 Ethyl tert-butyl ether | 59 | 4.996 | 5.007 | (0.779) | 335464 | 20.0000 | 21 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.154 | 5.155 | (0.803) | 105833 | 20.0000 | 21 |
| | 29 2,2-Dichloropropane | 77 | 5.164 | 5.155 | (0.805) | 58566 | 20.0000 | 21 |
| | 30 2-Butanone | 72 | 5.164 | 5.165 | (0.805) | 18752 | 20.0000 | 20 |
| | 32 Propionitrile | 54 | 5.213 | 5.224 | (0.813) | 195744 | 200.000 | 200(A) |
| | 33 Methacrylonitrile | 41 | 5.390 | 5.392 | (0.840) | 209350 | 40.0000 | 40 |
| | 34 Bromochloromethane | 128 | 5.410 | 5.411 | (0.843) | 59545 | 20.0000 | 20 |
| | 31 Tetrahydrofuran | 72 | 5.469 | 5.470 | (0.853) | 24402 | 40.0000 | 39 |
| | 35 Chloroform | 83 | 5.499 | 5.500 | (0.857) | 152430 | 20.0000 | 21 |
| $ | 36 Dibromofluoromethane | 113 | 5.666 | 5.667 | (0.883) | 266095 | 50.0000 | 50 |
| | 37 1,1,1-Trichloroethane | 97 | 5.706 | 5.707 | (0.889) | 92502 | 20.0000 | 21 |
| | 38 Cyclohexane | 56 | 5.775 | 5.776 | (0.900) | 148939 | 20.0000 | 20 |
| | 39 1,1-Dichloropropene | 110 | 5.883 | 5.894 | (0.917) | 44522 | 20.0000 | 21 |
| | 40 Carbon Tetrachloride | 117 | 5.893 | 5.894 | (0.919) | 90996 | 20.0000 | 21 |
| | 41 Isobutyl Alcohol | 43 | 5.981 | 5.992 | (0.932) | 151785 | 400.000 | 410(A) |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.040 | 6.042 | (0.942) | 54507 | 50.0000 | 49 |
| | 43 Benzene | 78 | 6.119 | 6.120 | (0.954) | 347943 | 20.0000 | 21 |
| | 44 1,2-Dichloroethane | 62 | 6.119 | 6.130 | (0.954) | 116978 | 20.0000 | 20 |
| | 45 tert-Amyl methyl ether | 73 | 6.228 | 6.239 | (0.971) | 241503 | 20.0000 | 20 |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 201752 | 40.0000 | 42 |
| * | 46 Fluorobenzene | 96 | 6.415 | 6.426 | (1.000) | 881600 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.838 | 6.839 | (1.066) | 106085 | 20.0000 | 21 |
| | 48 Methylcyclohexane | 83 | 7.065 | 7.076 | (1.101) | 96636 | 20.0000 | 20 |
| | 49 1,2-Dichloropropane | 63 | 7.094 | 7.096 | (1.106) | 114304 | 20.0000 | 21 |
| | 51 Methyl Methacrylate | 69 | 7.213 | 7.224 | (1.124) | 85351 | 20.0000 | 21 |
| | 52 Dibromomethane | 93 | 7.222 | 7.224 | (1.126) | 66708 | 20.0000 | 20 |
| | 53 1,4-Dioxane | 88 | 7.242 | 7.243 | (1.129) | 16833 | 400.000 | 330(A) |
| | 54 Bromodichloromethane | 83 | 7.400 | 7.401 | (1.154) | 112676 | 20.0000 | 20 |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.764 | 7.765 | (1.210) | 10491 | 20.0000 | 19 |
| | 56 cis-1,3-Dichloropropene | 75 | 7.941 | 7.943 | (1.238) | 150242 | 20.0000 | 20 |
| | 57 4-Methyl-2-pentanone | 43 | 8.119 | 8.120 | (1.266) | 249640 | 20.0000 | 20 |
| $ | 58 Toluene-d8 | 98 | 8.276 | 8.278 | (0.819) | 746201 | 50.0000 | 50 |
| | 59 Toluene | 91 | 8.355 | 8.356 | (1.302) | 350864 | 20.0000 | 21 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.621 | 8.622 | (1.344) | 135031 | 20.0000 | 20 |
| | 61 Ethyl Methacrylate | 69 | 8.739 | 8.740 | (1.362) | 113642 | 20.0000 | 20 |
| | 62 1,1,2-Trichloroethane | 97 | 8.848 | 8.849 | (1.379) | 80145 | 20.0000 | 20 |
| | 63 Tetrachloroethene | 164 | 9.045 | 9.046 | (0.895) | 64002 | 20.0000 | 21 |
| | 64 1,3-Dichloropropane | 76 | 9.064 | 9.066 | (0.897) | 145189 | 20.0000 | 21 |
| | 65 2-Hexanone | 43 | 9.173 | 9.174 | (0.907) | 187702 | 20.0000 | 20 |
| | 66 Dibromochloromethane | 129 | 9.350 | 9.351 | (0.925) | 96005 | 20.0000 | 20 |
| | 67 1,2-Dibromoethane | 107 | 9.508 | 9.499 | (0.941) | 97473 | 20.0000 | 21 |
| | 69 1-Chlorohexane | 91 | 10.118 | 10.119 | (1.001) | 103940 | 20.0000 | 20 |
| * | 68 Chlorobenzene-d5 | 117 | 10.108 | 10.110 | (1.000) | 654960 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.148 | 10.149 | (1.004) | 237067 | 20.0000 | 21 |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.246 | 10.257 | (1.014) | 89617 | 20.0000 | 20 |
| | 72 Ethylbenzene | 106 | 10.295 | 10.297 | (1.019) | 115004 | 20.0000 | 20 |
| | 73 m,p-Xylene | 106 | 10.443 | 10.444 | (1.033) | 288588 | 40.0000 | 41 |
| | 74 o-Xylene | 106 | 10.946 | 10.947 | (1.083) | 143532 | 20.0000 | 21 |
| | 75 Styrene | 104 | 10.955 | 10.957 | (1.084) | 241364 | 20.0000 | 20 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1406.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 76 Bromoform | 173 | 11.172 | 11.173 | (1.105) | 54473 | 20.0000 | 19 |
| | 77 Isopropylbenzene | 105 | 11.399 | 11.400 | (1.128) | 322489 | 20.0000 | 20 |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.468 | 11.469 | (1.134) | 19852 | 20.0000 | 15 |
| $ | 79 Bromofluorobenzene | 95 | 11.576 | 11.577 | (1.145) | 323722 | 50.0000 | 51 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.743 | 11.754 | (0.907) | 117798 | 20.0000 | 20 |
| | 81 Bromobenzene | 156 | 11.753 | 11.764 | (0.908) | 96780 | 20.0000 | 20 |
| | 82 1,2,3-Trichloropropane | 75 | 11.802 | 11.804 | (0.912) | 115320 | 20.0000 | 18 |
| | 83 n-Propylbenzene | 120 | 11.901 | 11.902 | (0.919) | 83018 | 20.0000 | 20 |
| | 84 2-Chlorotoluene | 126 | 11.999 | 12.001 | (0.927) | 90030 | 20.0000 | 20 |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.108 | 12.109 | (0.935) | 250803 | 20.0000 | 20 |
| | 86 4-Chlorotoluene | 126 | 12.127 | 12.129 | (0.937) | 93852 | 20.0000 | 20 |
| M | 94 Xylene (Total) | 106 | | | | 432120 | 60.0000 | 61 |
| | 87 tert-Butylbenzene | 119 | 12.492 | 12.503 | (0.965) | 251666 | 20.0000 | 20 |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.551 | 12.552 | (0.970) | 262331 | 20.0000 | 20 |
| | 89 sec-Butylbenzene | 105 | 12.748 | 12.749 | (0.985) | 275090 | 20.0000 | 19 |
| | 90 1,3-Dichlorobenzene | 146 | 12.866 | 12.877 | (0.994) | 160412 | 20.0000 | 20 |
| | 91 4-Isopropyltoluene | 119 | 12.915 | 12.917 | (0.998) | 224900 | 20.0000 | 19 |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.945 | 12.946 | (1.000) | 326088 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.975 | 12.976 | (1.002) | 170720 | 20.0000 | 20 |
| | 95 n-Butylbenzene | 91 | 13.388 | 13.389 | (1.034) | 190669 | 20.0000 | 18 |
| | 96 1,2-Dichlorobenzene | 146 | 13.398 | 13.399 | (1.035) | 160791 | 20.0000 | 20 |
| | 97 Hexachloroethane | 117 | 13.694 | 13.685 | (1.058) | 46441 | 20.0000 | 19 |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.255 | 14.256 | (1.101) | 17117 | 20.0000 | 21 |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.161 | 15.162 | (1.171) | 66787 | 20.0000 | 19 |
| | 100 Hexachlorobutadiene | 225 | 15.348 | 15.350 | (1.186) | 18707 | 20.0000 | 16 |
| | 101 Naphthalene | 128 | 15.427 | 15.418 | (1.192) | 249808 | 20.0000 | 20 |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.683 | 15.684 | (1.212) | 60485 | 20.0000 | 19 |

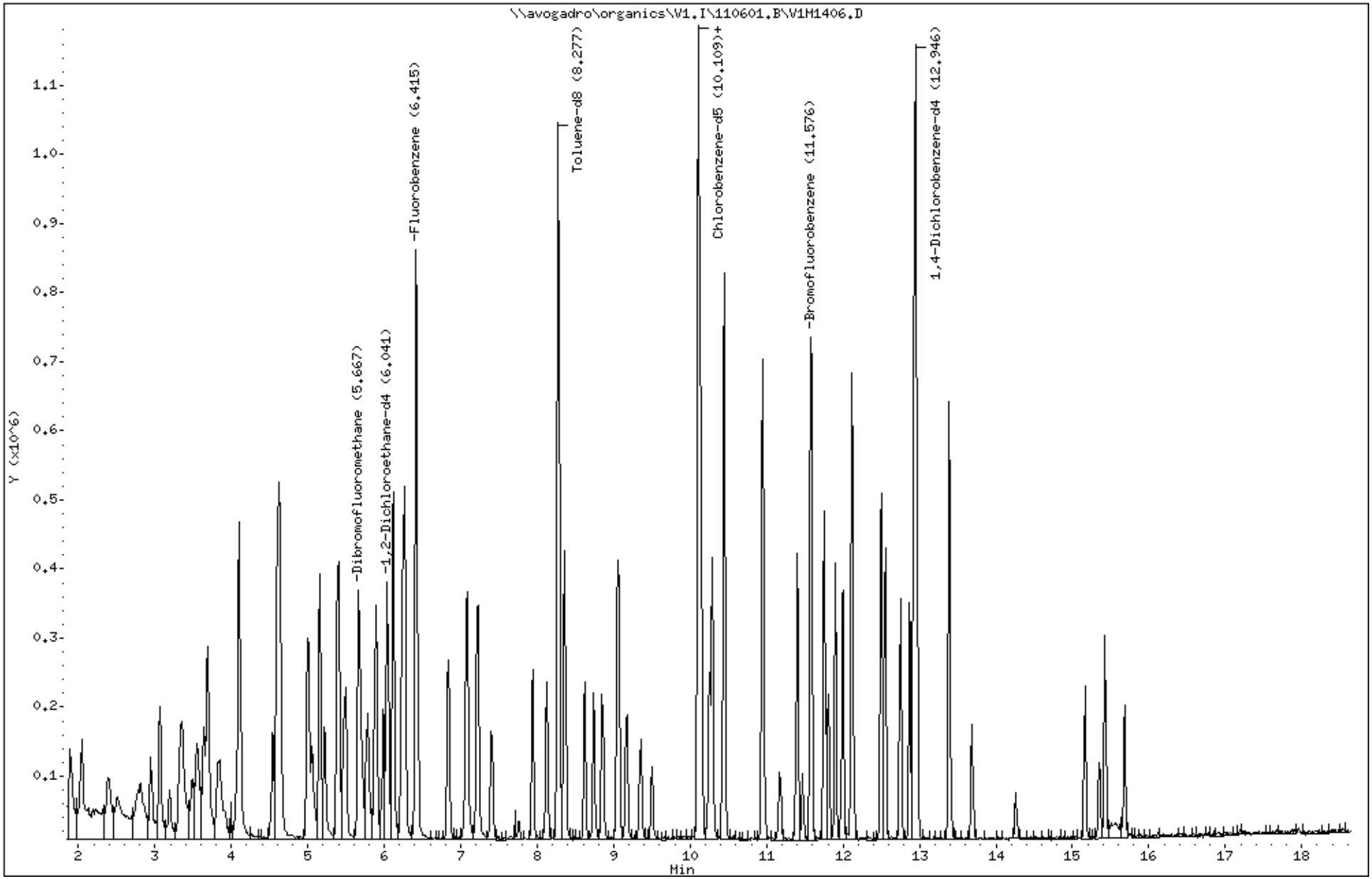
QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\avogadro\organics\V1.I\110601.B\V1M1406.D
Date : 01-JUN-2011 12:48
Client ID: VSTD0201F
Sample Info: 5ML,VSTD0201F,VSTD0201F
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: SZ SRC: SZ
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110601.B\V1M1407.D
Report Date: 13-May-2011 11:06

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110601.B\V1M1407.D
Lab Smp Id: VSTD0051F  Client Smp ID: VSTD0051F
Inj Date  : 01-JUN-2011 13:18
Operator  : SZ  SRC: SZ  Inst ID: V1.i
Smp Info  : 5ML,VSTD0051F,VSTD0051F
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110601.B\v18260Gadd.m
Meth Date : 13-May-2011 11:04 vbrizard  Quant Type: ISTD
Cal Date  : 01-JUN-2011 13:18  Cal File: V1M1407.D
Als bottle: 31  Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.703 | 1.688 | (0.265) | 13038 | 5.00000 | 5 |
| 2 Freon114 | 85 | 1.831 | 1.836 | (0.285) | 11090 | 5.00000 | 4(a) |
| 3 Chloromethane | 50 | 1.890 | 1.895 | (0.294) | 35273 | 5.00000 | 5 |
| 4 Vinyl Chloride | 62 | 2.018 | 2.023 | (0.314) | 26702 | 5.00000 | 5 |
| 5 Bromomethane | 94 | 2.392 | 2.387 | (0.373) | 17201 | 5.00000 | 5 |
| 6 Chloroethane | 64 | 2.511 | 2.496 | (0.391) | 16254 | 5.00000 | 5 |
| 7 Trichlorofluoromethane | 101 | 2.776 | 2.762 | (0.432) | 20575 | 5.00000 | 5 |
| 126 Ethanol | 46 | 2.934 | 2.949 | (0.457) | 13601 | 500.000 | 520(aA) |
| 8 Ether | 59 | 3.062 | 3.067 | (0.477) | 26369 | 5.00000 | 5 |
| 9 Acrolein | 56 | 3.190 | 3.185 | (0.497) | 19404 | 25.0000 | 27 |
| 10 1,1-Dichloroethene | 96 | 3.328 | 3.323 | (0.518) | 13770 | 5.00000 | 4(a) |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.338 | 3.333 | (0.520) | 11179 | 5.00000 | 4(a) |
| 12 Acetone | 58 | 3.348 | 3.353 | (0.521) | 6323 | 5.00000 | 5 |
| 13 Iodomethane | 142 | 3.496 | 3.491 | (0.544) | 35821 | 5.00000 | 5 |
| 14 Carbon Disulfide | 76 | 3.545 | 3.550 | (0.552) | 78482 | 5.00000 | 5 |
| 15 Acetonitrile | 41 | 3.633 | 3.638 | (0.566) | 40593 | 50.0000 | 54 |
| 16 Allyl Chloride | 39 | 3.683 | 3.678 | (0.574) | 37112 | 5.00000 | 6 |
| 17 Methyl Acetate | 43 | 3.692 | 3.697 | (0.575) | 41591 | 5.00000 | 6 |
| 19 tert-Butanol | 59 | 3.909 | 3.924 | (0.609) | 7191 | 10.0000 | 10 |
| 18 Methylene Chloride | 84 | 3.821 | 3.835 | (0.595) | 9828 | 5.00000 | 3(a) |
| 20 Acrylonitrile | 53 | 4.057 | 4.052 | (0.632) | 13494 | 5.00000 | 5 |
| 21 trans-1,2-Dichloroethene | 96 | 4.096 | 4.101 | (0.638) | 23414 | 5.00000 | 5 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1407.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 22 Methyl tert-butyl ether | 73 | 4.096 | 4.101 | (0.638) | 60257 | 5.00000 | 5 |
| | 23 1,1-Dichloroethane | 63 | 4.530 | 4.545 | (0.705) | 47359 | 5.00000 | 5 |
| | 24 Vinyl acetate | 43 | 4.589 | 4.594 | (0.715) | 141159 | 5.00000 | 5 |
| | 25 Diisopropyl Ether | 45 | 4.609 | 4.623 | (0.718) | 134745 | 5.00000 | 5 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.628 | 4.643 | (0.721) | 41556 | 5.00000 | 5 |
| | 27 Ethyl tert-butyl ether | 59 | 5.002 | 5.007 | (0.779) | 83140 | 5.00000 | 5 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.150 | 5.155 | (0.802) | 26965 | 5.00000 | 5 |
| | 29 2,2-Dichloropropane | 77 | 5.160 | 5.155 | (0.804) | 17508 | 5.00000 | 6 |
| | 30 2-Butanone | 72 | 5.160 | 5.165 | (0.804) | 4065 | 5.00000 | 5 |
| | 32 Propionitrile | 54 | 5.219 | 5.224 | (0.813) | 51855 | 50.0000 | 54 |
| | 33 Methacrylonitrile | 41 | 5.387 | 5.392 | (0.839) | 54910 | 10.0000 | 11 |
| | 34 Bromochloromethane | 128 | 5.406 | 5.411 | (0.842) | 14321 | 5.00000 | 5 |
| | 31 Tetrahydrofuran | 72 | 5.465 | 5.470 | (0.851) | 7173 | 10.0000 | 11 |
| | 35 Chloroform | 83 | 5.495 | 5.500 | (0.856) | 38249 | 5.00000 | 5 |
| $ | 36 Dibromofluoromethane | 113 | 5.672 | 5.667 | (0.883) | 254589 | 50.0000 | 50 |
| | 37 1,1,1-Trichloroethane | 97 | 5.702 | 5.707 | (0.888) | 23616 | 5.00000 | 5 |
| | 38 Cyclohexane | 56 | 5.771 | 5.776 | (0.899) | 42250 | 5.00000 | 6 |
| | 39 1,1-Dichloropropene | 110 | 5.879 | 5.894 | (0.916) | 11798 | 5.00000 | 5 |
| | 40 Carbon Tetrachloride | 117 | 5.889 | 5.894 | (0.917) | 23793 | 5.00000 | 5 |
| | 41 Isobutyl Alcohol | 43 | 5.978 | 5.992 | (0.931) | 41124 | 100.000 | 110 |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.037 | 6.042 | (0.940) | 52172 | 50.0000 | 49 |
| | 43 Benzene | 78 | 6.116 | 6.120 | (0.952) | 87686 | 5.00000 | 5 |
| | 44 1,2-Dichloroethane | 62 | 6.125 | 6.130 | (0.954) | 28151 | 5.00000 | 5 |
| | 45 tert-Amyl methyl ether | 73 | 6.234 | 6.239 | (0.971) | 64955 | 5.00000 | 5 |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 50379 | 10.0000 | 10 |
| * | 46 Fluorobenzene | 96 | 6.421 | 6.426 | (1.000) | 846456 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.835 | 6.839 | (1.064) | 27411 | 5.00000 | 5 |
| | 48 Methylcyclohexane | 83 | 7.071 | 7.076 | (1.101) | 27064 | 5.00000 | 5 |
| | 49 1,2-Dichloropropane | 63 | 7.091 | 7.096 | (1.104) | 27194 | 5.00000 | 5 |
| | 51 Methyl Methacrylate | 69 | 7.219 | 7.224 | (1.124) | 20880 | 5.00000 | 5 |
| | 52 Dibromomethane | 93 | 7.219 | 7.224 | (1.124) | 15630 | 5.00000 | 5 |
| | 53 1,4-Dioxane | 88 | 7.248 | 7.243 | (1.129) | 4476 | 100.000 | 110 |
| | 54 Bromodichloromethane | 83 | 7.406 | 7.401 | (1.153) | 26123 | 5.00000 | 5 |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.770 | 7.765 | (1.210) | 2371 | 5.00000 | 5 |
| | 56 cis-1,3-Dichloropropene | 75 | 7.938 | 7.943 | (1.236) | 37192 | 5.00000 | 5 |
| | 57 4-Methyl-2-pentanone | 43 | 8.125 | 8.120 | (1.265) | 67120 | 5.00000 | 5 |
| $ | 58 Toluene-d8 | 98 | 8.273 | 8.278 | (0.818) | 741069 | 50.0000 | 51 |
| | 59 Toluene | 91 | 8.361 | 8.356 | (1.302) | 89869 | 5.00000 | 5 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.617 | 8.622 | (1.342) | 31592 | 5.00000 | 5 |
| | 61 Ethyl Methacrylate | 69 | 8.735 | 8.740 | (1.360) | 26606 | 5.00000 | 5 |
| | 62 1,1,2-Trichloroethane | 97 | 8.854 | 8.849 | (1.379) | 20700 | 5.00000 | 5 |
| | 63 Tetrachloroethene | 164 | 9.051 | 9.046 | (0.895) | 17396 | 5.00000 | 5 |
| | 64 1,3-Dichloropropane | 76 | 9.061 | 9.066 | (0.896) | 37310 | 5.00000 | 5 |
| | 65 2-Hexanone | 43 | 9.169 | 9.174 | (0.907) | 48120 | 5.00000 | 5 |
| | 66 Dibromochloromethane | 129 | 9.346 | 9.351 | (0.924) | 22388 | 5.00000 | 5(T) |
| | 67 1,2-Dibromoethane | 107 | 9.504 | 9.499 | (0.940) | 24192 | 5.00000 | 5(T) |
| | 69 1-Chlorohexane | 91 | 10.124 | 10.119 | (1.001) | 30411 | 5.00000 | 6 |
| * | 68 Chlorobenzene-d5 | 117 | 10.114 | 10.110 | (1.000) | 637303 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.144 | 10.149 | (1.003) | 60307 | 5.00000 | 5 |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.252 | 10.257 | (1.014) | 22475 | 5.00000 | 5 |
| | 72 Ethylbenzene | 106 | 10.292 | 10.297 | (1.018) | 29824 | 5.00000 | 5 |
| | 73 m,p-Xylene | 106 | 10.449 | 10.444 | (1.033) | 76085 | 10.0000 | 11 |
| | 74 o-Xylene | 106 | 10.942 | 10.947 | (1.082) | 34808 | 5.00000 | 5 |
| | 75 Styrene | 104 | 10.961 | 10.957 | (1.084) | 57277 | 5.00000 | 5 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1407.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 76 Bromoform | 173 | 11.178 | 11.173 | (1.105) | 12910 | 5.00000 | 5 |
| | 77 Isopropylbenzene | 105 | 11.405 | 11.400 | (1.128) | 91168 | 5.00000 | 6 |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.474 | 11.469 | (1.134) | 4548 | 5.00000 | 4 |
| $ | 79 Bromofluorobenzene | 95 | 11.582 | 11.577 | (1.145) | 315005 | 50.0000 | 50 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.749 | 11.754 | (0.908) | 30539 | 5.00000 | 5 |
| | 81 Bromobenzene | 156 | 11.759 | 11.764 | (0.909) | 24316 | 5.00000 | 5 |
| | 82 1,2,3-Trichloropropane | 75 | 11.809 | 11.804 | (0.912) | 30096 | 5.00000 | 5 |
| | 83 n-Propylbenzene | 120 | 11.897 | 11.902 | (0.919) | 23272 | 5.00000 | 5 |
| | 84 2-Chlorotoluene | 126 | 11.996 | 12.001 | (0.927) | 23696 | 5.00000 | 5 |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.114 | 12.109 | (0.936) | 71501 | 5.00000 | 6 |
| | 86 4-Chlorotoluene | 126 | 12.134 | 12.129 | (0.938) | 25336 | 5.00000 | 5 |
| M | 94 Xylene (Total) | 106 | | | | 110893 | 15.0000 | 16 |
| | 87 tert-Butylbenzene | 119 | 12.498 | 12.503 | (0.966) | 68468 | 5.00000 | 5 |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.547 | 12.552 | (0.970) | 69891 | 5.00000 | 5 |
| | 89 sec-Butylbenzene | 105 | 12.754 | 12.749 | (0.986) | 77925 | 5.00000 | 5 |
| | 90 1,3-Dichlorobenzene | 146 | 12.872 | 12.877 | (0.995) | 42887 | 5.00000 | 5 |
| | 91 4-Isopropyltoluene | 119 | 12.922 | 12.917 | (0.998) | 65443 | 5.00000 | 5 |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.941 | 12.946 | (1.000) | 309591 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.971 | 12.976 | (1.002) | 46221 | 5.00000 | 5 |
| | 95 n-Butylbenzene | 91 | 13.385 | 13.389 | (1.034) | 56206 | 5.00000 | 5 |
| | 96 1,2-Dichlorobenzene | 146 | 13.394 | 13.399 | (1.035) | 41754 | 5.00000 | 5 |
| | 97 Hexachloroethane | 117 | 13.680 | 13.685 | (1.057) | 14263 | 5.00000 | 6 |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.251 | 14.256 | (1.101) | 4630 | 5.00000 | 6 |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.157 | 15.162 | (1.171) | 18908 | 5.00000 | 5 |
| | 100 Hexachlorobutadiene | 225 | 15.345 | 15.350 | (1.186) | 5428 | 5.00000 | 5 |
| | 101 Naphthalene | 128 | 15.423 | 15.418 | (1.192) | 67712 | 5.00000 | 5 |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.679 | 15.684 | (1.212) | 16957 | 5.00000 | 5 |

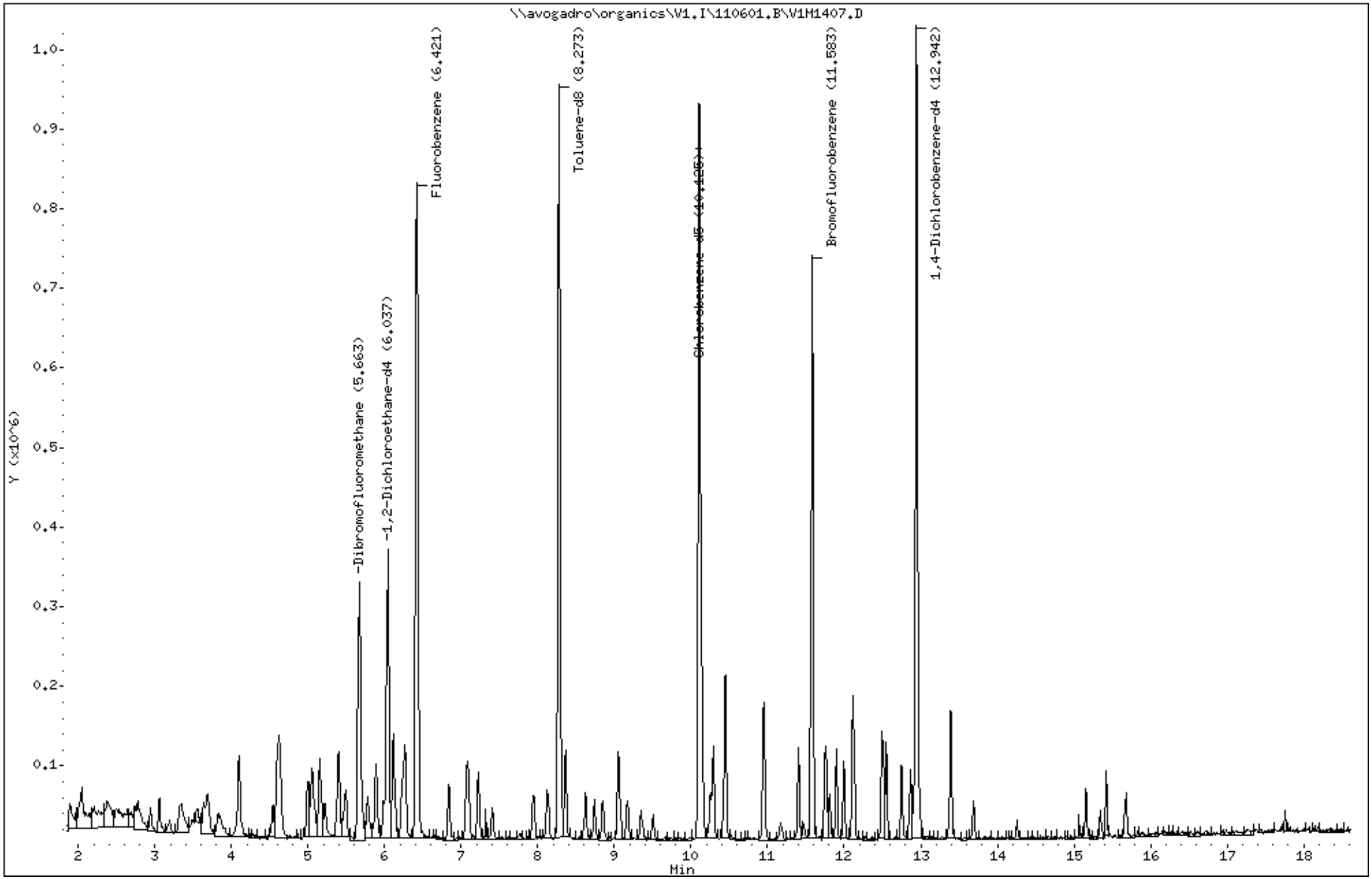
QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\avogadro\organics\V1.I\110601.B\V1M1407.D
Date : 01-JUN-2011 13:18
Client ID: VSTD0051F
Sample Info: 5ML,VSTD0051F,VSTD0051F
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: SZ SRC: SZ
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110601.B\V1M1408.D
Report Date: 13-May-2011 11:06

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110601.B\V1M1408.D
Lab Smp Id: VSTD2001F  Client Smp ID: VSTD2001F
Inj Date  : 01-JUN-2011 13:50
Operator  : SZ  SRC: SZ  Inst ID: V1.i
Smp Info  : 5ML,VSTD2001F,VSTD2001F
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110601.B\v18260Gadd.m
Meth Date : 13-May-2011 11:04 vbrizard  Quant Type: ISTD
Cal Date  : 01-JUN-2011 13:50  Cal File: V1M1408.D
Als bottle: 32  Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.692 | 1.688 | (0.264) | 556730 | 200.000 | 200 |
| 2 Freon114 | 85 | 1.830 | 1.836 | (0.285) | 790722 | 200.000 | 250(A) |
| 3 Chloromethane | 50 | 1.889 | 1.895 | (0.294) | 1505313 | 200.000 | 200 |
| 4 Vinyl Chloride | 62 | 2.017 | 2.023 | (0.314) | 1080175 | 200.000 | 200 |
| 5 Bromomethane | 94 | 2.381 | 2.387 | (0.371) | 675462 | 200.000 | 200 |
| 6 Chloroethane | 64 | 2.500 | 2.496 | (0.389) | 627587 | 200.000 | 200 |
| 7 Trichlorofluoromethane | 101 | 2.775 | 2.762 | (0.432) | 1003704 | 200.000 | 220(A) |
| 126 Ethanol | 46 | 2.943 | 2.949 | (0.458) | 507251 | 20000.0 | 19000(A) |
| 8 Ether | 59 | 3.061 | 3.067 | (0.477) | 1070903 | 200.000 | 200 |
| 9 Acrolein | 56 | 3.179 | 3.185 | (0.495) | 651216 | 1000.00 | 890(A) |
| 10 1,1-Dichloroethene | 96 | 3.327 | 3.323 | (0.518) | 988271 | 200.000 | 240(A) |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.327 | 3.333 | (0.518) | 852957 | 200.000 | 260(A) |
| 12 Acetone | 58 | 3.347 | 3.353 | (0.521) | 219095 | 200.000 | 170 |
| 13 Iodomethane | 142 | 3.484 | 3.491 | (0.543) | 1664736 | 200.000 | 210(A) |
| 14 Carbon Disulfide | 76 | 3.553 | 3.550 | (0.554) | 3169691 | 200.000 | 200(A) |
| 15 Acetonitrile | 41 | 3.632 | 3.638 | (0.566) | 1525909 | 2000.00 | 1900(A) |
| 16 Allyl Chloride | 39 | 3.681 | 3.678 | (0.573) | 1190602 | 200.000 | 180 |
| 17 Methyl Acetate | 43 | 3.691 | 3.697 | (0.575) | 1609042 | 200.000 | 200 |
| 19 tert-Butanol | 59 | 3.918 | 3.924 | (0.610) | 317462 | 400.000 | 420(A) |
| 18 Methylene Chloride | 84 | 3.839 | 3.835 | (0.598) | 981454 | 200.000 | 240(A) |
| 20 Acrylonitrile | 53 | 4.046 | 4.052 | (0.630) | 602607 | 200.000 | 210(A) |
| 21 trans-1,2-Dichloroethene | 96 | 4.095 | 4.101 | (0.638) | 974399 | 200.000 | 200 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1408.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 22 Methyl tert-butyl ether | 73 | 4.095 | 4.101 | (0.638) | 2566591 | 200.000 | 210(A) |
| | 23 1,1-Dichloroethane | 63 | 4.538 | 4.545 | (0.707) | 1814004 | 200.000 | 200 |
| | 24 Vinyl acetate | 43 | 4.588 | 4.594 | (0.715) | 5993747 | 200.000 | 200 |
| | 25 Diisopropyl Ether | 45 | 4.617 | 4.623 | (0.719) | 5292012 | 200.000 | 200 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.637 | 4.643 | (0.722) | 1710299 | 200.000 | 210(A) |
| | 27 Ethyl tert-butyl ether | 59 | 5.001 | 5.007 | (0.779) | 3374199 | 200.000 | 200 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.149 | 5.155 | (0.802) | 1062354 | 200.000 | 200 |
| | 29 2,2-Dichloropropane | 77 | 5.159 | 5.155 | (0.804) | 508964 | 200.000 | 170 |
| | 30 2-Butanone | 72 | 5.159 | 5.165 | (0.804) | 204114 | 200.000 | 220(A) |
| | 32 Propionitrile | 54 | 5.218 | 5.224 | (0.813) | 2122339 | 2000.00 | 2100(A) |
| | 33 Methacrylonitrile | 41 | 5.395 | 5.392 | (0.840) | 2330543 | 400.000 | 420(A) |
| | 34 Bromochloromethane | 128 | 5.415 | 5.411 | (0.844) | 622442 | 200.000 | 210(A) |
| | 31 Tetrahydrofuran | 72 | 5.464 | 5.470 | (0.851) | 295659 | 400.000 | 430(A) |
| | 35 Chloroform | 83 | 5.494 | 5.500 | (0.856) | 1534530 | 200.000 | 200 |
| $ | 36 Dibromofluoromethane | 113 | 5.671 | 5.667 | (0.883) | 263802 | 50.0000 | 49 |
| | 37 1,1,1-Trichloroethane | 97 | 5.710 | 5.707 | (0.890) | 927792 | 200.000 | 200 |
| | 38 Cyclohexane | 56 | 5.779 | 5.776 | (0.900) | 1729148 | 200.000 | 210(A) |
| | 39 1,1-Dichloropropene | 110 | 5.888 | 5.894 | (0.917) | 468974 | 200.000 | 200(A) |
| | 40 Carbon Tetrachloride | 117 | 5.898 | 5.894 | (0.919) | 936429 | 200.000 | 200 |
| | 41 Isobutyl Alcohol | 43 | 5.986 | 5.992 | (0.932) | 1768274 | 4000.00 | 4400(A) |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.036 | 6.042 | (0.940) | 56578 | 50.0000 | 50 |
| | 43 Benzene | 78 | 6.114 | 6.120 | (0.952) | 3500683 | 200.000 | 200 |
| | 44 1,2-Dichloroethane | 62 | 6.124 | 6.130 | (0.954) | 1191419 | 200.000 | 200 |
| | 45 tert-Amyl methyl ether | 73 | 6.232 | 6.239 | (0.971) | 2599303 | 200.000 | 200(A) |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 2036753 | 400.000 | 400 |
| * | 46 Fluorobenzene | 96 | 6.420 | 6.426 | (1.000) | 892709 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.833 | 6.839 | (1.064) | 1046957 | 200.000 | 200 |
| | 48 Methylcyclohexane | 83 | 7.070 | 7.076 | (1.101) | 1150747 | 200.000 | 220(A) |
| | 49 1,2-Dichloropropane | 63 | 7.089 | 7.096 | (1.104) | 1135543 | 200.000 | 200 |
| | 51 Methyl Methacrylate | 69 | 7.217 | 7.224 | (1.124) | 912675 | 200.000 | 210(A) |
| | 52 Dibromomethane | 93 | 7.227 | 7.224 | (1.126) | 699340 | 200.000 | 210(A) |
| | 53 1,4-Dioxane | 88 | 7.247 | 7.243 | (1.129) | 193358 | 4000.00 | 3200(A) |
| | 54 Bromodichloromethane | 83 | 7.405 | 7.401 | (1.153) | 1172106 | 200.000 | 210(A) |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.769 | 7.765 | (1.210) | 131216 | 200.000 | 230(A) |
| | 56 cis-1,3-Dichloropropene | 75 | 7.946 | 7.943 | (1.238) | 1598012 | 200.000 | 200(A) |
| | 57 4-Methyl-2-pentanone | 43 | 8.124 | 8.120 | (1.265) | 2782225 | 200.000 | 210(A) |
| $ | 58 Toluene-d8 | 98 | 8.281 | 8.278 | (0.819) | 777387 | 50.0000 | 51 |
| | 59 Toluene | 91 | 8.360 | 8.356 | (1.302) | 3602857 | 200.000 | 200 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.626 | 8.622 | (1.344) | 1426033 | 200.000 | 210(A) |
| | 61 Ethyl Methacrylate | 69 | 8.744 | 8.740 | (1.362) | 1306804 | 200.000 | 220(A) |
| | 62 1,1,2-Trichloroethane | 97 | 8.852 | 8.849 | (1.379) | 905442 | 200.000 | 210(A) |
| | 63 Tetrachloroethene | 164 | 9.049 | 9.046 | (0.895) | 725797 | 200.000 | 210(A) |
| | 64 1,3-Dichloropropane | 76 | 9.069 | 9.066 | (0.897) | 1501088 | 200.000 | 200 |
| | 65 2-Hexanone | 43 | 9.168 | 9.174 | (0.907) | 2036734 | 200.000 | 210(A) |
| | 66 Dibromochloromethane | 129 | 9.355 | 9.351 | (0.925) | 1140903 | 200.000 | 220(A) |
| | 67 1,2-Dibromoethane | 107 | 9.503 | 9.499 | (0.940) | 1086039 | 200.000 | 220(A) |
| | 69 1-Chlorohexane | 91 | 10.123 | 10.119 | (1.001) | 1174560 | 200.000 | 210(A) |
| * | 68 Chlorobenzene-d5 | 117 | 10.113 | 10.110 | (1.000) | 662910 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.153 | 10.149 | (1.004) | 2481172 | 200.000 | 200(A) |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.251 | 10.257 | (1.014) | 957828 | 200.000 | 210(A) |
| | 72 Ethylbenzene | 106 | 10.300 | 10.297 | (1.019) | 1261157 | 200.000 | 210(A) |
| | 73 m,p-Xylene | 106 | 10.448 | 10.444 | (1.033) | 3102237 | 400.000 | 410(A) |
| | 74 o-Xylene | 106 | 10.941 | 10.947 | (1.082) | 1487622 | 200.000 | 210(A) |
| | 75 Styrene | 104 | 10.960 | 10.957 | (1.084) | 2617869 | 200.000 | 210(A) |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1408.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 76 Bromoform | 173 | 11.177 | 11.173 | (1.105) | 736576 | 200.000 | 240(A) |
| | 77 Isopropylbenzene | 105 | 11.404 | 11.400 | (1.128) | 3611760 | 200.000 | 210(A) |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.472 | 11.469 | (1.134) | 380800 | 200.000 | 280(A) |
| $ | 79 Bromofluorobenzene | 95 | 11.581 | 11.577 | (1.145) | 328080 | 50.0000 | 50 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.758 | 11.754 | (0.908) | 1326353 | 200.000 | 220(A) |
| | 81 Bromobenzene | 156 | 11.768 | 11.764 | (0.909) | 1018779 | 200.000 | 210(A) |
| | 82 1,2,3-Trichloropropane | 75 | 11.807 | 11.804 | (0.912) | 1437346 | 200.000 | 220(A) |
| | 83 n-Propylbenzene | 120 | 11.906 | 11.902 | (0.919) | 990864 | 200.000 | 220(A) |
| | 84 2-Chlorotoluene | 126 | 12.004 | 12.001 | (0.927) | 996348 | 200.000 | 210(A) |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.113 | 12.109 | (0.935) | 2830740 | 200.000 | 210(A) |
| | 86 4-Chlorotoluene | 126 | 12.132 | 12.129 | (0.937) | 1041350 | 200.000 | 210(A) |
| M | 94 Xylene (Total) | 106 | | | | 4589859 | 600.000 | 620 |
| | 87 tert-Butylbenzene | 119 | 12.497 | 12.503 | (0.965) | 2861027 | 200.000 | 210(A) |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.556 | 12.552 | (0.970) | 2958827 | 200.000 | 210(A) |
| | 89 sec-Butylbenzene | 105 | 12.753 | 12.749 | (0.985) | 3440473 | 200.000 | 220(A) |
| | 90 1,3-Dichlorobenzene | 146 | 12.871 | 12.877 | (0.994) | 1803413 | 200.000 | 210(A) |
| | 91 4-Isopropyltoluene | 119 | 12.920 | 12.917 | (0.998) | 2766956 | 200.000 | 220(A) |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.950 | 12.946 | (1.000) | 325633 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.979 | 12.976 | (1.002) | 1879695 | 200.000 | 210(A) |
| | 95 n-Butylbenzene | 91 | 13.383 | 13.389 | (1.033) | 2367580 | 200.000 | 210(A) |
| | 96 1,2-Dichlorobenzene | 146 | 13.393 | 13.399 | (1.034) | 1745610 | 200.000 | 210(A) |
| | 97 Hexachloroethane | 117 | 13.689 | 13.685 | (1.057) | 594555 | 200.000 | 220(A) |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.260 | 14.256 | (1.101) | 180035 | 200.000 | 200(A) |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.176 | 15.162 | (1.172) | 778741 | 200.000 | 210(A) |
| | 100 Hexachlorobutadiene | 225 | 15.363 | 15.350 | (1.186) | 208608 | 200.000 | 190 |
| | 101 Naphthalene | 128 | 15.432 | 15.418 | (1.192) | 2757907 | 200.000 | 210(A) |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.688 | 15.684 | (1.211) | 657006 | 200.000 | 200 |

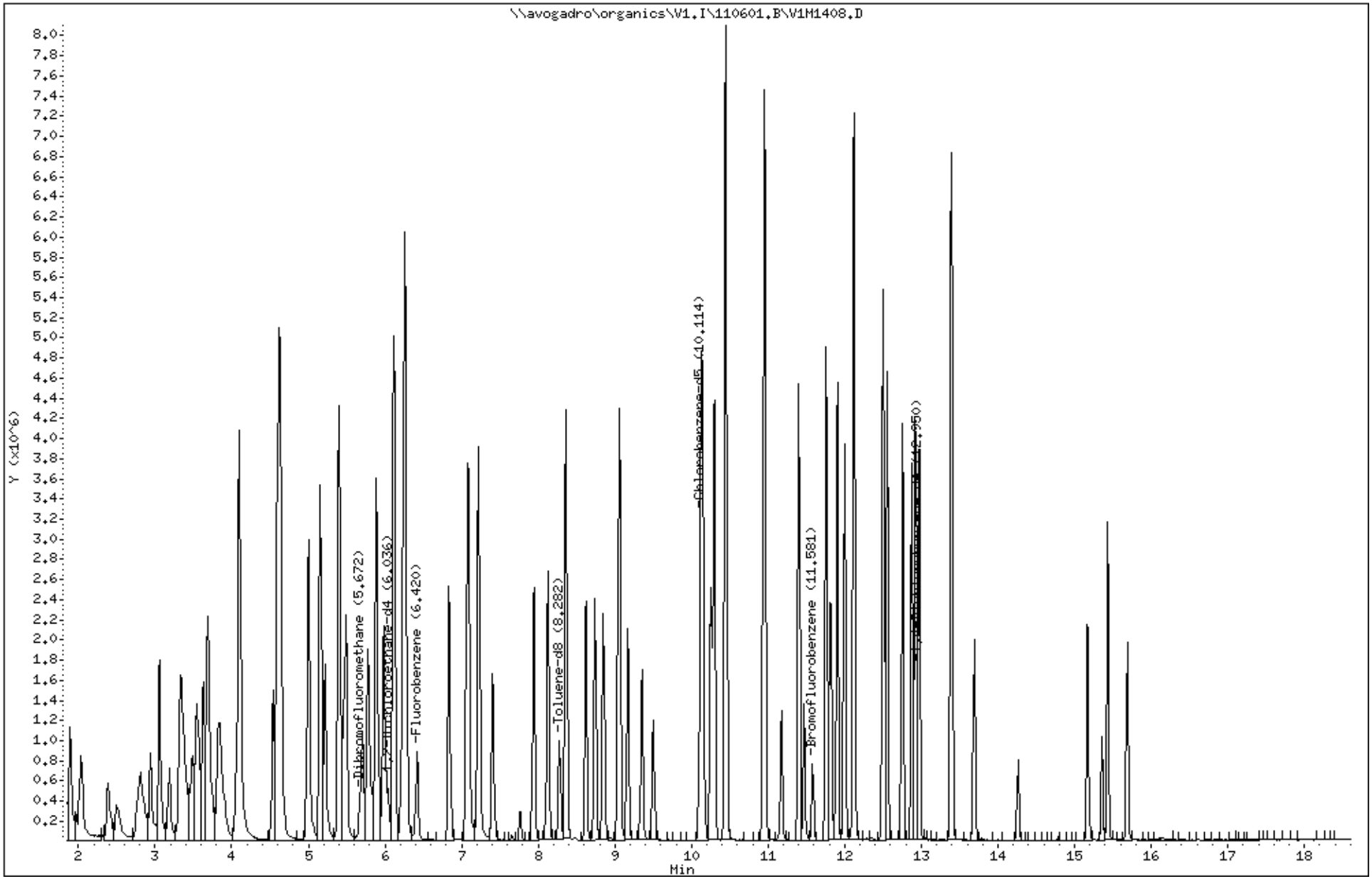
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\avogadro\organics\V1.I\110601.B\V1M1408.D
Date : 01-JUN-2011 13:50
Client ID: VSTD2001F
Sample Info: 5ML,VSTD2001F,VSTD2001F
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: SZ SRC: SZ
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110601.B\V1M1409.D
Report Date: 13-May-2011 11:06

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110601.B\V1M1409.D
Lab Smp Id: VSTD1001F  Client Smp ID: VSTD1001F
Inj Date  : 01-JUN-2011 14:22
Operator  : SZ  SRC: SZ  Inst ID: V1.i
Smp Info  : 5ML,VSTD1001F,VSTD1001F
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110601.B\v18260Gadd.m
Meth Date : 13-May-2011 11:04 vbrizard  Quant Type: ISTD
Cal Date  : 01-JUN-2011 14:22  Cal File: V1M1409.D
Als bottle: 33  Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.692 | 1.688 | (0.263) | 260320 | 100.000 | 93 |
| 2 Freon114 | 85 | 1.830 | 1.836 | (0.285) | 364581 | 100.000 | 110 |
| 3 Chloromethane | 50 | 1.889 | 1.895 | (0.294) | 747575 | 100.000 | 97 |
| 4 Vinyl Chloride | 62 | 2.018 | 2.023 | (0.314) | 541208 | 100.000 | 99 |
| 5 Bromomethane | 94 | 2.382 | 2.387 | (0.370) | 333141 | 100.000 | 94 |
| 6 Chloroethane | 64 | 2.500 | 2.496 | (0.389) | 311906 | 100.000 | 96 |
| 7 Trichlorofluoromethane | 101 | 2.766 | 2.762 | (0.430) | 451838 | 100.000 | 96 |
| 126 Ethanol | 46 | 2.934 | 2.949 | (0.456) | 551264 | 10000.0 | 16000(A) |
| 8 Ether | 59 | 3.052 | 3.067 | (0.475) | 549497 | 100.000 | 100 |
| 9 Acrolein | 56 | 3.180 | 3.185 | (0.495) | 379495 | 500.000 | 500(A) |
| 10 1,1-Dichloroethene | 96 | 3.327 | 3.323 | (0.518) | 476837 | 100.000 | 110 |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.327 | 3.333 | (0.518) | 408240 | 100.000 | 120 |
| 12 Acetone | 58 | 3.347 | 3.353 | (0.521) | 129889 | 100.000 | 99 |
| 13 Iodomethane | 142 | 3.485 | 3.491 | (0.542) | 828524 | 100.000 | 100 |
| 14 Carbon Disulfide | 76 | 3.554 | 3.550 | (0.553) | 1555042 | 100.000 | 98 |
| 15 Acetonitrile | 41 | 3.633 | 3.638 | (0.565) | 952311 | 1000.00 | 1100(A) |
| 16 Allyl Chloride | 39 | 3.672 | 3.678 | (0.571) | 620174 | 100.000 | 90 |
| 17 Methyl Acetate | 43 | 3.692 | 3.697 | (0.574) | 858864 | 100.000 | 100 |
| 19 tert-Butanol | 59 | 3.918 | 3.924 | (0.609) | 215866 | 200.000 | 260(A) |
| 18 Methylene Chloride | 84 | 3.830 | 3.835 | (0.596) | 510390 | 100.000 | 120 |
| 20 Acrylonitrile | 53 | 4.056 | 4.052 | (0.631) | 338659 | 100.000 | 110 |
| 21 trans-1,2-Dichloroethene | 96 | 4.096 | 4.101 | (0.637) | 505796 | 100.000 | 100 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1409.D
Report Date: 13-May-2011 11:06

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 22 Methyl tert-butyl ether | 73 | 4.096 | 4.101 | (0.637) | 1323152 | 100.000 | 100 |
| | 23 1,1-Dichloroethane | 63 | 4.539 | 4.545 | (0.706) | 921778 | 100.000 | 97 |
| | 24 Vinyl acetate | 43 | 4.588 | 4.594 | (0.714) | 3123551 | 100.000 | 100 |
| | 25 Diisopropyl Ether | 45 | 4.618 | 4.623 | (0.718) | 2718425 | 100.000 | 98 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.638 | 4.643 | (0.721) | 818472 | 100.000 | 97 |
| | 27 Ethyl tert-butyl ether | 59 | 5.002 | 5.007 | (0.778) | 1721070 | 100.000 | 99 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.150 | 5.155 | (0.801) | 532795 | 100.000 | 97 |
| | 29 2,2-Dichloropropane | 77 | 5.160 | 5.155 | (0.802) | 253899 | 100.000 | 86 |
| | 30 2-Butanone | 72 | 5.160 | 5.165 | (0.802) | 113826 | 100.000 | 110 |
| | 32 Propionitrile | 54 | 5.219 | 5.224 | (0.812) | 1258344 | 1000.00 | 1100(A) |
| | 33 Methacrylonitrile | 41 | 5.386 | 5.392 | (0.838) | 1253449 | 200.000 | 210(A) |
| | 34 Bromochloromethane | 128 | 5.406 | 5.411 | (0.841) | 311359 | 100.000 | 100 |
| | 31 Tetrahydrofuran | 72 | 5.465 | 5.470 | (0.850) | 164808 | 200.000 | 220(A) |
| | 35 Chloroform | 83 | 5.494 | 5.500 | (0.854) | 766000 | 100.000 | 97 |
| $ | 36 Dibromofluoromethane | 113 | 5.672 | 5.667 | (0.882) | 262302 | 50.0000 | 48 |
| | 37 1,1,1-Trichloroethane | 97 | 5.711 | 5.707 | (0.888) | 443950 | 100.000 | 94 |
| | 38 Cyclohexane | 56 | 5.780 | 5.776 | (0.899) | 851431 | 100.000 | 100 |
| | 39 1,1-Dichloropropene | 110 | 5.888 | 5.894 | (0.916) | 225622 | 100.000 | 96 |
| | 40 Carbon Tetrachloride | 117 | 5.898 | 5.894 | (0.917) | 424103 | 100.000 | 91 |
| | 41 Isobutyl Alcohol | 43 | 5.987 | 5.992 | (0.931) | 1203130 | 2000.00 | 2600(A) |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.042 | (0.940) | 59261 | 50.0000 | 51 |
| | 43 Benzene | 78 | 6.115 | 6.120 | (0.951) | 1768610 | 100.000 | 98 |
| | 44 1,2-Dichloroethane | 62 | 6.125 | 6.130 | (0.953) | 580282 | 100.000 | 95 |
| | 45 tert-Amyl methyl ether | 73 | 6.233 | 6.239 | (0.969) | 1259799 | 100.000 | 97 |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 1038591 | 200.000 | 200 |
| * | 46 Fluorobenzene | 96 | 6.430 | 6.426 | (1.000) | 923829 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.844 | 6.839 | (1.064) | 514990 | 100.000 | 95 |
| | 48 Methylcyclohexane | 83 | 7.080 | 7.076 | (1.101) | 543814 | 100.000 | 98 |
| | 49 1,2-Dichloropropane | 63 | 7.100 | 7.096 | (1.104) | 571578 | 100.000 | 99 |
| | 51 Methyl Methacrylate | 69 | 7.218 | 7.224 | (1.123) | 474171 | 100.000 | 100 |
| | 52 Dibromomethane | 93 | 7.228 | 7.224 | (1.124) | 351991 | 100.000 | 100 |
| | 53 1,4-Dioxane | 88 | 7.248 | 7.243 | (1.127) | 147943 | 2000.00 | 2700(A) |
| | 54 Bromodichloromethane | 83 | 7.405 | 7.401 | (1.152) | 568751 | 100.000 | 98 |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.760 | 7.765 | (1.207) | 67837 | 100.000 | 110 |
| | 56 cis-1,3-Dichloropropene | 75 | 7.947 | 7.943 | (1.236) | 806696 | 100.000 | 100 |
| | 57 4-Methyl-2-pentanone | 43 | 8.124 | 8.120 | (1.263) | 1454548 | 100.000 | 100 |
| $ | 58 Toluene-d8 | 98 | 8.282 | 8.278 | (0.819) | 789891 | 50.0000 | 51 |
| | 59 Toluene | 91 | 8.361 | 8.356 | (1.300) | 1818650 | 100.000 | 99 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.617 | 8.622 | (1.340) | 699590 | 100.000 | 99 |
| | 61 Ethyl Methacrylate | 69 | 8.735 | 8.740 | (1.358) | 662508 | 100.000 | 110 |
| | 62 1,1,2-Trichloroethane | 97 | 8.853 | 8.849 | (1.377) | 459978 | 100.000 | 100 |
| | 63 Tetrachloroethene | 164 | 9.050 | 9.046 | (0.895) | 347436 | 100.000 | 100 |
| | 64 1,3-Dichloropropane | 76 | 9.060 | 9.066 | (0.896) | 762339 | 100.000 | 100 |
| | 65 2-Hexanone | 43 | 9.168 | 9.174 | (0.907) | 1069438 | 100.000 | 110 |
| | 66 Dibromochloromethane | 129 | 9.346 | 9.351 | (0.924) | 551434 | 100.000 | 100 |
| | 67 1,2-Dibromoethane | 107 | 9.503 | 9.499 | (0.940) | 544962 | 100.000 | 100 |
| | 69 1-Chlorohexane | 91 | 10.124 | 10.119 | (1.001) | 571543 | 100.000 | 100 |
| * | 68 Chlorobenzene-d5 | 117 | 10.114 | 10.110 | (1.000) | 670204 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.143 | 10.149 | (1.003) | 1250534 | 100.000 | 100 |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.252 | 10.257 | (1.014) | 475994 | 100.000 | 100 |
| | 72 Ethylbenzene | 106 | 10.291 | 10.297 | (1.018) | 628132 | 100.000 | 100 |
| | 73 m,p-Xylene | 106 | 10.439 | 10.444 | (1.032) | 1538702 | 200.000 | 200 |
| | 74 o-Xylene | 106 | 10.941 | 10.947 | (1.082) | 757342 | 100.000 | 100 |
| | 75 Styrene | 104 | 10.961 | 10.957 | (1.084) | 1314973 | 100.000 | 100 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1409.D
Report Date: 13-May-2011 11:06

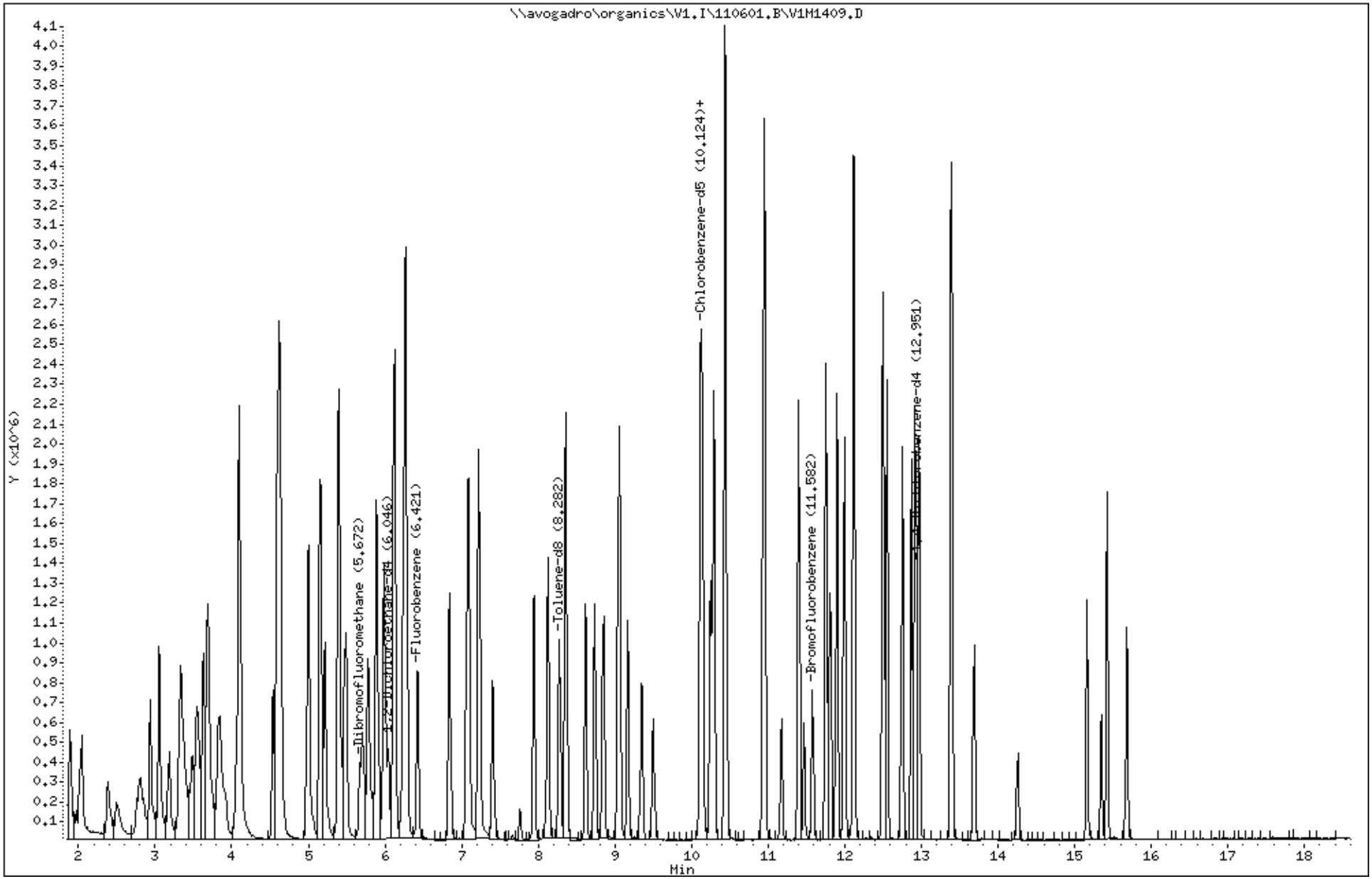
| | | | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|
| | | QUANT SIG | | | | | CAL-AMT | ON-COL |
| | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | ( ug/L) | ( ug/L) |
| | 76 Bromoform | 173 | 11.178 | 11.173 | (1.105) | 349919 | 100.000 | 110 |
| | 77 Isopropylbenzene | 105 | 11.404 | 11.400 | (1.128) | 1781278 | 100.000 | 100 |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.473 | 11.469 | (1.134) | 173381 | 100.000 | 120 |
| $ | 79 Bromofluorobenzene | 95 | 11.581 | 11.577 | (1.145) | 323625 | 50.0000 | 49 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.749 | 11.754 | (0.907) | 680874 | 100.000 | 110 |
| | 81 Bromobenzene | 156 | 11.759 | 11.764 | (0.908) | 507439 | 100.000 | 100 |
| | 82 1,2,3-Trichloropropane | 75 | 11.808 | 11.804 | (0.912) | 715391 | 100.000 | 110 |
| | 83 n-Propylbenzene | 120 | 11.897 | 11.902 | (0.919) | 473088 | 100.000 | 100 |
| | 84 2-Chlorotoluene | 126 | 11.995 | 12.001 | (0.926) | 487675 | 100.000 | 100 |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.113 | 12.109 | (0.935) | 1389618 | 100.000 | 100 |
| | 86 4-Chlorotoluene | 126 | 12.123 | 12.129 | (0.936) | 497578 | 100.000 | 100 |
| M | 94 Xylene (Total) | 106 | | | | 2296044 | 300.000 | 300 |
| | 87 tert-Butylbenzene | 119 | 12.497 | 12.503 | (0.965) | 1411264 | 100.000 | 100 |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.547 | 12.552 | (0.969) | 1448181 | 100.000 | 100 |
| | 89 sec-Butylbenzene | 105 | 12.754 | 12.749 | (0.985) | 1631334 | 100.000 | 100 |
| | 90 1,3-Dichlorobenzene | 146 | 12.872 | 12.877 | (0.994) | 904238 | 100.000 | 100 |
| | 91 4-Isopropyltoluene | 119 | 12.921 | 12.917 | (0.998) | 1347714 | 100.000 | 100 |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.951 | 12.946 | (1.000) | 326572 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.970 | 12.976 | (1.002) | 924680 | 100.000 | 100 |
| | 95 n-Butylbenzene | 91 | 13.384 | 13.389 | (1.033) | 1171807 | 100.000 | 100 |
| | 96 1,2-Dichlorobenzene | 146 | 13.394 | 13.399 | (1.034) | 851653 | 100.000 | 100 |
| | 97 Hexachloroethane | 117 | 13.689 | 13.685 | (1.057) | 293971 | 100.000 | 100 |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.261 | 14.256 | (1.101) | 93641 | 100.000 | 100 |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.167 | 15.162 | (1.171) | 406340 | 100.000 | 110 |
| | 100 Hexachlorobutadiene | 225 | 15.354 | 15.350 | (1.186) | 122113 | 100.000 | 110 |
| | 101 Naphthalene | 128 | 15.423 | 15.418 | (1.191) | 1558863 | 100.000 | 110 |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.679 | 15.684 | (1.211) | 356538 | 100.000 | 110 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.

Data File: \\avogadro\organics\V1.I\110601.B\V1M1409.D
Date : 01-JUN-2011 14:22
Client ID: VSTD1001F
Sample Info: 5ML,VSTD1001F,VSTD1001F
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i
Operator: SZ SRC: SZ
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1633.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1633.D
Lab Smp Id: VSTD0201P  Client Smp ID: VSTD0201P
Inj Date : 22-JUN-2011 09:07
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0201P,VSTD0201P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 09:07  Cal File: V1M1633.D
Als bottle: 29  Calibration Sample, Level: 2
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.693 | 1.697 | (0.264) | 38085 | 20.0000 | 0.4(a) |
| 2 Chloromethane | 50 | 1.890 | 1.894 | (0.294) | 124633 | 20.0000 | 4(a) |
| 3 Vinyl Chloride | 62 | 2.018 | 2.022 | (0.314) | 87344 | 20.0000 | 2(a) |
| 4 Bromomethane | 94 | 2.383 | 2.387 | (0.371) | 51137 | 20.0000 | 0.7(a) |
| 5 Chloroethane | 64 | 2.501 | 2.505 | (0.390) | 52952 | 20.0000 | 0.7(a) |
| 6 Trichlorofluoromethane | 101 | 2.777 | 2.771 | (0.432) | 63632 | 20.0000 | 1(a) |
| 7 Ether | 59 | 3.072 | 3.057 | (0.478) | 75429 | 20.0000 | 1 |
| 8 Acrolein | 56 | 3.200 | 3.185 | (0.498) | 99433 | 100.000 | 0.5(a) |
| 9 1,1-Dichloroethene | 96 | 3.318 | 3.313 | (0.517) | 64544 | 20.0000 | 1(a) |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.348 | 3.323 | (0.521) | 66687 | 20.0000 | 1 |
| 11 Acetone | 58 | 3.358 | 3.352 | (0.523) | 8545 | 20.0000 | 0.02(aQ) |
| 12 Iodomethane | 142 | 3.486 | 3.480 | (0.543) | 136085 | 20.0000 | 5 |
| 13 Carbon Disulfide | 76 | 3.555 | 3.539 | (0.554) | 258409 | 20.0000 | 18 |
| 14 Acetonitrile | 40 | 3.683 | 3.638 | (0.574) | 76727 | 200.000 | 0.2(aQ) |
| 15 Methyl Acetate | 43 | 3.712 | 3.697 | (0.578) | 86731 | 20.0000 | 2 |
| 16 Methylene Chloride | 84 | 3.811 | 3.805 | (0.594) | 82263 | 20.0000 | 2(a) |
| 17 tert-Butanol | 59 | 3.929 | 3.914 | (0.612) | 13875 | 40.0000 | 0.02(a) |
| 18 Acrylonitrile | 53 | 4.067 | 4.051 | (0.633) | 29578 | 20.0000 | 0.2(a) |
| 20 Methyl tert-butyl ether | 73 | 4.106 | 4.101 | (0.640) | 154598 | 20.0000 | 6 |
| 19 trans-1,2-Dichloroethene | 96 | 4.106 | 4.101 | (0.640) | 77544 | 20.0000 | 2(a) |
| 21 1,1-Dichloroethane | 63 | 4.540 | 4.534 | (0.707) | 148222 | 20.0000 | 6 |
| 22 Vinyl acetate | 43 | 4.599 | 4.583 | (0.716) | 426114 | 20.0000 | 46 |
| 23 Diisopropyl Ether | 45 | 4.619 | 4.613 | (0.719) | 438725 | 20.0000 | 50 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1633.D
Report Date: 24-May-2011 14:51

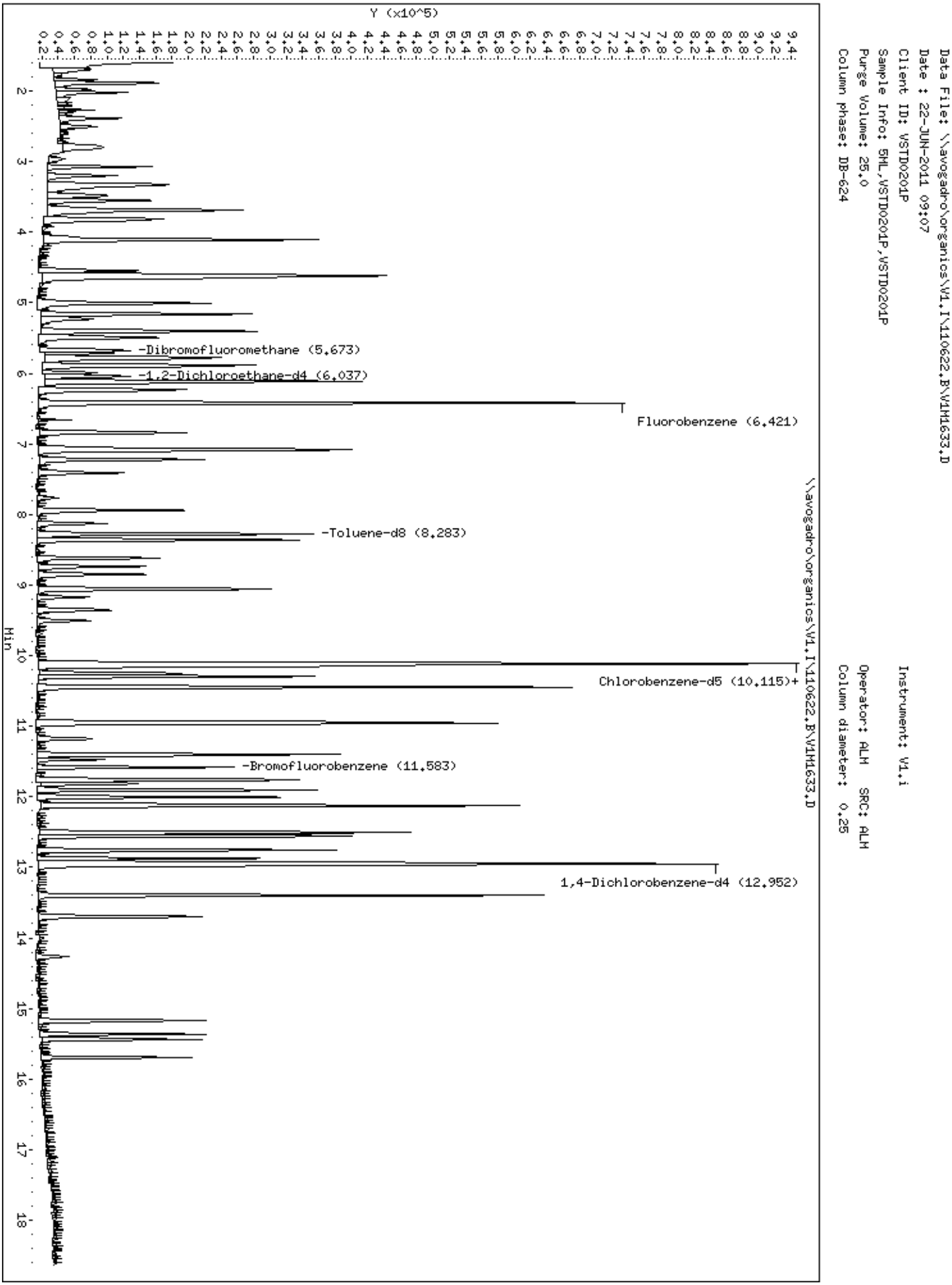
| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.003 | 4.997 | (0.779) | 228586 | 20.0000 | 14 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 154830 | 40.0000 | 3 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.160 | 5.155 | (0.804) | 77286 | 20.0000 | 2(a) |
| | 26 | 2,2-Dichloropropane | 77 | 5.160 | 5.155 | (0.804) | 47567 | 20.0000 | 0.6(a) |
| | 28 | 2-Butanone | 72 | 5.170 | 5.155 | (0.805) | 7515 | 20.0000 | 0.01(aQ) |
| | 29 | Bromochloromethane | 128 | 5.416 | 5.401 | (0.844) | 37861 | 20.0000 | 0.4(aQ) |
| | 30 | Tetrahydrofuran | 72 | 5.475 | 5.460 | (0.853) | 14587 | 40.0000 | 0.03(a) |
| | 31 | Chloroform | 83 | 5.495 | 5.490 | (0.856) | 102664 | 20.0000 | 3(a) |
| $ | 32 | Dibromofluoromethane | 113 | 5.672 | 5.667 | (0.883) | 76280 | 20.0000 | 1 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.712 | 5.706 | (0.890) | 66074 | 20.0000 | 1(a) |
| | 34 | Cyclohexane | 56 | 5.781 | 5.775 | (0.900) | 159818 | 20.0000 | 7 |
| | 36 | Carbon Tetrachloride | 117 | 5.889 | 5.883 | (0.917) | 65408 | 20.0000 | 1(a) |
| | 35 | 1,1-Dichloropropene | 110 | 5.889 | 5.883 | (0.917) | 32102 | 20.0000 | 0.3(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.037 | 6.031 | (0.940) | 19200 | 20.0000 | 0.08(a) |
| | 38 | Benzene | 78 | 6.116 | 6.110 | (0.952) | 273099 | 20.0000 | 20 |
| | 39 | 1,2-Dichloroethane | 62 | 6.126 | 6.120 | (0.954) | 78499 | 20.0000 | 2(a) |
| | 40 | tert-Amyl methyl ether | 73 | 6.234 | 6.228 | (0.971) | 156259 | 20.0000 | 6 |
| * | 41 | Fluorobenzene | 96 | 6.421 | 6.415 | (1.000) | 711809 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.845 | 6.829 | (1.066) | 78019 | 20.0000 | 2(a) |
| | 43 | Methylcyclohexane | 83 | 7.071 | 7.065 | (1.101) | 117830 | 20.0000 | 4 |
| | 44 | 1,2-Dichloropropane | 63 | 7.091 | 7.085 | (1.104) | 90331 | 20.0000 | 2(a) |
| | 46 | Dibromomethane | 93 | 7.229 | 7.223 | (1.126) | 39750 | 20.0000 | 0.4(a) |
| | 47 | 1,4-Dioxane | 88 | 7.248 | 7.243 | (1.129) | 9661 | 400.000 | 0.001(a) |
| | 48 | Bromodichloromethane | 83 | 7.406 | 7.400 | (1.153) | 72945 | 20.0000 | 1(a) |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.761 | 7.765 | (1.209) | 11385 | 20.0000 | 0.03(aQ) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.948 | 7.942 | (1.238) | 116213 | 20.0000 | 3(a) |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.125 | 8.129 | (1.265) | 95075 | 20.0000 | 2(a) |
| $ | 51 | Toluene-d8 | 98 | 8.283 | 8.277 | (0.819) | 255200 | 20.0000 | 33 |
| | 52 | Toluene | 91 | 8.361 | 8.366 | (1.302) | 275270 | 20.0000 | 20 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.627 | 8.622 | (1.344) | 90436 | 20.0000 | 2(a) |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.844 | 8.858 | (1.377) | 52492 | 20.0000 | 0.7(a) |
| | 55 | Tetrachloroethene | 164 | 9.051 | 9.055 | (0.895) | 52362 | 20.0000 | 2(a) |
| | 56 | 1,3-Dichloropropane | 76 | 9.061 | 9.065 | (0.896) | 96383 | 20.0000 | 5 |
| | 57 | 2-Hexanone | 43 | 9.169 | 9.173 | (0.907) | 64790 | 20.0000 | 2(a) |
| | 58 | Dibromochloromethane | 129 | 9.356 | 9.360 | (0.925) | 62364 | 20.0000 | 2(a) |
| | 59 | 1,2-Dibromoethane | 107 | 9.504 | 9.508 | (0.940) | 58670 | 20.0000 | 2(a) |
| * | 60 | Chlorobenzene-d5 | 117 | 10.115 | 10.119 | (1.000) | 485760 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.124 | 10.129 | (1.001) | 95605 | 20.0000 | 5(Q) |
| | 61 | Chlorobenzene | 112 | 10.154 | 10.158 | (1.004) | 185321 | 20.0000 | 19 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.252 | 10.257 | (1.014) | 59962 | 20.0000 | 2(a) |
| | 64 | Ethylbenzene | 106 | 10.292 | 10.306 | (1.018) | 87256 | 20.0000 | 4(aQ) |
| | 65 | m,p-Xylene | 106 | 10.449 | 10.454 | (1.033) | 228232 | 40.0000 | 14 |
| | 66 | o-Xylene | 106 | 10.942 | 10.946 | (1.082) | 110555 | 20.0000 | 6 |
| | 67 | Styrene | 104 | 10.962 | 10.966 | (1.084) | 186278 | 20.0000 | 19 |
| | 68 | Bromoform | 173 | 11.178 | 11.183 | (1.105) | 37515 | 20.0000 | 0.8(a) |
| | 69 | Isopropylbenzene | 105 | 11.405 | 11.409 | (1.128) | 275108 | 20.0000 | 40 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.474 | 11.478 | (1.134) | 24067 | 20.0000 | 0.3(a) |
| $ | 70 | Bromofluorobenzene | 95 | 11.582 | 11.586 | (1.145) | 98567 | 20.0000 | 5 |
| | 72 | Bromobenzene | 156 | 11.759 | 11.774 | (0.908) | 72569 | 20.0000 | 13 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.750 | 11.764 | (0.907) | 68430 | 20.0000 | 12 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.809 | 11.813 | (0.912) | 73883 | 20.0000 | 14 |
| | 74 | n-Propylbenzene | 120 | 11.907 | 11.911 | (0.919) | 70268 | 20.0000 | 13(Q) |
| | 75 | 2-Chlorotoluene | 126 | 12.006 | 12.010 | (0.927) | 69872 | 20.0000 | 13 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.114 | 12.118 | (0.935) | 225879 | 20.0000 | 120 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1633.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.134 | 12.138 | (0.937) | 72716 | 20.0000 | 13 |
| | 78 tert-Butylbenzene | 119 | 12.498 | 12.502 | (0.965) | 226395 | 20.0000 | 130 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.557 | 12.562 | (0.970) | 223889 | 20.0000 | 120 |
| M | 81 Xylene (Total) | 106 | | | | 338787 | 60.0000 | 20 |
| | 80 sec-Butylbenzene | 105 | 12.754 | 12.759 | (0.985) | 306148 | 20.0000 | 240(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.882 | 12.877 | (0.995) | 140650 | 20.0000 | 50 |
| | 83 4-Isopropyltoluene | 119 | 12.922 | 12.926 | (0.998) | 246009 | 20.0000 | 150 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.951 | 12.956 | (1.000) | 221914 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.981 | 12.985 | (1.002) | 141012 | 20.0000 | 51 |
| | 86 n-Butylbenzene | 91 | 13.395 | 13.399 | (1.034) | 230358 | 20.0000 | 130 |
| | 87 1,2-Dichlorobenzene | 146 | 13.404 | 13.409 | (1.035) | 133460 | 20.0000 | 43 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.261 | 14.266 | (1.101) | 7953 | 20.0000 | 0.2(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.177 | 15.182 | (1.172) | 79555 | 20.0000 | 15 |
| | 90 Hexachlorobutadiene | 225 | 15.364 | 15.369 | (1.186) | 43261 | 20.0000 | 4(aQ) |
| | 91 Naphthalene | 128 | 15.433 | 15.438 | (1.192) | 166948 | 20.0000 | 71 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.699 | 15.694 | (1.212) | 65530 | 20.0000 | 11 |

## QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.


Data File: \\avogadro\organics\V1.I\110622.B\V1M1633.D
Date : 22-JUN-2011 09:07
Client ID: VSTD0201P
Sample Info: 5ML,VSTD0201P,VSTD0201P
Purge Volume: 25.0
Column phase: DB-624
Instrument: V1.i
Operator: ALM SRC: ALM
Column diameter: 0.25
Y (x10^5)
Min
-Dibromofluoromethane (5.673)
-1,2-Dichloroethane-d4 (6.037)
Fluorobenzene (6.421)
-Toluene-d8 (8.283)
Chlorobenzene-d5 (10.115)+
-Bromofluorobenzene (11.583)
1,4-Dichlorobenzene-d4 (12.952)
\\avogadro\organics\V1.I\110622.B\V1M1633.D

Data File: \\avogadro\organics\V1.I\110622.B\V1M1634.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1634.D
Lab Smp Id: VSTD0501P  Client Smp ID: VSTD0501P
Inj Date : 22-JUN-2011 09:34
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0501P,VSTD0501P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 09:34  Cal File: V1M1634.D
Als bottle: 30  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.701 | 1.697 | (0.265) | 121469 | 50.0000 | 1(a) |
| 2 Chloromethane | 50 | 1.888 | 1.894 | (0.294) | 354704 | 50.0000 | 13 |
| 3 Vinyl Chloride | 62 | 2.017 | 2.022 | (0.314) | 245744 | 50.0000 | 6 |
| 4 Bromomethane | 94 | 2.381 | 2.387 | (0.371) | 140330 | 50.0000 | 2(a) |
| 5 Chloroethane | 64 | 2.499 | 2.505 | (0.389) | 145118 | 50.0000 | 2(a) |
| 6 Trichlorofluoromethane | 101 | 2.775 | 2.771 | (0.432) | 187888 | 50.0000 | 4(a) |
| 7 Ether | 59 | 3.070 | 3.057 | (0.478) | 211958 | 50.0000 | 4(Q) |
| 8 Acrolein | 56 | 3.198 | 3.185 | (0.498) | 260752 | 250.000 | 1 |
| 9 1,1-Dichloroethene | 96 | 3.317 | 3.313 | (0.517) | 189761 | 50.0000 | 4(a) |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.336 | 3.323 | (0.520) | 199716 | 50.0000 | 4 |
| 11 Acetone | 58 | 3.356 | 3.352 | (0.523) | 23229 | 50.0000 | 0.06(aQ) |
| 12 Iodomethane | 142 | 3.484 | 3.480 | (0.543) | 403869 | 50.0000 | 15 |
| 13 Carbon Disulfide | 76 | 3.553 | 3.539 | (0.554) | 752965 | 50.0000 | 57 |
| 14 Acetonitrile | 40 | 3.652 | 3.638 | (0.569) | 253654 | 500.000 | 0.6(aQ) |
| 15 Methyl Acetate | 43 | 3.711 | 3.697 | (0.578) | 228454 | 50.0000 | 5 |
| 16 Methylene Chloride | 84 | 3.819 | 3.805 | (0.595) | 220684 | 50.0000 | 5 |
| 17 tert-Butanol | 59 | 3.927 | 3.914 | (0.612) | 43696 | 100.000 | 0.09(a) |
| 18 Acrylonitrile | 53 | 4.065 | 4.051 | (0.633) | 86718 | 50.0000 | 0.8(a) |
| 20 Methyl tert-butyl ether | 73 | 4.105 | 4.101 | (0.639) | 415979 | 50.0000 | 18 |
| 19 trans-1,2-Dichloroethene | 96 | 4.105 | 4.101 | (0.639) | 202886 | 50.0000 | 4(a) |
| 21 1,1-Dichloroethane | 63 | 4.548 | 4.534 | (0.708) | 410936 | 50.0000 | 18 |
| 22 Vinyl acetate | 43 | 4.597 | 4.583 | (0.716) | 1180817 | 50.0000 | 140 |
| 23 Diisopropyl Ether | 45 | 4.627 | 4.613 | (0.721) | 1255034 | 50.0000 | 160 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1634.D
Report Date: 24-May-2011 14:51

| | | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 24 Ethyl tert-butyl ether | 59 | 5.011 | 4.997 | (0.781) | 636928 | 50.0000 | 42 |
| M | 27 1,2-dichloroethene, (Total) | 100 | | | | 424146 | 100.000 | 9 |
| | 25 cis-1,2-Dichloroethene | 96 | 5.159 | 5.155 | (0.804) | 221260 | 50.0000 | 5 |
| | 26 2,2-Dichloropropane | 77 | 5.168 | 5.155 | (0.805) | 127485 | 50.0000 | 2(a) |
| | 28 2-Butanone | 72 | 5.168 | 5.155 | (0.805) | 21227 | 50.0000 | 0.04(aQ) |
| | 29 Bromochloromethane | 128 | 5.415 | 5.401 | (0.844) | 117463 | 50.0000 | 1(a) |
| | 30 Tetrahydrofuran | 72 | 5.474 | 5.460 | (0.853) | 41212 | 100.000 | 0.09(a) |
| | 31 Chloroform | 83 | 5.503 | 5.490 | (0.857) | 295841 | 50.0000 | 9 |
| $ | 32 Dibromofluoromethane | 113 | 5.671 | 5.667 | (0.883) | 188470 | 50.0000 | 4 |
| | 33 1,1,1-Trichloroethane | 97 | 5.710 | 5.706 | (0.890) | 189008 | 50.0000 | 4(a) |
| | 34 Cyclohexane | 56 | 5.779 | 5.775 | (0.900) | 471312 | 50.0000 | 22 |
| | 36 Carbon Tetrachloride | 117 | 5.897 | 5.883 | (0.919) | 189407 | 50.0000 | 4(a) |
| | 35 1,1-Dichloropropene | 110 | 5.887 | 5.883 | (0.917) | 94812 | 50.0000 | 0.9(a) |
| $ | 37 1,2-Dichloroethane-d4 | 102 | 6.035 | 6.031 | (0.940) | 46871 | 50.0000 | 0.2(a) |
| | 38 Benzene | 78 | 6.114 | 6.110 | (0.952) | 793283 | 50.0000 | 64 |
| | 39 1,2-Dichloroethane | 62 | 6.124 | 6.120 | (0.954) | 214324 | 50.0000 | 5 |
| | 40 tert-Amyl methyl ether | 73 | 6.232 | 6.228 | (0.971) | 441443 | 50.0000 | 20 |
| * | 41 Fluorobenzene | 96 | 6.419 | 6.415 | (1.000) | 644858 | 50.0000 | |
| | 42 Trichloroethene | 130 | 6.833 | 6.829 | (1.064) | 208050 | 50.0000 | 5 |
| | 43 Methylcyclohexane | 83 | 7.069 | 7.065 | (1.101) | 339106 | 50.0000 | 11 |
| | 44 1,2-Dichloropropane | 63 | 7.089 | 7.085 | (1.104) | 256725 | 50.0000 | 7 |
| | 46 Dibromomethane | 93 | 7.227 | 7.223 | (1.126) | 112024 | 50.0000 | 1(a) |
| | 47 1,4-Dioxane | 88 | 7.247 | 7.243 | (1.129) | 32448 | 1000.00 | 0.005(a) |
| | 48 Bromodichloromethane | 83 | 7.404 | 7.400 | (1.153) | 213859 | 50.0000 | 5 |
| | 45 2-Chloroethyl vinyl ether | 63 | 7.769 | 7.765 | (1.210) | 28807 | 50.0000 | 0.09(aQ) |
| | 49 cis-1,3-Dichloropropene | 75 | 7.946 | 7.942 | (1.238) | 320103 | 50.0000 | 10 |
| | 50 4-Methyl-2-pentanone | 43 | 8.123 | 8.129 | (1.265) | 255042 | 50.0000 | 7 |
| $ | 51 Toluene-d8 | 98 | 8.281 | 8.277 | (0.819) | 652770 | 50.0000 | 83 |
| | 52 Toluene | 91 | 8.360 | 8.366 | (1.302) | 784810 | 50.0000 | 62 |
| | 53 trans-1,3-Dichloropropene | 75 | 8.626 | 8.622 | (1.344) | 243523 | 50.0000 | 6 |
| | 54 1,1,2-Trichloroethane | 97 | 8.852 | 8.858 | (1.379) | 146597 | 50.0000 | 2(a) |
| | 55 Tetrachloroethene | 164 | 9.049 | 9.055 | (0.895) | 151764 | 50.0000 | 4(a) |
| | 56 1,3-Dichloropropane | 76 | 9.069 | 9.065 | (0.897) | 258633 | 50.0000 | 13 |
| | 57 2-Hexanone | 43 | 9.167 | 9.173 | (0.907) | 174774 | 50.0000 | 6 |
| | 58 Dibromochloromethane | 129 | 9.354 | 9.360 | (0.925) | 179963 | 50.0000 | 6 |
| | 59 1,2-Dibromoethane | 107 | 9.502 | 9.508 | (0.940) | 155545 | 50.0000 | 5 |
| * | 60 Chlorobenzene-d5 | 117 | 10.113 | 10.119 | (1.000) | 488319 | 50.0000 | |
| | 63 1-Chlorohexane | 91 | 10.123 | 10.129 | (1.001) | 273666 | 50.0000 | 14(Q) |
| | 61 Chlorobenzene | 112 | 10.152 | 10.158 | (1.004) | 508525 | 50.0000 | 51 |
| | 62 1,1,1,2-Tetrachloroethane | 131 | 10.251 | 10.257 | (1.014) | 171414 | 50.0000 | 6 |
| | 64 Ethylbenzene | 106 | 10.300 | 10.306 | (1.019) | 260370 | 50.0000 | 13(Q) |
| | 65 m,p-Xylene | 106 | 10.448 | 10.454 | (1.033) | 636614 | 100.000 | 39 |
| | 66 o-Xylene | 106 | 10.950 | 10.946 | (1.083) | 299003 | 50.0000 | 18 |
| | 67 Styrene | 104 | 10.960 | 10.966 | (1.084) | 531557 | 50.0000 | 54 |
| | 68 Bromoform | 173 | 11.177 | 11.183 | (1.105) | 105393 | 50.0000 | 2(a) |
| | 69 Isopropylbenzene | 105 | 11.403 | 11.409 | (1.128) | 772256 | 50.0000 | 110 |
| | 126 trans-1,4-Dichloro-2-butene | 75 | 11.482 | 11.478 | (1.135) | 69934 | 50.0000 | 0.9(a) |
| $ | 70 Bromofluorobenzene | 95 | 11.580 | 11.586 | (1.145) | 243459 | 50.0000 | 12 |
| | 72 Bromobenzene | 156 | 11.768 | 11.774 | (0.908) | 204291 | 50.0000 | 36(Q) |
| | 71 1,1,2,2-Tetrachloroethane | 83 | 11.758 | 11.764 | (0.907) | 196259 | 50.0000 | 33 |
| | 73 1,2,3-Trichloropropane | 75 | 11.817 | 11.813 | (0.912) | 211132 | 50.0000 | 40 |
| | 74 n-Propylbenzene | 120 | 11.905 | 11.911 | (0.919) | 205996 | 50.0000 | 37(Q) |
| | 75 2-Chlorotoluene | 126 | 12.004 | 12.010 | (0.926) | 205264 | 50.0000 | 36 |
| | 76 1,3,5-Trimethylbenzene | 105 | 12.122 | 12.118 | (0.935) | 621434 | 50.0000 | 340(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1634.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.132 | 12.138 | (0.936) | 202351 | 50.0000 | 36 |
| | 78 tert-Butylbenzene | 119 | 12.506 | 12.502 | (0.965) | 648763 | 50.0000 | 360(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.556 | 12.562 | (0.969) | 624455 | 50.0000 | 340(A) |
| M | 81 Xylene (Total) | 106 | | | | 935617 | 150.000 | 56 |
| | 80 sec-Butylbenzene | 105 | 12.762 | 12.759 | (0.985) | 868722 | 50.0000 | 650(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.881 | 12.877 | (0.994) | 384487 | 50.0000 | 130 |
| | 83 4-Isopropyltoluene | 119 | 12.930 | 12.926 | (0.998) | 680998 | 50.0000 | 400(A) |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.959 | 12.956 | (1.000) | 228539 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.979 | 12.985 | (1.002) | 391754 | 50.0000 | 140 |
| | 86 n-Butylbenzene | 91 | 13.393 | 13.399 | (1.033) | 653253 | 50.0000 | 370(A) |
| | 87 1,2-Dichlorobenzene | 146 | 13.403 | 13.409 | (1.034) | 346892 | 50.0000 | 110 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.260 | 14.266 | (1.100) | 24087 | 50.0000 | 0.5(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.176 | 15.182 | (1.171) | 200538 | 50.0000 | 37 |
| | 90 Hexachlorobutadiene | 225 | 15.363 | 15.369 | (1.185) | 106899 | 50.0000 | 10(Q) |
| | 91 Naphthalene | 128 | 15.432 | 15.438 | (1.191) | 455773 | 50.0000 | 190 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.688 | 15.694 | (1.211) | 181944 | 50.0000 | 30 |

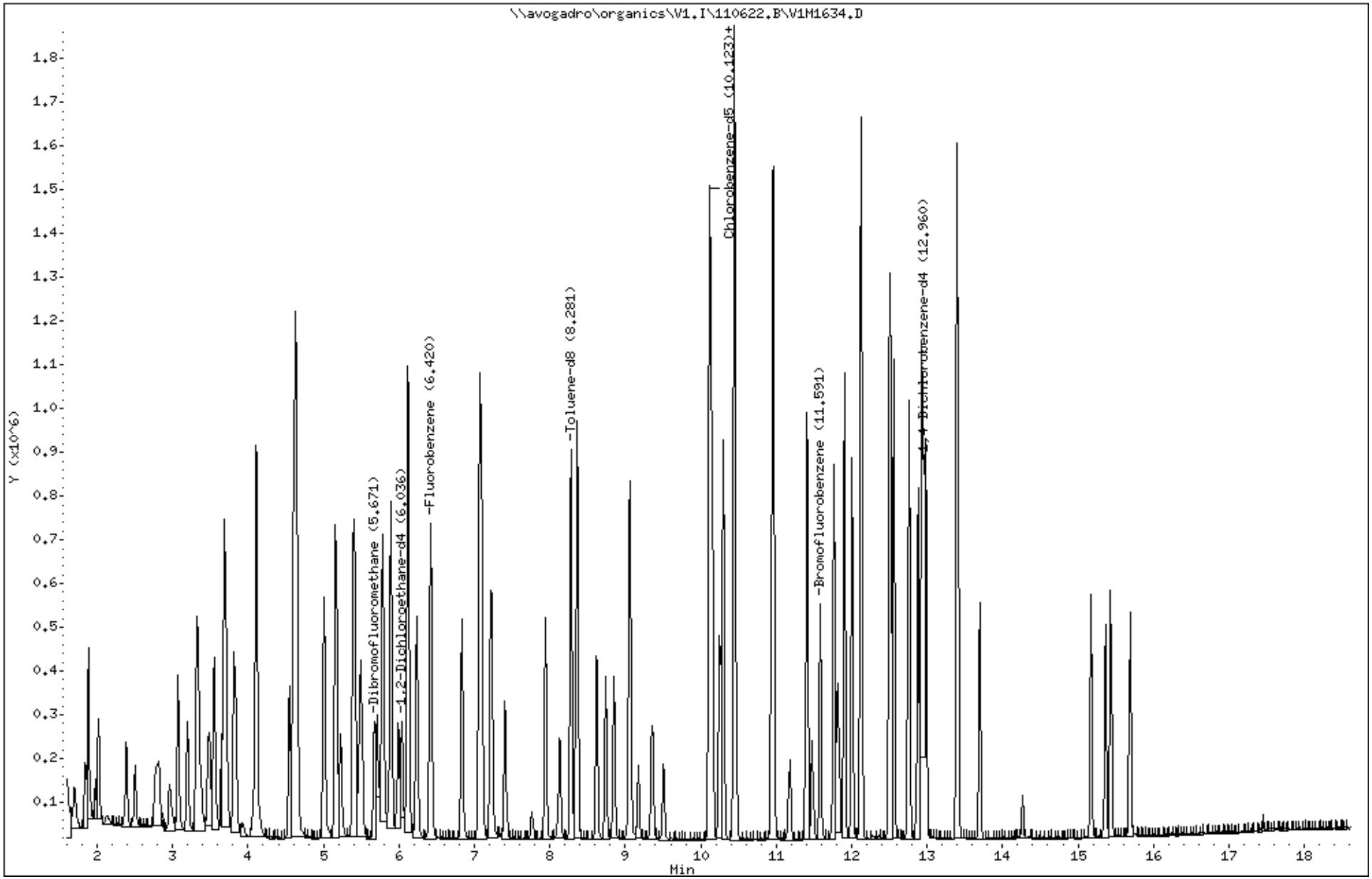
## QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110622.B\V1M1634.D
Date : 22-JUN-2011 09:34
Client ID: VSTD0501P
Sample Info: 5ML,VSTD0501P,VSTD0501P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1635.D
Lab Smp Id: VSTD1001P  Client Smp ID: VSTD1001P
Inj Date  : 22-JUN-2011 10:02
Operator  : ALM  SRC: ALM  Inst ID: V1.i
Smp Info  : 5ML,VSTD1001P,VSTD1001P
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 10:02  Cal File: V1M1635.D
Als bottle: 31  Calibration Sample, Level: 4
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.703 | 1.697 | (0.265) | 173982 | 100.000 | 2(a) |
| 2 Chloromethane | 50 | 1.890 | 1.894 | (0.294) | 557135 | 100.000 | 18 |
| 3 Vinyl Chloride | 62 | 2.018 | 2.022 | (0.314) | 398595 | 100.000 | 9 |
| 4 Bromomethane | 94 | 2.392 | 2.387 | (0.372) | 217788 | 100.000 | 3(a) |
| 5 Chloroethane | 64 | 2.501 | 2.505 | (0.389) | 225124 | 100.000 | 3(a) |
| 6 Trichlorofluoromethane | 101 | 2.776 | 2.771 | (0.432) | 284250 | 100.000 | 5 |
| 7 Ether | 59 | 3.072 | 3.057 | (0.478) | 339612 | 100.000 | 7(Q) |
| 8 Acrolein | 56 | 3.200 | 3.185 | (0.498) | 396212 | 500.000 | 2 |
| 9 1,1-Dichloroethene | 96 | 3.318 | 3.313 | (0.516) | 293586 | 100.000 | 5 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.348 | 3.323 | (0.521) | 283409 | 100.000 | 5 |
| 11 Acetone | 58 | 3.357 | 3.352 | (0.522) | 38874 | 100.000 | 0.10(a) |
| 12 Iodomethane | 142 | 3.485 | 3.480 | (0.542) | 607186 | 100.000 | 21 |
| 13 Carbon Disulfide | 76 | 3.554 | 3.539 | (0.553) | 1177232 | 100.000 | 81 |
| 14 Acetonitrile | 40 | 3.643 | 3.638 | (0.567) | 369109 | 1000.00 | 0.8(aQ) |
| 15 Methyl Acetate | 43 | 3.712 | 3.697 | (0.577) | 348841 | 100.000 | 8 |
| 16 Methylene Chloride | 84 | 3.820 | 3.805 | (0.594) | 340931 | 100.000 | 7 |
| 17 tert-Butanol | 59 | 3.929 | 3.914 | (0.611) | 56561 | 200.000 | 0.1(a) |
| 18 Acrylonitrile | 53 | 4.067 | 4.051 | (0.632) | 131314 | 100.000 | 1 |
| 20 Methyl tert-butyl ether | 73 | 4.106 | 4.101 | (0.639) | 667950 | 100.000 | 26 |
| 19 trans-1,2-Dichloroethene | 96 | 4.106 | 4.101 | (0.639) | 332263 | 100.000 | 6 |
| 21 1,1-Dichloroethane | 63 | 4.549 | 4.534 | (0.707) | 668357 | 100.000 | 26 |
| 22 Vinyl acetate | 43 | 4.598 | 4.583 | (0.715) | 1845189 | 100.000 | 200 |
| 23 Diisopropyl Ether | 45 | 4.628 | 4.613 | (0.720) | 1961519 | 100.000 | 220(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Report Date: 24-May-2011 14:51

| | | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 24 Ethyl tert-butyl ether | 59 | 5.012 | 4.997 | (0.779) | 982876 | 100.000 | 58 |
| M | 27 1,2-dichloroethene, (Total) | 100 | | | | 682561 | 200.000 | 14 |
| | 25 cis-1,2-Dichloroethene | 96 | 5.170 | 5.155 | (0.804) | 350298 | 100.000 | 7 |
| | 26 2,2-Dichloropropane | 77 | 5.170 | 5.155 | (0.804) | 203137 | 100.000 | 2(a) |
| | 28 2-Butanone | 72 | 5.170 | 5.155 | (0.804) | 33656 | 100.000 | 0.06(aQ) |
| | 29 Bromochloromethane | 128 | 5.416 | 5.401 | (0.842) | 174704 | 100.000 | 2(a) |
| | 30 Tetrahydrofuran | 72 | 5.475 | 5.460 | (0.851) | 58254 | 200.000 | 0.1(a) |
| | 31 Chloroform | 83 | 5.505 | 5.490 | (0.856) | 466805 | 100.000 | 13 |
| $ | 32 Dibromofluoromethane | 113 | 5.672 | 5.667 | (0.882) | 303794 | 100.000 | 6 |
| | 33 1,1,1-Trichloroethane | 97 | 5.721 | 5.706 | (0.890) | 291153 | 100.000 | 5 |
| | 34 Cyclohexane | 56 | 5.790 | 5.775 | (0.900) | 732727 | 100.000 | 30 |
| | 36 Carbon Tetrachloride | 117 | 5.899 | 5.883 | (0.917) | 283944 | 100.000 | 5 |
| | 35 1,1-Dichloropropene | 110 | 5.899 | 5.883 | (0.917) | 147197 | 100.000 | 1(a) |
| $ | 37 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.031 | (0.940) | 71979 | 100.000 | 0.3(a) |
| | 38 Benzene | 78 | 6.125 | 6.110 | (0.953) | 1244893 | 100.000 | 90 |
| | 39 1,2-Dichloroethane | 62 | 6.135 | 6.120 | (0.954) | 329644 | 100.000 | 6 |
| | 40 tert-Amyl methyl ether | 73 | 6.243 | 6.228 | (0.971) | 675695 | 100.000 | 28 |
| * | 41 Fluorobenzene | 96 | 6.431 | 6.415 | (1.000) | 716760 | 50.0000 | |
| | 42 Trichloroethene | 130 | 6.844 | 6.829 | (1.064) | 334584 | 100.000 | 7 |
| | 43 Methylcyclohexane | 83 | 7.081 | 7.065 | (1.101) | 508583 | 100.000 | 15 |
| | 44 1,2-Dichloropropane | 63 | 7.100 | 7.085 | (1.104) | 404930 | 100.000 | 10 |
| | 46 Dibromomethane | 93 | 7.238 | 7.223 | (1.126) | 179977 | 100.000 | 2(a) |
| | 47 1,4-Dioxane | 88 | 7.258 | 7.243 | (1.129) | 41070 | 2000.00 | 0.006(a) |
| | 48 Bromodichloromethane | 83 | 7.415 | 7.400 | (1.153) | 337321 | 100.000 | 6 |
| | 45 2-Chloroethyl vinyl ether | 63 | 7.780 | 7.765 | (1.210) | 45242 | 100.000 | 0.1(aQ) |
| | 49 cis-1,3-Dichloropropene | 75 | 7.947 | 7.942 | (1.236) | 508186 | 100.000 | 15 |
| | 50 4-Methyl-2-pentanone | 43 | 8.134 | 8.129 | (1.265) | 383807 | 100.000 | 9 |
| $ | 51 Toluene-d8 | 98 | 8.282 | 8.277 | (0.819) | 1011498 | 100.000 | 130 |
| | 52 Toluene | 91 | 8.371 | 8.366 | (1.302) | 1236856 | 100.000 | 89 |
| | 53 trans-1,3-Dichloropropene | 75 | 8.627 | 8.622 | (1.342) | 389385 | 100.000 | 9 |
| | 54 1,1,2-Trichloroethane | 97 | 8.854 | 8.858 | (1.377) | 237380 | 100.000 | 3(a) |
| | 55 Tetrachloroethene | 164 | 9.050 | 9.055 | (0.895) | 236369 | 100.000 | 7 |
| | 56 1,3-Dichloropropane | 76 | 9.070 | 9.065 | (0.897) | 410532 | 100.000 | 21 |
| | 57 2-Hexanone | 43 | 9.169 | 9.173 | (0.907) | 289647 | 100.000 | 10 |
| | 58 Dibromochloromethane | 129 | 9.356 | 9.360 | (0.925) | 277074 | 100.000 | 9 |
| | 59 1,2-Dibromoethane | 107 | 9.504 | 9.508 | (0.940) | 243453 | 100.000 | 7 |
| * | 60 Chlorobenzene-d5 | 117 | 10.114 | 10.119 | (1.000) | 493410 | 50.0000 | |
| | 63 1-Chlorohexane | 91 | 10.124 | 10.129 | (1.001) | 426791 | 100.000 | 22(Q) |
| | 61 Chlorobenzene | 112 | 10.154 | 10.158 | (1.004) | 808828 | 100.000 | 80 |
| | 62 1,1,1,2-Tetrachloroethane | 131 | 10.252 | 10.257 | (1.014) | 277001 | 100.000 | 9 |
| | 64 Ethylbenzene | 106 | 10.292 | 10.306 | (1.018) | 389812 | 100.000 | 19(Q) |
| | 65 m,p-Xylene | 106 | 10.449 | 10.454 | (1.033) | 999254 | 200.000 | 60 |
| | 66 o-Xylene | 106 | 10.942 | 10.946 | (1.082) | 474750 | 100.000 | 28 |
| | 67 Styrene | 104 | 10.961 | 10.966 | (1.084) | 856233 | 100.000 | 86 |
| | 68 Bromoform | 173 | 11.178 | 11.183 | (1.105) | 172428 | 100.000 | 4(a) |
| | 69 Isopropylbenzene | 105 | 11.405 | 11.409 | (1.128) | 1189669 | 100.000 | 170 |
| | 126 trans-1,4-Dichloro-2-butene | 75 | 11.473 | 11.478 | (1.134) | 109486 | 100.000 | 1 |
| $ | 70 Bromofluorobenzene | 95 | 11.582 | 11.586 | (1.145) | 374054 | 100.000 | 18 |
| | 72 Bromobenzene | 156 | 11.759 | 11.774 | (0.908) | 325964 | 100.000 | 57 |
| | 71 1,1,2,2-Tetrachloroethane | 83 | 11.749 | 11.764 | (0.907) | 303746 | 100.000 | 51 |
| | 73 1,2,3-Trichloropropane | 75 | 11.808 | 11.813 | (0.912) | 341183 | 100.000 | 64 |
| | 74 n-Propylbenzene | 120 | 11.897 | 11.911 | (0.919) | 321936 | 100.000 | 58(Q) |
| | 75 2-Chlorotoluene | 126 | 12.005 | 12.010 | (0.927) | 317778 | 100.000 | 55 |
| | 76 1,3,5-Trimethylbenzene | 105 | 12.114 | 12.118 | (0.935) | 978236 | 100.000 | 520(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.133 | 12.138 | (0.937) | 319609 | 100.000 | 57 |
| | 78 tert-Butylbenzene | 119 | 12.498 | 12.502 | (0.965) | 1007693 | 100.000 | 560(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.557 | 12.562 | (0.970) | 998033 | 100.000 | 540(A) |
| M | 81 Xylene (Total) | 106 | | | | 1474004 | 300.000 | 88 |
| | 80 sec-Butylbenzene | 105 | 12.754 | 12.759 | (0.985) | 1357525 | 100.000 | 1000(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.872 | 12.877 | (0.994) | 616063 | 100.000 | 210(A) |
| | 83 4-Isopropyltoluene | 119 | 12.921 | 12.926 | (0.998) | 1088197 | 100.000 | 640(A) |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.951 | 12.956 | (1.000) | 230052 | 50.0000 | (Q) |
| | 85 1,4-Dichlorobenzene | 146 | 12.980 | 12.985 | (1.002) | 623186 | 100.000 | 220(A) |
| | 86 n-Butylbenzene | 91 | 13.394 | 13.399 | (1.034) | 1046084 | 100.000 | 590(A) |
| | 87 1,2-Dichlorobenzene | 146 | 13.404 | 13.409 | (1.035) | 563005 | 100.000 | 180 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.261 | 14.266 | (1.101) | 35059 | 100.000 | 0.8(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.167 | 15.182 | (1.171) | 333678 | 100.000 | 62 |
| | 90 Hexachlorobutadiene | 225 | 15.364 | 15.369 | (1.186) | 179164 | 100.000 | 17(Q) |
| | 91 Naphthalene | 128 | 15.433 | 15.438 | (1.192) | 711037 | 100.000 | 290(A) |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.689 | 15.694 | (1.211) | 288662 | 100.000 | 47 |

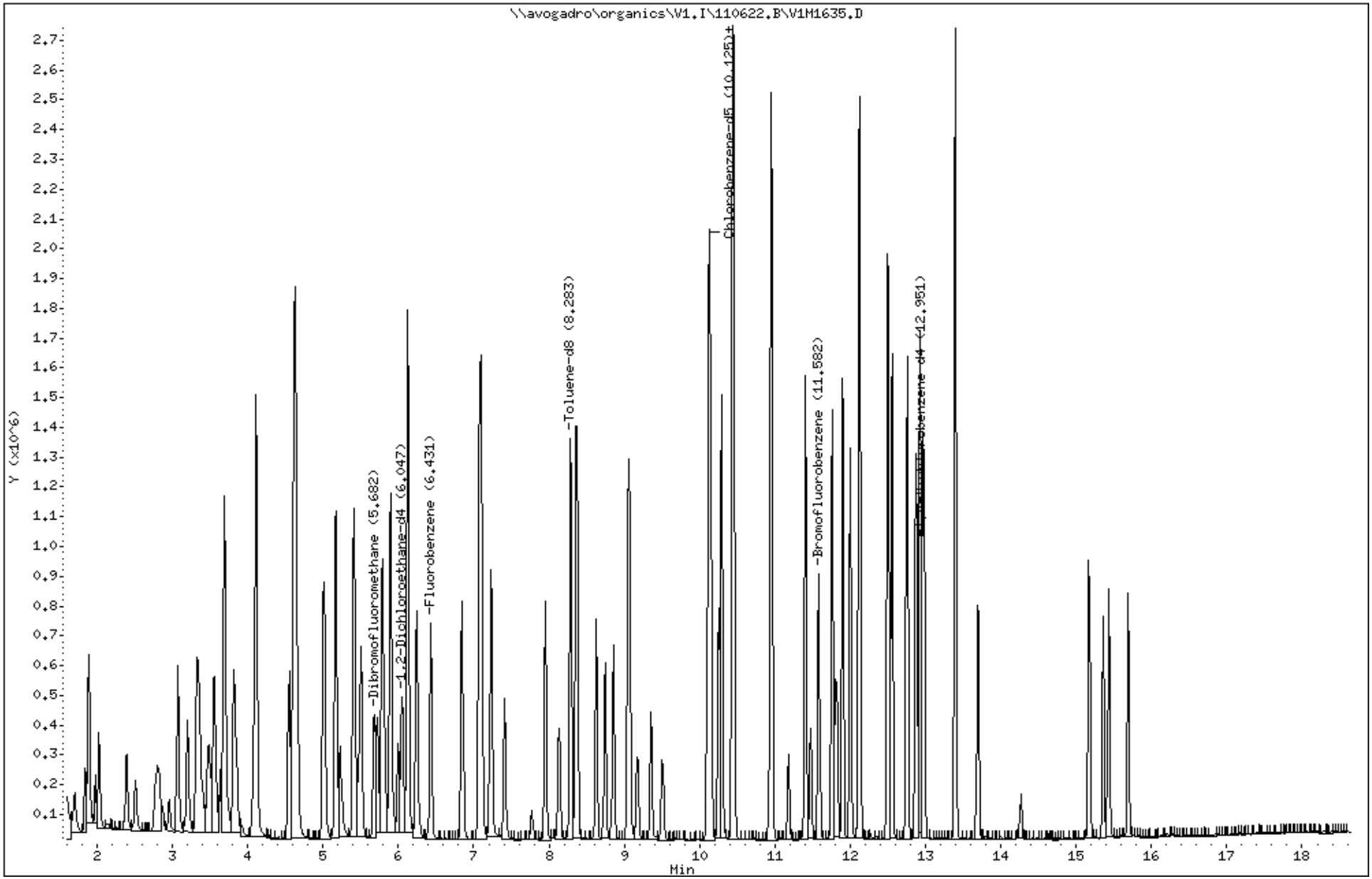
## QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110622.B\V1M1635.D
Date : 22-JUN-2011 10:02
Client ID: VSTD1001P
Sample Info: 5ML,VSTD1001P,VSTD1001P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1636.D
Lab Smp Id: VSTD2001P  Client Smp ID: VSTD2001P
Inj Date : 22-JUN-2011 10:30
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD2001P,VSTD2001P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 10:30  Cal File: V1M1636.D
Als bottle: 32  Calibration Sample, Level: 5
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.692 | 1.697 | (0.263) | 440019 | 200.000 | 4(a) |
| 2 Chloromethane | 50 | 1.889 | 1.894 | (0.294) | 1340530 | 200.000 | 44 |
| 3 Vinyl Chloride | 62 | 2.017 | 2.022 | (0.314) | 992599 | 200.000 | 23 |
| 4 Bromomethane | 94 | 2.382 | 2.387 | (0.370) | 525578 | 200.000 | 7 |
| 5 Chloroethane | 64 | 2.500 | 2.505 | (0.389) | 525360 | 200.000 | 7 |
| 6 Trichlorofluoromethane | 101 | 2.776 | 2.771 | (0.432) | 712547 | 200.000 | 12 |
| 7 Ether | 59 | 3.071 | 3.057 | (0.478) | 829382 | 200.000 | 16 |
| 8 Acrolein | 56 | 3.199 | 3.185 | (0.498) | 1013245 | 1000.00 | 5 |
| 9 1,1-Dichloroethene | 96 | 3.327 | 3.313 | (0.517) | 752523 | 200.000 | 13 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.347 | 3.323 | (0.521) | 698950 | 200.000 | 12 |
| 11 Acetone | 58 | 3.357 | 3.352 | (0.522) | 104995 | 200.000 | 0.2(aQ) |
| 12 Iodomethane | 142 | 3.485 | 3.480 | (0.542) | 1414351 | 200.000 | 48(Q) |
| 13 Carbon Disulfide | 76 | 3.554 | 3.539 | (0.553) | 2974447 | 200.000 | 200(A) |
| 14 Acetonitrile | 40 | 3.642 | 3.638 | (0.567) | 992436 | 2000.00 | 2(Q) |
| 15 Methyl Acetate | 43 | 3.711 | 3.697 | (0.577) | 866589 | 200.000 | 18 |
| 16 Methylene Chloride | 84 | 3.829 | 3.805 | (0.596) | 845322 | 200.000 | 18(Q) |
| 17 tert-Butanol | 59 | 3.928 | 3.914 | (0.611) | 162802 | 400.000 | 0.3(a) |
| 18 Acrylonitrile | 53 | 4.066 | 4.051 | (0.632) | 336680 | 200.000 | 3 |
| 20 Methyl tert-butyl ether | 73 | 4.105 | 4.101 | (0.639) | 1681843 | 200.000 | 65 |
| 19 trans-1,2-Dichloroethene | 96 | 4.105 | 4.101 | (0.639) | 777724 | 200.000 | 15 |
| 21 1,1-Dichloroethane | 63 | 4.548 | 4.534 | (0.707) | 1618614 | 200.000 | 62 |
| 22 Vinyl acetate | 43 | 4.608 | 4.583 | (0.717) | 4638016 | 200.000 | 500(A) |
| 23 Diisopropyl Ether | 45 | 4.627 | 4.613 | (0.720) | 4656567 | 200.000 | 530(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Report Date: 24-May-2011 14:51

| | | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|---|
| | 24 | Ethyl tert-butyl ether | 59 | 5.011 | 4.997 | (0.779) | 2571766 | 200.000 | 150 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 1624593 | 400.000 | 32 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.169 | 5.155 | (0.804) | 846869 | 200.000 | 17 |
| | 26 | 2,2-Dichloropropane | 77 | 5.169 | 5.155 | (0.804) | 472083 | 200.000 | 6 |
| | 28 | 2-Butanone | 72 | 5.169 | 5.155 | (0.804) | 81023 | 200.000 | 0.1(aQ) |
| | 29 | Bromochloromethane | 128 | 5.425 | 5.401 | (0.844) | 434920 | 200.000 | 4(a) |
| | 30 | Tetrahydrofuran | 72 | 5.474 | 5.460 | (0.851) | 160697 | 400.000 | 0.3(a) |
| | 31 | Chloroform | 83 | 5.504 | 5.490 | (0.856) | 1149850 | 200.000 | 32 |
| $ | 32 | Dibromofluoromethane | 113 | 5.681 | 5.667 | (0.884) | 685682 | 200.000 | 12 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.721 | 5.706 | (0.890) | 697175 | 200.000 | 12 |
| | 34 | Cyclohexane | 56 | 5.789 | 5.775 | (0.900) | 1748403 | 200.000 | 71 |
| | 36 | Carbon Tetrachloride | 117 | 5.908 | 5.883 | (0.919) | 681280 | 200.000 | 11 |
| | 35 | 1,1-Dichloropropene | 110 | 5.898 | 5.883 | (0.917) | 360062 | 200.000 | 3(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.031 | (0.940) | 163636 | 200.000 | 0.7(a) |
| | 38 | Benzene | 78 | 6.124 | 6.110 | (0.953) | 3016578 | 200.000 | 220(A) |
| | 39 | 1,2-Dichloroethane | 62 | 6.134 | 6.120 | (0.954) | 819038 | 200.000 | 16 |
| | 40 | tert-Amyl methyl ether | 73 | 6.243 | 6.228 | (0.971) | 1819819 | 200.000 | 75 |
| * | 41 | Fluorobenzene | 96 | 6.430 | 6.415 | (1.000) | 722258 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.843 | 6.829 | (1.064) | 804925 | 200.000 | 16 |
| | 43 | Methylcyclohexane | 83 | 7.080 | 7.065 | (1.101) | 1249671 | 200.000 | 37 |
| | 44 | 1,2-Dichloropropane | 63 | 7.099 | 7.085 | (1.104) | 1006718 | 200.000 | 23 |
| | 46 | Dibromomethane | 93 | 7.237 | 7.223 | (1.126) | 445183 | 200.000 | 5 |
| | 47 | 1,4-Dioxane | 88 | 7.257 | 7.243 | (1.129) | 112806 | 4000.00 | 0.02(a) |
| | 48 | Bromodichloromethane | 83 | 7.415 | 7.400 | (1.153) | 833428 | 200.000 | 16 |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.779 | 7.765 | (1.210) | 130341 | 200.000 | 0.4(aQ) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.956 | 7.942 | (1.237) | 1278395 | 200.000 | 38 |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.134 | 8.129 | (1.265) | 996192 | 200.000 | 23 |
| $ | 51 | Toluene-d8 | 98 | 8.291 | 8.277 | (0.819) | 2264516 | 200.000 | 280(A) |
| | 52 | Toluene | 91 | 8.370 | 8.366 | (1.302) | 2986759 | 200.000 | 210(A) |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.626 | 8.622 | (1.342) | 1017325 | 200.000 | 23 |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.863 | 8.858 | (1.378) | 580763 | 200.000 | 8 |
| | 55 | Tetrachloroethene | 164 | 9.060 | 9.055 | (0.895) | 582602 | 200.000 | 16 |
| | 56 | 1,3-Dichloropropane | 76 | 9.079 | 9.065 | (0.897) | 1029362 | 200.000 | 51 |
| | 57 | 2-Hexanone | 43 | 9.178 | 9.173 | (0.907) | 729924 | 200.000 | 26 |
| | 58 | Dibromochloromethane | 129 | 9.365 | 9.360 | (0.925) | 705958 | 200.000 | 23 |
| | 59 | 1,2-Dibromoethane | 107 | 9.513 | 9.508 | (0.940) | 630020 | 200.000 | 18 |
| * | 60 | Chlorobenzene-d5 | 117 | 10.123 | 10.119 | (1.000) | 502211 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.133 | 10.129 | (1.001) | 1029838 | 200.000 | 52(Q) |
| | 61 | Chlorobenzene | 112 | 10.163 | 10.158 | (1.004) | 1969064 | 200.000 | 190 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.261 | 10.257 | (1.014) | 688375 | 200.000 | 22 |
| | 64 | Ethylbenzene | 106 | 10.301 | 10.306 | (1.018) | 969931 | 200.000 | 46(Q) |
| | 65 | m,p-Xylene | 106 | 10.458 | 10.454 | (1.033) | 2410392 | 400.000 | 140 |
| | 66 | o-Xylene | 106 | 10.951 | 10.946 | (1.082) | 1153696 | 200.000 | 66 |
| | 67 | Styrene | 104 | 10.970 | 10.966 | (1.084) | 2124996 | 200.000 | 210(A) |
| | 68 | Bromoform | 173 | 11.187 | 11.183 | (1.105) | 443263 | 200.000 | 9(T) |
| | 69 | Isopropylbenzene | 105 | 11.414 | 11.409 | (1.127) | 2932085 | 200.000 | 410(A) |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.483 | 11.478 | (1.134) | 283952 | 200.000 | 4 |
| $ | 70 | Bromofluorobenzene | 95 | 11.591 | 11.586 | (1.145) | 880819 | 200.000 | 42 |
| | 72 | Bromobenzene | 156 | 11.778 | 11.774 | (0.909) | 808460 | 200.000 | 140 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.768 | 11.764 | (0.908) | 770586 | 200.000 | 120 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.817 | 11.813 | (0.912) | 888123 | 200.000 | 160 |
| | 74 | n-Propylbenzene | 120 | 11.916 | 11.911 | (0.919) | 809276 | 200.000 | 140(Q) |
| | 75 | 2-Chlorotoluene | 126 | 12.014 | 12.010 | (0.927) | 771150 | 200.000 | 130 |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.123 | 12.118 | (0.935) | 2382609 | 200.000 | 1200(A) |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.142 | 12.138 | (0.937) | 775345 | 200.000 | 130 |
| | 78 tert-Butylbenzene | 119 | 12.517 | 12.502 | (0.966) | 2433355 | 200.000 | 1300(A) |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.566 | 12.562 | (0.970) | 2461395 | 200.000 | 1300(A) |
| M | 81 Xylene (Total) | 106 | | | | 3564088 | 600.000 | 210 |
| | 80 sec-Butylbenzene | 105 | 12.763 | 12.759 | (0.985) | 3310623 | 200.000 | 2400(A) |
| | 82 1,3-Dichlorobenzene | 146 | 12.881 | 12.877 | (0.994) | 1536076 | 200.000 | 510(A) |
| | 83 4-Isopropyltoluene | 119 | 12.940 | 12.926 | (0.998) | 2673872 | 200.000 | 1500(A) |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.960 | 12.956 | (1.000) | 239107 | 50.0000 | (Q) |
| | 85 1,4-Dichlorobenzene | 146 | 12.990 | 12.985 | (1.002) | 1572247 | 200.000 | 530(A) |
| | 86 n-Butylbenzene | 91 | 13.403 | 13.399 | (1.034) | 2537841 | 200.000 | 1400(A) |
| | 87 1,2-Dichlorobenzene | 146 | 13.413 | 13.409 | (1.035) | 1368955 | 200.000 | 410(A) |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.270 | 14.266 | (1.101) | 88093 | 200.000 | 2(aQ) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.176 | 15.182 | (1.171) | 835674 | 200.000 | 150 |
| | 90 Hexachlorobutadiene | 225 | 15.363 | 15.369 | (1.185) | 441074 | 200.000 | 40(Q) |
| | 91 Naphthalene | 128 | 15.432 | 15.438 | (1.191) | 1821271 | 200.000 | 720(A) |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.698 | 15.694 | (1.211) | 709542 | 200.000 | 110 |

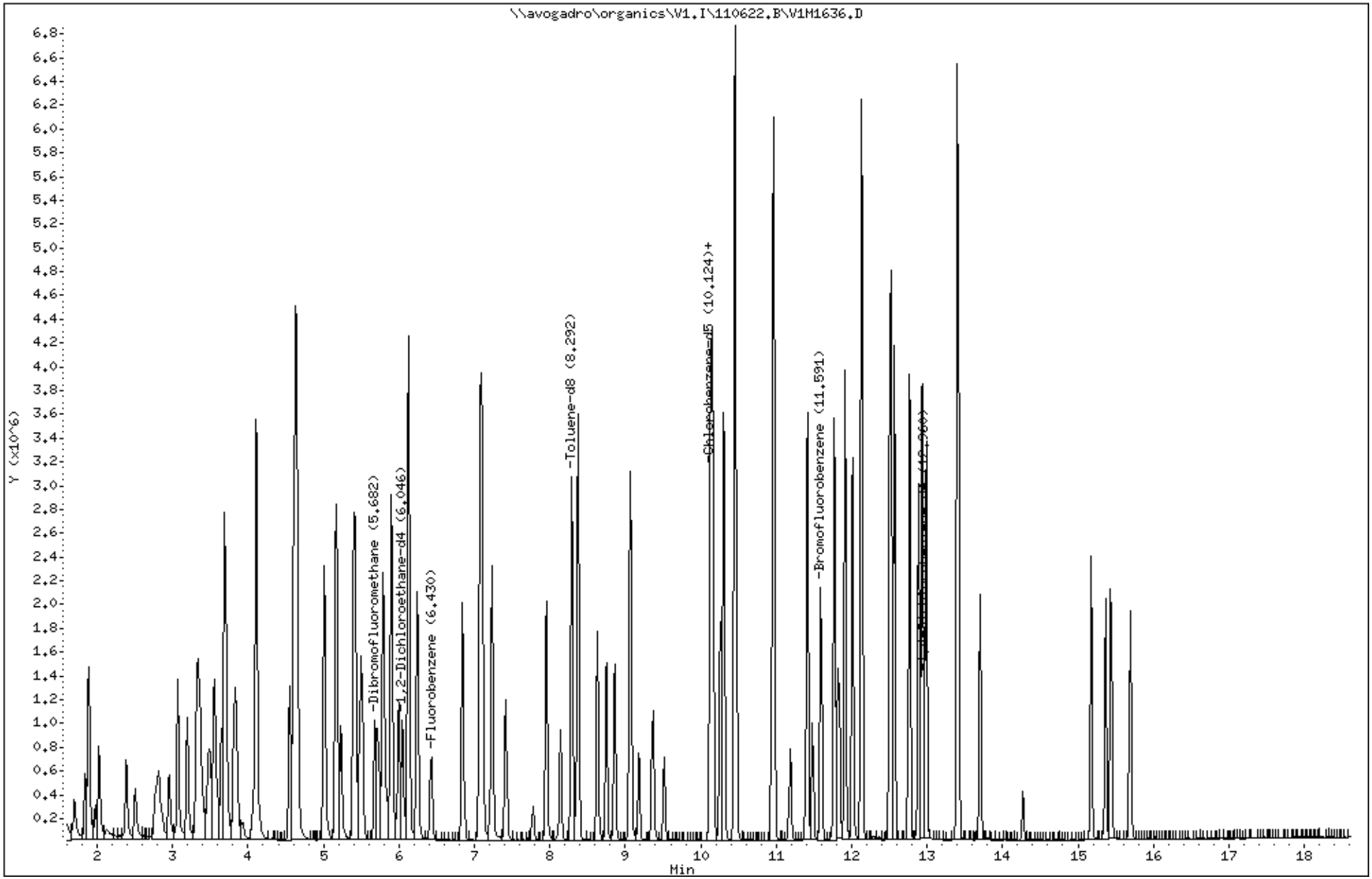
## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110622.B\V1M1636.D
Date : 22-JUN-2011 10:30
Client ID: VSTD2001P
Sample Info: 5ML,VSTD2001P,VSTD2001P
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1640.D
Report Date: 24-May-2011 14:51

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110622.B\V1M1640.D
Lab Smp Id: VSTD0051P  Client Smp ID: VSTD0051P
Inj Date : 22-JUN-2011 12:41
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0051P,VSTD0051P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\v18260GH.m
Meth Date : 24-May-2011 14:50 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 36  Calibration Sample, Level: 1
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.687 | 1.697 | (0.263) | 8010 | 5.00000 | 0.09(a) |
| 2 Chloromethane | 50 | 1.894 | 1.894 | (0.295) | 35855 | 5.00000 | 1(a) |
| 3 Vinyl Chloride | 62 | 2.012 | 2.022 | (0.313) | 23070 | 5.00000 | 0.6(a) |
| 4 Bromomethane | 94 | 2.387 | 2.387 | (0.372) | 14180 | 5.00000 | 0.2(a) |
| 5 Chloroethane | 64 | 2.505 | 2.505 | (0.390) | 12597 | 5.00000 | 0.2(a) |
| 6 Trichlorofluoromethane | 101 | 2.761 | 2.771 | (0.430) | 16062 | 5.00000 | 0.3(a) |
| 7 Ether | 59 | 3.066 | 3.057 | (0.477) | 17983 | 5.00000 | 0.4(a) |
| 8 Acrolein | 56 | 3.194 | 3.185 | (0.497) | 24350 | 25.0000 | 0.1(a) |
| 9 1,1-Dichloroethene | 96 | 3.322 | 3.313 | (0.517) | 18303 | 5.00000 | 0.4(a) |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.313 | 3.323 | (0.516) | 13931 | 5.00000 | 0.2(a) |
| 11 Acetone | 58 | 3.362 | 3.352 | (0.523) | 3140 | 5.00000 | 0.008(a) |
| 12 Iodomethane | 142 | 3.470 | 3.480 | (0.540) | 29665 | 5.00000 | 1(a) |
| 13 Carbon Disulfide | 76 | 3.549 | 3.539 | (0.552) | 64113 | 5.00000 | 5 |
| 14 Acetonitrile | 40 | 3.687 | 3.638 | (0.574) | 24337 | 50.0000 | 0.06(a) |
| 15 Methyl Acetate | 43 | 3.706 | 3.697 | (0.577) | 22424 | 5.00000 | 0.5(a) |
| 16 Methylene Chloride | 84 | 3.805 | 3.805 | (0.592) | 23322 | 5.00000 | 0.5(a) |
| 17 tert-Butanol | 59 | 3.923 | 3.914 | (0.611) | 3448 | 10.0000 | 0.007(a) |
| 18 Acrylonitrile | 53 | 4.061 | 4.051 | (0.632) | 7815 | 5.00000 | 0.07(a) |
| 20 Methyl tert-butyl ether | 73 | 4.100 | 4.101 | (0.638) | 36102 | 5.00000 | 2(a) |
| 19 trans-1,2-Dichloroethene | 96 | 4.100 | 4.101 | (0.638) | 19823 | 5.00000 | 0.4(a) |
| 21 1,1-Dichloroethane | 63 | 4.534 | 4.534 | (0.706) | 38628 | 5.00000 | 2(a) |
| 22 Vinyl acetate | 43 | 4.593 | 4.583 | (0.715) | 100552 | 5.00000 | 12 |
| 23 Diisopropyl Ether | 45 | 4.613 | 4.613 | (0.718) | 112324 | 5.00000 | 14 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1640.D
Report Date: 24-May-2011 14:51

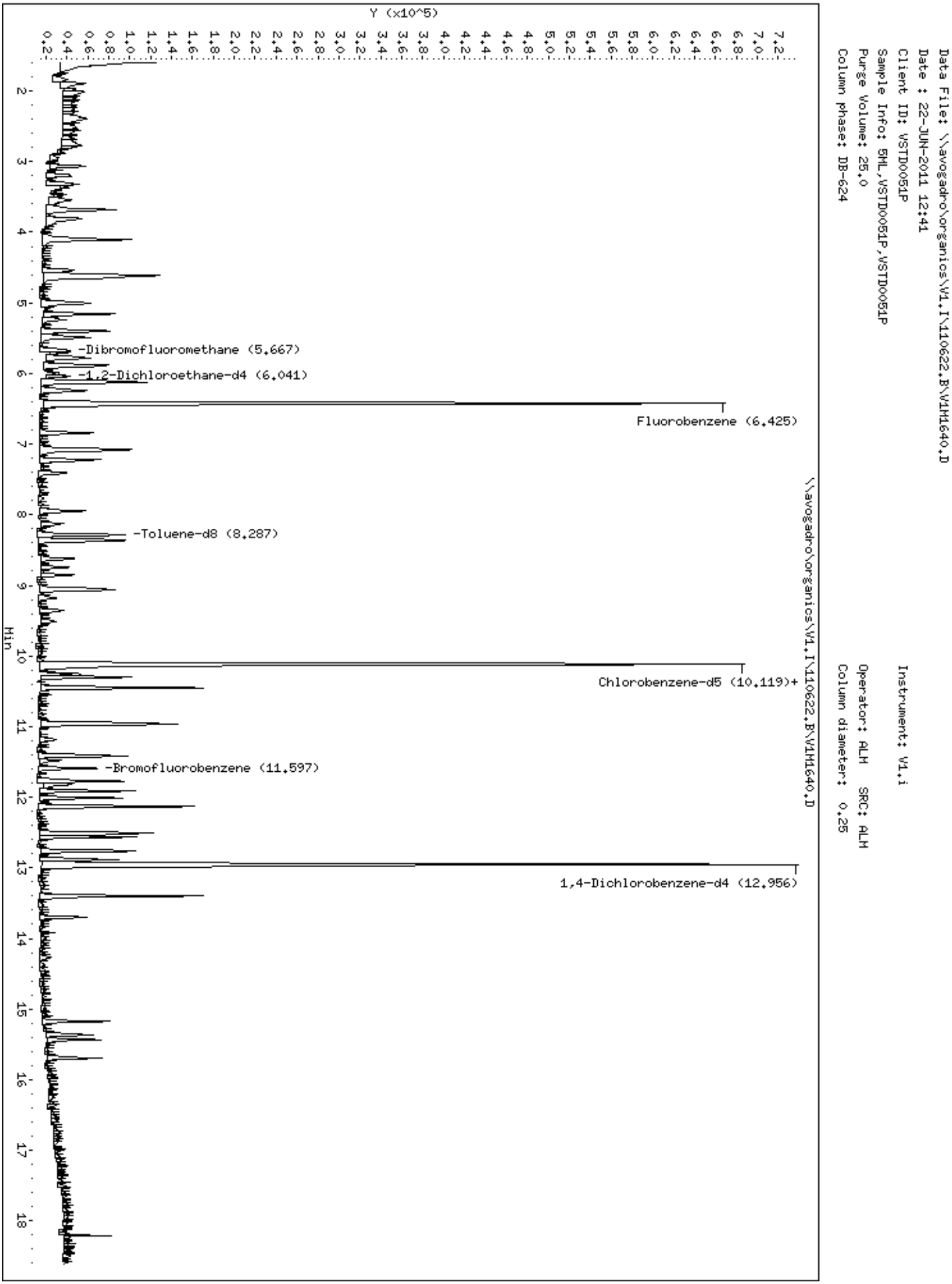
| | | | QUANT SIG | | | | | AMOUNTS | |
|---|---|---|---|---|---|---|---|---|---|
| | | Compounds | MASS | RT | EXP RT | REL RT | RESPONSE | CAL-AMT ( ug/L) | ON-COL ( ug/L) |
| | 24 | Ethyl tert-butyl ether | 59 | 5.007 | 4.997 | (0.779) | 54615 | 5.00000 | 4 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 41546 | 10.0000 | 0.9(a) |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.154 | 5.155 | (0.802) | 21723 | 5.00000 | 0.5(a) |
| | 26 | 2,2-Dichloropropane | 77 | 5.164 | 5.155 | (0.804) | 12449 | 5.00000 | 0.2(a) |
| | 28 | 2-Butanone | 72 | 5.164 | 5.155 | (0.804) | 1439 | 5.00000 | 0.003(a) |
| | 29 | Bromochloromethane | 128 | 5.410 | 5.401 | (0.842) | 9750 | 5.00000 | 0.1(a) |
| | 30 | Tetrahydrofuran | 72 | 5.479 | 5.460 | (0.853) | 4206 | 10.0000 | 0.009(a) |
| | 31 | Chloroform | 83 | 5.499 | 5.490 | (0.856) | 28921 | 5.00000 | 0.9(a) |
| $ | 32 | Dibromofluoromethane | 113 | 5.667 | 5.667 | (0.882) | 19422 | 5.00000 | 0.4(a) |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.706 | 5.706 | (0.888) | 14727 | 5.00000 | 0.3(a) |
| | 34 | Cyclohexane | 56 | 5.775 | 5.775 | (0.899) | 35095 | 5.00000 | 2 |
| | 36 | Carbon Tetrachloride | 117 | 5.893 | 5.883 | (0.917) | 16701 | 5.00000 | 0.3(a) |
| | 35 | 1,1-Dichloropropene | 110 | 5.883 | 5.883 | (0.916) | 9008 | 5.00000 | 0.09(a) |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.041 | 6.031 | (0.940) | 4491 | 5.00000 | 0.02(a) |
| | 38 | Benzene | 78 | 6.120 | 6.110 | (0.952) | 69883 | 5.00000 | 6 |
| | 39 | 1,2-Dichloroethane | 62 | 6.120 | 6.120 | (0.952) | 18836 | 5.00000 | 0.4(a) |
| | 40 | tert-Amyl methyl ether | 73 | 6.248 | 6.228 | (0.972) | 40749 | 5.00000 | 2 |
| * | 41 | Fluorobenzene | 96 | 6.425 | 6.415 | (1.000) | 650318 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.849 | 6.829 | (1.066) | 21387 | 5.00000 | 0.5(a) |
| | 43 | Methylcyclohexane | 83 | 7.075 | 7.065 | (1.101) | 27841 | 5.00000 | 0.9(a) |
| | 44 | 1,2-Dichloropropane | 63 | 7.095 | 7.085 | (1.104) | 22012 | 5.00000 | 0.6(Ta) |
| | 46 | Dibromomethane | 93 | 7.223 | 7.223 | (1.124) | 10234 | 5.00000 | 0.1(a) |
| | 47 | 1,4-Dioxane | 88 | 7.252 | 7.243 | (1.129) | 2649 | 100.000 | 0.0004(a) |
| | 48 | Bromodichloromethane | 83 | 7.400 | 7.400 | (1.152) | 18324 | 5.00000 | 0.4(a) |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.765 | 7.765 | (1.208) | 2245 | 5.00000 | 0.007(Ta) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.942 | 7.942 | (1.236) | 27352 | 5.00000 | 0.9(a) |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.129 | 8.129 | (1.265) | 21917 | 5.00000 | 0.6(a) |
| $ | 51 | Toluene-d8 | 98 | 8.287 | 8.277 | (0.820) | 65655 | 5.00000 | 9 |
| | 52 | Toluene | 91 | 8.365 | 8.366 | (1.302) | 69116 | 5.00000 | 5 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.612 | 8.622 | (1.340) | 22274 | 5.00000 | 0.6(a) |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.848 | 8.858 | (1.377) | 14091 | 5.00000 | 0.2(a) |
| | 55 | Tetrachloroethene | 164 | 9.045 | 9.055 | (0.895) | 13897 | 5.00000 | 0.4(a) |
| | 56 | 1,3-Dichloropropane | 76 | 9.065 | 9.065 | (0.897) | 25424 | 5.00000 | 1(a) |
| | 57 | 2-Hexanone | 43 | 9.183 | 9.173 | (0.908) | 19525 | 5.00000 | 0.8(a) |
| | 58 | Dibromochloromethane | 129 | 9.360 | 9.360 | (0.926) | 15771 | 5.00000 | 0.6(Ta) |
| | 59 | 1,2-Dibromoethane | 107 | 9.508 | 9.508 | (0.941) | 13578 | 5.00000 | 0.4(Ta) |
| * | 60 | Chlorobenzene-d5 | 117 | 10.109 | 10.119 | (1.000) | 458993 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.119 | 10.129 | (1.001) | 23712 | 5.00000 | 1 |
| | 61 | Chlorobenzene | 112 | 10.148 | 10.158 | (1.004) | 50772 | 5.00000 | 5 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.256 | 10.257 | (1.015) | 15782 | 5.00000 | 0.6(a) |
| | 64 | Ethylbenzene | 106 | 10.296 | 10.306 | (1.019) | 24309 | 5.00000 | 1(a) |
| | 65 | m,p-Xylene | 106 | 10.453 | 10.454 | (1.034) | 57514 | 10.0000 | 4(a) |
| | 66 | o-Xylene | 106 | 10.956 | 10.946 | (1.084) | 28766 | 5.00000 | 2(a) |
| | 67 | Styrene | 104 | 10.966 | 10.966 | (1.085) | 45254 | 5.00000 | 5 |
| | 68 | Bromoform | 173 | 11.182 | 11.183 | (1.106) | 9279 | 5.00000 | 0.2(Ta) |
| | 69 | Isopropylbenzene | 105 | 11.409 | 11.409 | (1.129) | 64566 | 5.00000 | 10 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.478 | 11.478 | (1.135) | 5656 | 5.00000 | 0.08(a) |
| $ | 70 | Bromofluorobenzene | 95 | 11.596 | 11.586 | (1.147) | 25120 | 5.00000 | 1 |
| | 72 | Bromobenzene | 156 | 11.773 | 11.774 | (0.909) | 16494 | 5.00000 | 3(a) |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.763 | 11.764 | (0.908) | 16631 | 5.00000 | 3(a) |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.813 | 11.813 | (0.912) | 18152 | 5.00000 | 4(a) |
| | 74 | n-Propylbenzene | 120 | 11.911 | 11.911 | (0.919) | 18874 | 5.00000 | 4(a) |
| | 75 | 2-Chlorotoluene | 126 | 12.010 | 12.010 | (0.927) | 17344 | 5.00000 | 3(a) |
| | 76 | 1,3,5-Trimethylbenzene | 105 | 12.128 | 12.118 | (0.936) | 52036 | 5.00000 | 31 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1640.D
Report Date: 24-May-2011 14:51

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 4-Chlorotoluene | 126 | 12.138 | 12.138 | (0.937) | 18417 | 5.00000 | 4(a) |
| | 78 tert-Butylbenzene | 119 | 12.512 | 12.502 | (0.966) | 54244 | 5.00000 | 33 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.561 | 12.562 | (0.970) | 50478 | 5.00000 | 30 |
| M | 81 Xylene (Total) | 106 | | | | 86280 | 15.0000 | 6 |
| | 80 sec-Butylbenzene | 105 | 12.758 | 12.759 | (0.985) | 74070 | 5.00000 | 61 |
| | 82 1,3-Dichlorobenzene | 146 | 12.876 | 12.877 | (0.994) | 35934 | 5.00000 | 14 |
| | 83 4-Isopropyltoluene | 119 | 12.936 | 12.926 | (0.998) | 54588 | 5.00000 | 35 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.955 | 12.956 | (1.000) | 209438 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.985 | 12.985 | (1.002) | 36299 | 5.00000 | 14 |
| | 86 n-Butylbenzene | 91 | 13.398 | 13.399 | (1.034) | 54244 | 5.00000 | 34 |
| | 87 1,2-Dichlorobenzene | 146 | 13.408 | 13.409 | (1.035) | 32414 | 5.00000 | 11 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.265 | 14.266 | (1.101) | 2889 | 5.00000 | 0.07(a) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.171 | 15.182 | (1.171) | 18451 | 5.00000 | 4(a) |
| | 90 Hexachlorobutadiene | 225 | 15.359 | 15.369 | (1.186) | 7739 | 5.00000 | 0.8(a) |
| | 91 Naphthalene | 128 | 15.437 | 15.438 | (1.192) | 43392 | 5.00000 | 19 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.693 | 15.694 | (1.211) | 18219 | 5.00000 | 3(a) |

## QC Flag Legend

T - Target compound detected outside RT window.
a - Target compound detected but, quantitated amount
Below Limit Of Quantitation(BLOQ).


Data File: \\avogadro\organics\V1.I\110622.B\VLM1640.D
Date : 22-JUN-2011 12:41
Client ID: VSTD0051P
Sample Info: 5ML,VSTD0051P,VSTD0051P
Purge Volume: 25.0
Column phase: DB-624
Instrument: V1.i
Operator: ALM SRC: ALM
Column diameter: 0.25
Y (x10^5)
-Dibromofluoromethane (5.667)
-1,2-Dichloroethane-d4 (6.041)
Fluorobenzene (6.425)
-Toluene-d8 (8.287)
Chlorobenzene-d5 (10.119)+
-Bromofluorobenzene (11.597)
1,4-Dichlorobenzene-d4 (12.956)
\\avogadro\organics\V1.I\110622.B\VLM1640.D
Min

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/27/2011 Time: 10:14

Lab File ID: V1M1712.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501S Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.558 | 0.562 | 0.010 | 0.6 | 20.0 |
| Benzene | 1.035 | 1.112 | 0.010 | 7.4 | 20.0 |
| Toluene | 1.029 | 1.055 | 0.010 | 2.5 | 20.0 |
| Ethylbenzene | 0.478 | 0.514 | 0.010 | 7.4 | 20.0 |
| m,p-Xylene | 0.594 | 0.655 | 0.010 | 10.2 | 20.0 |
| o-Xylene | 0.573 | 0.621 | 0.010 | 8.4 | 20.0 |
| Xylene (Total) | 0.587 | 0.643 | 0.010 | 9.6 | 20.0 |

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/27/2011 Time: 10:14

Lab File ID: V1M1712.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501S Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.262 | 0.253 | 0.010 | -3.2 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.058 | 0.010 | -7.7 | 20.0 |
| Toluene-d8 | 1.247 | 1.238 | 0.010 | -0.7 | 20.0 |
| Bromofluorobenzene | 0.474 | 0.455 | 0.010 | -4.0 | 20.0 |

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/28/2011 Time: 9:32

Lab File ID: V1M1745.D Init. Calib. Date(s): 06/01/2011 06/01/2011

EPA Sample No.(VSTD#####) VSTD0501T Init. Calib. Time(s): 11:59 14:22

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.700 | 0.576 | 0.010 | -17.7 | 20.0 |
| Benzene | 0.976 | 0.983 | 0.010 | 0.7 | 20.0 |
| Toluene | 0.996 | 0.977 | 0.010 | -1.9 | 20.0 |
| Ethylbenzene | 0.454 | 0.439 | 0.010 | -3.4 | 20.0 |
| m,p-Xylene | 0.567 | 0.552 | 0.010 | -2.7 | 20.0 |
| o-Xylene | 0.546 | 0.540 | 0.010 | -1.2 | 20.0 |
| Xylene (Total) | 0.560 | 0.548 | 0.010 | -2.2 | 20.0 |

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/28/2011 Time: 9:32

Lab File ID: V1M1745.D Init. Calib. Date(s): 06/01/2011 06/01/2011

EPA Sample No.(VSTD#####) VSTD0501T Init. Calib. Time(s): 11:59 14:22

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.298 | 0.261 | 0.010 | -12.5 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.060 | 0.010 | -4.0 | 20.0 |
| Toluene-d8 | 1.159 | 1.241 | 0.010 | 7.1 | 20.0 |
| Bromofluorobenzene | 0.489 | 0.482 | 0.010 | -1.4 | 20.0 |

7A - FORM VII VOA-1
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/30/2011 Time: 9:40

Lab File ID: V1M1804.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501V Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.558 | 0.569 | 0.010 | 1.9 | 20.0 |
| Benzene | 1.035 | 1.179 | 0.010 | 13.9 | 20.0 |
| Toluene | 1.029 | 1.134 | 0.010 | 10.3 | 20.0 |
| Ethylbenzene | 0.478 | 0.538 | 0.010 | 12.6 | 20.0 |
| m,p-Xylene | 0.594 | 0.680 | 0.010 | 14.5 | 20.0 |
| o-Xylene | 0.573 | 0.645 | 0.010 | 12.6 | 20.0 |
| Xylene (Total) | 0.587 | 0.668 | 0.010 | 13.9 | 20.0 |

7B - FORM VII VOA-2
VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/30/2011 Time: 9:40

Lab File ID: V1M1804.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501V Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.262 | 0.242 | 0.010 | -7.6 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.053 | 0.010 | -16.0 | 20.0 |
| Toluene-d8 | 1.247 | 1.216 | 0.010 | -2.5 | 20.0 |
| Bromofluorobenzene | 0.474 | 0.471 | 0.010 | -0.7 | 20.0 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1712.D
Report Date: 28-May-2011 14:20

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1712.D
Lab Smp Id: VSTD0501S  Client Smp ID: VSTD0501S
Inj Date : 27-JUN-2011 10:14
Operator : ALM  SRC: ALM  Inst ID: V1.i
Smp Info : 5ML,VSTD0501S,VSTD0501S
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 31  Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version: 4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.692 | 1.695 | (0.264) | 65926 | 50.0000 | 41 |
| 2 Chloromethane | 50 | 1.889 | 1.882 | (0.294) | 258200 | 50.0000 | 48 |
| 3 Vinyl Chloride | 62 | 2.017 | 2.020 | (0.314) | 178927 | 50.0000 | 48 |
| 4 Bromomethane | 94 | 2.382 | 2.385 | (0.371) | 109357 | 50.0000 | 51 |
| 5 Chloroethane | 64 | 2.500 | 2.503 | (0.389) | 110281 | 50.0000 | 52 |
| 6 Trichlorofluoromethane | 101 | 2.756 | 2.769 | (0.429) | 141813 | 50.0000 | 52 |
| 127 Ethanol | 46 | 2.943 | 2.948 | (0.458) | 108644 | 5000.00 | 9000(Q) |
| 7 Ether | 59 | 3.052 | 3.074 | (0.475) | 161768 | 50.0000 | 52(Q) |
| 8 Acrolein | 56 | 3.189 | 3.202 | (0.497) | 202672 | 250.000 | 260 |
| 9 1,1-Dichloroethene | 96 | 3.298 | 3.320 | (0.514) | 164881 | 50.0000 | 58 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.327 | 3.340 | (0.518) | 148313 | 50.0000 | 55 |
| 11 Acetone | 58 | 3.347 | 3.370 | (0.521) | 17663 | 50.0000 | 44 |
| 12 Iodomethane | 142 | 3.455 | 3.488 | (0.538) | 275785 | 50.0000 | 50 |
| 13 Carbon Disulfide | 76 | 3.534 | 3.557 | (0.551) | 553364 | 50.0000 | 50 |
| 14 Acetonitrile | 40 | 3.633 | 3.655 | (0.566) | 97376 | 500.000 | 260(Q) |
| 15 Methyl Acetate | 43 | 3.692 | 3.714 | (0.575) | 176456 | 50.0000 | 51 |
| 16 Methylene Chloride | 84 | 3.810 | 3.823 | (0.593) | 170423 | 50.0000 | 50 |
| 17 tert-Butanol | 59 | 3.908 | 3.941 | (0.609) | 35612 | 100.000 | 120 |
| 18 Acrylonitrile | 53 | 4.056 | 4.069 | (0.632) | 66431 | 50.0000 | 52 |
| 20 Methyl tert-butyl ether | 73 | 4.096 | 4.108 | (0.638) | 315572 | 50.0000 | 50 |
| 19 trans-1,2-Dichloroethene | 96 | 4.096 | 4.108 | (0.638) | 171402 | 50.0000 | 55 |
| 21 1,1-Dichloroethane | 63 | 4.529 | 4.552 | (0.705) | 332696 | 50.0000 | 53 |
| 22 Vinyl acetate | 43 | 4.588 | 4.630 | (0.715) | 839196 | 50.0000 | 48 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1712.D
Report Date: 28-May-2011 14:20

| | | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|---|
| | 23 | Diisopropyl Ether | 45 | 4.608 | 4.630 | (0.718) | 940151 | 50.0000 | 51 |
| | 24 | Ethyl tert-butyl ether | 59 | 4.992 | 5.014 | (0.778) | 458202 | 50.0000 | 48 |
| M | 27 | 1,2-dichloroethene, (Total) | 100 | | | | 344673 | 100.000 | 110 |
| | 25 | cis-1,2-Dichloroethene | 96 | 5.150 | 5.162 | (0.802) | 173271 | 50.0000 | 52 |
| | 26 | 2,2-Dichloropropane | 77 | 5.150 | 5.172 | (0.802) | 98518 | 50.0000 | 51 |
| | 28 | 2-Butanone | 72 | 5.159 | 5.172 | (0.804) | 16424 | 50.0000 | 55(Q) |
| | 29 | Bromochloromethane | 128 | 5.406 | 5.418 | (0.842) | 84950 | 50.0000 | 51 |
| | 30 | Tetrahydrofuran | 72 | 5.465 | 5.477 | (0.851) | 29471 | 100.000 | 95 |
| | 31 | Chloroform | 83 | 5.494 | 5.507 | (0.856) | 230021 | 50.0000 | 51 |
| $ | 32 | Dibromofluoromethane | 113 | 5.662 | 5.684 | (0.882) | 142233 | 50.0000 | 48 |
| | 33 | 1,1,1-Trichloroethane | 97 | 5.711 | 5.724 | (0.890) | 144637 | 50.0000 | 54 |
| | 34 | Cyclohexane | 56 | 5.780 | 5.793 | (0.900) | 350246 | 50.0000 | 53 |
| | 36 | Carbon Tetrachloride | 117 | 5.898 | 5.901 | (0.919) | 140373 | 50.0000 | 51 |
| | 35 | 1,1-Dichloropropene | 110 | 5.888 | 5.901 | (0.917) | 73974 | 50.0000 | 53 |
| $ | 37 | 1,2-Dichloroethane-d4 | 102 | 6.036 | 6.049 | (0.940) | 32792 | 50.0000 | 46 |
| | 38 | Benzene | 78 | 6.115 | 6.127 | (0.952) | 624637 | 50.0000 | 54 |
| | 39 | 1,2-Dichloroethane | 62 | 6.125 | 6.137 | (0.954) | 159161 | 50.0000 | 50 |
| | 40 | tert-Amyl methyl ether | 73 | 6.233 | 6.246 | (0.971) | 319904 | 50.0000 | 48 |
| * | 41 | Fluorobenzene | 96 | 6.420 | 6.433 | (1.000) | 561893 | 50.0000 | |
| | 42 | Trichloroethene | 130 | 6.834 | 6.856 | (1.064) | 167694 | 50.0000 | 52 |
| | 43 | Methylcyclohexane | 83 | 7.070 | 7.083 | (1.101) | 263083 | 50.0000 | 54 |
| | 44 | 1,2-Dichloropropane | 63 | 7.090 | 7.103 | (1.104) | 199469 | 50.0000 | 53 |
| | 46 | Dibromomethane | 93 | 7.228 | 7.231 | (1.126) | 82172 | 50.0000 | 49 |
| | 47 | 1,4-Dioxane | 88 | 7.247 | 7.260 | (1.129) | 24945 | 1000.00 | 1200 |
| | 48 | Bromodichloromethane | 83 | 7.405 | 7.418 | (1.153) | 163004 | 50.0000 | 52 |
| | 45 | 2-Chloroethyl vinyl ether | 63 | 7.770 | 7.772 | (1.210) | 10698 | 50.0000 | 24(T) |
| | 49 | cis-1,3-Dichloropropene | 75 | 7.947 | 7.950 | (1.238) | 252163 | 50.0000 | 53 |
| | 50 | 4-Methyl-2-pentanone | 43 | 8.124 | 8.137 | (1.265) | 183001 | 50.0000 | 48 |
| $ | 51 | Toluene-d8 | 98 | 8.282 | 8.285 | (0.819) | 478670 | 50.0000 | 50 |
| | 52 | Toluene | 91 | 8.360 | 8.373 | (1.302) | 592660 | 50.0000 | 51 |
| | 53 | trans-1,3-Dichloropropene | 75 | 8.626 | 8.629 | (1.344) | 188339 | 50.0000 | 50 |
| | 54 | 1,1,2-Trichloroethane | 97 | 8.853 | 8.856 | (1.379) | 112559 | 50.0000 | 50 |
| | 55 | Tetrachloroethene | 164 | 9.050 | 9.053 | (0.895) | 122595 | 50.0000 | 56 |
| | 56 | 1,3-Dichloropropane | 76 | 9.070 | 9.072 | (0.897) | 203215 | 50.0000 | 52 |
| | 57 | 2-Hexanone | 43 | 9.168 | 9.181 | (0.907) | 136884 | 50.0000 | 50 |
| | 58 | Dibromochloromethane | 129 | 9.355 | 9.358 | (0.925) | 135121 | 50.0000 | 52 |
| | 59 | 1,2-Dibromoethane | 107 | 9.503 | 9.506 | (0.940) | 120252 | 50.0000 | 53 |
| * | 60 | Chlorobenzene-d5 | 117 | 10.114 | 10.126 | (1.000) | 386662 | 50.0000 | |
| | 63 | 1-Chlorohexane | 91 | 10.124 | 10.136 | (1.001) | 221001 | 50.0000 | 57 |
| | 61 | Chlorobenzene | 112 | 10.153 | 10.166 | (1.004) | 380657 | 50.0000 | 50 |
| | 62 | 1,1,1,2-Tetrachloroethane | 131 | 10.252 | 10.264 | (1.014) | 135976 | 50.0000 | 54 |
| | 64 | Ethylbenzene | 106 | 10.301 | 10.304 | (1.019) | 198553 | 50.0000 | 54 |
| | 65 | m,p-Xylene | 106 | 10.449 | 10.461 | (1.033) | 506480 | 100.000 | 110 |
| | 66 | o-Xylene | 106 | 10.951 | 10.954 | (1.083) | 239943 | 50.0000 | 54 |
| | 67 | Styrene | 104 | 10.961 | 10.973 | (1.084) | 406690 | 50.0000 | 53 |
| | 68 | Bromoform | 173 | 11.177 | 11.190 | (1.105) | 83154 | 50.0000 | 53 |
| | 69 | Isopropylbenzene | 105 | 11.404 | 11.417 | (1.128) | 589474 | 50.0000 | 54 |
| | 126 | trans-1,4-Dichloro-2-butene | 75 | 11.473 | 11.486 | (1.134) | 52024 | 50.0000 | 52 |
| $ | 70 | Bromofluorobenzene | 95 | 11.581 | 11.594 | (1.145) | 176002 | 50.0000 | 48 |
| | 72 | Bromobenzene | 156 | 11.768 | 11.781 | (0.909) | 155575 | 50.0000 | 53 |
| | 71 | 1,1,2,2-Tetrachloroethane | 83 | 11.759 | 11.761 | (0.908) | 142886 | 50.0000 | 51 |
| | 73 | 1,2,3-Trichloropropane | 75 | 11.818 | 11.821 | (0.913) | 151256 | 50.0000 | 48 |
| | 74 | n-Propylbenzene | 120 | 11.906 | 11.909 | (0.919) | 160395 | 50.0000 | 53 |
| | 75 | 2-Chlorotoluene | 126 | 12.005 | 12.008 | (0.927) | 155474 | 50.0000 | 53 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1712.D
Report Date: 28-May-2011 14:20

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 76 1,3,5-Trimethylbenzene | 105 | 12.113 | 12.126 | (0.935) | 479325 | 50.0000 | 53 |
| | 77 4-Chlorotoluene | 126 | 12.133 | 12.136 | (0.937) | 155081 | 50.0000 | 52 |
| | 78 tert-Butylbenzene | 119 | 12.507 | 12.510 | (0.966) | 496399 | 50.0000 | 54 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.556 | 12.559 | (0.970) | 486948 | 50.0000 | 54 |
| M | 81 Xylene (Total) | 106 | | | | 746423 | 150.000 | 160 |
| | 80 sec-Butylbenzene | 105 | 12.753 | 12.766 | (0.985) | 668079 | 50.0000 | 54 |
| | 82 1,3-Dichlorobenzene | 146 | 12.881 | 12.884 | (0.995) | 293123 | 50.0000 | 51 |
| | 83 4-Isopropyltoluene | 119 | 12.931 | 12.934 | (0.998) | 523258 | 50.0000 | 53 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.950 | 12.963 | (1.000) | 181336 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.980 | 12.983 | (1.002) | 298551 | 50.0000 | 51 |
| | 86 n-Butylbenzene | 91 | 13.394 | 13.396 | (1.034) | 510399 | 50.0000 | 54 |
| | 87 1,2-Dichlorobenzene | 146 | 13.403 | 13.406 | (1.035) | 265541 | 50.0000 | 51 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.260 | 14.263 | (1.101) | 14832 | 50.0000 | 41(Q) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.176 | 15.179 | (1.172) | 161144 | 50.0000 | 52 |
| | 90 Hexachlorobutadiene | 225 | 15.364 | 15.366 | (1.186) | 91166 | 50.0000 | 58(Q) |
| | 91 Naphthalene | 128 | 15.432 | 15.435 | (1.192) | 335495 | 50.0000 | 49 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.698 | 15.691 | (1.212) | 135141 | 50.0000 | 49 |

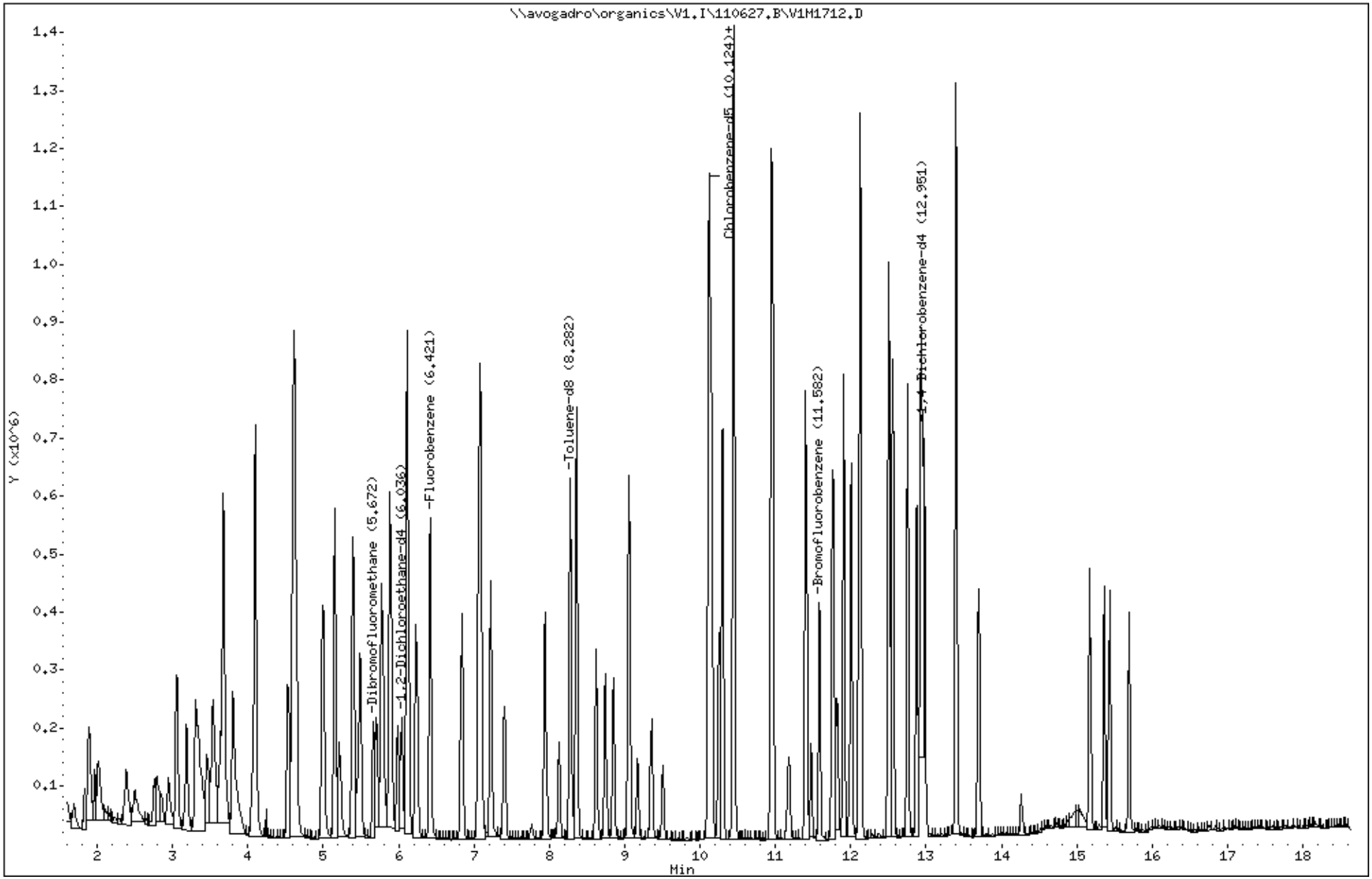
## QC Flag Legend

T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110627.B\V1M1712.D
Date : 27-JUN-2011 10:14
Client ID: VSTD0501S
Sample Info: 5ML,VSTD0501S,VSTD0501S
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1745.D
Report Date: 29-Jun-2011 14:23

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1745.D
Lab Smp Id: VSTD0501T  Client Smp ID: VSTD0501T
Inj Date  : 28-JUN-2011 09:32
Operator  : ALM  SRC: ALM  Inst ID: V1.i
Smp Info  : 5ML,VSTD0501T,VSTD0501T
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110628.B\v18260Gadd.m
Meth Date : 29-Jun-2011 14:22 amarquis  Quant Type: ISTD
Cal Date  : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 32  Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.693 | 1.701 | (0.264) | 53837 | 50.0000 | 31 |
| 2 Freon114 | 85 | 1.831 | 1.849 | (0.285) | 83000 | 50.0000 | 40 |
| 3 Chloromethane | 50 | 1.900 | 1.888 | (0.296) | 230084 | 50.0000 | 48 |
| 4 Vinyl Chloride | 62 | 2.018 | 2.026 | (0.314) | 156581 | 50.0000 | 46 |
| 5 Bromomethane | 94 | 2.393 | 2.391 | (0.373) | 105086 | 50.0000 | 48 |
| 6 Chloroethane | 64 | 2.501 | 2.519 | (0.390) | 95046 | 50.0000 | 47 |
| 7 Trichlorofluoromethane | 101 | 2.767 | 2.785 | (0.431) | 102445 | 50.0000 | 35 |
| 126 Ethanol | 46 | 2.954 | 2.962 | (0.460) | 105502 | 5000.00 | 5100(AQ) |
| 8 Ether | 59 | 3.063 | 3.080 | (0.477) | 166279 | 50.0000 | 49(Q) |
| 9 Acrolein | 56 | 3.191 | 3.198 | (0.497) | 172672 | 250.000 | 370(A) |
| 10 1,1-Dichloroethene | 96 | 3.328 | 3.336 | (0.518) | 143768 | 50.0000 | 53 |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.328 | 3.356 | (0.518) | 115470 | 50.0000 | 53 |
| 12 Acetone | 58 | 3.358 | 3.366 | (0.523) | 23904 | 50.0000 | 29 |
| 13 Iodomethane | 142 | 3.486 | 3.494 | (0.543) | 229445 | 50.0000 | 45 |
| 14 Carbon Disulfide | 76 | 3.555 | 3.563 | (0.554) | 479743 | 50.0000 | 48 |
| 15 Acetonitrile | 41 | 3.683 | 3.691 | (0.574) | 795439 | 500.000 | 1500(AQ) |
| 16 Allyl Chloride | 39 | 3.683 | 3.691 | (0.574) | 288643 | 50.0000 | 68 |
| 17 Methyl Acetate | 43 | 3.703 | 3.711 | (0.577) | 225146 | 50.0000 | 44 |
| 19 tert-Butanol | 59 | 3.929 | 3.937 | (0.612) | 39776 | 100.000 | 76 |
| 18 Methylene Chloride | 84 | 3.821 | 3.839 | (0.595) | 160186 | 50.0000 | 59 |
| 20 Acrylonitrile | 53 | 4.057 | 4.065 | (0.632) | 82645 | 50.0000 | 44 |
| 21 trans-1,2-Dichloroethene | 96 | 4.107 | 4.114 | (0.640) | 146182 | 50.0000 | 47 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1745.D
Report Date: 29-Jun-2011 14:23

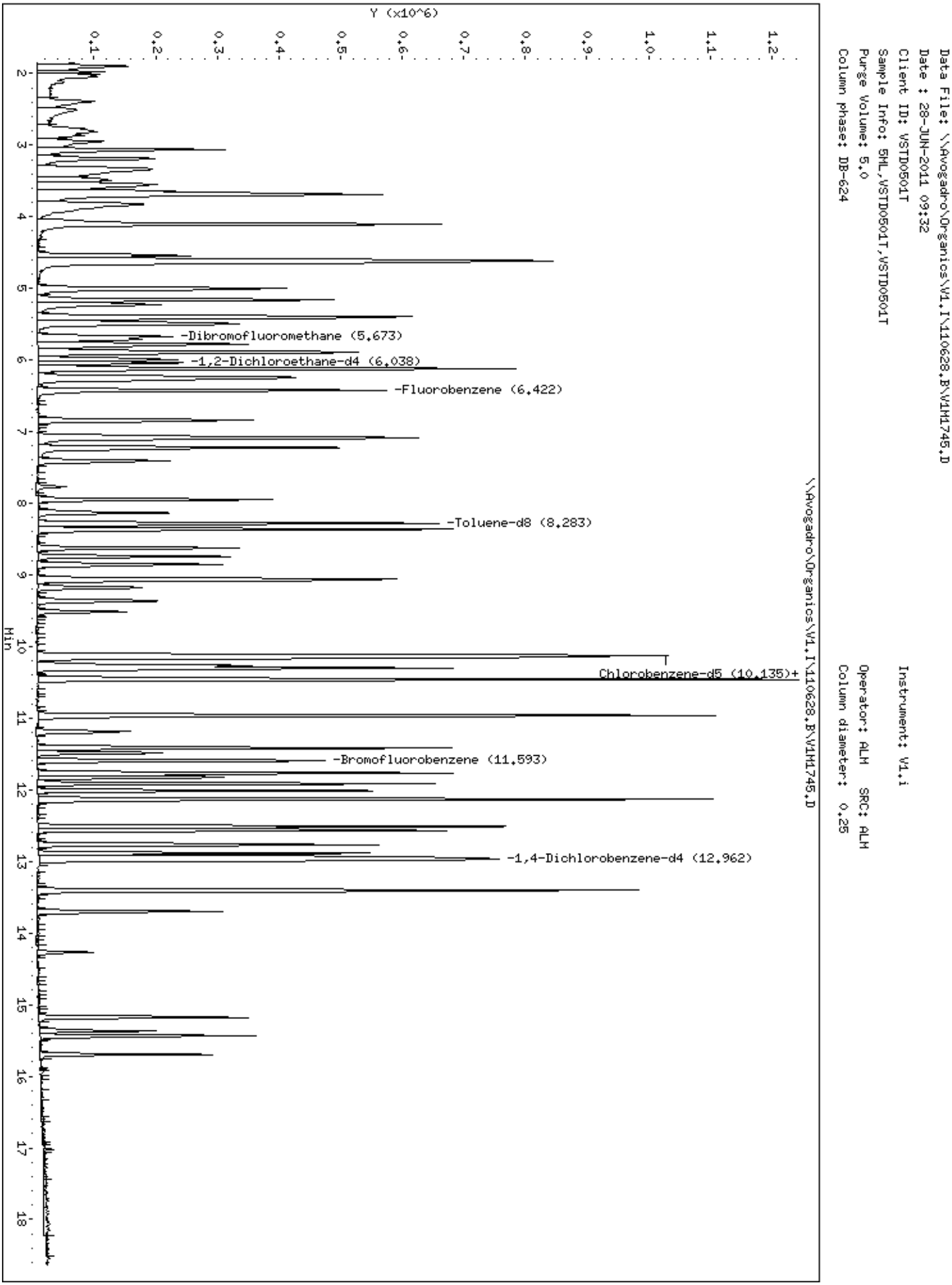
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 22 Methyl tert-butyl ether | 73 | 4.107 | 4.114 | (0.640) | 330204 | 50.0000 | 41 |
| | 23 1,1-Dichloroethane | 63 | 4.540 | 4.558 | (0.707) | 299356 | 50.0000 | 50 |
| | 24 Vinyl acetate | 43 | 4.589 | 4.607 | (0.715) | 916148 | 50.0000 | 48 |
| | 25 Diisopropyl Ether | 45 | 4.619 | 4.637 | (0.719) | 904825 | 50.0000 | 52 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.638 | 4.656 | (0.722) | 244580 | 50.0000 | 46 |
| | 27 Ethyl tert-butyl ether | 59 | 5.003 | 5.021 | (0.779) | 456592 | 50.0000 | 42 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.160 | 5.168 | (0.804) | 152769 | 50.0000 | 45 |
| | 29 2,2-Dichloropropane | 77 | 5.160 | 5.178 | (0.804) | 74958 | 50.0000 | 41 |
| | 30 2-Butanone | 72 | 5.160 | 5.178 | (0.804) | 16576 | 50.0000 | 27 |
| | 32 Propionitrile | 54 | 5.229 | 5.237 | (0.814) | 284342 | 500.000 | 420(A) |
| | 33 Methacrylonitrile | 41 | 5.397 | 5.405 | (0.840) | 320957 | 100.000 | 89 |
| | 34 Bromochloromethane | 128 | 5.407 | 5.424 | (0.842) | 83208 | 50.0000 | 43 |
| | 31 Tetrahydrofuran | 72 | 5.476 | 5.484 | (0.853) | 36837 | 100.000 | 80 |
| | 35 Chloroform | 83 | 5.495 | 5.513 | (0.856) | 213236 | 50.0000 | 44 |
| $ | 36 Dibromofluoromethane | 113 | 5.673 | 5.681 | (0.883) | 149466 | 50.0000 | 44 |
| | 37 1,1,1-Trichloroethane | 97 | 5.712 | 5.730 | (0.890) | 119367 | 50.0000 | 41 |
| | 38 Cyclohexane | 56 | 5.781 | 5.799 | (0.900) | 275047 | 50.0000 | 52 |
| | 39 1,1-Dichloropropene | 110 | 5.889 | 5.907 | (0.917) | 67710 | 50.0000 | 46 |
| | 40 Carbon Tetrachloride | 117 | 5.889 | 5.907 | (0.917) | 120455 | 50.0000 | 42 |
| | 41 Isobutyl Alcohol | 43 | 5.988 | 6.006 | (0.933) | 220225 | 1000.00 | 780(A) |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.037 | 6.055 | (0.940) | 34654 | 50.0000 | 48 |
| | 43 Benzene | 78 | 6.116 | 6.134 | (0.952) | 563854 | 50.0000 | 50 |
| | 44 1,2-Dichloroethane | 62 | 6.126 | 6.144 | (0.954) | 162480 | 50.0000 | 43 |
| | 45 tert-Amyl methyl ether | 73 | 6.234 | 6.252 | (0.971) | 339844 | 50.0000 | 42 |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 298951 | 100.000 | 92 |
| * | 46 Fluorobenzene | 96 | 6.421 | 6.439 | (1.000) | 573607 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.845 | 6.853 | (1.066) | 149772 | 50.0000 | 45 |
| | 48 Methylcyclohexane | 83 | 7.071 | 7.089 | (1.101) | 182230 | 50.0000 | 53 |
| | 49 1,2-Dichloropropane | 63 | 7.091 | 7.109 | (1.104) | 187732 | 50.0000 | 52 |
| | 51 Methyl Methacrylate | 69 | 7.229 | 7.237 | (1.126) | 120872 | 50.0000 | 43 |
| | 52 Dibromomethane | 93 | 7.229 | 7.237 | (1.126) | 92777 | 50.0000 | 43 |
| | 53 1,4-Dioxane | 88 | 7.258 | 7.266 | (1.130) | 28677 | 1000.00 | 880(A) |
| | 54 Bromodichloromethane | 83 | 7.406 | 7.424 | (1.153) | 150008 | 50.0000 | 42 |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.771 | 7.779 | (1.210) | 19282 | 50.0000 | 51 |
| | 56 cis-1,3-Dichloropropene | 75 | 7.948 | 7.956 | (1.238) | 240607 | 50.0000 | 48 |
| | 57 4-Methyl-2-pentanone | 43 | 8.135 | 8.143 | (1.267) | 239392 | 50.0000 | 28 |
| $ | 58 Toluene-d8 | 98 | 8.283 | 8.291 | (0.818) | 491650 | 50.0000 | 54 |
| | 59 Toluene | 91 | 8.362 | 8.379 | (1.302) | 560276 | 50.0000 | 49 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.628 | 8.635 | (1.344) | 195119 | 50.0000 | 44 |
| | 61 Ethyl Methacrylate | 69 | 8.746 | 8.754 | (1.362) | 175023 | 50.0000 | 46 |
| | 62 1,1,2-Trichloroethane | 97 | 8.854 | 8.862 | (1.379) | 119225 | 50.0000 | 43 |
| | 63 Tetrachloroethene | 164 | 9.051 | 9.069 | (0.894) | 104699 | 50.0000 | 52 |
| | 64 1,3-Dichloropropane | 76 | 9.071 | 9.079 | (0.896) | 210872 | 50.0000 | 48 |
| | 65 2-Hexanone | 43 | 9.179 | 9.187 | (0.907) | 176790 | 50.0000 | 30 |
| | 66 Dibromochloromethane | 129 | 9.366 | 9.364 | (0.925) | 136975 | 50.0000 | 44 |
| | 67 1,2-Dibromoethane | 107 | 9.514 | 9.522 | (0.940) | 127322 | 50.0000 | 42 |
| | 69 1-Chlorohexane | 91 | 10.135 | 10.133 | (1.001) | 168637 | 50.0000 | 50 |
| * | 68 Chlorobenzene-d5 | 117 | 10.125 | 10.123 | (1.000) | 396074 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.164 | 10.162 | (1.004) | 354423 | 50.0000 | 49 |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.263 | 10.270 | (1.014) | 124385 | 50.0000 | 45 |
| | 72 Ethylbenzene | 106 | 10.302 | 10.310 | (1.018) | 173754 | 50.0000 | 48 |
| | 73 m,p-Xylene | 106 | 10.460 | 10.458 | (1.033) | 437291 | 100.000 | 97 |
| | 74 o-Xylene | 106 | 10.952 | 10.960 | (1.082) | 213920 | 50.0000 | 49 |
| | 75 Styrene | 104 | 10.972 | 10.970 | (1.084) | 375128 | 50.0000 | 51 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1745.D
Report Date: 29-Jun-2011 14:23

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 76 Bromoform | 173 | 11.188 | 11.186 | (1.105) | 92750 | 50.0000 | 50 |
| | 77 Isopropylbenzene | 105 | 11.415 | 11.413 | (1.127) | 498463 | 50.0000 | 48 |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.484 | 11.482 | (1.134) | 60117 | 50.0000 | 70 |
| $ | 79 Bromofluorobenzene | 95 | 11.592 | 11.590 | (1.145) | 190865 | 50.0000 | 49 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.760 | 11.758 | (0.907) | 169834 | 50.0000 | 43 |
| | 81 Bromobenzene | 156 | 11.770 | 11.777 | (0.908) | 141889 | 50.0000 | 45 |
| | 82 1,2,3-Trichloropropane | 75 | 11.819 | 11.817 | (0.912) | 193054 | 50.0000 | 46 |
| | 83 n-Propylbenzene | 120 | 11.917 | 11.915 | (0.919) | 132079 | 50.0000 | 45 |
| | 84 2-Chlorotoluene | 126 | 12.016 | 12.014 | (0.927) | 128673 | 50.0000 | 43 |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.124 | 12.122 | (0.935) | 397124 | 50.0000 | 46 |
| | 86 4-Chlorotoluene | 126 | 12.144 | 12.142 | (0.937) | 140951 | 50.0000 | 45 |
| M | 94 Xylene (Total) | 106 | | | | 651211 | 150.000 | 150 |
| | 87 tert-Butylbenzene | 119 | 12.508 | 12.506 | (0.965) | 382852 | 50.0000 | 44 |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.567 | 12.565 | (0.970) | 410731 | 50.0000 | 46 |
| | 89 sec-Butylbenzene | 105 | 12.764 | 12.762 | (0.985) | 462364 | 50.0000 | 46 |
| | 90 1,3-Dichlorobenzene | 146 | 12.883 | 12.881 | (0.994) | 258923 | 50.0000 | 47 |
| | 91 4-Isopropyltoluene | 119 | 12.932 | 12.930 | (0.998) | 374342 | 50.0000 | 46 |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.959 | (1.000) | 205894 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.991 | 12.989 | (1.002) | 264474 | 50.0000 | 46 |
| | 95 n-Butylbenzene | 91 | 13.405 | 13.403 | (1.034) | 326672 | 50.0000 | 46 |
| | 96 1,2-Dichlorobenzene | 146 | 13.414 | 13.413 | (1.035) | 240964 | 50.0000 | 45 |
| | 97 Hexachloroethane | 117 | 13.700 | 13.698 | (1.057) | 80078 | 50.0000 | 46 |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.271 | 14.269 | (1.101) | 20326 | 50.0000 | 36 |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.178 | 15.176 | (1.171) | 117436 | 50.0000 | 49 |
| | 100 Hexachlorobutadiene | 225 | 15.365 | 15.363 | (1.185) | 41404 | 50.0000 | 58 |
| | 101 Naphthalene | 128 | 15.443 | 15.442 | (1.191) | 309621 | 50.0000 | 36 |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.700 | 15.698 | (1.211) | 96885 | 50.0000 | 46 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.


Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1745.D
Date : 28-JUN-2011 09:32
Client ID: VSTD0501T
Sample Info: 5ML,VSTD0501T,VSTD0501T
Purge Volume: 5.0
Column phase: DB-624
Instrument: V1.i
Operator: ALM SRC: ALM
Column diameter: 0.25
\\Avogadro\Organics\V1.I\110628.B\V1M1745.D
Y (x10^6)
Min
-Dibromofluoromethane (5.673)
-1,2-Dichloroethane-d4 (6.038)
-Fluorobenzene (6.422)
-Toluene-d8 (8.283)
Chlorobenzene-d5 (10.135)+
-Bromofluorobenzene (11.593)
-1,4-Dichlorobenzene-d4 (12.962)

Data File: \\avogadro\organics\V1.I\110630.B\V1M1804.D
Report Date: 06-Jun-2011 10:38

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110630.B\V1M1804.D
Lab Smp Id: VSTD0501V  Client Smp ID: VSTD0501V
Inj Date  : 30-JUN-2011 09:40
Operator  : ALM  SRC: ALM  Inst ID: V1.i
Smp Info  : 5ML,VSTD0501V,VSTD0501V
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110630.B\v18260GH.m
Meth Date : 06-Jun-2011 10:34 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 31  Continuing Calibration Sample
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 25.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.697 | 1.702 | (0.264) | 46019 | 50.0000 | 42 |
| 2 Chloromethane | 50 | 1.894 | 1.889 | (0.295) | 182490 | 50.0000 | 50 |
| 3 Vinyl Chloride | 62 | 2.023 | 2.017 | (0.315) | 137374 | 50.0000 | 54 |
| 4 Bromomethane | 94 | 2.387 | 2.391 | (0.372) | 80255 | 50.0000 | 56 |
| 5 Chloroethane | 64 | 2.505 | 2.509 | (0.390) | 79513 | 50.0000 | 56 |
| 6 Trichlorofluoromethane | 101 | 2.761 | 2.775 | (0.430) | 104019 | 50.0000 | 57 |
| 127 Ethanol | 46 | 2.958 | 2.953 | (0.460) | 71048 | 5000.00 | 8800(Q) |
| 7 Ether | 59 | 3.067 | 3.071 | (0.477) | 106973 | 50.0000 | 51(Q) |
| 8 Acrolein | 56 | 3.195 | 3.199 | (0.497) | 129459 | 250.000 | 240 |
| 9 1,1-Dichloroethene | 96 | 3.313 | 3.317 | (0.516) | 110564 | 50.0000 | 58 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.342 | 3.337 | (0.520) | 100736 | 50.0000 | 55 |
| 11 Acetone | 58 | 3.352 | 3.366 | (0.522) | 12844 | 50.0000 | 48(Q) |
| 12 Iodomethane | 142 | 3.470 | 3.485 | (0.540) | 191219 | 50.0000 | 51 |
| 13 Carbon Disulfide | 76 | 3.539 | 3.553 | (0.551) | 412943 | 50.0000 | 55 |
| 14 Acetonitrile | 40 | 3.638 | 3.652 | (0.566) | 66143 | 500.000 | 270(Q) |
| 15 Methyl Acetate | 43 | 3.707 | 3.711 | (0.577) | 116498 | 50.0000 | 50 |
| 16 Methylene Chloride | 84 | 3.805 | 3.819 | (0.592) | 119702 | 50.0000 | 52 |
| 17 tert-Butanol | 59 | 3.923 | 3.938 | (0.611) | 21791 | 100.000 | 110 |
| 18 Acrylonitrile | 53 | 4.061 | 4.066 | (0.632) | 44032 | 50.0000 | 51 |
| 20 Methyl tert-butyl ether | 73 | 4.101 | 4.115 | (0.638) | 215491 | 50.0000 | 51 |
| 19 trans-1,2-Dichloroethene | 96 | 4.101 | 4.115 | (0.638) | 115213 | 50.0000 | 54 |
| 21 1,1-Dichloroethane | 63 | 4.544 | 4.548 | (0.707) | 226586 | 50.0000 | 54 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1804.D
Report Date: 06-Jun-2011 10:38

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 22 Vinyl acetate | 43 | 4.593 | 4.617 | (0.715) | 602980 | 50.0000 | 51 |
| | 23 Diisopropyl Ether | 45 | 4.613 | 4.627 | (0.718) | 657703 | 50.0000 | 53 |
| | 24 Ethyl tert-butyl ether | 59 | 5.007 | 5.011 | (0.779) | 329660 | 50.0000 | 52 |
| M | 27 1,2-dichloroethene, (Total) | 100 | | | | 234531 | 100.000 | 110 |
| | 25 cis-1,2-Dichloroethene | 96 | 5.165 | 5.169 | (0.804) | 119318 | 50.0000 | 53 |
| | 26 2,2-Dichloropropane | 77 | 5.165 | 5.169 | (0.804) | 71413 | 50.0000 | 55 |
| | 28 2-Butanone | 72 | 5.165 | 5.169 | (0.804) | 9871 | 50.0000 | 49(Q) |
| | 29 Bromochloromethane | 128 | 5.411 | 5.425 | (0.842) | 54730 | 50.0000 | 49 |
| | 30 Tetrahydrofuran | 72 | 5.470 | 5.474 | (0.851) | 20570 | 100.000 | 98 |
| | 31 Chloroform | 83 | 5.499 | 5.504 | (0.856) | 165238 | 50.0000 | 55 |
| $ | 32 Dibromofluoromethane | 113 | 5.667 | 5.671 | (0.882) | 91575 | 50.0000 | 46 |
| | 33 1,1,1-Trichloroethane | 97 | 5.716 | 5.720 | (0.890) | 103167 | 50.0000 | 57 |
| | 34 Cyclohexane | 56 | 5.785 | 5.789 | (0.900) | 268428 | 50.0000 | 60 |
| | 36 Carbon Tetrachloride | 117 | 5.893 | 5.908 | (0.917) | 102071 | 50.0000 | 55 |
| | 35 1,1-Dichloropropene | 110 | 5.893 | 5.898 | (0.917) | 50922 | 50.0000 | 54 |
| $ | 37 1,2-Dichloroethane-d4 | 102 | 6.051 | 6.045 | (0.942) | 20109 | 50.0000 | 42 |
| | 38 Benzene | 78 | 6.120 | 6.124 | (0.952) | 446862 | 50.0000 | 57 |
| | 39 1,2-Dichloroethane | 62 | 6.130 | 6.134 | (0.954) | 110408 | 50.0000 | 52 |
| | 40 tert-Amyl methyl ether | 73 | 6.238 | 6.242 | (0.971) | 239295 | 50.0000 | 53 |
| * | 41 Fluorobenzene | 96 | 6.425 | 6.430 | (1.000) | 378961 | 50.0000 | |
| | 42 Trichloroethene | 130 | 6.839 | 6.853 | (1.064) | 114046 | 50.0000 | 52 |
| | 43 Methylcyclohexane | 83 | 7.075 | 7.080 | (1.101) | 194225 | 50.0000 | 59 |
| | 44 1,2-Dichloropropane | 63 | 7.095 | 7.099 | (1.104) | 141649 | 50.0000 | 55 |
| | 46 Dibromomethane | 93 | 7.233 | 7.237 | (1.126) | 59658 | 50.0000 | 52 |
| | 47 1,4-Dioxane | 88 | 7.253 | 7.267 | (1.129) | 16763 | 1000.00 | 1100 |
| | 48 Bromodichloromethane | 83 | 7.410 | 7.415 | (1.153) | 112924 | 50.0000 | 53 |
| | 45 2-Chloroethyl vinyl ether | 63 | 7.775 | 7.769 | (1.210) | 10327 | 50.0000 | 35(Q) |
| | 49 cis-1,3-Dichloropropene | 75 | 7.942 | 7.946 | (1.236) | 180624 | 50.0000 | 56 |
| | 50 4-Methyl-2-pentanone | 43 | 8.129 | 8.134 | (1.265) | 134198 | 50.0000 | 53 |
| $ | 51 Toluene-d8 | 98 | 8.287 | 8.281 | (0.819) | 320259 | 50.0000 | 49 |
| | 52 Toluene | 91 | 8.366 | 8.370 | (1.302) | 429889 | 50.0000 | 55 |
| | 53 trans-1,3-Dichloropropene | 75 | 8.622 | 8.626 | (1.342) | 132718 | 50.0000 | 53 |
| | 54 1,1,2-Trichloroethane | 97 | 8.858 | 8.853 | (1.379) | 78410 | 50.0000 | 52 |
| | 55 Tetrachloroethene | 164 | 9.055 | 9.059 | (0.895) | 85911 | 50.0000 | 58 |
| | 56 1,3-Dichloropropane | 76 | 9.065 | 9.069 | (0.896) | 134360 | 50.0000 | 51 |
| | 57 2-Hexanone | 43 | 9.173 | 9.178 | (0.907) | 96996 | 50.0000 | 52 |
| | 58 Dibromochloromethane | 129 | 9.360 | 9.355 | (0.925) | 91994 | 50.0000 | 52 |
| | 59 1,2-Dibromoethane | 107 | 9.508 | 9.512 | (0.940) | 81128 | 50.0000 | 52 |
| * | 60 Chlorobenzene-d5 | 117 | 10.119 | 10.123 | (1.000) | 263400 | 50.0000 | |
| | 63 1-Chlorohexane | 91 | 10.129 | 10.133 | (1.001) | 159423 | 50.0000 | 60 |
| | 61 Chlorobenzene | 112 | 10.148 | 10.153 | (1.003) | 280144 | 50.0000 | 54 |
| | 62 1,1,1,2-Tetrachloroethane | 131 | 10.257 | 10.261 | (1.014) | 96667 | 50.0000 | 56 |
| | 64 Ethylbenzene | 106 | 10.296 | 10.300 | (1.018) | 141721 | 50.0000 | 56 |
| | 65 m,p-Xylene | 106 | 10.454 | 10.458 | (1.033) | 358424 | 100.000 | 110 |
| | 66 o-Xylene | 106 | 10.956 | 10.951 | (1.083) | 169810 | 50.0000 | 56 |
| | 67 Styrene | 104 | 10.966 | 10.970 | (1.084) | 291258 | 50.0000 | 56 |
| | 68 Bromoform | 173 | 11.192 | 11.187 | (1.106) | 55617 | 50.0000 | 52 |
| | 69 Isopropylbenzene | 105 | 11.409 | 11.413 | (1.127) | 439578 | 50.0000 | 59 |
| | 126 trans-1,4-Dichloro-2-butene | 75 | 11.488 | 11.482 | (1.135) | 36620 | 50.0000 | 54 |
| $ | 70 Bromofluorobenzene | 95 | 11.586 | 11.591 | (1.145) | 123966 | 50.0000 | 50 |
| | 72 Bromobenzene | 156 | 11.774 | 11.778 | (0.909) | 113494 | 50.0000 | 58 |
| | 71 1,1,2,2-Tetrachloroethane | 83 | 11.764 | 11.768 | (0.908) | 102466 | 50.0000 | 54 |
| | 73 1,2,3-Trichloropropane | 75 | 11.823 | 11.768 | (0.913) | 112453 | 50.0000 | 54 |
| | 74 n-Propylbenzene | 120 | 11.912 | 11.916 | (0.919) | 115928 | 50.0000 | 58 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1804.D
Report Date: 06-Jun-2011 10:38

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 75 2-Chlorotoluene | 126 | 12.010 | 12.014 | (0.927) | 110993 | 50.0000 | 57 |
| | 76 1,3,5-Trimethylbenzene | 105 | 12.128 | 12.132 | (0.936) | 351915 | 50.0000 | 58 |
| | 77 4-Chlorotoluene | 126 | 12.138 | 12.142 | (0.937) | 112249 | 50.0000 | 56 |
| | 78 tert-Butylbenzene | 119 | 12.512 | 12.517 | (0.966) | 371476 | 50.0000 | 60 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.562 | 12.566 | (0.970) | 358737 | 50.0000 | 60 |
| M | 81 Xylene (Total) | 106 | | | | 528234 | 150.000 | 170 |
| | 80 sec-Butylbenzene | 105 | 12.768 | 12.763 | (0.986) | 498030 | 50.0000 | 60 |
| | 82 1,3-Dichlorobenzene | 146 | 12.887 | 12.891 | (0.995) | 217540 | 50.0000 | 56 |
| | 83 4-Isopropyltoluene | 119 | 12.936 | 12.930 | (0.998) | 385337 | 50.0000 | 59 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.956 | 12.960 | (1.000) | 121468 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.985 | 12.989 | (1.002) | 214131 | 50.0000 | 55 |
| | 86 n-Butylbenzene | 91 | 13.399 | 13.403 | (1.034) | 383583 | 50.0000 | 61 |
| | 87 1,2-Dichlorobenzene | 146 | 13.409 | 13.413 | (1.035) | 188958 | 50.0000 | 54 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.275 | 14.280 | (1.102) | 12181 | 50.0000 | 50(Q) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.182 | 15.186 | (1.172) | 117656 | 50.0000 | 57 |
| | 90 Hexachlorobutadiene | 225 | 15.369 | 15.373 | (1.186) | 71053 | 50.0000 | 67(Q) |
| | 91 Naphthalene | 128 | 15.438 | 15.442 | (1.192) | 236035 | 50.0000 | 52 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.694 | 15.698 | (1.211) | 100817 | 50.0000 | 55 |

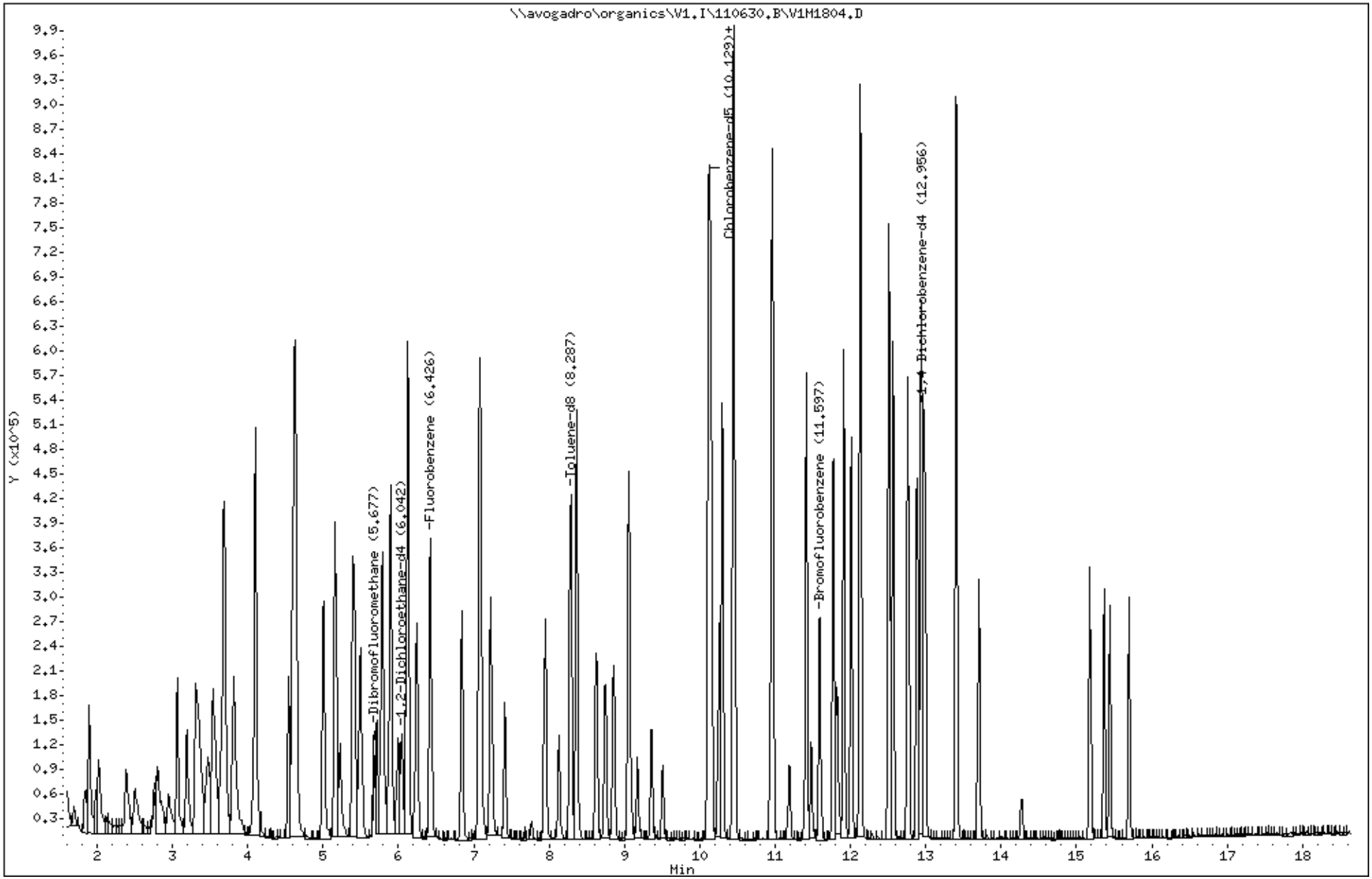
QC Flag Legend

Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110630.B\V1M1804.D
Date : 30-JUN-2011 09:40
Client ID: VSTD0501V
Sample Info: 5ML,VSTD0501V,VSTD0501V
Purge Volume: 25.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: ALM
Column diameter: 0.25



Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V1.I\110601.B\V1M1404.D
Lab Smp Id: BFB1F Client Smp ID: BFB1F
Inj Date : 01-JUN-2011 11:43
Operator : SZ SRC: SZ Inst ID: V1.i
Smp Info : 2UL,BFB1F,BFB1F
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110601.B\bfb8260.m
Meth Date : 13-May-2011 11:04 vbrizard Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: SOIL
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vf | 1.000 | Volumetric correction factor |
| Cpnd Variable | | Local Compound Variable |

| RT | EXP RT | REL RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | CONCENTRATIONS FINAL (ug/Kg) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | CAS #: 460-00-4 | | |
| 5.957 | 5.900 | ( 0.000) | 95 | 424576 | | | 0.00- 100.00 | 100.00 |
| 5.957 | 5.900 | ( 0.000) | 50 | 81856 | | | 15.00- 40.00 | 19.28 |
| 5.957 | 5.900 | ( 0.000) | 75 | 157056 | | | 30.00- 60.00 | 36.99 |
| 5.957 | 5.900 | ( 0.000) | 96 | 26240 | | | 5.00- 9.00 | 6.18 |
| 5.957 | 5.900 | ( 0.000) | 173 | 0 | 0.0 | 0.0 | 0.00- 2.00 | 0.00 |
| 5.957 | 5.900 | ( 0.000) | 174 | 291584 | | | 50.00- 0.00 | 68.68 |
| 5.957 | 5.900 | ( 0.000) | 175 | 24488 | | | 5.00- 9.00 | 8.40 |
| 5.957 | 5.900 | ( 0.000) | 176 | 281408 | | | 95.00- 101.00 | 96.51 |
| 5.957 | 5.900 | ( 0.000) | 177 | 18048 | | | 5.00- 9.00 | 6.41 |

Data File: \\avogadro\organics\V1.I\110601.B\V1M1404.D



Date : 01-JUN-2011 11:43

Client ID: BFB1F

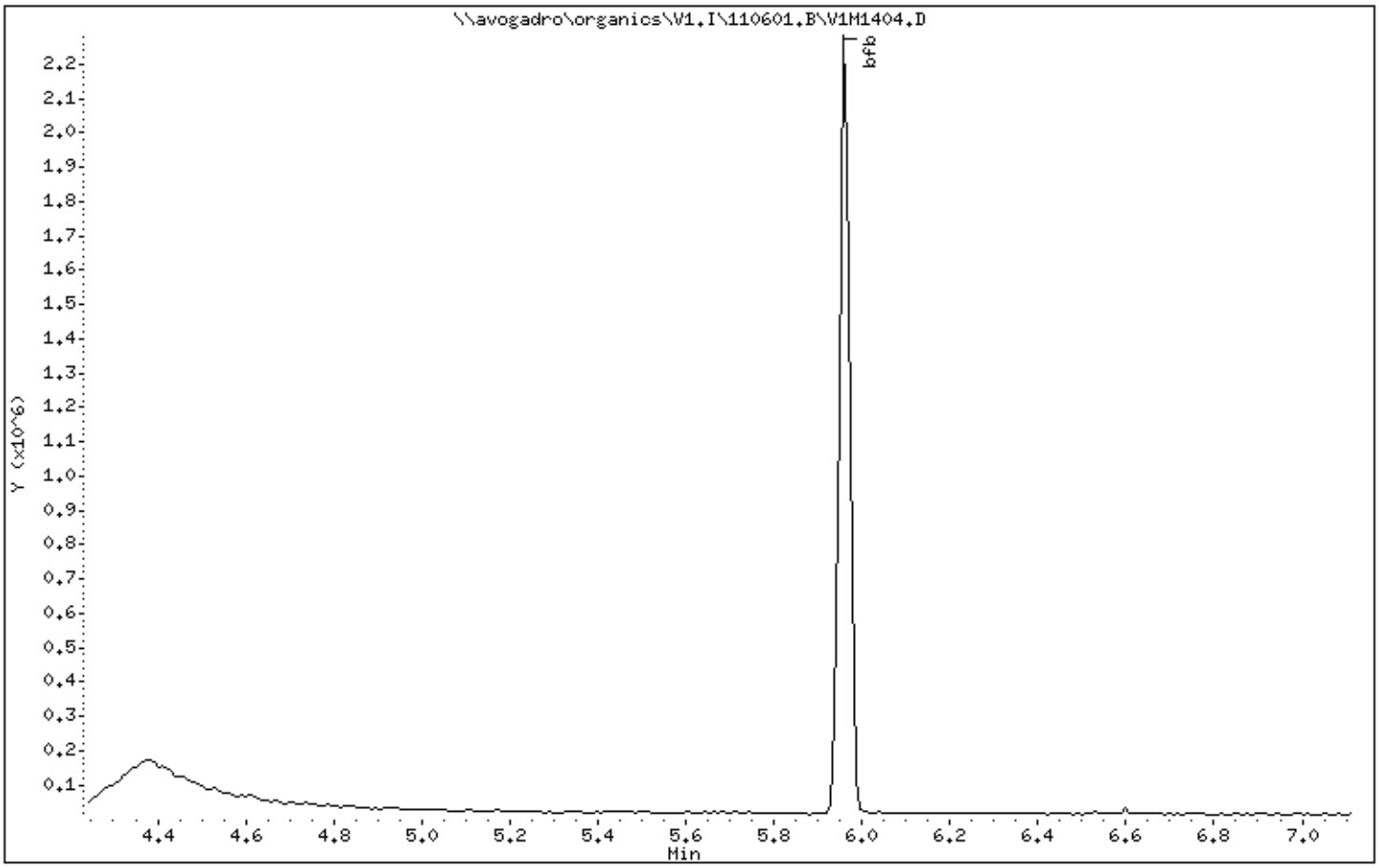
Instrument: V1.i

Sample Info: 2UL,BFB1F,BFB1F

Operator: SZ  SRC: SZ

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110601.B\V1M1404.D 

Date : 01-JUN-2011 11:43

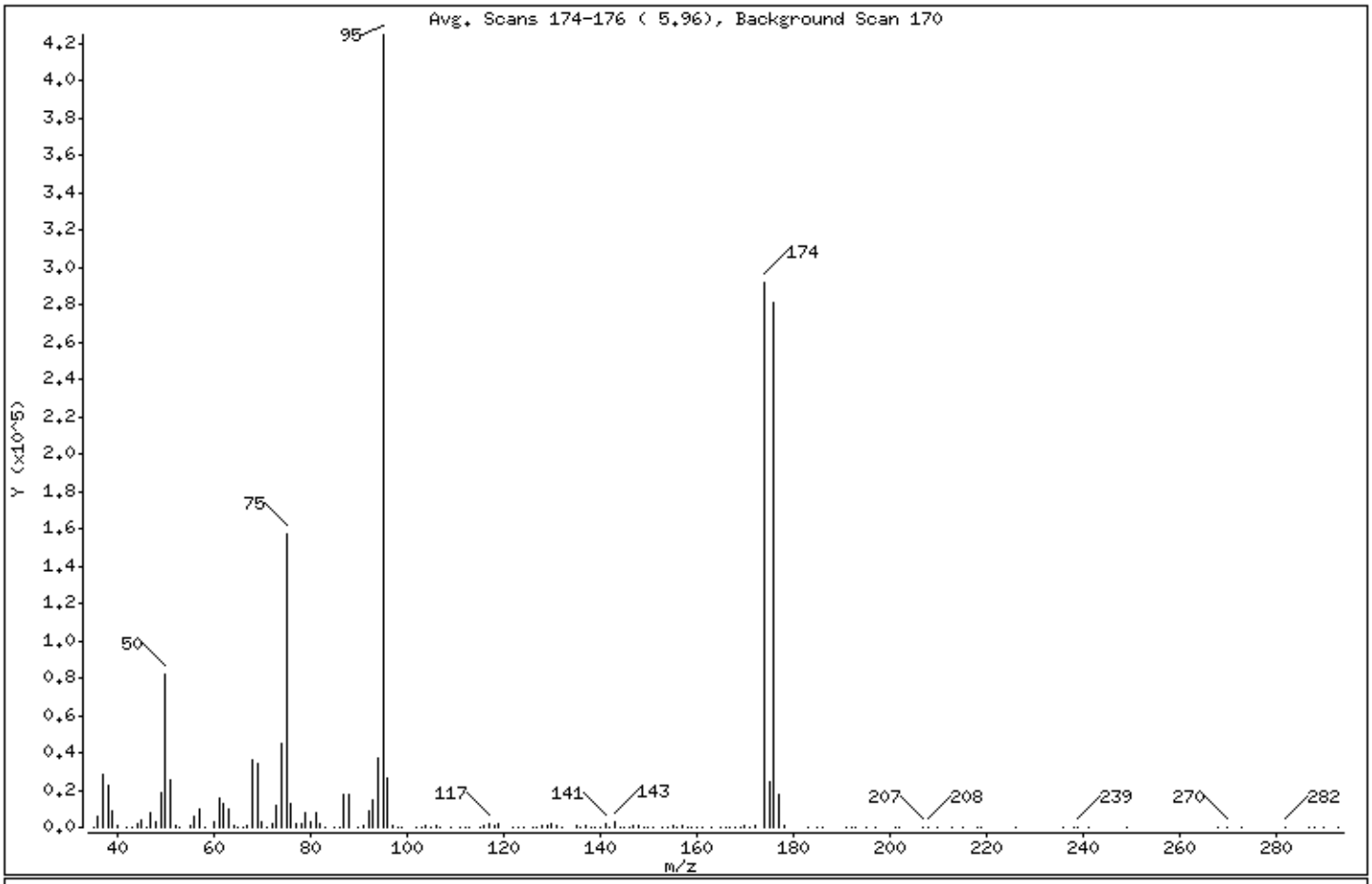
Client ID: BFB1F Instrument: V1.i

Sample Info: 2UL,BFB1F,BFB1F

Operator: SZ SRC: SZ

Column phase: DB-624 Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 19.28 |
| 75 | 30.00 - 60.00% of mass 95 | 36.99 |
| 96 | 5.00 - 9.00% of mass 95 | 6.18 |
| 173 | Less than 2.00% of mass 174 | 0.00 ( 0.00) |
| 174 | Greater than 50.00% of mass 95 | 68.68 |
| 175 | 5.00 - 9.00% of mass 174 | 5.77 ( 8.40) |
| 176 | 95.00 - 101.00% of mass 174 | 66.28 ( 96.51) |
| 177 | 5.00 - 9.00% of mass 176 | 4.25 ( 6.41) |

Date : 01-JUN-2011 11:43

Client ID: BFB1F Instrument: V1.i

Sample Info: 2UL,BFB1F,BFB1F

Operator: SZ SRC: SZ

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1404.D
Spectrum: Avg. Scans 174-176 ( 5.96), Background Scan 170
Location of Maximum: 95.00
Number of points: 156

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 35.00 | 159 | 78.00 | 1865 | 128.00 | 1310 | 174.00 | 291584 |
| 36.00 | 5636 | 79.00 | 7977 | 129.00 | 587 | 175.00 | 24488 |
| 37.00 | 28344 | 80.00 | 2583 | 130.00 | 1588 | 176.00 | 281408 |
| 38.00 | 22616 | 81.00 | 8074 | 131.00 | 666 | 177.00 | 18048 |
| 39.00 | 8370 | 82.00 | 2193 | 132.00 | 133 | 178.00 | 793 |
| 40.00 | 1064 | 83.00 | 325 | 135.00 | 539 | 183.00 | 37 |
| 42.00 | 76 | 85.00 | 334 | 136.00 | 103 | 185.00 | 61 |
| 43.00 | 440 | 86.00 | 460 | 137.00 | 542 | 186.00 | 69 |
| 44.00 | 1764 | 87.00 | 17760 | 138.00 | 210 | 191.00 | 24 |
| 45.00 | 3790 | 88.00 | 17976 | 139.00 | 169 | 192.00 | 40 |
| 46.00 | 107 | 90.00 | 246 | 140.00 | 56 | 193.00 | 82 |
| 47.00 | 7662 | 91.00 | 981 | 141.00 | 2052 | 195.00 | 69 |
| 48.00 | 2598 | 92.00 | 8733 | 142.00 | 384 | 197.00 | 52 |
| 49.00 | 18536 | 93.00 | 14195 | 143.00 | 2474 | 201.00 | 37 |
| 50.00 | 81856 | 94.00 | 37224 | 144.00 | 279 | 202.00 | 44 |
| 51.00 | 24928 | 95.00 | 424576 | 145.00 | 321 | 207.00 | 243 |
| 52.00 | 970 | 96.00 | 26240 | 146.00 | 405 | 208.00 | 162 |
| 53.00 | 164 | 97.00 | 704 | 147.00 | 494 | 210.00 | 133 |
| 55.00 | 964 | 98.00 | 173 | 148.00 | 529 | 213.00 | 57 |
| 56.00 | 5669 | 99.00 | 105 | 149.00 | 355 | 215.00 | 58 |
| 57.00 | 10012 | 102.00 | 80 | 150.00 | 462 | 218.00 | 119 |
| 58.00 | 302 | 103.00 | 187 | 151.00 | 92 | 219.00 | 44 |
| 60.00 | 2783 | 104.00 | 1247 | 153.00 | 245 | 226.00 | 36 |
| 61.00 | 16059 | 105.00 | 457 | 154.00 | 193 | 236.00 | 39 |
| 62.00 | 12815 | 106.00 | 969 | 155.00 | 1012 | 238.00 | 54 |
| 63.00 | 10112 | 107.00 | 125 | 156.00 | 90 | 239.00 | 55 |
| 64.00 | 930 | 109.00 | 83 | 157.00 | 606 | 241.00 | 37 |
| 65.00 | 383 | 111.00 | 150 | 158.00 | 36 | 249.00 | 55 |
| 66.00 | 31 | 112.00 | 119 | 159.00 | 402 | 268.00 | 62 |
| 67.00 | 807 | 113.00 | 122 | 160.00 | 91 | 270.00 | 70 |
| 68.00 | 35832 | 115.00 | 253 | 161.00 | 335 | 273.00 | 34 |
| 69.00 | 33704 | 116.00 | 1076 | 163.00 | 146 | 282.00 | 99 |
| 70.00 | 2780 | 117.00 | 1800 | 165.00 | 39 | 287.00 | 36 |
| 71.00 | 194 | 118.00 | 896 | 166.00 | 182 | 288.00 | 52 |
| 72.00 | 1850 | 119.00 | 1571 | 167.00 | 141 | 290.00 | 33 |

Date : 01-JUN-2011 11:43

Client ID: BFB1F Instrument: V1.i

Sample Info: 2UL,BFB1F,BFB1F

Operator: SZ SRC: SZ

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1404.D
Spectrum: Avg. Scans 174-176 ( 5.96), Background Scan 170
Location of Maximum: 95.00
Number of points: 156

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 73.00 | 11969 | 122.00 | 261 | 168.00 | 336 | 293.00 | 42 |
| 74.00 | 44928 | 123.00 | 107 | 169.00 | 262 | | |
| 75.00 | 157056 | 124.00 | 173 | 170.00 | 503 | | |
| 76.00 | 12986 | 126.00 | 226 | 171.00 | 290 | | |
| 77.00 | 1876 | 127.00 | 184 | 172.00 | 966 | | |

Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V1.I\110622.B\V1M1630.D
Lab Smp Id: BFB1P Client Smp ID: BFB1P
Inj Date : 22-JUN-2011 07:57
Operator : ALM SRC: ALM Inst ID: V1.i
Smp Info : 2UL,BFB1P,BFB1P
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110622.B\bfb8260.m
Meth Date : 24-May-2011 14:50 vbrizard Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: SOIL
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vf | 1.000 | Volumetric correction factor |
| Cpnd Variable | | Local Compound Variable |

| RT | EXP RT | REL RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | FINAL (ug/Kg) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 5.974 | 5.900 | ( 0.000) | 95 | 88328 | | | 0.00- 100.00 | 100.00 |
| 5.974 | 5.900 | ( 0.000) | 50 | 17304 | | | 15.00- 40.00 | 19.59 |
| 5.974 | 5.900 | ( 0.000) | 75 | 32824 | | | 30.00- 60.00 | 37.16 |
| 5.974 | 5.900 | ( 0.000) | 96 | 7072 | | | 5.00- 9.00 | 8.01 |
| 5.974 | 5.900 | ( 0.000) | 173 | 0 | 0.0 | 0.0 | 0.00- 2.00 | 0.00 |
| 5.974 | 5.900 | ( 0.000) | 174 | 70168 | | | 50.00- 0.00 | 79.44 |
| 5.974 | 5.900 | ( 0.000) | 175 | 4107 | | | 5.00- 9.00 | 5.85 |
| 5.974 | 5.900 | ( 0.000) | 176 | 67368 | | | 95.00- 101.00 | 96.01 |
| 5.974 | 5.900 | ( 0.000) | 177 | 3930 | | | 5.00- 9.00 | 5.83 |

Data File: \\avogadro\organics\V1.I\110622.B\V1M1630.D



Date : 22-JUN-2011 07:57

Client ID: BFB1P

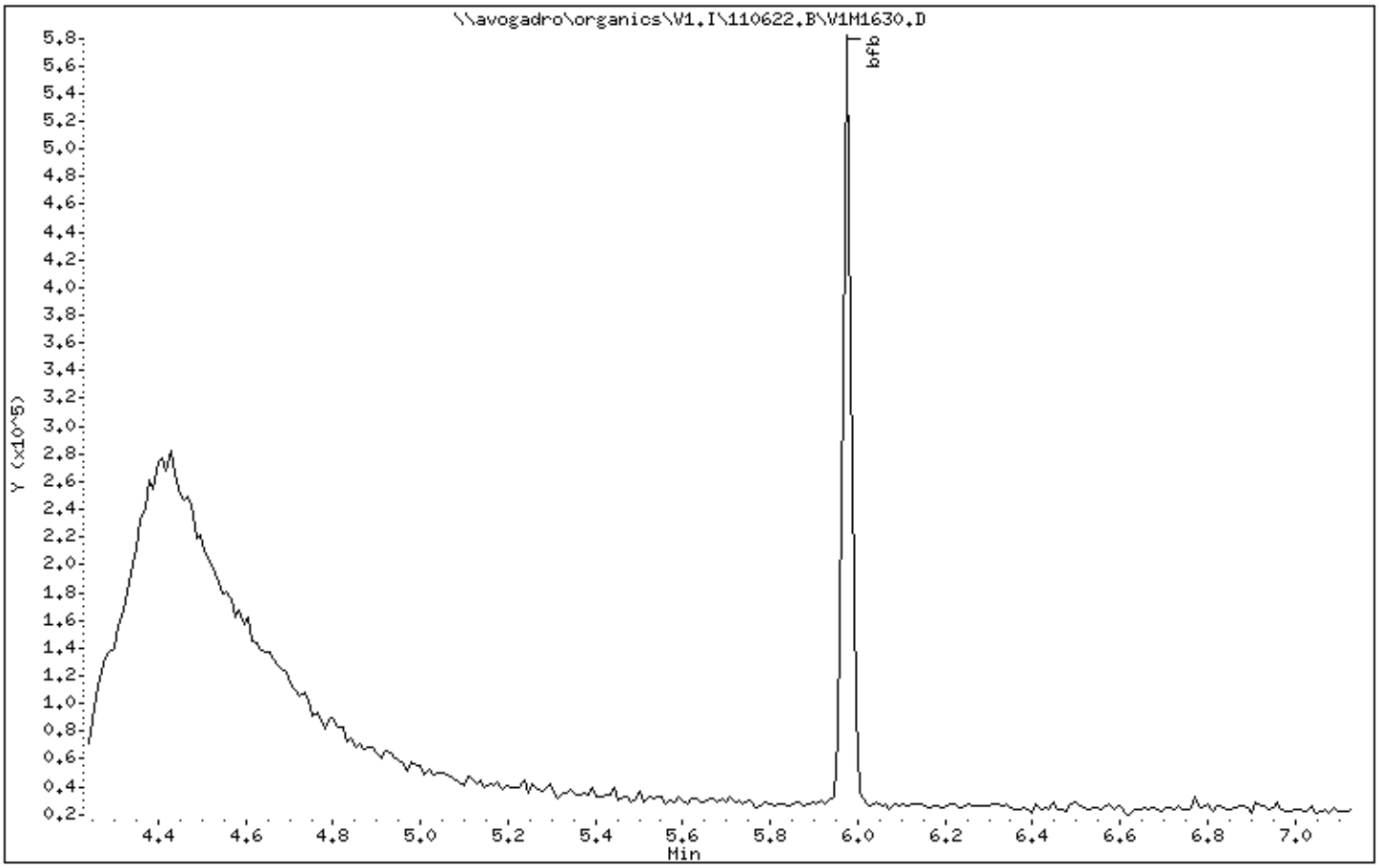
Instrument: V1.i

Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110622.B\V1M1630.D



Date : 22-JUN-2011 07:57

Client ID: BFB1P

Instrument: V1.i

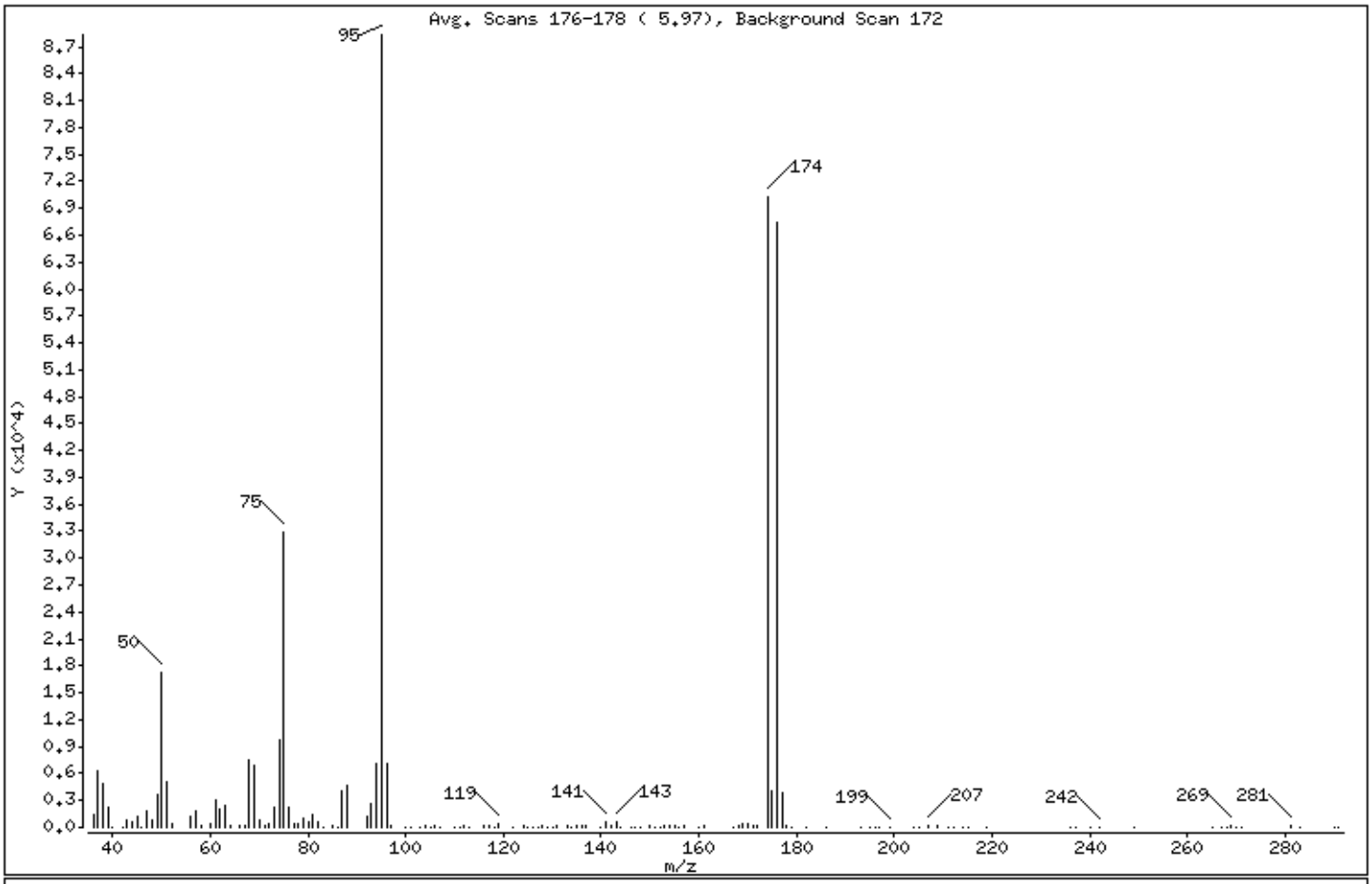
Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM SRC: ALM

Column phase: DB-624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 19.59 |
| 75 | 30.00 - 60.00% of mass 95 | 37.16 |
| 96 | 5.00 - 9.00% of mass 95 | 8.01 |
| 173 | Less than 2.00% of mass 174 | 0.00 ( 0.00) |
| 174 | Greater than 50.00% of mass 95 | 79.44 |
| 175 | 5.00 - 9.00% of mass 174 | 4.65 ( 5.85) |
| 176 | 95.00 - 101.00% of mass 174 | 76.27 ( 96.01) |
| 177 | 5.00 - 9.00% of mass 176 | 4.45 ( 5.83) |

Date : 22-JUN-2011 07:57

Client ID: BFB1P Instrument: V1.i

Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM SRC: ALM

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1630.D
Spectrum: Avg. Scans 176-178 ( 5.97), Background Scan 172
Location of Maximum: 95.00
Number of points: 142

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1348 | 78.00 | 423 | 128.00 | 193 | 177.00 | 3930 |
| 37.00 | 6264 | 79.00 | 995 | 129.00 | 100 | 178.00 | 131 |
| 38.00 | 4917 | 80.00 | 537 | 130.00 | 40 | 179.00 | 56 |
| 39.00 | 2150 | 81.00 | 1505 | 131.00 | 192 | 182.00 | 40 |
| 40.00 | 41 | 82.00 | 577 | 133.00 | 145 | 186.00 | 53 |
| 42.00 | 83 | 83.00 | 37 | 134.00 | 49 | 193.00 | 57 |
| 43.00 | 813 | 85.00 | 134 | 135.00 | 166 | 195.00 | 49 |
| 44.00 | 620 | 86.00 | 49 | 136.00 | 125 | 196.00 | 62 |
| 45.00 | 1123 | 87.00 | 4042 | 137.00 | 123 | 197.00 | 39 |
| 46.00 | 33 | 88.00 | 4750 | 140.00 | 84 | 199.00 | 79 |
| 47.00 | 1745 | 92.00 | 1292 | 141.00 | 609 | 204.00 | 40 |
| 48.00 | 899 | 93.00 | 2693 | 142.00 | 264 | 205.00 | 45 |
| 49.00 | 3698 | 94.00 | 7041 | 143.00 | 702 | 207.00 | 142 |
| 50.00 | 17304 | 95.00 | 88328 | 144.00 | 47 | 209.00 | 103 |
| 51.00 | 5035 | 96.00 | 7072 | 146.00 | 99 | 211.00 | 90 |
| 52.00 | 458 | 97.00 | 157 | 147.00 | 59 | 212.00 | 33 |
| 56.00 | 1223 | 100.00 | 58 | 148.00 | 81 | 214.00 | 68 |
| 57.00 | 1841 | 101.00 | 70 | 150.00 | 139 | 215.00 | 39 |
| 58.00 | 155 | 103.00 | 81 | 151.00 | 48 | 219.00 | 35 |
| 60.00 | 503 | 104.00 | 274 | 152.00 | 85 | 236.00 | 38 |
| 61.00 | 3091 | 105.00 | 43 | 153.00 | 126 | 237.00 | 52 |
| 62.00 | 2058 | 106.00 | 297 | 154.00 | 155 | 240.00 | 45 |
| 63.00 | 2534 | 107.00 | 61 | 155.00 | 278 | 242.00 | 54 |
| 64.00 | 213 | 110.00 | 98 | 156.00 | 89 | 249.00 | 36 |
| 66.00 | 140 | 111.00 | 35 | 157.00 | 248 | 265.00 | 42 |
| 67.00 | 198 | 112.00 | 240 | 160.00 | 39 | 267.00 | 56 |
| 68.00 | 7456 | 113.00 | 41 | 161.00 | 206 | 268.00 | 38 |
| 69.00 | 6826 | 116.00 | 247 | 167.00 | 54 | 269.00 | 215 |
| 70.00 | 716 | 117.00 | 110 | 168.00 | 129 | 270.00 | 100 |
| 71.00 | 150 | 118.00 | 100 | 169.00 | 402 | 271.00 | 91 |
| 72.00 | 309 | 119.00 | 327 | 170.00 | 330 | 281.00 | 193 |
| 73.00 | 2320 | 122.00 | 95 | 171.00 | 286 | 283.00 | 41 |
| 74.00 | 9702 | 124.00 | 109 | 172.00 | 237 | 290.00 | 44 |
| 75.00 | 32824 | 125.00 | 69 | 174.00 | 70168 | 291.00 | 34 |
| 76.00 | 2237 | 126.00 | 71 | 175.00 | 4107 | | |

Date : 22-JUN-2011 07:57

Client ID: BFB1P Instrument: V1.i

Sample Info: 2UL,BFB1P,BFB1P

Operator: ALM SRC: ALM

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1630.D
Spectrum: Avg. Scans 176-178 ( 5.97), Background Scan 172
Location of Maximum: 95.00
Number of points: 142

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 77.00 | 395 | 127.00 | 2 | 176.00 | 67368 | | |

Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V1.I\110627.B\V1M1710.D
Lab Smp Id: BFB1S Client Smp ID: BFB1S
Inj Date : 27-JUN-2011 09:13
Operator : ALM SRC: ALM Inst ID: V1.i
Smp Info : 2UL,BFB1S,BFB1S
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110627.B\bfb8260.m
Meth Date : 28-May-2011 14:14 vbrizard Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: SOIL
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vf | 1.000 | Volumetric correction factor |
| Cpnd Variable | | Local Compound Variable |

| RT | EXP RT | REL RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | FINAL (ug/Kg) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 5.973 | 5.900 | ( 0.000) | 95 | 72994 | | | 0.00- 100.00 | 100.00 |
| 5.973 | 5.900 | ( 0.000) | 50 | 14931 | | | 15.00- 40.00 | 20.46 |
| 5.973 | 5.900 | ( 0.000) | 75 | 24902 | | | 30.00- 60.00 | 34.12 |
| 5.973 | 5.900 | ( 0.000) | 96 | 5491 | | | 5.00- 9.00 | 7.52 |
| 5.973 | 5.900 | ( 0.000) | 173 | 0 | 0.0 | 0.0 | 0.00- 2.00 | 0.00 |
| 5.973 | 5.900 | ( 0.000) | 174 | 66314 | | | 50.00- 0.00 | 90.85 |
| 5.973 | 5.900 | ( 0.000) | 175 | 3380 | | | 5.00- 9.00 | 5.10 |
| 5.973 | 5.900 | ( 0.000) | 176 | 63538 | | | 95.00- 101.00 | 95.81 |
| 5.973 | 5.900 | ( 0.000) | 177 | 3742 | | | 5.00- 9.00 | 5.89 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1710.D



Date : 27-JUN-2011 09:13

Client ID: BFB1S

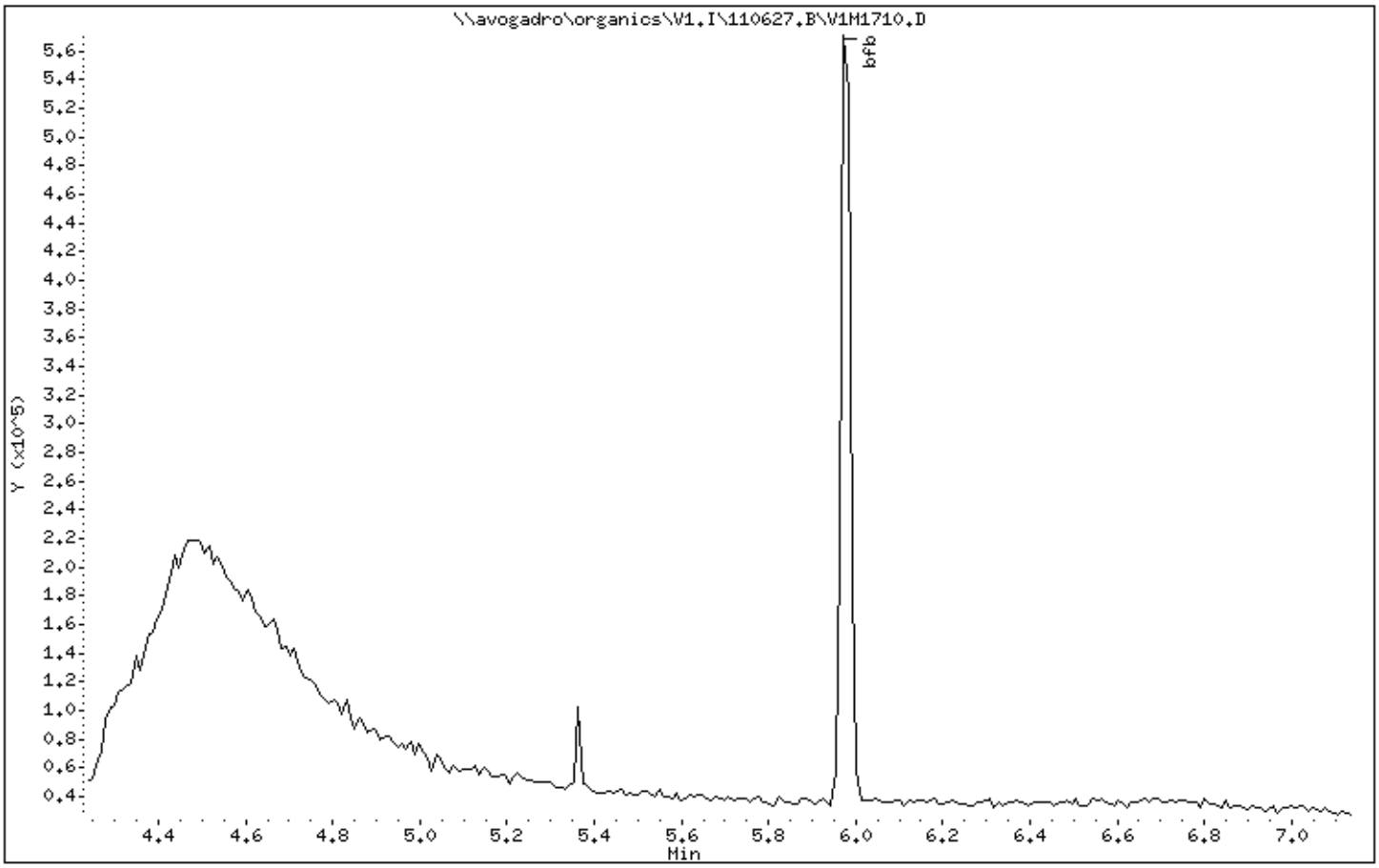
Instrument: V1.i

Sample Info: 2UL,BFB1S,BFB1S

Operator: ALM SRC: ALM

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110627.B\V1M1710.D



Date : 27-JUN-2011 09:13

Client ID: BFB1S

Instrument: V1.i

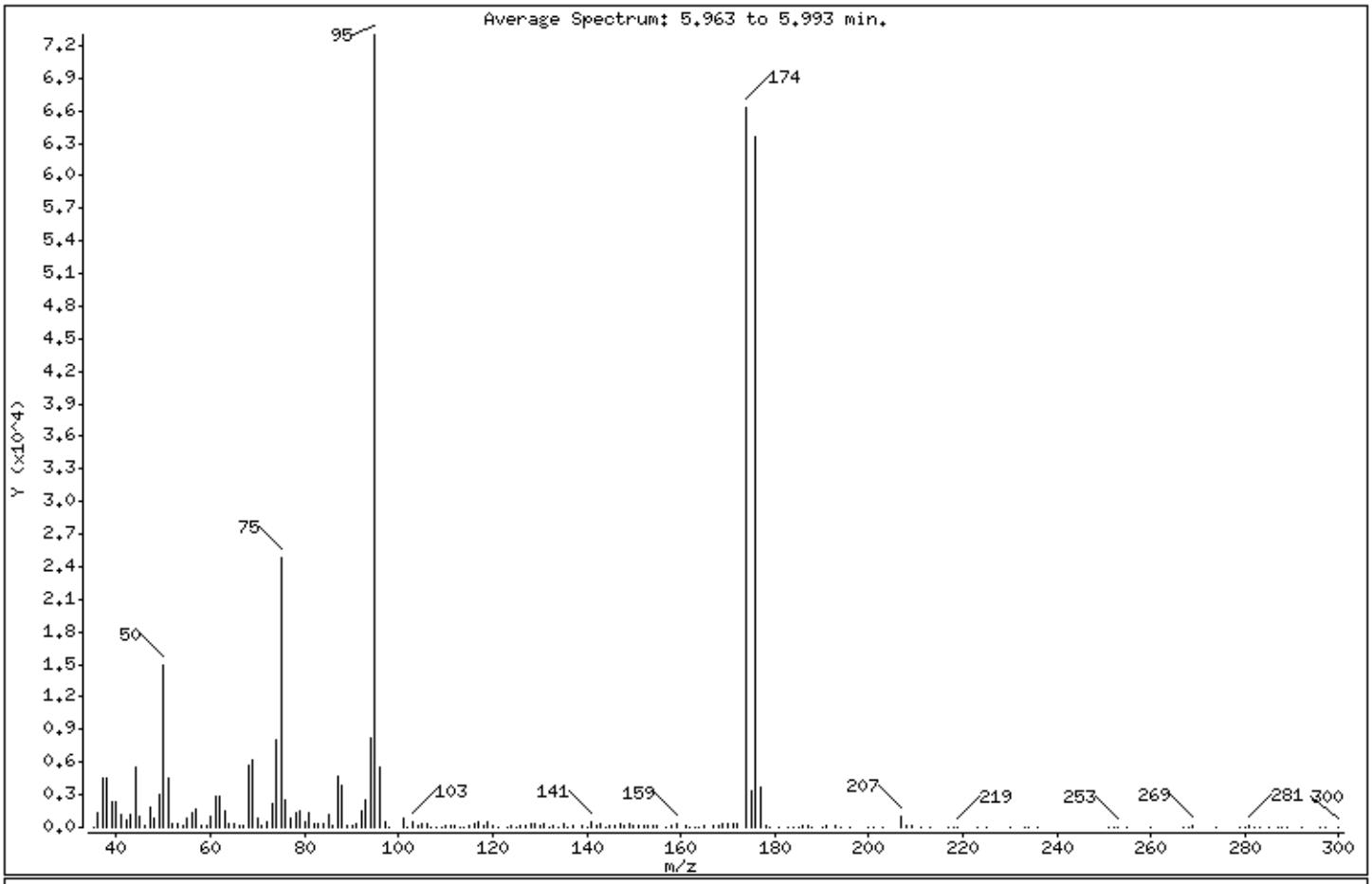
Sample Info: 2UL,BFB1S,BFB1S

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 20.46 |
| 75 | 30.00 - 60.00% of mass 95 | 34.12 |
| 96 | 5.00 - 9.00% of mass 95 | 7.52 |
| 173 | Less than 2.00% of mass 174 | 0.00 ( 0.00) |
| 174 | Greater than 50.00% of mass 95 | 90.85 |
| 175 | 5.00 - 9.00% of mass 174 | 4.63 ( 5.10) |
| 176 | 95.00 - 101.00% of mass 174 | 87.05 ( 95.81) |
| 177 | 5.00 - 9.00% of mass 176 | 5.13 ( 5.89) |

Date : 27-JUN-2011 09:13

Client ID: BFB1S Instrument: V1.i

Sample Info: 2UL,BFB1S,BFB1S

Operator: ALM SRC: ALM

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1710.D
Spectrum: Average Spectrum: 5.963 to 5.993 min.
Location of Maximum: 95.00
Number of points: 188

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 35.00 | 53 | 83.00 | 308 | 134.00 | 26 | 190.00 | 25 |
| 36.00 | 1391 | 84.00 | 351 | 135.00 | 312 | 191.00 | 97 |
| 37.00 | 4592 | 85.00 | 1107 | 136.00 | 30 | 193.00 | 129 |
| 38.00 | 4494 | 86.00 | 201 | 137.00 | 185 | 194.00 | 83 |
| 39.00 | 2369 | 87.00 | 4734 | 139.00 | 190 | 196.00 | 39 |
| 40.00 | 2362 | 88.00 | 3802 | 140.00 | 72 | 200.00 | 26 |
| 41.00 | 1096 | 89.00 | 98 | 141.00 | 507 | 201.00 | 58 |
| 42.00 | 640 | 90.00 | 170 | 142.00 | 94 | 203.00 | 27 |
| 43.00 | 1162 | 91.00 | 307 | 143.00 | 398 | 207.00 | 1019 |
| 44.00 | 5606 | 92.00 | 1565 | 144.00 | 56 | 208.00 | 198 |
| 45.00 | 995 | 93.00 | 2598 | 145.00 | 107 | 209.00 | 188 |
| 46.00 | 102 | 94.00 | 8219 | 146.00 | 108 | 211.00 | 30 |
| 47.00 | 1864 | 95.00 | 72992 | 147.00 | 280 | 213.00 | 31 |
| 48.00 | 817 | 96.00 | 5491 | 148.00 | 156 | 217.00 | 56 |
| 49.00 | 2944 | 97.00 | 427 | 149.00 | 308 | 218.00 | 36 |
| 50.00 | 14931 | 98.00 | 74 | 150.00 | 98 | 219.00 | 68 |
| 51.00 | 4581 | 101.00 | 759 | 151.00 | 202 | 223.00 | 27 |
| 52.00 | 350 | 102.00 | 67 | 152.00 | 174 | 225.00 | 29 |
| 53.00 | 253 | 103.00 | 585 | 153.00 | 198 | 230.00 | 27 |
| 54.00 | 90 | 104.00 | 232 | 154.00 | 161 | 233.00 | 51 |
| 55.00 | 852 | 105.00 | 290 | 155.00 | 178 | 234.00 | 41 |
| 56.00 | 1356 | 106.00 | 377 | 157.00 | 26 | 236.00 | 29 |
| 57.00 | 1733 | 107.00 | 28 | 158.00 | 85 | 251.00 | 26 |
| 58.00 | 239 | 108.00 | 62 | 159.00 | 378 | 252.00 | 52 |
| 59.00 | 249 | 109.00 | 59 | 161.00 | 118 | 253.00 | 74 |
| 60.00 | 967 | 110.00 | 108 | 162.00 | 48 | 255.00 | 26 |
| 61.00 | 2816 | 111.00 | 250 | 163.00 | 34 | 260.00 | 27 |
| 62.00 | 2784 | 112.00 | 112 | 164.00 | 32 | 267.00 | 26 |
| 63.00 | 1583 | 113.00 | 59 | 165.00 | 116 | 268.00 | 25 |
| 64.00 | 403 | 114.00 | 52 | 167.00 | 95 | 269.00 | 85 |
| 65.00 | 304 | 115.00 | 144 | 168.00 | 112 | 274.00 | 30 |
| 66.00 | 220 | 116.00 | 338 | 169.00 | 355 | 279.00 | 33 |
| 67.00 | 233 | 117.00 | 475 | 170.00 | 303 | 280.00 | 39 |
| 68.00 | 5652 | 118.00 | 230 | 171.00 | 281 | 281.00 | 228 |
| 69.00 | 6143 | 119.00 | 526 | 172.00 | 365 | 282.00 | 36 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1710.D

Date : 27-JUN-2011 09:13

Client ID: BFB1S

Instrument: V1.i

Sample Info: 2UL,BFB1S,BFB1S

Operator: ALM SRC: ALM

Column phase: DB-624

Column diameter: 0.25

Data File: V1M1710.D
Spectrum: Average Spectrum: 5.963 to 5.993 min.
Location of Maximum: 95.00
Number of points: 188

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 70.00 | 814 | 120.00 | 196 | 174.00 | 66312 | 283.00 | 51 |
| 71.00 | 240 | 121.00 | 67 | 175.00 | 3380 | 285.00 | 65 |
| 72.00 | 524 | 123.00 | 51 | 176.00 | 63536 | 287.00 | 30 |
| 73.00 | 2186 | 124.00 | 99 | 177.00 | 3742 | 288.00 | 56 |
| 74.00 | 8046 | 125.00 | 36 | 178.00 | 90 | 289.00 | 52 |
| 75.00 | 24896 | 126.00 | 127 | 179.00 | 60 | 292.00 | 30 |
| 76.00 | 2530 | 127.00 | 94 | 181.00 | 50 | 296.00 | 41 |
| 77.00 | 874 | 128.00 | 400 | 183.00 | 28 | 297.00 | 52 |
| 78.00 | 1318 | 129.00 | 254 | 184.00 | 30 | 300.00 | 36 |
| 79.00 | 1482 | 130.00 | 122 | 185.00 | 53 | | |
| 80.00 | 421 | 131.00 | 299 | 186.00 | 142 | | |
| 81.00 | 1409 | 132.00 | 25 | 187.00 | 114 | | |
| 82.00 | 389 | 133.00 | 155 | 188.00 | 30 | | |

Spectrum Analytical, Inc. RI Division

Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1743.D
Lab Smp Id: BFB1T Client Smp ID: BFB1T
Inj Date : 28-JUN-2011 08:40
Operator : ALM SRC: ALM Inst ID: V1.i
Smp Info : 2UL,BFB1T,BFB1T
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110628.B\bfb8260.m
Meth Date : 22-Jun-2011 11:26 amarquis Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 2 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: SOIL
Processing Host: TARGET115

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vf | 1.000 | Volumetric correction factor |
| Cpnd Variable | | Local Compound Variable |

| RT | EXP RT | REL RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | FINAL (ug/Kg) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | | CAS #: 460-00-4 | |
| 5.974 | 5.900 | ( 0.000) | 95 | 71096 | | | 0.00- 100.00 | 100.00 |
| 5.974 | 5.900 | ( 0.000) | 50 | 14970 | | | 15.00- 40.00 | 21.06 |
| 5.974 | 5.900 | ( 0.000) | 75 | 27600 | | | 30.00- 60.00 | 38.82 |
| 5.974 | 5.900 | ( 0.000) | 96 | 4152 | | | 5.00- 9.00 | 5.84 |
| 5.974 | 5.900 | ( 0.000) | 173 | 0 | 0.0 | 0.0 | 0.00- 2.00 | 0.00 |
| 5.974 | 5.900 | ( 0.000) | 174 | 56216 | | | 50.00- 0.00 | 79.07 |
| 5.974 | 5.900 | ( 0.000) | 175 | 4876 | | | 5.00- 9.00 | 8.67 |
| 5.974 | 5.900 | ( 0.000) | 176 | 53944 | | | 95.00- 101.00 | 95.96 |
| 5.974 | 5.900 | ( 0.000) | 177 | 3939 | | | 5.00- 9.00 | 7.30 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1743.D



Date : 28-JUN-2011 08:40

Client ID: BFB1T

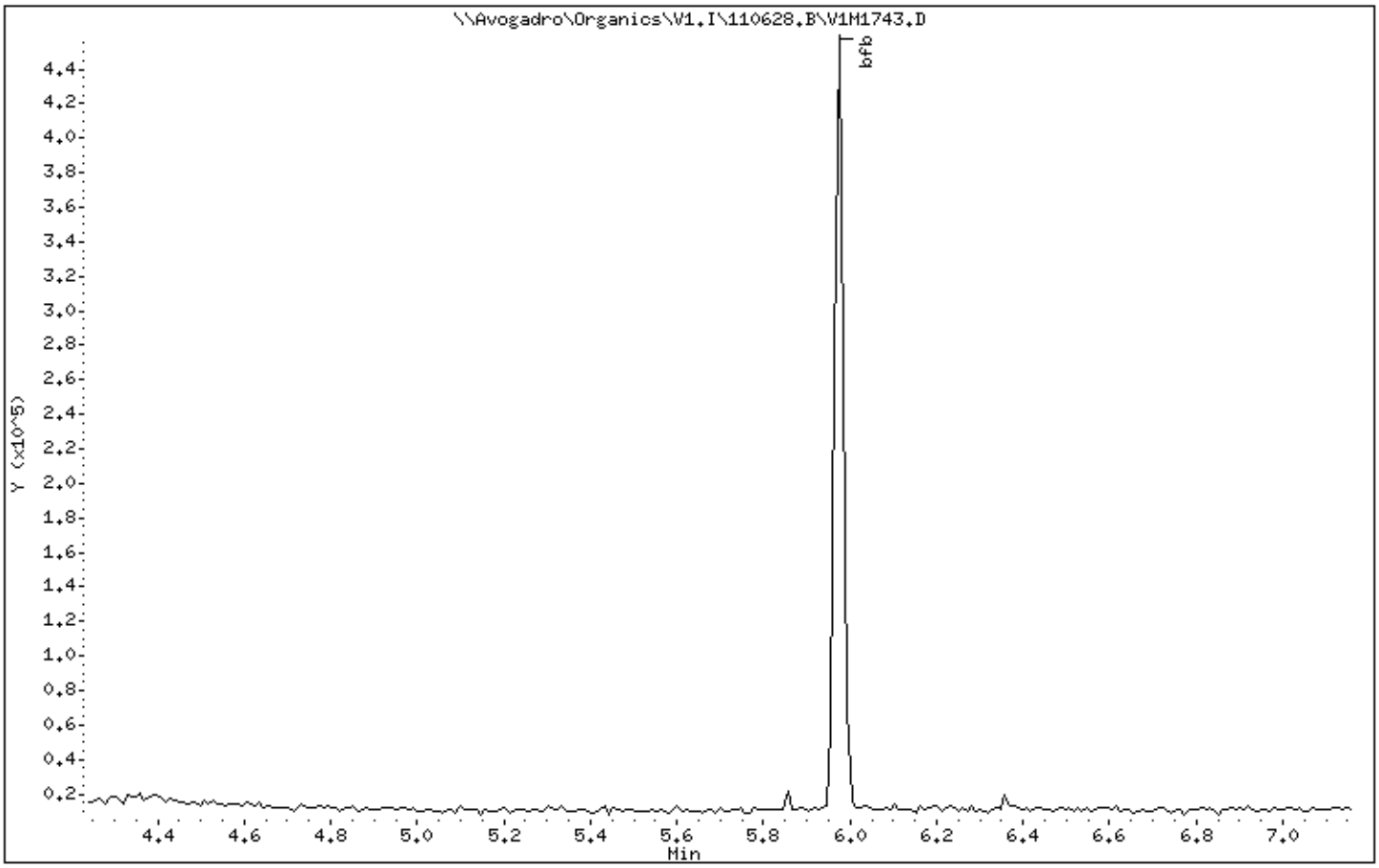
Instrument: V1.i

Sample Info: 2UL,BFB1T,BFB1T

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25



Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1743.D



Date : 28-JUN-2011 08:40

Client ID: BFB1T

Instrument: V1.i

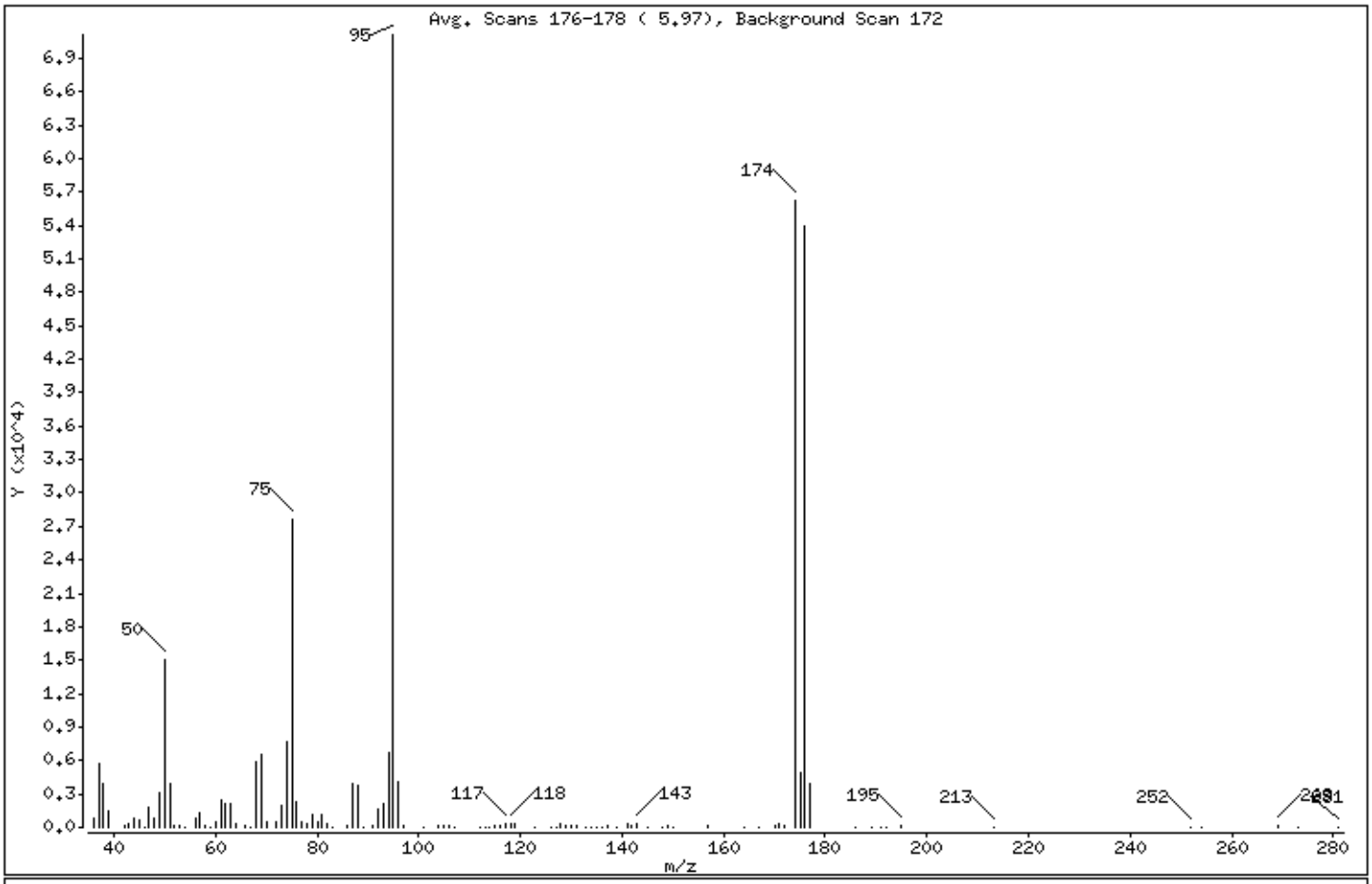
Sample Info: 2UL,BFB1T,BFB1T

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 21.06 |
| 75 | 30.00 - 60.00% of mass 95 | 38.82 |
| 96 | 5.00 - 9.00% of mass 95 | 5.84 |
| 173 | Less than 2.00% of mass 174 | 0.00 ( 0.00) |
| 174 | Greater than 50.00% of mass 95 | 79.07 |
| 175 | 5.00 - 9.00% of mass 174 | 6.86 ( 8.67) |
| 176 | 95.00 - 101.00% of mass 174 | 75.87 ( 95.96) |
| 177 | 5.00 - 9.00% of mass 176 | 5.54 ( 7.30) |

Date : 28-JUN-2011 08:40

Client ID: BFB1T Instrument: V1.i

Sample Info: 2UL,BFB1T,BFB1T

Operator: ALM SRC: ALM

Column phase: DB-624 Column diameter: 0.25

Data File: V1M1743.D
Spectrum: Avg. Scans 176-178 ( 5.97), Background Scan 172
Location of Maximum: 95.00
Number of points: 108

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 857 | 68.00 | 5804 | 105.00 | 136 | 148.00 | 56 |
| 37.00 | 5739 | 69.00 | 6556 | 106.00 | 140 | 149.00 | 122 |
| 38.00 | 3921 | 70.00 | 426 | 107.00 | 49 | 150.00 | 72 |
| 39.00 | 1531 | 72.00 | 531 | 112.00 | 37 | 157.00 | 147 |
| 42.00 | 157 | 73.00 | 2025 | 113.00 | 72 | 164.00 | 52 |
| 43.00 | 322 | 74.00 | 7757 | 114.00 | 54 | 167.00 | 38 |
| 44.00 | 755 | 75.00 | 27600 | 115.00 | 94 | 170.00 | 224 |
| 45.00 | 641 | 76.00 | 2331 | 116.00 | 232 | 171.00 | 324 |
| 46.00 | 51 | 77.00 | 568 | 117.00 | 312 | 172.00 | 182 |
| 47.00 | 1809 | 78.00 | 292 | 118.00 | 311 | 174.00 | 56216 |
| 48.00 | 751 | 79.00 | 1178 | 119.00 | 268 | 175.00 | 4876 |
| 49.00 | 3147 | 80.00 | 458 | 123.00 | 37 | 176.00 | 53944 |
| 50.00 | 14970 | 81.00 | 1144 | 126.00 | 58 | 177.00 | 3939 |
| 51.00 | 3851 | 82.00 | 292 | 127.00 | 40 | 186.00 | 36 |
| 52.00 | 182 | 83.00 | 39 | 128.00 | 263 | 189.00 | 68 |
| 53.00 | 175 | 86.00 | 199 | 129.00 | 202 | 191.00 | 75 |
| 54.00 | 44 | 87.00 | 3930 | 130.00 | 102 | 192.00 | 37 |
| 56.00 | 891 | 88.00 | 3784 | 131.00 | 113 | 195.00 | 91 |
| 57.00 | 1357 | 89.00 | 34 | 133.00 | 72 | 213.00 | 33 |
| 58.00 | 92 | 91.00 | 218 | 134.00 | 49 | 252.00 | 38 |
| 59.00 | 57 | 92.00 | 1622 | 135.00 | 35 | 254.00 | 37 |
| 60.00 | 499 | 93.00 | 2198 | 136.00 | 34 | 269.00 | 85 |
| 61.00 | 2492 | 94.00 | 6767 | 137.00 | 130 | 273.00 | 38 |
| 62.00 | 2134 | 95.00 | 71096 | 139.00 | 39 | 281.00 | 36 |
| 63.00 | 2049 | 96.00 | 4152 | 141.00 | 325 | | |
| 64.00 | 373 | 97.00 | 176 | 142.00 | 110 | | |
| 66.00 | 185 | 101.00 | 36 | 143.00 | 372 | | |
| 67.00 | 63 | 104.00 | 202 | 145.00 | 46 | | |

Spectrum Analytical, Inc. RI Division

Data file : \\avogadro\organics\V1.I\110630.B\V1M1801.D
Lab Smp Id: BFB1V Client Smp ID: BFB1V
Inj Date : 30-JUN-2011 08:06
Operator : ALM SRC: ALM Inst ID: V1.i
Smp Info : 5ML,BFB1V,BFB1V
Misc Info :
Comment :
Method : \\Avogadro\Organics\V1.I\110630.B\bfb8260.m
Meth Date : 06-Jun-2011 10:33 vbrizard Quant Type: ISTD
Cal Date : Cal File:
Als bottle: 30 QC Sample: BFB
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14 Sample Matrix: AIR

Concentration Formula: Amt * DF * Uf * Vf * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vf | 1.000 | Volumetric correction factor |
| Cpnd Variable | | Local Compound Variable |

| RT | EXP RT | REL RT | MASS | RESPONSE | CONCENTRATIONS ON-COL ( ug/L) | CONCENTRATIONS FINAL (mg/m3) | TARGET RANGE | RATIO |
|---|---|---|---|---|---|---|---|---|
| 1 bfb | | | | | | CAS #: 460-00-4 | | |
| 11.191 | 11.000 | ( 0.000) | 95 | 63160 | | | 0.00- 100.00 | 100.00 |
| 11.191 | 11.000 | ( 0.000) | 50 | 11289 | | | 15.00- 40.00 | 17.87 |
| 11.191 | 11.000 | ( 0.000) | 75 | 23888 | | | 30.00- 60.00 | 37.82 |
| 11.191 | 11.000 | ( 0.000) | 96 | 4236 | | | 5.00- 9.00 | 6.71 |
| 11.191 | 11.000 | ( 0.000) | 173 | 0 | 0.0 | 0.0 | 0.00- 2.00 | 0.00 |
| 11.191 | 11.000 | ( 0.000) | 174 | 55544 | | | 50.00- 0.00 | 87.94 |
| 11.191 | 11.000 | ( 0.000) | 175 | 4984 | | | 5.00- 9.00 | 8.97 |
| 11.191 | 11.000 | ( 0.000) | 176 | 54304 | | | 95.00- 101.00 | 97.77 |
| 11.191 | 11.000 | ( 0.000) | 177 | 3270 | | | 5.00- 9.00 | 6.02 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1801.D



Date : 30-JUN-2011 08:06

Client ID: BFB1V

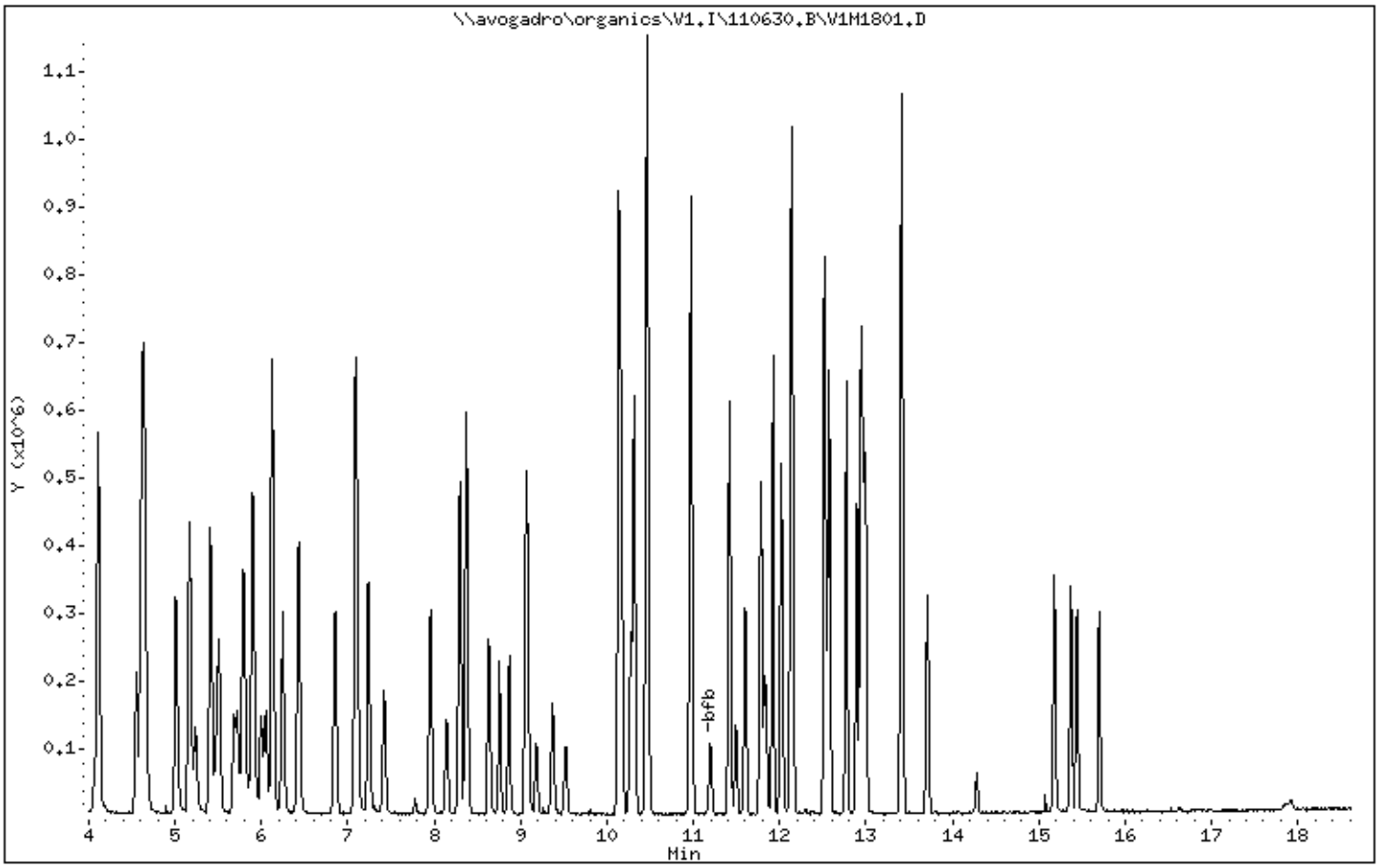
Instrument: V1.i

Sample Info: 5ML,BFB1V,BFB1V

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25



Data File: \\avogadro\organics\V1.I\110630.B\V1M1801.D



Date : 30-JUN-2011 08:06

Client ID: BFB1V

Instrument: V1.i

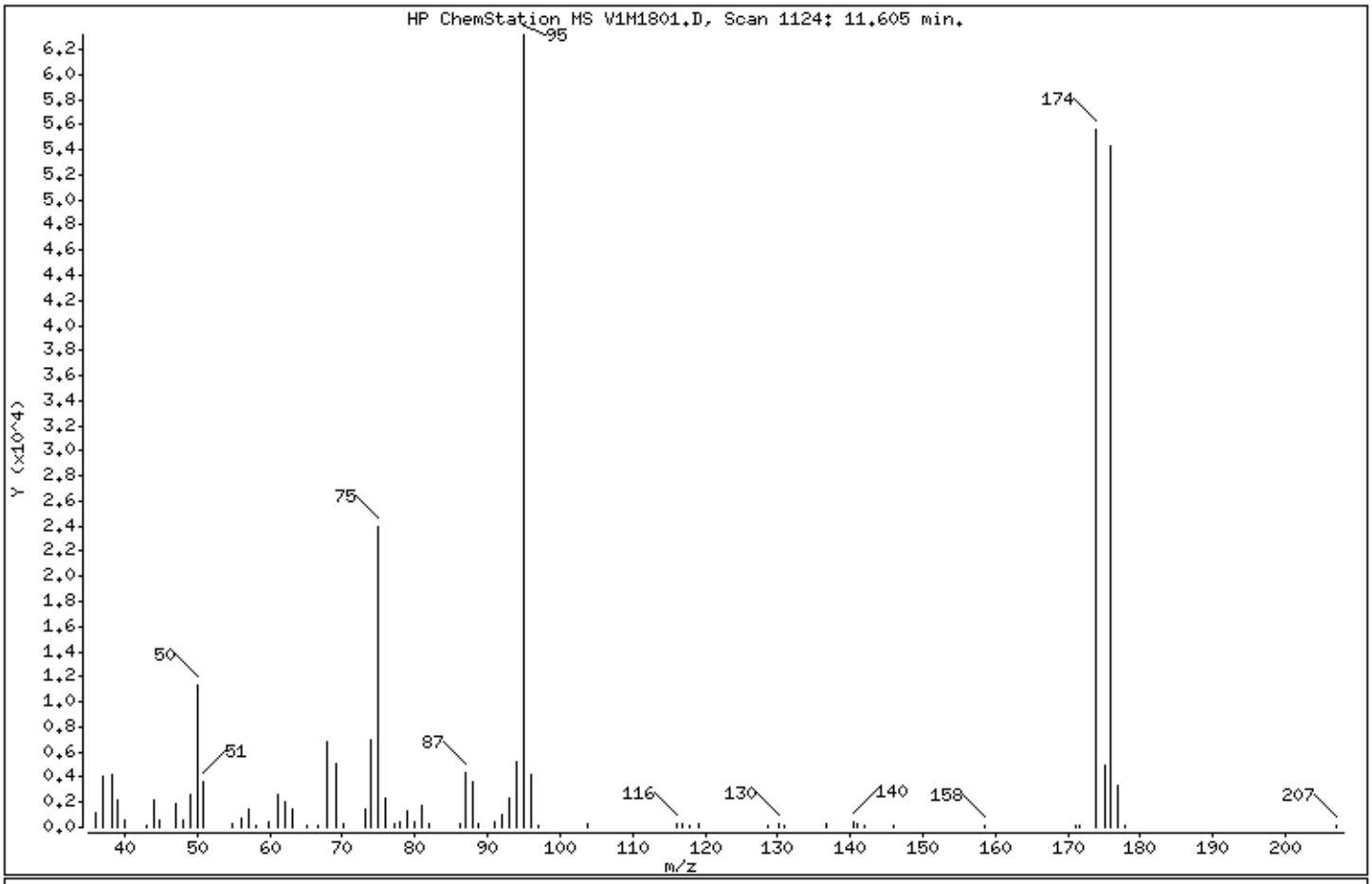
Sample Info: 5ML,BFB1V,BFB1V

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25

1 bfb




| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 95 | Base Peak, 100% relative abundance | 100.00 |
| 50 | 15.00 - 40.00% of mass 95 | 17.87 |
| 75 | 30.00 - 60.00% of mass 95 | 37.82 |
| 96 | 5.00 - 9.00% of mass 95 | 6.71 |
| 173 | Less than 2.00% of mass 174 | 0.00 ( 0.00) |
| 174 | Greater than 50.00% of mass 95 | 87.94 |
| 175 | 5.00 - 9.00% of mass 174 | 7.89 ( 8.97) |
| 176 | 95.00 - 101.00% of mass 174 | 85.98 ( 97.77) |
| 177 | 5.00 - 9.00% of mass 176 | 5.18 ( 6.02) |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1801.D



Date : 30-JUN-2011 08:06

Client ID: BFB1V

Instrument: V1.i

Sample Info: 5ML,BFB1V,BFB1V

Operator: ALM  SRC: ALM

Column phase: DB-624

Column diameter: 0.25

Data File: V1M1801.D
Spectrum: HP ChemStation MS V1M1801.D, Scan 1124: 11.605 min.
Location of Maximum: 95.05
Number of points: 69

| m/z | Y | m/z | Y | m/z | Y | m/z | Y |
|---|---|---|---|---|---|---|---|
| 36.00 | 1164 | 61.05 | 2541 | 86.10 | 240 | 130.90 | 158 |
| 37.05 | 4092 | 62.05 | 2081 | 87.00 | 4302 | 136.80 | 227 |
| 38.15 | 4194 | 63.10 | 1414 | 88.05 | 3609 | 140.55 | 379 |
| 38.95 | 2134 | 65.05 | 193 | 88.65 | 225 | 141.05 | 305 |
| 40.00 | 523 | 66.55 | 196 | 91.00 | 365 | 141.95 | 150 |
| 42.95 | 215 | 68.00 | 6771 | 92.10 | 1065 | 146.05 | 170 |
| 43.95 | 2241 | 69.10 | 5103 | 93.10 | 2382 | 158.65 | 158 |
| 44.85 | 626 | 70.10 | 290 | 94.05 | 5168 | 171.00 | 210 |
| 47.10 | 1927 | 73.15 | 1438 | 95.05 | 63160 | 171.70 | 170 |
| 47.95 | 589 | 74.00 | 6904 | 96.05 | 4236 | 173.95 | 55544 |
| 48.95 | 2666 | 75.00 | 23888 | 97.00 | 162 | 175.05 | 4984 |
| 50.05 | 11289 | 76.00 | 2325 | 103.90 | 262 | 175.95 | 54304 |
| 50.90 | 3691 | 77.15 | 352 | 116.00 | 272 | 176.90 | 3270 |
| 54.95 | 278 | 77.95 | 469 | 116.95 | 257 | 177.90 | 213 |
| 56.05 | 751 | 78.95 | 1375 | 117.95 | 185 | 207.00 | 167 |
| 57.00 | 1518 | 79.90 | 401 | 119.15 | 219 | | |
| 58.10 | 169 | 81.00 | 1757 | 128.75 | 204 | | |
| 59.85 | 370 | 82.00 | 355 | 130.05 | 315 | | |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-60011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-60011

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1715.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1715.D
Report Date: 28-May-2011 14:20

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1715.D
Lab Smp Id: MB-60011  Client Smp ID: MB-60011
Inj Date  : 27-JUN-2011 12:08
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,MB-60011,MB-60011,60011
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 34  QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

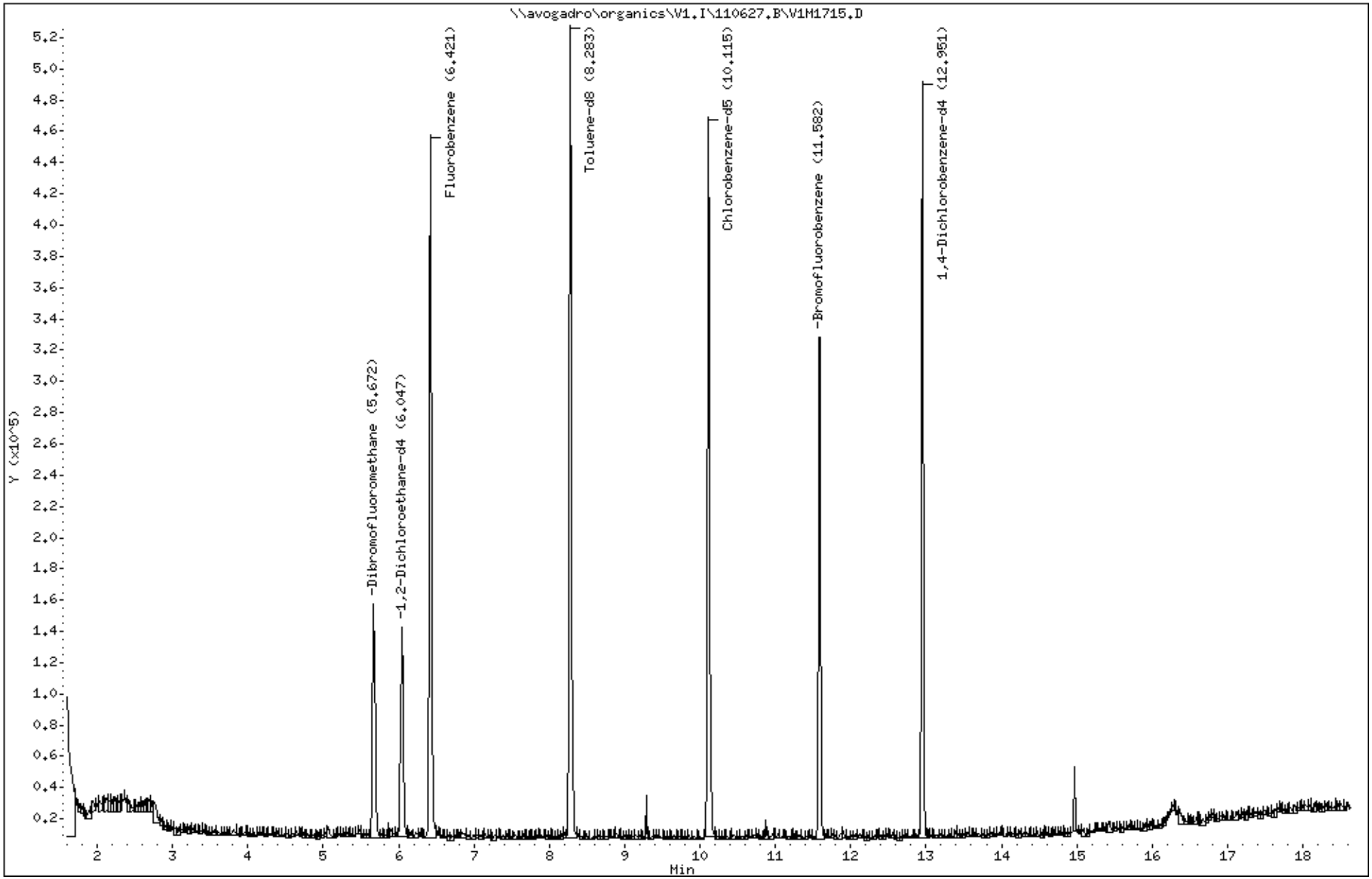
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.672 | 5.684 | (0.883) | 113467 | 49.0474 | 49 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.036 | 6.049 | (0.940) | 25480 | 45.5887 | 46 |
| * 41 Fluorobenzene | 96 | 6.421 | 6.433 | (1.000) | 442136 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.282 | 8.285 | (0.819) | 393247 | 51.5498 | 52 |
| * 60 Chlorobenzene-d5 | 117 | 10.114 | 10.126 | (1.000) | 305978 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.582 | 11.594 | (1.145) | 146683 | 50.5547 | 50 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.951 | 12.963 | (1.000) | 144023 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1715.D
Date : 27-JUN-2011 12:08
Client ID: MB-60011
Sample Info: 5ML,MB-60011,MB-60011,60011

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-60018

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1749.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.50 | U | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 0.50 | U | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 0.50 | U | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 0.50 | U | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 1.0 | U | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 0.50 | U | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 1.0 | U | 0.36 | 1.0 | 5.0 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1749.D
Report Date: 29-Jun-2011 14:25

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1749.D
Lab Smp Id: MB-60018  Client Smp ID: MB-60018
Inj Date  : 28-JUN-2011 11:32
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,MB-60018,MB-60018,60018
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110628.B\v18260Gadd.m
Meth Date : 29-Jun-2011 14:22 amarquis  Quant Type: ISTD
Cal Date  : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 36  QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL ( ug/L) |
|---|---|---|---|---|---|---|---|
| $ 36 Dibromofluoromethane | 113 | 5.687 | 5.681 | (0.884) | 138965 | 42.9570 | 43 |
| $ 42 1,2-Dichloroethane-d4 | 102 | 6.052 | 6.055 | (0.940) | 33890 | 49.5795 | 50 |
| * 46 Fluorobenzene | 96 | 6.436 | 6.439 | (1.000) | 542986 | 50.0000 | |
| $ 58 Toluene-d8 | 98 | 8.288 | 8.291 | (0.819) | 471635 | 52.9858 | 53 |
| * 68 Chlorobenzene-d5 | 117 | 10.120 | 10.123 | (1.000) | 384066 | 50.0000 | |
| $ 79 Bromofluorobenzene | 95 | 11.597 | 11.590 | (1.146) | 177998 | 47.4214 | 47 |
| * 92 1,4-Dichlorobenzene-d4 | 152 | 12.966 | 12.959 | (1.000) | 183590 | 50.0000 | |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1749.D
Report Date: 29-Jun-2011 14:25

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

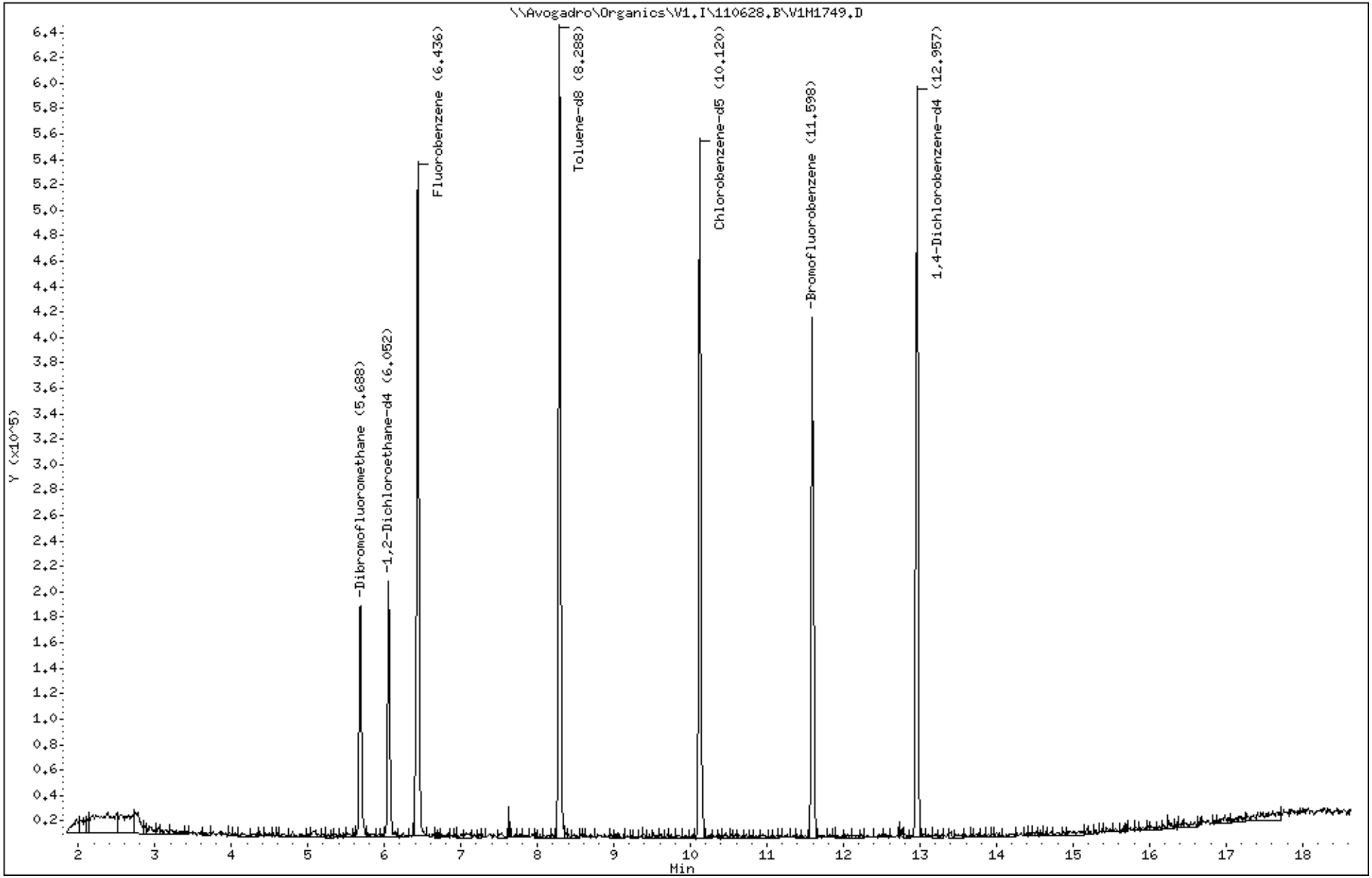
Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1749.D
Lab Smp Id: MB-60018  Client Smp ID: MB-60018
Inj Date  : 28-JUN-2011 11:32
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,MB-60018,MB-60018,60018
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110628.B\v18260Gadd.m
Meth Date : 29-Jun-2011 14:22 amarquis  Quant Type: ISTD
Cal Date  : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 36  QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

- NO TENTATIVELY IDENTIFIED COMPOUNDS -

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1749.D
Date : 28-JUN-2011 11:32
Client ID: MB-60018
Sample Info: 5ML,MB-60018,MB-60018,60018
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-60105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-60105

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1807.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/30/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1807.D
Report Date: 06-Jun-2011 10:38

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110630.B\V1M1807.D
Lab Smp Id: MB-60105  Client Smp ID: MB-60105
Inj Date  : 30-JUN-2011 11:27
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,MB-60105,MB-60105,60105
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110630.B\v18260GH.m
Meth Date : 06-Jun-2011 10:34 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 34  QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.671 | (0.884) | 90607 | 47.5262 | 48 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.046 | 6.045 | (0.940) | 18979 | 41.2056 | 41 |
| * 41 Fluorobenzene | 96 | 6.430 | 6.430 | (1.000) | 364360 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.281 | (0.819) | 322998 | 52.3365 | 52 |
| * 60 Chlorobenzene-d5 | 117 | 10.124 | 10.123 | (1.000) | 247541 | 50.0000 | |
| $ 70 Bromofluorobenzene | 95 | 11.591 | 11.591 | (1.145) | 116933 | 49.8152 | 50 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.960 | (1.000) | 118759 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1807.D
Report Date: 06-Jun-2011 10:38

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

```
Data file : \\avogadro\organics\V1.I\110630.B\V1M1807.D
Lab Smp Id: MB-60105                      Client Smp ID: MB-60105
Inj Date  : 30-JUN-2011 11:27
Operator  : ALM   SRC: LIMS               Inst ID: V1.i
Smp Info  : 5ML,MB-60105,MB-60105,60105
Misc Info :
Comment   :
Method    : \\avogadro\organics\V1.I\110630.B\v18260GH.m
Meth Date : 06-Jun-2011 10:34 vbrizard    Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41             Cal File: V1M1640.D
Als bottle: 34                            QC Sample: BLANK
Dil Factor: 1.00000
Integrator: HP RTE                        Compound Sublist: all.sub
Target Version:  4.14
```

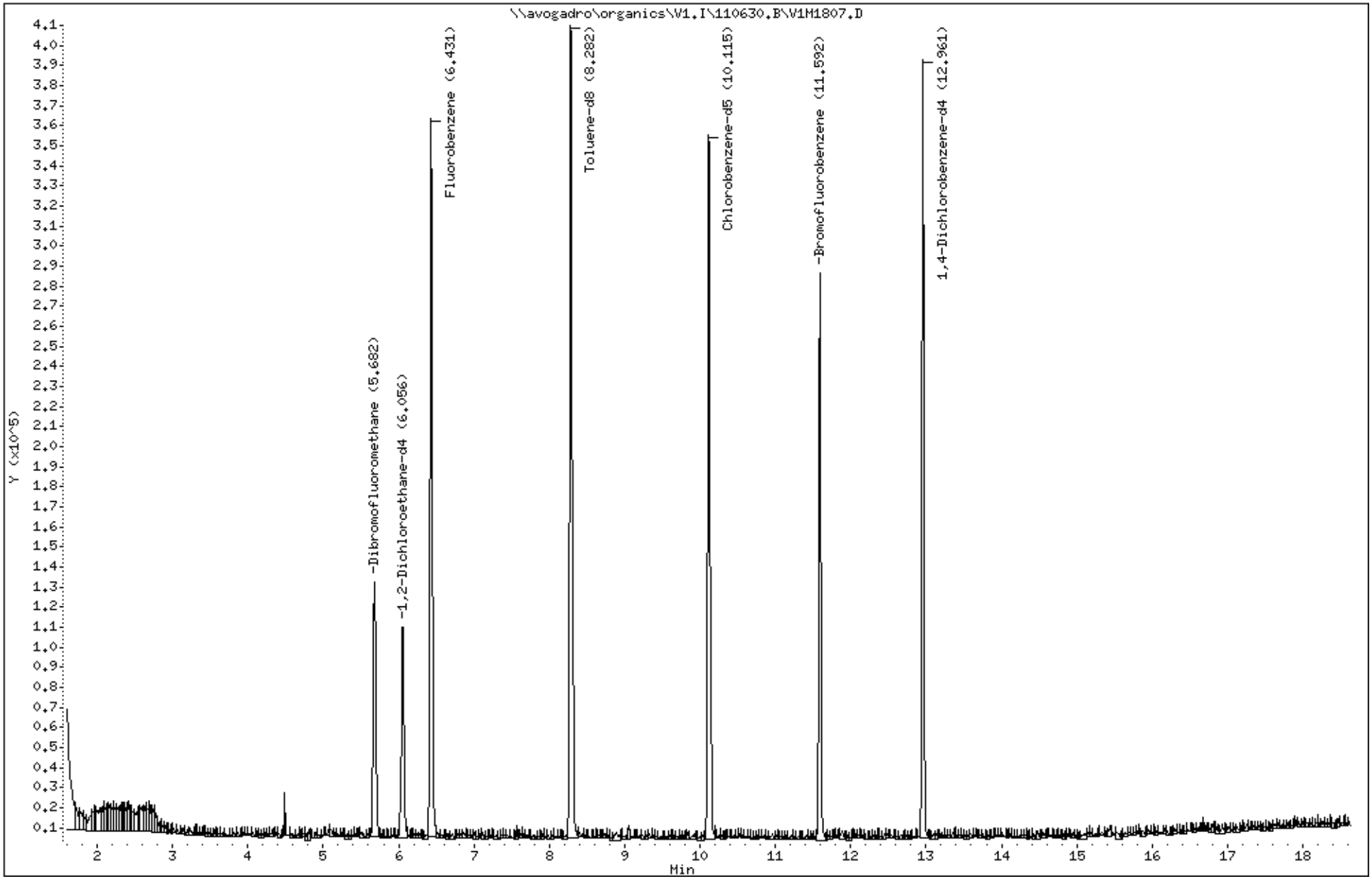
- NO TENTATIVELY IDENTIFIED COMPOUNDS -

Data File: \\avogadro\organics\V1.I\110630.B\V1M1807.D
Date : 30-JUN-2011 11:27
Client ID: MB-60105
Sample Info: 5ML,MB-60105,MB-60105,60105

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB2S-1820-2011
0621MS

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-05BMS

Sample wt/vol: 7.50 (g/mL) G Lab File ID: V1M1823.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 11 Date Analyzed: 06/30/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 36 | | 0.46 | 1.5 | 3.7 |
| 71-43-2 | Benzene | 37 | | 0.46 | 1.5 | 3.7 |
| 108-88-3 | Toluene | 35 | | 0.35 | 1.5 | 3.7 |
| 100-41-4 | Ethylbenzene | 36 | | 0.37 | 1.5 | 3.7 |
| 1330-20-7 | m,p-Xylene | 72 | | 1.2 | 3.0 | 3.7 |
| 95-47-6 | o-Xylene | 37 | | 0.35 | 1.5 | 3.7 |
| 1330-20-7 | Xylene (Total) | 110 | | 0.35 | 1.5 | 3.7 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1823.D
Report Date: 06-Jun-2011 11:27

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110630.B\V1M1823.D
Lab Smp Id: K1100-05BMS  Client Smp ID: 06SB2S-1820-2011062
Inj Date  : 30-JUN-2011 18:45
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-05BMS,,60105
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110630.B\v18260GH.m
Meth Date : 06-Jun-2011 11:26 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 50  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.500 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

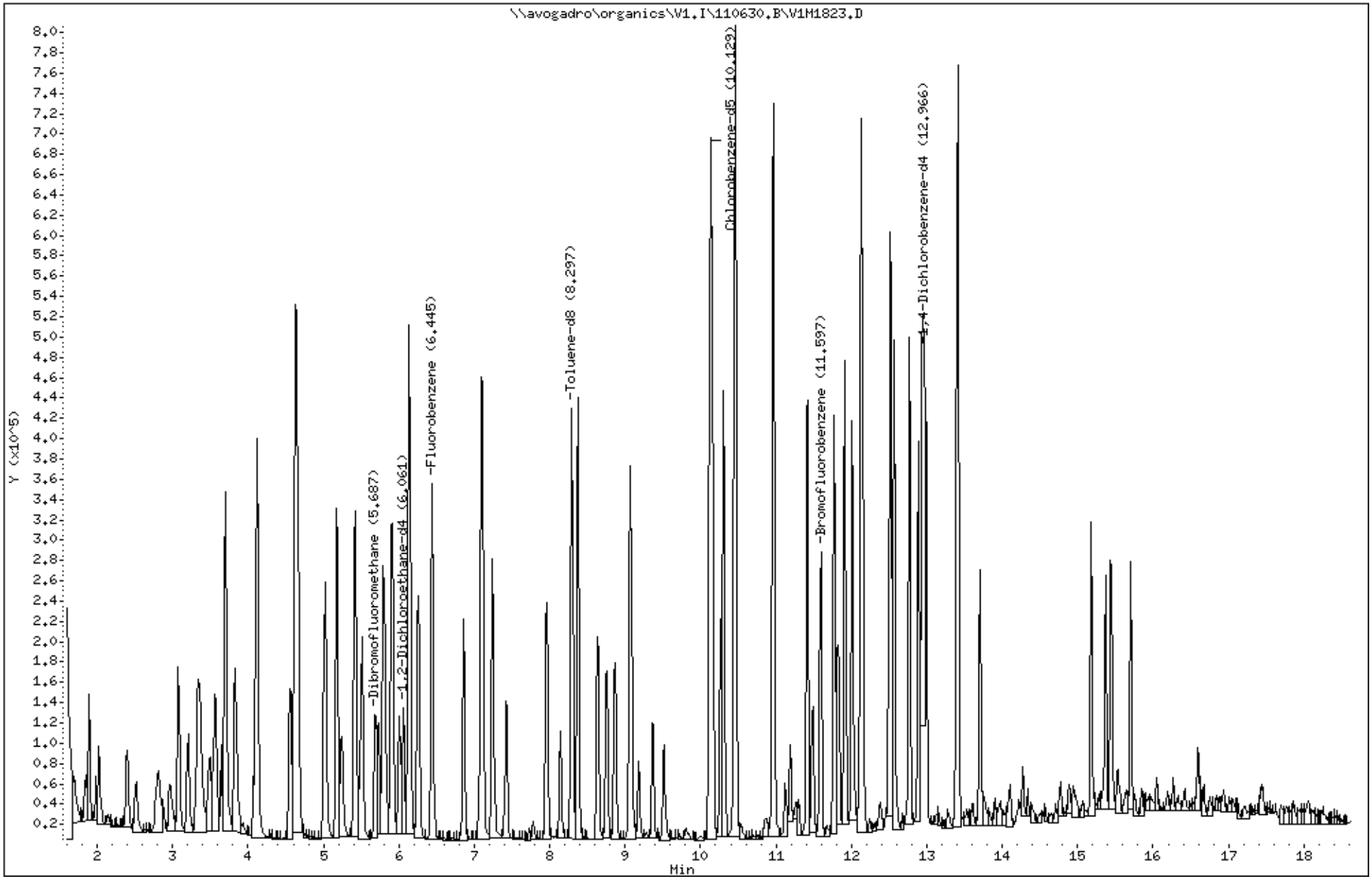
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 20 Methyl tert-butyl ether | 73 | 4.120 | 4.115 | (0.639) | 191715 | 50.0000 | 48 |
| $ 32 Dibromofluoromethane | 113 | 5.686 | 5.671 | (0.882) | 89214 | 50.0000 | 47 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.061 | 6.045 | (0.940) | 18802 | 50.0000 | 41 |
| 38 Benzene | 78 | 6.140 | 6.124 | (0.953) | 367504 | 50.0000 | 49 |
| * 41 Fluorobenzene | 96 | 6.445 | 6.430 | (1.000) | 359490 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.297 | 8.281 | (0.819) | 312452 | 50.0000 | 51 |
| 52 Toluene | 91 | 8.375 | 8.370 | (1.300) | 349513 | 50.0000 | 47 |
| * 60 Chlorobenzene-d5 | 117 | 10.129 | 10.123 | (1.000) | 245876 | 50.0000 | |
| 64 Ethylbenzene | 106 | 10.306 | 10.300 | (1.018) | 112068 | 50.0000 | 48 |
| 65 m,p-Xylene | 106 | 10.454 | 10.458 | (1.032) | 279974 | 100.000 | 96 |
| 66 o-Xylene | 106 | 10.956 | 10.951 | (1.082) | 138512 | 50.0000 | 49 |
| $ 70 Bromofluorobenzene | 95 | 11.596 | 11.591 | (1.145) | 122848 | 50.0000 | 53 |
| M 81 Xylene (Total) | 106 | | | | 418486 | 150.000 | 140 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.965 | 12.960 | (1.000) | 120588 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1823.D
Date : 30-JUN-2011 18:45
Client ID: 06SB2S-1820-2011062
Sample Info: 5ML,K1100-05BMS,,60105

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB2S-1820-2011
0621MSD

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-05BMSD

Sample wt/vol: 7.90 (g/mL) G Lab File ID: V1M1824.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 11 Date Analyzed: 06/30/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 34 | | 0.43 | 1.4 | 3.6 |
| 71-43-2 | Benzene | 34 | | 0.43 | 1.4 | 3.6 |
| 108-88-3 | Toluene | 33 | | 0.33 | 1.4 | 3.6 |
| 100-41-4 | Ethylbenzene | 33 | | 0.36 | 1.4 | 3.6 |
| 1330-20-7 | m,p-Xylene | 67 | | 1.1 | 2.8 | 3.6 |
| 95-47-6 | o-Xylene | 35 | | 0.33 | 1.4 | 3.6 |
| 1330-20-7 | Xylene (Total) | 100 | | 0.33 | 1.4 | 3.6 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1824.D
Report Date: 06-Jun-2011 11:27

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110630.B\V1M1824.D
Lab Smp Id: K1100-05BMSD  Client Smp ID: 06SB2S-1820-2011062
Inj Date  : 30-JUN-2011 19:12
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,K1100-05BMSD,,60105
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110630.B\v18260GH.m
Meth Date : 06-Jun-2011 11:26 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 51  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: MBTEX.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.900 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

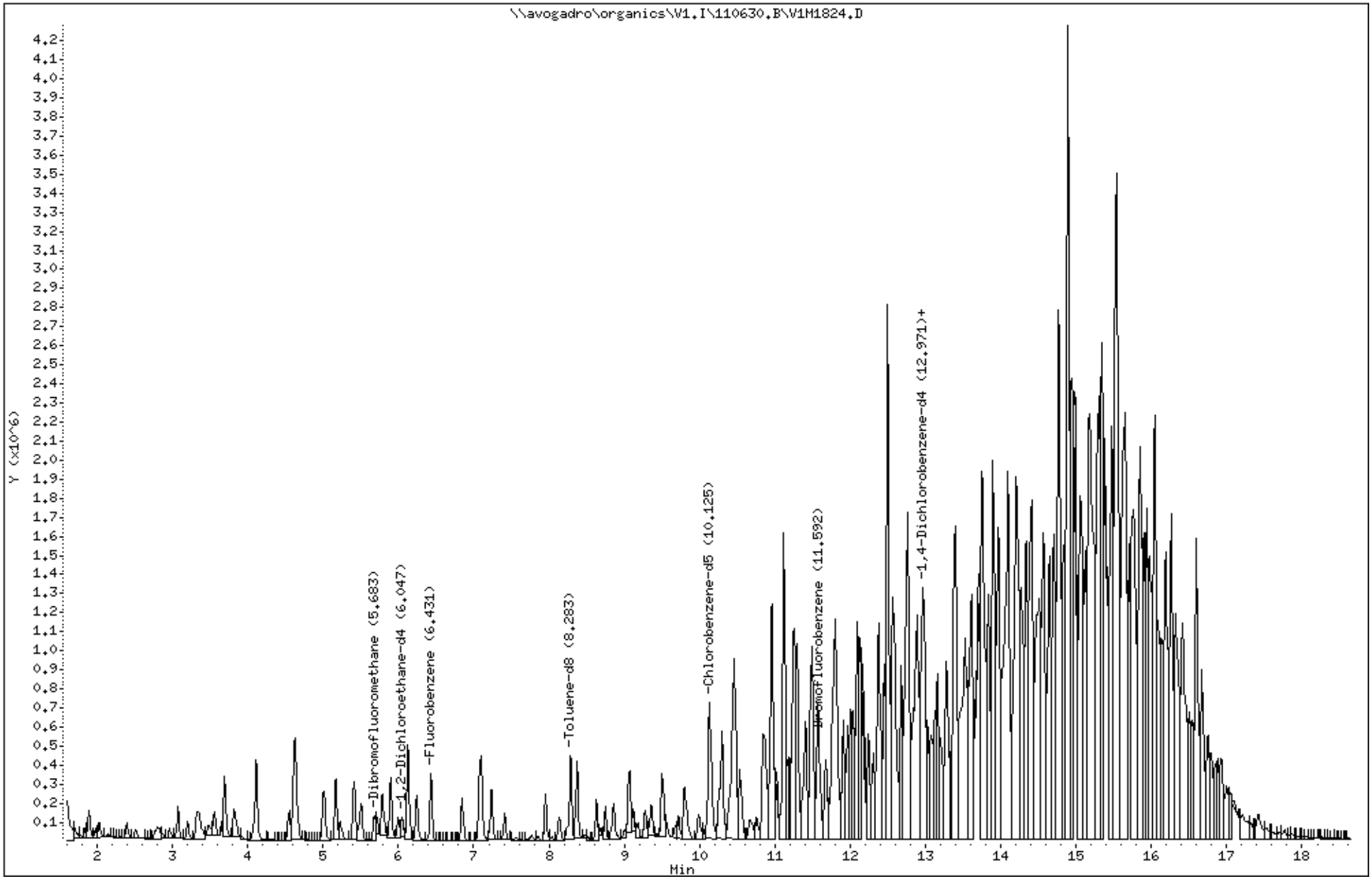
| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 20 Methyl tert-butyl ether | 73 | 4.116 | 4.115 | (0.640) | 195308 | 50.0000 | 48 |
| $ 32 Dibromofluoromethane | 113 | 5.682 | 5.671 | (0.884) | 90995 | 50.0000 | 47 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.056 | 6.045 | (0.942) | 16630 | 50.0000 | 36 |
| 38 Benzene | 78 | 6.125 | 6.124 | (0.953) | 365032 | 50.0000 | 48 |
| * 41 Fluorobenzene | 96 | 6.431 | 6.430 | (1.000) | 366760 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.292 | 8.281 | (0.820) | 316441 | 50.0000 | 52 |
| 52 Toluene | 91 | 8.371 | 8.370 | (1.302) | 348713 | 50.0000 | 46 |
| * 60 Chlorobenzene-d5 | 117 | 10.114 | 10.123 | (1.000) | 245412 | 50.0000 | |
| 64 Ethylbenzene | 106 | 10.302 | 10.300 | (1.019) | 110329 | 50.0000 | 47 |
| 65 m,p-Xylene | 106 | 10.449 | 10.458 | (1.033) | 273978 | 100.000 | 94 |
| 66 o-Xylene | 106 | 10.952 | 10.951 | (1.083) | 136597 | 50.0000 | 48 |
| $ 70 Bromofluorobenzene | 95 | 11.592 | 11.591 | (1.146) | 140434 | 50.0000 | 60 |
| M 81 Xylene (Total) | 106 | | | | 410575 | 150.000 | 140 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.961 | 12.960 | (1.000) | 126572 | 50.0000 | |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1824.D
Date : 30-JUN-2011 19:12
Client ID: 06SB2S-1820-2011062
Sample Info: 5ML,K1100-05BMSD,,60105

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-60011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-60011

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1713.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 51 | | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 57 | | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 56 | | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 58 | | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 110 | | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 57 | | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 170 | | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1713.D
Report Date: 28-May-2011 14:20

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1713.D
Lab Smp Id: LCS-60011  Client Smp ID: LCS-60011
Inj Date  : 27-JUN-2011 11:05
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,LCS-60011,LCS-60011,60011
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 32  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.697 | 1.695 | (0.265) | 63566 | 50.0000 | 50 |
| 2 Chloromethane | 50 | 1.894 | 1.882 | (0.295) | 228086 | 50.0000 | 54 |
| 3 Vinyl Chloride | 62 | 2.022 | 2.020 | (0.315) | 162349 | 50.0000 | 55 |
| 4 Bromomethane | 94 | 2.387 | 2.385 | (0.372) | 96811 | 50.0000 | 58 |
| 5 Chloroethane | 64 | 2.495 | 2.503 | (0.389) | 101170 | 50.0000 | 60 |
| 6 Trichlorofluoromethane | 101 | 2.761 | 2.769 | (0.430) | 128369 | 50.0000 | 60 |
| 127 Ethanol | 46 | 2.948 | 2.948 | (0.460) | 90850 | 5000.00 | 9600(Q) |
| 7 Ether | 59 | 3.066 | 3.074 | (0.478) | 133377 | 50.0000 | 54 |
| 8 Acrolein | 56 | 3.194 | 3.202 | (0.498) | 158481 | 250.000 | 260 |
| 9 1,1-Dichloroethene | 96 | 3.312 | 3.320 | (0.516) | 140698 | 50.0000 | 63 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.332 | 3.340 | (0.519) | 130400 | 50.0000 | 61 |
| 11 Acetone | 58 | 3.352 | 3.370 | (0.523) | 15708 | 50.0000 | 50 |
| 12 Iodomethane | 142 | 3.470 | 3.488 | (0.541) | 245925 | 50.0000 | 56 |
| 13 Carbon Disulfide | 76 | 3.539 | 3.557 | (0.552) | 515935 | 50.0000 | 59 |
| 14 Acetonitrile | 40 | 3.638 | 3.655 | (0.567) | 82393 | 500.000 | 280(Q) |
| 15 Methyl Acetate | 43 | 3.697 | 3.714 | (0.576) | 143626 | 50.0000 | 52 |
| 16 Methylene Chloride | 84 | 3.805 | 3.823 | (0.593) | 143248 | 50.0000 | 53 |
| 17 tert-Butanol | 59 | 3.913 | 3.941 | (0.610) | 29592 | 100.000 | 120 |
| 18 Acrylonitrile | 53 | 4.051 | 4.069 | (0.632) | 56706 | 50.0000 | 56 |
| 20 Methyl tert-butyl ether | 73 | 4.100 | 4.108 | (0.639) | 250224 | 50.0000 | 51 |
| 19 trans-1,2-Dichloroethene | 96 | 4.100 | 4.108 | (0.639) | 137205 | 50.0000 | 56 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1713.D
Report Date: 28-May-2011 14:20

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 21 1,1-Dichloroethane | 63 | 4.534 | 4.552 | (0.707) | 268981 | 50.0000 | 55 |
| | 22 Vinyl acetate | 43 | 4.593 | 4.630 | (0.716) | 704917 | 50.0000 | 51 |
| | 23 Diisopropyl Ether | 45 | 4.613 | 4.630 | (0.719) | 779207 | 50.0000 | 54 |
| | 24 Ethyl tert-butyl ether | 59 | 4.997 | 5.014 | (0.779) | 376011 | 50.0000 | 50 |
| M | 27 1,2-dichloroethene, (Total) | 100 | | | | 277359 | 100.000 | 110 |
| | 25 cis-1,2-Dichloroethene | 96 | 5.145 | 5.162 | (0.802) | 140154 | 50.0000 | 53 |
| | 26 2,2-Dichloropropane | 77 | 5.154 | 5.172 | (0.803) | 81909 | 50.0000 | 54 |
| | 28 2-Butanone | 72 | 5.164 | 5.172 | (0.805) | 14159 | 50.0000 | 60(Q) |
| | 29 Bromochloromethane | 128 | 5.401 | 5.418 | (0.842) | 68385 | 50.0000 | 52 |
| | 30 Tetrahydrofuran | 72 | 5.470 | 5.477 | (0.853) | 26314 | 100.000 | 110 |
| | 31 Chloroform | 83 | 5.489 | 5.507 | (0.856) | 191905 | 50.0000 | 54 |
| $ | 32 Dibromofluoromethane | 113 | 5.657 | 5.684 | (0.882) | 112443 | 50.0000 | 48 |
| | 33 1,1,1-Trichloroethane | 97 | 5.696 | 5.724 | (0.888) | 118768 | 50.0000 | 56 |
| | 34 Cyclohexane | 56 | 5.775 | 5.793 | (0.900) | 308060 | 50.0000 | 59 |
| | 36 Carbon Tetrachloride | 117 | 5.883 | 5.901 | (0.917) | 120447 | 50.0000 | 56 |
| | 35 1,1-Dichloropropene | 110 | 5.883 | 5.901 | (0.917) | 62045 | 50.0000 | 56 |
| $ | 37 1,2-Dichloroethane-d4 | 102 | 6.031 | 6.049 | (0.940) | 26519 | 50.0000 | 47 |
| | 38 Benzene | 78 | 6.110 | 6.127 | (0.952) | 524350 | 50.0000 | 57 |
| | 39 1,2-Dichloroethane | 62 | 6.120 | 6.137 | (0.954) | 130324 | 50.0000 | 52 |
| | 40 tert-Amyl methyl ether | 73 | 6.228 | 6.246 | (0.971) | 263308 | 50.0000 | 50 |
| * | 41 Fluorobenzene | 96 | 6.415 | 6.433 | (1.000) | 442607 | 50.0000 | |
| | 42 Trichloroethene | 130 | 6.829 | 6.856 | (1.064) | 137669 | 50.0000 | 54 |
| | 43 Methylcyclohexane | 83 | 7.055 | 7.083 | (1.100) | 225900 | 50.0000 | 59 |
| | 44 1,2-Dichloropropane | 63 | 7.075 | 7.103 | (1.103) | 164523 | 50.0000 | 55 |
| | 46 Dibromomethane | 93 | 7.213 | 7.231 | (1.124) | 70119 | 50.0000 | 53 |
| | 47 1,4-Dioxane | 88 | 7.233 | 7.260 | (1.127) | 21548 | 1000.00 | 1300 |
| | 48 Bromodichloromethane | 83 | 7.400 | 7.418 | (1.154) | 136645 | 50.0000 | 55 |
| | 45 2-Chloroethyl vinyl ether | 63 | 7.755 | 7.772 | (1.209) | 9910 | 50.0000 | 28(Q) |
| | 49 cis-1,3-Dichloropropene | 75 | 7.932 | 7.950 | (1.236) | 209102 | 50.0000 | 56 |
| | 50 4-Methyl-2-pentanone | 43 | 8.119 | 8.137 | (1.266) | 153560 | 50.0000 | 52 |
| $ | 51 Toluene-d8 | 98 | 8.267 | 8.285 | (0.818) | 379257 | 50.0000 | 49 |
| | 52 Toluene | 91 | 8.355 | 8.373 | (1.302) | 508039 | 50.0000 | 56 |
| | 53 trans-1,3-Dichloropropene | 75 | 8.612 | 8.629 | (1.342) | 156382 | 50.0000 | 53 |
| | 54 1,1,2-Trichloroethane | 97 | 8.848 | 8.856 | (1.379) | 92292 | 50.0000 | 52 |
| | 55 Tetrachloroethene | 164 | 9.045 | 9.053 | (0.895) | 101562 | 50.0000 | 58 |
| | 56 1,3-Dichloropropane | 76 | 9.055 | 9.072 | (0.896) | 166332 | 50.0000 | 54 |
| | 57 2-Hexanone | 43 | 9.163 | 9.181 | (0.906) | 111088 | 50.0000 | 51 |
| | 58 Dibromochloromethane | 129 | 9.350 | 9.358 | (0.925) | 107363 | 50.0000 | 52 |
| | 59 1,2-Dibromoethane | 107 | 9.498 | 9.506 | (0.940) | 98445 | 50.0000 | 54 |
| * | 60 Chlorobenzene-d5 | 117 | 10.109 | 10.126 | (1.000) | 308863 | 50.0000 | |
| | 63 1-Chlorohexane | 91 | 10.119 | 10.136 | (1.001) | 192375 | 50.0000 | 62 |
| | 61 Chlorobenzene | 112 | 10.148 | 10.166 | (1.004) | 322007 | 50.0000 | 53 |
| | 62 1,1,1,2-Tetrachloroethane | 131 | 10.247 | 10.264 | (1.014) | 111777 | 50.0000 | 56 |
| | 64 Ethylbenzene | 106 | 10.296 | 10.304 | (1.019) | 172264 | 50.0000 | 58 |
| | 65 m,p-Xylene | 106 | 10.444 | 10.461 | (1.033) | 422194 | 100.000 | 110 |
| | 66 o-Xylene | 106 | 10.946 | 10.954 | (1.083) | 200058 | 50.0000 | 56 |
| | 67 Styrene | 104 | 10.956 | 10.973 | (1.084) | 345141 | 50.0000 | 56 |
| | 68 Bromoform | 173 | 11.182 | 11.190 | (1.106) | 67998 | 50.0000 | 55(T) |
| | 69 Isopropylbenzene | 105 | 11.409 | 11.417 | (1.129) | 507476 | 50.0000 | 58 |
| | 126 trans-1,4-Dichloro-2-butene | 75 | 11.478 | 11.486 | (1.135) | 41873 | 50.0000 | 53 |
| $ | 70 Bromofluorobenzene | 95 | 11.586 | 11.594 | (1.146) | 147970 | 50.0000 | 50 |
| | 72 Bromobenzene | 156 | 11.773 | 11.781 | (0.909) | 135917 | 50.0000 | 54 |
| | 71 1,1,2,2-Tetrachloroethane | 83 | 11.763 | 11.761 | (0.908) | 124854 | 50.0000 | 51 |
| | 73 1,2,3-Trichloropropane | 75 | 11.813 | 11.821 | (0.912) | 137535 | 50.0000 | 51 |

Data File: \\avogadro\organics\V1.I\110627.B\V1M1713.D
Report Date: 28-May-2011 14:20

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 74 n-Propylbenzene | 120 | 11.911 | 11.909 | (0.919) | 138402 | 50.0000 | 53 |
| | 75 2-Chlorotoluene | 126 | 12.010 | 12.008 | (0.927) | 130401 | 50.0000 | 52 |
| | 76 1,3,5-Trimethylbenzene | 105 | 12.118 | 12.126 | (0.935) | 421748 | 50.0000 | 54 |
| | 77 4-Chlorotoluene | 126 | 12.138 | 12.136 | (0.937) | 137310 | 50.0000 | 54 |
| | 78 tert-Butylbenzene | 119 | 12.502 | 12.510 | (0.965) | 428755 | 50.0000 | 54 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.561 | 12.559 | (0.970) | 427162 | 50.0000 | 55 |
| M | 81 Xylene (Total) | 106 | | | | 622252 | 150.000 | 170 |
| | 80 sec-Butylbenzene | 105 | 12.758 | 12.766 | (0.985) | 597631 | 50.0000 | 55 |
| | 82 1,3-Dichlorobenzene | 146 | 12.876 | 12.884 | (0.994) | 259612 | 50.0000 | 52 |
| | 83 4-Isopropyltoluene | 119 | 12.926 | 12.934 | (0.998) | 462305 | 50.0000 | 54 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.955 | 12.963 | (1.000) | 156646 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.985 | 12.983 | (1.002) | 262783 | 50.0000 | 52 |
| | 86 n-Butylbenzene | 91 | 13.398 | 13.396 | (1.034) | 467702 | 50.0000 | 58 |
| | 87 1,2-Dichlorobenzene | 146 | 13.408 | 13.406 | (1.035) | 237532 | 50.0000 | 52 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.265 | 14.263 | (1.101) | 15218 | 50.0000 | 48(Q) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.171 | 15.179 | (1.171) | 145782 | 50.0000 | 55 |
| | 90 Hexachlorobutadiene | 225 | 15.359 | 15.366 | (1.186) | 84566 | 50.0000 | 62(Q) |
| | 91 Naphthalene | 128 | 15.437 | 15.435 | (1.192) | 314462 | 50.0000 | 53 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.693 | 15.691 | (1.211) | 127503 | 50.0000 | 54 |

## QC Flag Legend

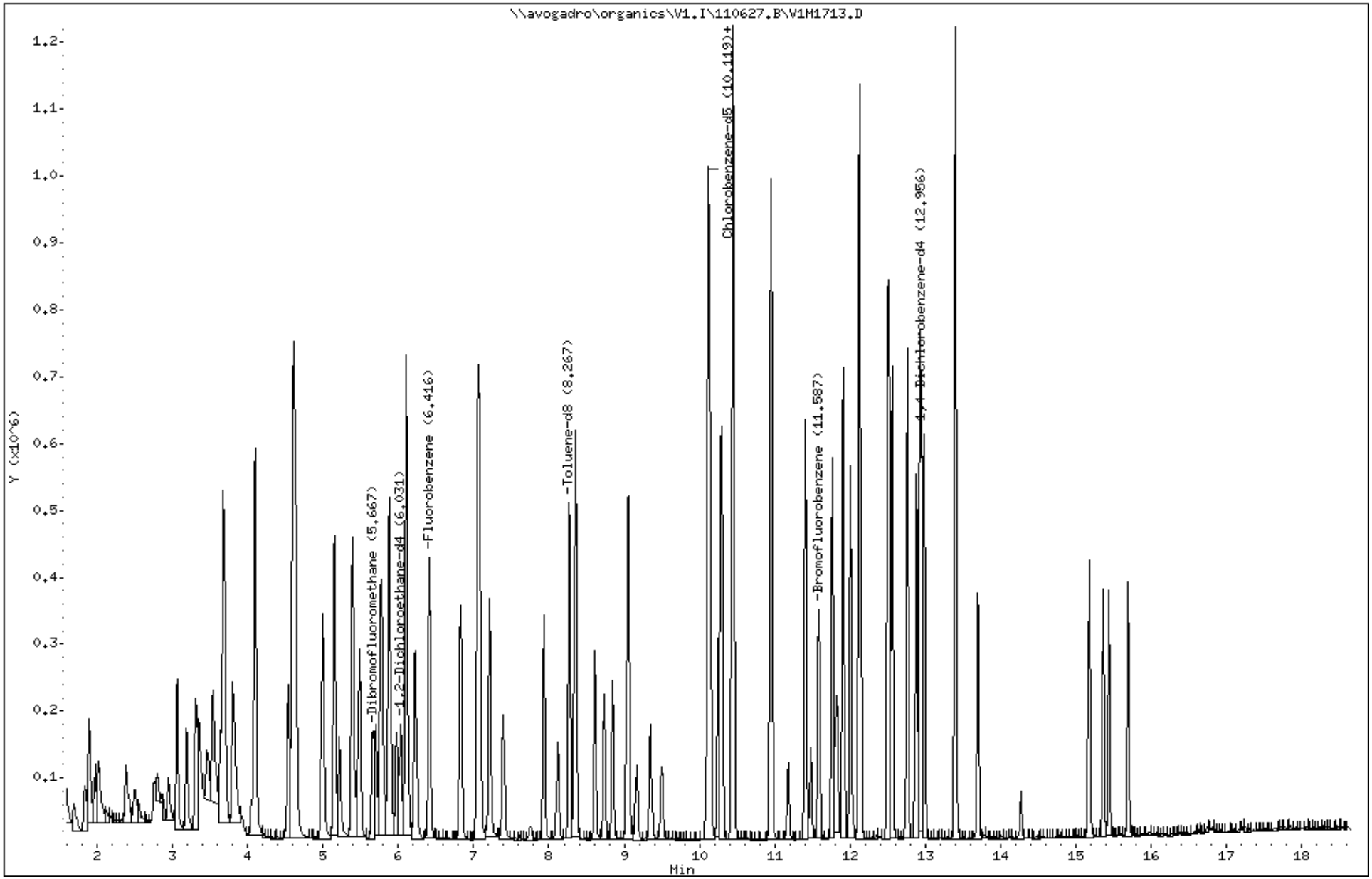
T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110627.B\V1M1713.D
Date : 27-JUN-2011 11:05
Client ID: LCS-60011
Sample Info: 5ML,LCS-60011,LCS-60011,60011

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCS-60018

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1746.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 43 | | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 48 | | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 45 | | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 44 | | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 90 | | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 46 | | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 140 | | 0.36 | 1.0 | 5.0 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1746.D
Report Date: 29-Jun-2011 14:24

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1746.D
Lab Smp Id: LCS-60018  Client Smp ID: LCS-60018
Inj Date  : 28-JUN-2011 10:09
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,LCS-60018,LCS-60018,60018
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110628.B\v18260Gadd.m
Meth Date : 29-Jun-2011 14:22 amarquis  Quant Type: ISTD
Cal Date  : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 33  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.697 | 1.701 | (0.264) | 48483 | 50.0000 | 28 |
| 2 Freon114 | 85 | 1.834 | 1.849 | (0.286) | 79390 | 50.0000 | 38 |
| 3 Chloromethane | 50 | 1.894 | 1.888 | (0.295) | 208034 | 50.0000 | 44 |
| 4 Vinyl Chloride | 62 | 2.022 | 2.026 | (0.315) | 134000 | 50.0000 | 40 |
| 5 Bromomethane | 94 | 2.396 | 2.391 | (0.373) | 89933 | 50.0000 | 42 |
| 6 Chloroethane | 64 | 2.504 | 2.519 | (0.390) | 86174 | 50.0000 | 43 |
| 7 Trichlorofluoromethane | 101 | 2.780 | 2.785 | (0.433) | 92141 | 50.0000 | 32 |
| 126 Ethanol | 46 | 2.957 | 2.962 | (0.460) | 115780 | 5000.00 | 5700(AQ) |
| 8 Ether | 59 | 3.066 | 3.080 | (0.477) | 165011 | 50.0000 | 49(Q) |
| 9 Acrolein | 56 | 3.194 | 3.198 | (0.497) | 189783 | 250.000 | 410(A) |
| 10 1,1-Dichloroethene | 96 | 3.332 | 3.336 | (0.519) | 114946 | 50.0000 | 43 |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.332 | 3.356 | (0.519) | 85074 | 50.0000 | 39 |
| 12 Acetone | 58 | 3.361 | 3.366 | (0.523) | 29061 | 50.0000 | 36 |
| 13 Iodomethane | 142 | 3.489 | 3.494 | (0.543) | 213849 | 50.0000 | 43 |
| 14 Carbon Disulfide | 76 | 3.558 | 3.563 | (0.554) | 419191 | 50.0000 | 43 |
| 15 Acetonitrile | 41 | 3.686 | 3.691 | (0.574) | 613900 | 500.000 | 1200(AQ) |
| 16 Allyl Chloride | 39 | 3.686 | 3.691 | (0.574) | 251599 | 50.0000 | 60 |
| 17 Methyl Acetate | 43 | 3.706 | 3.711 | (0.577) | 236800 | 50.0000 | 47 |
| 19 tert-Butanol | 59 | 3.923 | 3.937 | (0.611) | 45987 | 100.000 | 90 |
| 18 Methylene Chloride | 84 | 3.824 | 3.839 | (0.595) | 145464 | 50.0000 | 54 |
| 20 Acrylonitrile | 53 | 4.060 | 4.065 | (0.632) | 90731 | 50.0000 | 48 |
| 21 trans-1,2-Dichloroethene | 96 | 4.110 | 4.114 | (0.640) | 132320 | 50.0000 | 44 |
| 22 Methyl tert-butyl ether | 73 | 4.100 | 4.114 | (0.638) | 344201 | 50.0000 | 43 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1746.D
Report Date: 29-Jun-2011 14:24

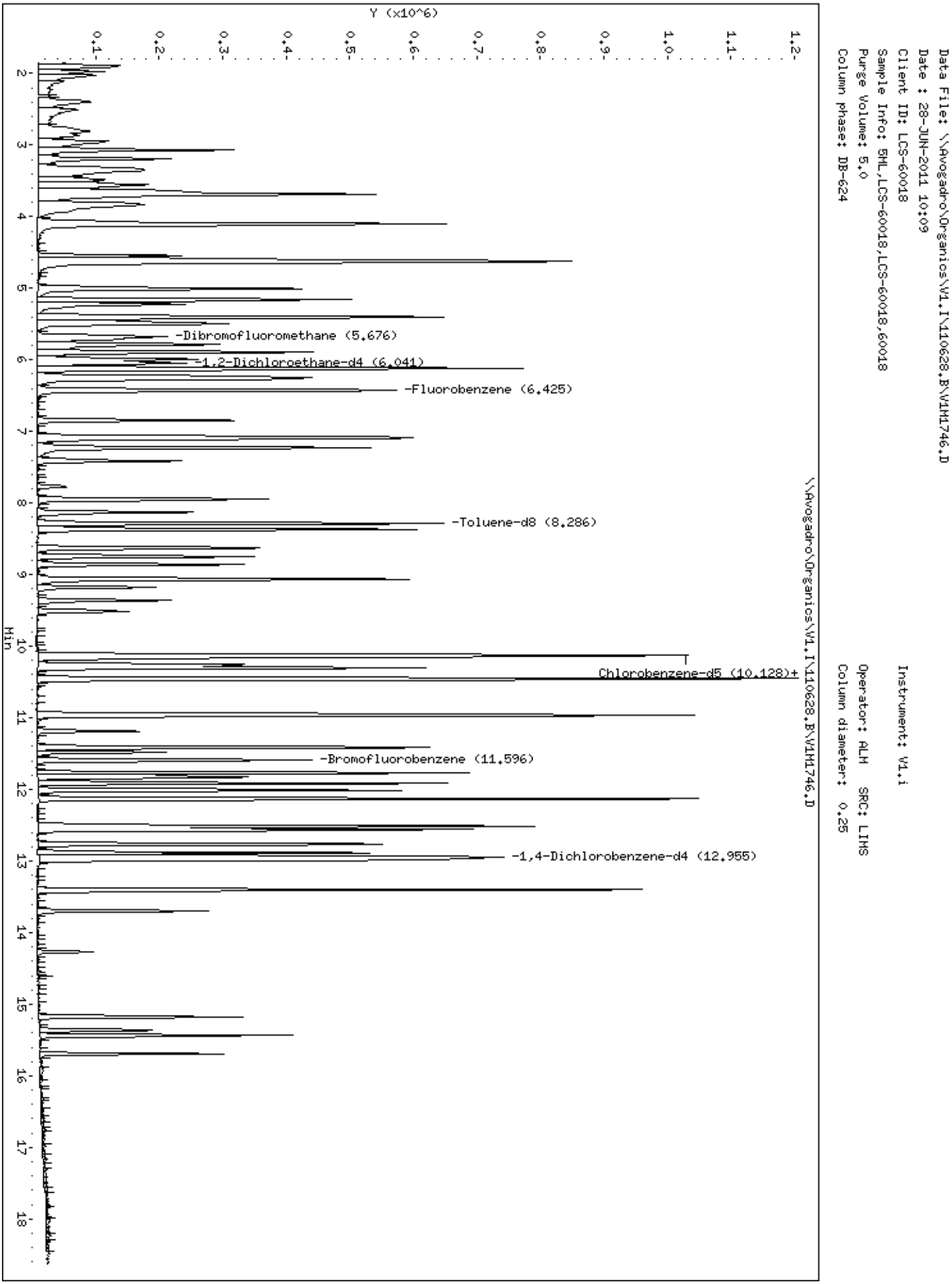
| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 23 1,1-Dichloroethane | 63 | 4.543 | 4.558 | (0.707) | 269688 | 50.0000 | 46 |
| | 24 Vinyl acetate | 43 | 4.592 | 4.607 | (0.715) | 940648 | 50.0000 | 50 |
| | 25 Diisopropyl Ether | 45 | 4.622 | 4.637 | (0.719) | 877644 | 50.0000 | 52 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.642 | 4.656 | (0.723) | 215275 | 50.0000 | 42 |
| | 27 Ethyl tert-butyl ether | 59 | 5.006 | 5.021 | (0.779) | 477155 | 50.0000 | 45 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.164 | 5.168 | (0.804) | 148797 | 50.0000 | 44 |
| | 29 2,2-Dichloropropane | 77 | 5.164 | 5.178 | (0.804) | 65550 | 50.0000 | 36 |
| | 30 2-Butanone | 72 | 5.173 | 5.178 | (0.805) | 20429 | 50.0000 | 33 |
| | 32 Propionitrile | 54 | 5.223 | 5.237 | (0.813) | 317726 | 500.000 | 470(A) |
| | 33 Methacrylonitrile | 41 | 5.400 | 5.405 | (0.841) | 350813 | 100.000 | 98 |
| | 34 Bromochloromethane | 128 | 5.420 | 5.424 | (0.844) | 79090 | 50.0000 | 42 |
| | 31 Tetrahydrofuran | 72 | 5.469 | 5.484 | (0.851) | 43609 | 100.000 | 97 |
| | 35 Chloroform | 83 | 5.499 | 5.513 | (0.856) | 195165 | 50.0000 | 40 |
| $ | 36 Dibromofluoromethane | 113 | 5.676 | 5.681 | (0.883) | 147088 | 50.0000 | 44 |
| | 37 1,1,1-Trichloroethane | 97 | 5.715 | 5.730 | (0.890) | 101250 | 50.0000 | 35 |
| | 38 Cyclohexane | 56 | 5.784 | 5.799 | (0.900) | 244300 | 50.0000 | 47 |
| | 39 1,1-Dichloropropene | 110 | 5.893 | 5.907 | (0.917) | 56218 | 50.0000 | 39 |
| | 40 Carbon Tetrachloride | 117 | 5.902 | 5.907 | (0.919) | 99113 | 50.0000 | 35 |
| | 41 Isobutyl Alcohol | 43 | 5.991 | 6.006 | (0.933) | 242249 | 1000.00 | 860(A) |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.040 | 6.055 | (0.940) | 36613 | 50.0000 | 51 |
| | 43 Benzene | 78 | 6.119 | 6.134 | (0.952) | 532144 | 50.0000 | 48 |
| | 44 1,2-Dichloroethane | 62 | 6.129 | 6.144 | (0.954) | 163114 | 50.0000 | 44 |
| | 45 tert-Amyl methyl ether | 73 | 6.237 | 6.252 | (0.971) | 354872 | 50.0000 | 44 |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 281117 | 100.000 | 88 |
| * | 46 Fluorobenzene | 96 | 6.424 | 6.439 | (1.000) | 566142 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.848 | 6.853 | (1.066) | 131062 | 50.0000 | 40 |
| | 48 Methylcyclohexane | 83 | 7.074 | 7.089 | (1.101) | 161107 | 50.0000 | 48 |
| | 49 1,2-Dichloropropane | 63 | 7.094 | 7.109 | (1.104) | 186925 | 50.0000 | 53 |
| | 51 Methyl Methacrylate | 69 | 7.222 | 7.237 | (1.124) | 127504 | 50.0000 | 46 |
| | 52 Dibromomethane | 93 | 7.232 | 7.237 | (1.126) | 91161 | 50.0000 | 43 |
| | 53 1,4-Dioxane | 88 | 7.242 | 7.266 | (1.127) | 30837 | 1000.00 | 960(A) |
| | 54 Bromodichloromethane | 83 | 7.409 | 7.424 | (1.153) | 156758 | 50.0000 | 44 |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.774 | 7.779 | (1.210) | 21660 | 50.0000 | 58 |
| | 56 cis-1,3-Dichloropropene | 75 | 7.951 | 7.956 | (1.238) | 236743 | 50.0000 | 48 |
| | 57 4-Methyl-2-pentanone | 43 | 8.128 | 8.143 | (1.265) | 256239 | 50.0000 | 30 |
| $ | 58 Toluene-d8 | 98 | 8.286 | 8.291 | (0.819) | 500150 | 50.0000 | 53 |
| | 59 Toluene | 91 | 8.365 | 8.379 | (1.302) | 506915 | 50.0000 | 45 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.621 | 8.635 | (1.342) | 205589 | 50.0000 | 47 |
| | 61 Ethyl Methacrylate | 69 | 8.749 | 8.754 | (1.362) | 189627 | 50.0000 | 50 |
| | 62 1,1,2-Trichloroethane | 97 | 8.857 | 8.862 | (1.379) | 127100 | 50.0000 | 47 |
| | 63 Tetrachloroethene | 164 | 9.054 | 9.069 | (0.895) | 92460 | 50.0000 | 44 |
| | 64 1,3-Dichloropropane | 76 | 9.074 | 9.079 | (0.897) | 216566 | 50.0000 | 48 |
| | 65 2-Hexanone | 43 | 9.172 | 9.187 | (0.907) | 198729 | 50.0000 | 33 |
| | 66 Dibromochloromethane | 129 | 9.360 | 9.364 | (0.925) | 140463 | 50.0000 | 44 |
| | 67 1,2-Dibromoethane | 107 | 9.507 | 9.522 | (0.940) | 133584 | 50.0000 | 43 |
| | 69 1-Chlorohexane | 91 | 10.138 | 10.133 | (1.002) | 159275 | 50.0000 | 46 |
| * | 68 Chlorobenzene-d5 | 117 | 10.118 | 10.123 | (1.000) | 406742 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.157 | 10.162 | (1.004) | 340488 | 50.0000 | 46 |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.256 | 10.270 | (1.014) | 121572 | 50.0000 | 43 |
| | 72 Ethylbenzene | 106 | 10.305 | 10.310 | (1.018) | 161060 | 50.0000 | 44 |
| | 73 m,p-Xylene | 106 | 10.453 | 10.458 | (1.033) | 417214 | 100.000 | 90 |
| | 74 o-Xylene | 106 | 10.955 | 10.960 | (1.083) | 205227 | 50.0000 | 46 |
| | 75 Styrene | 104 | 10.965 | 10.970 | (1.084) | 362467 | 50.0000 | 48 |
| | 76 Bromoform | 173 | 11.192 | 11.186 | (1.106) | 93390 | 50.0000 | 49 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1746.D
Report Date: 29-Jun-2011 14:24

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 Isopropylbenzene | 105 | 11.408 | 11.413 | (1.128) | 485729 | 50.0000 | 45 |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.487 | 11.482 | (1.135) | 70331 | 50.0000 | 79 |
| $ | 79 Bromofluorobenzene | 95 | 11.586 | 11.590 | (1.145) | 198391 | 50.0000 | 50 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.763 | 11.758 | (0.908) | 182342 | 50.0000 | 48 |
| | 81 Bromobenzene | 156 | 11.773 | 11.777 | (0.909) | 145990 | 50.0000 | 49 |
| | 82 1,2,3-Trichloropropane | 75 | 11.822 | 11.817 | (0.913) | 212010 | 50.0000 | 53 |
| | 83 n-Propylbenzene | 120 | 11.911 | 11.915 | (0.919) | 125529 | 50.0000 | 45 |
| | 84 2-Chlorotoluene | 126 | 12.009 | 12.014 | (0.927) | 129804 | 50.0000 | 45 |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.127 | 12.122 | (0.936) | 387454 | 50.0000 | 47 |
| | 86 4-Chlorotoluene | 126 | 12.137 | 12.142 | (0.937) | 133417 | 50.0000 | 44 |
| M | 94 Xylene (Total) | 106 | | | | 622441 | 150.000 | 140 |
| | 87 tert-Butylbenzene | 119 | 12.511 | 12.506 | (0.966) | 394896 | 50.0000 | 48 |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.561 | 12.565 | (0.970) | 399659 | 50.0000 | 47 |
| | 89 sec-Butylbenzene | 105 | 12.768 | 12.762 | (0.986) | 459456 | 50.0000 | 48 |
| | 90 1,3-Dichlorobenzene | 146 | 12.886 | 12.881 | (0.995) | 251006 | 50.0000 | 48 |
| | 91 4-Isopropyltoluene | 119 | 12.935 | 12.930 | (0.998) | 370321 | 50.0000 | 47 |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.955 | 12.959 | (1.000) | 196551 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.984 | 12.989 | (1.002) | 262723 | 50.0000 | 48 |
| | 95 n-Butylbenzene | 91 | 13.398 | 13.403 | (1.034) | 321668 | 50.0000 | 47 |
| | 96 1,2-Dichlorobenzene | 146 | 13.408 | 13.413 | (1.035) | 242983 | 50.0000 | 48 |
| | 97 Hexachloroethane | 117 | 13.703 | 13.698 | (1.058) | 76255 | 50.0000 | 46 |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.265 | 14.269 | (1.101) | 21591 | 50.0000 | 40 |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.181 | 15.176 | (1.172) | 118182 | 50.0000 | 52 |
| | 100 Hexachlorobutadiene | 225 | 15.358 | 15.363 | (1.186) | 39294 | 50.0000 | 57 |
| | 101 Naphthalene | 128 | 15.437 | 15.442 | (1.192) | 324033 | 50.0000 | 39 |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.693 | 15.698 | (1.211) | 102433 | 50.0000 | 51 |

QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.


Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1746.D
Date : 28-JUN-2011 10:09
Client ID: LCS-60018
Sample Info: 5ML,LCS-60018,LCS-60018,60018
Purge Volume: 5.0
Column phase: DB-624
Instrument: V1.i
Operator: ALM SRC: LIMS
Column diameter: 0.25
\\Avogadro\Organics\V1.I\110628.B\V1M1746.D
Y (x10^6)
Min
-Dibromofluoromethane (5.676)
-1,2-Dichloroethane-d4 (6.041)
-Fluorobenzene (6.425)
-Toluene-d8 (8.286)
Chlorobenzene-d5 (10.128)+
-Bromofluorobenzene (11.596)
-1,4-Dichlorobenzene-d4 (12.955)

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCS-60105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: LCS-60105

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1805.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/30/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 56 | | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 59 | | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 57 | | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 58 | | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 120 | | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 57 | | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 170 | | 0.47 | 2.0 | 5.0 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1805.D
Report Date: 06-Jun-2011 10:38

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110630.B\V1M1805.D
Lab Smp Id: LCS-60105  Client Smp ID: LCS-60105
Inj Date  : 30-JUN-2011 10:17
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,LCS-60105,LCS-60105,60105
Misc Info :
Comment  :
Method  : \\avogadro\organics\V1.I\110630.B\v18260GH.m
Meth Date : 06-Jun-2011 10:34 vbrizard  Quant Type: ISTD
Cal Date  : 22-JUN-2011 12:41  Cal File: V1M1640.D
Als bottle: 32  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.699 | 1.702 | (0.264) | 41052 | 50.0000 | 42 |
| 2 Chloromethane | 50 | 1.896 | 1.889 | (0.295) | 152142 | 50.0000 | 46 |
| 3 Vinyl Chloride | 62 | 2.024 | 2.017 | (0.314) | 126427 | 50.0000 | 55 |
| 4 Bromomethane | 94 | 2.388 | 2.391 | (0.371) | 78061 | 50.0000 | 60 |
| 5 Chloroethane | 64 | 2.506 | 2.509 | (0.389) | 77196 | 50.0000 | 60 |
| 6 Trichlorofluoromethane | 101 | 2.772 | 2.775 | (0.431) | 97488 | 50.0000 | 59 |
| 127 Ethanol | 46 | 2.959 | 2.953 | (0.460) | 58516 | 5000.00 | 8000 |
| 7 Ether | 59 | 3.068 | 3.071 | (0.477) | 107573 | 50.0000 | 56 |
| 8 Acrolein | 56 | 3.196 | 3.199 | (0.497) | 129879 | 250.000 | 270 |
| 9 1,1-Dichloroethene | 96 | 3.324 | 3.317 | (0.516) | 104419 | 50.0000 | 60 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.343 | 3.337 | (0.520) | 75570 | 50.0000 | 46 |
| 11 Acetone | 58 | 3.373 | 3.366 | (0.524) | 11693 | 50.0000 | 48 |
| 12 Iodomethane | 142 | 3.481 | 3.485 | (0.541) | 187870 | 50.0000 | 55 |
| 13 Carbon Disulfide | 76 | 3.550 | 3.553 | (0.552) | 383171 | 50.0000 | 57 |
| 14 Acetonitrile | 40 | 3.659 | 3.652 | (0.568) | 66578 | 500.000 | 300(Q) |
| 15 Methyl Acetate | 43 | 3.718 | 3.711 | (0.578) | 114340 | 50.0000 | 54 |
| 16 Methylene Chloride | 84 | 3.816 | 3.819 | (0.593) | 113201 | 50.0000 | 54 |
| 17 tert-Butanol | 59 | 3.934 | 3.938 | (0.611) | 21092 | 100.000 | 120 |
| 18 Acrylonitrile | 53 | 4.072 | 4.066 | (0.633) | 43292 | 50.0000 | 56 |
| 20 Methyl tert-butyl ether | 73 | 4.112 | 4.115 | (0.639) | 213298 | 50.0000 | 56 |
| 19 trans-1,2-Dichloroethene | 96 | 4.112 | 4.115 | (0.639) | 107992 | 50.0000 | 56 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1805.D
Report Date: 06-Jun-2011 10:38

| | | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 21 1,1-Dichloroethane | 63 | 4.555 | 4.548 | (0.708) | 221422 | 50.0000 | 58 |
| | 22 Vinyl acetate | 43 | 4.614 | 4.617 | (0.717) | 578386 | 50.0000 | 54 |
| | 23 Diisopropyl Ether | 45 | 4.634 | 4.627 | (0.720) | 624616 | 50.0000 | 55 |
| | 24 Ethyl tert-butyl ether | 59 | 5.018 | 5.011 | (0.780) | 320908 | 50.0000 | 56 |
| M | 27 1,2-dichloroethene, (Total) | 100 | | | | 220332 | 100.000 | 110 |
| | 25 cis-1,2-Dichloroethene | 96 | 5.176 | 5.169 | (0.804) | 112340 | 50.0000 | 55 |
| | 26 2,2-Dichloropropane | 77 | 5.176 | 5.169 | (0.804) | 71006 | 50.0000 | 60 |
| | 28 2-Butanone | 72 | 5.185 | 5.169 | (0.806) | 10211 | 50.0000 | 56(Q) |
| | 29 Bromochloromethane | 128 | 5.422 | 5.425 | (0.842) | 54560 | 50.0000 | 54 |
| | 30 Tetrahydrofuran | 72 | 5.491 | 5.474 | (0.853) | 19536 | 100.000 | 100 |
| | 31 Chloroform | 83 | 5.510 | 5.504 | (0.856) | 157481 | 50.0000 | 58 |
| $ | 32 Dibromofluoromethane | 113 | 5.688 | 5.671 | (0.884) | 86609 | 50.0000 | 48 |
| | 33 1,1,1-Trichloroethane | 97 | 5.727 | 5.720 | (0.890) | 94281 | 50.0000 | 57 |
| | 34 Cyclohexane | 56 | 5.796 | 5.789 | (0.901) | 233006 | 50.0000 | 57 |
| | 36 Carbon Tetrachloride | 117 | 5.914 | 5.908 | (0.919) | 94734 | 50.0000 | 57 |
| | 35 1,1-Dichloropropene | 110 | 5.904 | 5.898 | (0.917) | 45719 | 50.0000 | 53 |
| $ | 37 1,2-Dichloroethane-d4 | 102 | 6.052 | 6.045 | (0.940) | 19031 | 50.0000 | 44 |
| | 38 Benzene | 78 | 6.131 | 6.124 | (0.953) | 417632 | 50.0000 | 59 |
| | 39 1,2-Dichloroethane | 62 | 6.141 | 6.134 | (0.954) | 106641 | 50.0000 | 55 |
| | 40 tert-Amyl methyl ether | 73 | 6.259 | 6.242 | (0.972) | 224681 | 50.0000 | 55 |
| * | 41 Fluorobenzene | 96 | 6.436 | 6.430 | (1.000) | 343655 | 50.0000 | |
| | 42 Trichloroethene | 130 | 6.860 | 6.853 | (1.066) | 106366 | 50.0000 | 54 |
| | 43 Methylcyclohexane | 83 | 7.086 | 7.080 | (1.101) | 172868 | 50.0000 | 58 |
| | 44 1,2-Dichloropropane | 63 | 7.106 | 7.099 | (1.104) | 139190 | 50.0000 | 60 |
| | 46 Dibromomethane | 93 | 7.244 | 7.237 | (1.125) | 57144 | 50.0000 | 55 |
| | 47 1,4-Dioxane | 88 | 7.264 | 7.267 | (1.129) | 16507 | 1000.00 | 1200 |
| | 48 Bromodichloromethane | 83 | 7.431 | 7.415 | (1.155) | 108292 | 50.0000 | 56 |
| | 45 2-Chloroethyl vinyl ether | 63 | 7.786 | 7.769 | (1.210) | 8931 | 50.0000 | 33(Q) |
| | 49 cis-1,3-Dichloropropene | 75 | 7.963 | 7.946 | (1.237) | 168385 | 50.0000 | 58 |
| | 50 4-Methyl-2-pentanone | 43 | 8.150 | 8.134 | (1.266) | 127708 | 50.0000 | 55 |
| $ | 51 Toluene-d8 | 98 | 8.298 | 8.281 | (0.818) | 307295 | 50.0000 | 52 |
| | 52 Toluene | 91 | 8.386 | 8.370 | (1.303) | 403713 | 50.0000 | 57 |
| | 53 trans-1,3-Dichloropropene | 75 | 8.643 | 8.626 | (1.343) | 126194 | 50.0000 | 55 |
| | 54 1,1,2-Trichloroethane | 97 | 8.879 | 8.853 | (1.379) | 76249 | 50.0000 | 56 |
| | 55 Tetrachloroethene | 164 | 9.076 | 9.059 | (0.895) | 78755 | 50.0000 | 59 |
| | 56 1,3-Dichloropropane | 76 | 9.096 | 9.069 | (0.897) | 134486 | 50.0000 | 56 |
| | 57 2-Hexanone | 43 | 9.194 | 9.178 | (0.907) | 90561 | 50.0000 | 54 |
| | 58 Dibromochloromethane | 129 | 9.381 | 9.355 | (0.925) | 87545 | 50.0000 | 55 |
| | 59 1,2-Dibromoethane | 107 | 9.529 | 9.512 | (0.940) | 80950 | 50.0000 | 58 |
| * | 60 Chlorobenzene-d5 | 117 | 10.140 | 10.123 | (1.000) | 237100 | 50.0000 | |
| | 63 1-Chlorohexane | 91 | 10.150 | 10.133 | (1.001) | 141776 | 50.0000 | 59 |
| | 61 Chlorobenzene | 112 | 10.169 | 10.153 | (1.003) | 256843 | 50.0000 | 55 |
| | 62 1,1,1,2-Tetrachloroethane | 131 | 10.278 | 10.261 | (1.014) | 88621 | 50.0000 | 57 |
| | 64 Ethylbenzene | 106 | 10.317 | 10.300 | (1.017) | 132184 | 50.0000 | 58 |
| | 65 m,p-Xylene | 106 | 10.465 | 10.458 | (1.032) | 325917 | 100.000 | 120 |
| | 66 o-Xylene | 106 | 10.967 | 10.951 | (1.082) | 155983 | 50.0000 | 57 |
| | 67 Styrene | 104 | 10.977 | 10.970 | (1.083) | 268715 | 50.0000 | 57 |
| | 68 Bromoform | 173 | 11.203 | 11.187 | (1.105) | 51547 | 50.0000 | 54(T) |
| | 69 Isopropylbenzene | 105 | 11.430 | 11.413 | (1.127) | 398109 | 50.0000 | 59 |
| | 126 trans-1,4-Dichloro-2-butene | 75 | 11.499 | 11.482 | (1.134) | 33877 | 50.0000 | 56 |
| $ | 70 Bromofluorobenzene | 95 | 11.597 | 11.591 | (1.144) | 111983 | 50.0000 | 50 |
| | 72 Bromobenzene | 156 | 11.785 | 11.778 | (0.909) | 106610 | 50.0000 | 55 |
| | 71 1,1,2,2-Tetrachloroethane | 83 | 11.775 | 11.768 | (0.908) | 99053 | 50.0000 | 53 |
| | 73 1,2,3-Trichloropropane | 75 | 11.834 | 11.768 | (0.913) | 106787 | 50.0000 | 52 |

Data File: \\avogadro\organics\V1.I\110630.B\V1M1805.D
Report Date: 06-Jun-2011 10:38

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 74 n-Propylbenzene | 120 | 11.922 | 11.916 | (0.919) | 107148 | 50.0000 | 54 |
| | 75 2-Chlorotoluene | 126 | 12.021 | 12.014 | (0.927) | 101796 | 50.0000 | 53 |
| | 76 1,3,5-Trimethylbenzene | 105 | 12.129 | 12.132 | (0.935) | 326463 | 50.0000 | 55 |
| | 77 4-Chlorotoluene | 126 | 12.149 | 12.142 | (0.937) | 104664 | 50.0000 | 54 |
| | 78 tert-Butylbenzene | 119 | 12.513 | 12.517 | (0.965) | 341439 | 50.0000 | 56 |
| | 79 1,2,4-Trimethylbenzene | 105 | 12.573 | 12.566 | (0.970) | 334078 | 50.0000 | 56 |
| M | 81 Xylene (Total) | 106 | | | | 481900 | 150.000 | 170 |
| | 80 sec-Butylbenzene | 105 | 12.770 | 12.763 | (0.985) | 454744 | 50.0000 | 55 |
| | 82 1,3-Dichlorobenzene | 146 | 12.898 | 12.891 | (0.995) | 205464 | 50.0000 | 54 |
| | 83 4-Isopropyltoluene | 119 | 12.937 | 12.930 | (0.998) | 360460 | 50.0000 | 56 |
| * | 84 1,4-Dichlorobenzene-d4 | 152 | 12.967 | 12.960 | (1.000) | 119194 | 50.0000 | |
| | 85 1,4-Dichlorobenzene | 146 | 12.996 | 12.989 | (1.002) | 202801 | 50.0000 | 53 |
| | 86 n-Butylbenzene | 91 | 13.410 | 13.403 | (1.034) | 367937 | 50.0000 | 59 |
| | 87 1,2-Dichlorobenzene | 146 | 13.420 | 13.413 | (1.035) | 181619 | 50.0000 | 53 |
| | 88 1,2-Dibromo-3-chloropropane | 75 | 14.277 | 14.280 | (1.101) | 12010 | 50.0000 | 50(Q) |
| | 89 1,2,4-Trichlorobenzene | 180 | 15.183 | 15.186 | (1.171) | 113119 | 50.0000 | 56 |
| | 90 Hexachlorobutadiene | 225 | 15.370 | 15.373 | (1.185) | 65728 | 50.0000 | 63(Q) |
| | 91 Naphthalene | 128 | 15.449 | 15.442 | (1.191) | 234601 | 50.0000 | 52 |
| | 92 1,2,3-Trichlorobenzene | 180 | 15.705 | 15.698 | (1.211) | 95160 | 50.0000 | 53 |

QC Flag Legend

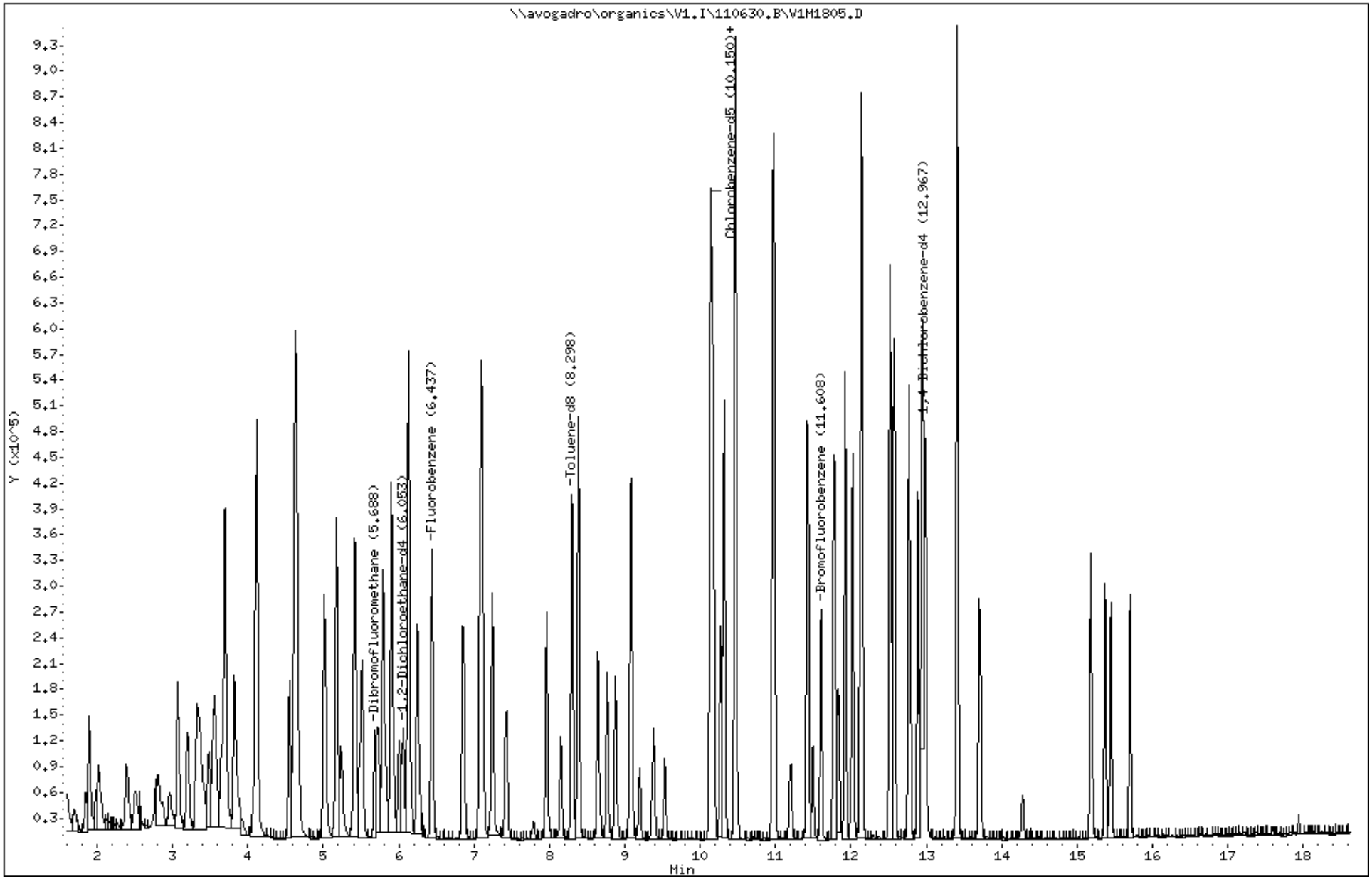
T - Target compound detected outside RT window.
Q - Qualifier signal failed the ratio test.

Data File: \\avogadro\organics\V1.I\110630.B\V1M1805.D
Date : 30-JUN-2011 10:17
Client ID: LCS-60105
Sample Info: 5ML,LCS-60105,LCS-60105,60105

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25

Column phase: DB-624



1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

LCSD-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: LCSD-60018

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1747.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 44 | | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 45 | | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 42 | | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 43 | | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 88 | | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 45 | | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 130 | | 0.36 | 1.0 | 5.0 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1747.D
Report Date: 29-Jun-2011 14:24

Spectrum Analytical, Inc.  RI Division

Method 8260 Water and Medium Soil

Data file : \\Avogadro\Organics\V1.I\110628.B\V1M1747.D
Lab Smp Id: LCSD-60018  Client Smp ID: LCSD-60018
Inj Date  : 28-JUN-2011 10:37
Operator  : ALM  SRC: LIMS  Inst ID: V1.i
Smp Info  : 5ML,LCSD-60018,LCSD-60018,60018
Misc Info :
Comment  :
Method  : \\Avogadro\Organics\V1.I\110628.B\v18260Gadd.m
Meth Date : 29-Jun-2011 14:22 amarquis  Quant Type: ISTD
Cal Date  : 01-JUN-2011 11:59  Cal File: V1M1405.D
Als bottle: 34  Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE  Compound Sublist: all.sub
Target Version:  4.14

Concentration Formula: Amt * DF * Uf * 5/Vo * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Vo | 5.000 | Sample Volume purged (mL) |
| Cpnd Variable | | Local Compound Variable |

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.701 | 1.701 | (0.264) | 45034 | 50.0000 | 27 |
| 2 Freon114 | 85 | 1.849 | 1.849 | (0.287) | 84617 | 50.0000 | 41 |
| 3 Chloromethane | 50 | 1.888 | 1.888 | (0.293) | 192159 | 50.0000 | 41 |
| 4 Vinyl Chloride | 62 | 2.026 | 2.026 | (0.315) | 128021 | 50.0000 | 39 |
| 5 Bromomethane | 94 | 2.391 | 2.391 | (0.371) | 77816 | 50.0000 | 36 |
| 6 Chloroethane | 64 | 2.519 | 2.519 | (0.391) | 79215 | 50.0000 | 40 |
| 7 Trichlorofluoromethane | 101 | 2.785 | 2.785 | (0.433) | 99273 | 50.0000 | 35 |
| 126 Ethanol | 46 | 2.962 | 2.962 | (0.460) | 106858 | 5000.00 | 5300(AQ) |
| 8 Ether | 59 | 3.080 | 3.080 | (0.478) | 159993 | 50.0000 | 48(Q) |
| 9 Acrolein | 56 | 3.198 | 3.198 | (0.497) | 160337 | 250.000 | 350(A) |
| 10 1,1-Dichloroethene | 96 | 3.336 | 3.336 | (0.518) | 108680 | 50.0000 | 41 |
| 11 1,1,2-Trichloro-1,2,2-Trifluo | 101 | 3.356 | 3.356 | (0.521) | 94436 | 50.0000 | 44 |
| 12 Acetone | 58 | 3.366 | 3.366 | (0.523) | 23462 | 50.0000 | 30 |
| 13 Iodomethane | 142 | 3.494 | 3.494 | (0.543) | 209385 | 50.0000 | 42 |
| 14 Carbon Disulfide | 76 | 3.563 | 3.563 | (0.553) | 416981 | 50.0000 | 43 |
| 15 Acetonitrile | 41 | 3.691 | 3.691 | (0.573) | 627216 | 500.000 | 1200(AQ) |
| 16 Allyl Chloride | 39 | 3.691 | 3.691 | (0.573) | 259411 | 50.0000 | 62 |
| 17 Methyl Acetate | 43 | 3.711 | 3.711 | (0.576) | 242161 | 50.0000 | 48 |
| 19 tert-Butanol | 59 | 3.937 | 3.937 | (0.611) | 39056 | 100.000 | 77 |
| 18 Methylene Chloride | 84 | 3.839 | 3.839 | (0.596) | 140849 | 50.0000 | 53 |
| 20 Acrylonitrile | 53 | 4.065 | 4.065 | (0.631) | 87759 | 50.0000 | 47 |
| 21 trans-1,2-Dichloroethene | 96 | 4.114 | 4.114 | (0.639) | 122770 | 50.0000 | 41 |
| 22 Methyl tert-butyl ether | 73 | 4.114 | 4.114 | (0.639) | 341253 | 50.0000 | 44 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1747.D
Report Date: 29-Jun-2011 14:24

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 23 1,1-Dichloroethane | 63 | 4.558 | 4.558 | (0.708) | 254501 | 50.0000 | 44 |
| | 24 Vinyl acetate | 43 | 4.607 | 4.607 | (0.716) | 910083 | 50.0000 | 49 |
| | 25 Diisopropyl Ether | 45 | 4.637 | 4.637 | (0.720) | 840452 | 50.0000 | 50 |
| | 26 2-Chloro-1,3-Butadiene | 53 | 4.656 | 4.656 | (0.723) | 204589 | 50.0000 | 40 |
| | 27 Ethyl tert-butyl ether | 59 | 5.021 | 5.021 | (0.780) | 455462 | 50.0000 | 43 |
| | 28 cis-1,2-Dichloroethene | 96 | 5.168 | 5.168 | (0.803) | 134076 | 50.0000 | 40 |
| | 29 2,2-Dichloropropane | 77 | 5.178 | 5.178 | (0.804) | 68099 | 50.0000 | 38 |
| | 30 2-Butanone | 72 | 5.178 | 5.178 | (0.804) | 19737 | 50.0000 | 32 |
| | 32 Propionitrile | 54 | 5.237 | 5.237 | (0.813) | 300306 | 500.000 | 450(A) |
| | 33 Methacrylonitrile | 41 | 5.405 | 5.405 | (0.839) | 348254 | 100.000 | 98 |
| | 34 Bromochloromethane | 128 | 5.424 | 5.424 | (0.842) | 78790 | 50.0000 | 42 |
| | 31 Tetrahydrofuran | 72 | 5.484 | 5.484 | (0.852) | 40712 | 100.000 | 91 |
| | 35 Chloroform | 83 | 5.513 | 5.513 | (0.856) | 185754 | 50.0000 | 39 |
| $ | 36 Dibromofluoromethane | 113 | 5.681 | 5.681 | (0.882) | 147676 | 50.0000 | 44 |
| | 37 1,1,1-Trichloroethane | 97 | 5.730 | 5.730 | (0.890) | 101981 | 50.0000 | 36 |
| | 38 Cyclohexane | 56 | 5.799 | 5.799 | (0.901) | 254744 | 50.0000 | 50 |
| | 39 1,1-Dichloropropene | 110 | 5.907 | 5.907 | (0.917) | 53715 | 50.0000 | 38 |
| | 40 Carbon Tetrachloride | 117 | 5.907 | 5.907 | (0.917) | 100070 | 50.0000 | 35 |
| | 41 Isobutyl Alcohol | 43 | 6.006 | 6.006 | (0.933) | 236441 | 1000.00 | 850(A) |
| $ | 42 1,2-Dichloroethane-d4 | 102 | 6.055 | 6.055 | (0.940) | 33201 | 50.0000 | 47 |
| | 43 Benzene | 78 | 6.134 | 6.134 | (0.953) | 491018 | 50.0000 | 45 |
| | 44 1,2-Dichloroethane | 62 | 6.144 | 6.144 | (0.954) | 154692 | 50.0000 | 42 |
| | 45 tert-Amyl methyl ether | 73 | 6.252 | 6.252 | (0.971) | 340625 | 50.0000 | 43 |
| M | 50 1,2-Dichloroethene (Total) | 96 | | | | 256846 | 100.000 | 81 |
| * | 46 Fluorobenzene | 96 | 6.439 | 6.439 | (1.000) | 560521 | 50.0000 | |
| | 47 Trichloroethene | 130 | 6.853 | 6.853 | (1.064) | 126227 | 50.0000 | 38 |
| | 48 Methylcyclohexane | 83 | 7.089 | 7.089 | (1.101) | 166686 | 50.0000 | 50 |
| | 49 1,2-Dichloropropane | 63 | 7.109 | 7.109 | (1.104) | 174987 | 50.0000 | 50 |
| | 51 Methyl Methacrylate | 69 | 7.237 | 7.237 | (1.124) | 127549 | 50.0000 | 46 |
| | 52 Dibromomethane | 93 | 7.237 | 7.237 | (1.124) | 88420 | 50.0000 | 42 |
| | 53 1,4-Dioxane | 88 | 7.266 | 7.266 | (1.128) | 26457 | 1000.00 | 830(A) |
| | 54 Bromodichloromethane | 83 | 7.424 | 7.424 | (1.153) | 143650 | 50.0000 | 41 |
| | 55 2-Chloroethyl vinyl ether | 63 | 7.779 | 7.779 | (1.208) | 24141 | 50.0000 | 66 |
| | 56 cis-1,3-Dichloropropene | 75 | 7.956 | 7.956 | (1.236) | 232635 | 50.0000 | 48 |
| | 57 4-Methyl-2-pentanone | 43 | 8.143 | 8.143 | (1.265) | 258188 | 50.0000 | 30 |
| $ | 58 Toluene-d8 | 98 | 8.291 | 8.291 | (0.819) | 486449 | 50.0000 | 53 |
| | 59 Toluene | 91 | 8.379 | 8.379 | (1.301) | 470145 | 50.0000 | 42 |
| | 60 trans-1,3-Dichloropropene | 75 | 8.635 | 8.635 | (1.341) | 186725 | 50.0000 | 44 |
| | 61 Ethyl Methacrylate | 69 | 8.754 | 8.754 | (1.359) | 183408 | 50.0000 | 49 |
| | 62 1,1,2-Trichloroethane | 97 | 8.862 | 8.862 | (1.376) | 119655 | 50.0000 | 44 |
| | 63 Tetrachloroethene | 164 | 9.069 | 9.069 | (0.896) | 88439 | 50.0000 | 44 |
| | 64 1,3-Dichloropropane | 76 | 9.079 | 9.079 | (0.897) | 208009 | 50.0000 | 47 |
| | 65 2-Hexanone | 43 | 9.187 | 9.187 | (0.908) | 190826 | 50.0000 | 32 |
| | 66 Dibromochloromethane | 129 | 9.364 | 9.364 | (0.925) | 130668 | 50.0000 | 43 |
| | 67 1,2-Dibromoethane | 107 | 9.522 | 9.522 | (0.941) | 133730 | 50.0000 | 44 |
| | 69 1-Chlorohexane | 91 | 10.133 | 10.133 | (1.001) | 156561 | 50.0000 | 47 |
| * | 68 Chlorobenzene-d5 | 117 | 10.123 | 10.123 | (1.000) | 395026 | 50.0000 | |
| | 70 Chlorobenzene | 112 | 10.162 | 10.162 | (1.004) | 318827 | 50.0000 | 44 |
| | 71 1,1,1,2-Tetrachloroethane | 131 | 10.270 | 10.270 | (1.015) | 112978 | 50.0000 | 41 |
| | 72 Ethylbenzene | 106 | 10.310 | 10.310 | (1.018) | 155315 | 50.0000 | 43 |
| | 73 m,p-Xylene | 106 | 10.458 | 10.458 | (1.033) | 392624 | 100.000 | 88 |
| | 74 o-Xylene | 106 | 10.960 | 10.960 | (1.083) | 193170 | 50.0000 | 45 |
| | 75 Styrene | 104 | 10.970 | 10.970 | (1.084) | 336602 | 50.0000 | 46 |
| | 76 Bromoform | 173 | 11.186 | 11.186 | (1.105) | 91165 | 50.0000 | 49 |

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1747.D
Report Date: 29-Jun-2011 14:24

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 77 Isopropylbenzene | 105 | 11.413 | 11.413 | (1.127) | 455634 | 50.0000 | 44 |
| | 78 trans-1,4-Dichloro-2-butene | 75 | 11.482 | 11.482 | (1.134) | 63879 | 50.0000 | 74 |
| $ | 79 Bromofluorobenzene | 95 | 11.590 | 11.590 | (1.145) | 194848 | 50.0000 | 50 |
| | 80 1,1,2,2-Tetrachloroethane | 83 | 11.758 | 11.758 | (0.907) | 173768 | 50.0000 | 46 |
| | 81 Bromobenzene | 156 | 11.777 | 11.777 | (0.909) | 135416 | 50.0000 | 46 |
| | 82 1,2,3-Trichloropropane | 75 | 11.817 | 11.817 | (0.912) | 200357 | 50.0000 | 51 |
| | 83 n-Propylbenzene | 120 | 11.915 | 11.915 | (0.919) | 118517 | 50.0000 | 43 |
| | 84 2-Chlorotoluene | 126 | 12.014 | 12.014 | (0.927) | 121302 | 50.0000 | 43 |
| | 85 1,3,5-Trimethylbenzene | 105 | 12.122 | 12.122 | (0.935) | 368415 | 50.0000 | 45 |
| | 86 4-Chlorotoluene | 126 | 12.142 | 12.142 | (0.937) | 127710 | 50.0000 | 43 |
| M | 94 Xylene (Total) | 106 | | | | 585794 | 150.000 | 130 |
| | 87 tert-Butylbenzene | 119 | 12.506 | 12.506 | (0.965) | 377432 | 50.0000 | 46 |
| | 88 1,2,4-Trimethylbenzene | 105 | 12.565 | 12.565 | (0.970) | 379326 | 50.0000 | 45 |
| | 89 sec-Butylbenzene | 105 | 12.762 | 12.762 | (0.985) | 440411 | 50.0000 | 47 |
| | 90 1,3-Dichlorobenzene | 146 | 12.881 | 12.881 | (0.994) | 234949 | 50.0000 | 45 |
| | 91 4-Isopropyltoluene | 119 | 12.930 | 12.930 | (0.998) | 359737 | 50.0000 | 46 |
| * | 92 1,4-Dichlorobenzene-d4 | 152 | 12.959 | 12.959 | (1.000) | 194408 | 50.0000 | |
| | 93 1,4-Dichlorobenzene | 146 | 12.989 | 12.989 | (1.002) | 245418 | 50.0000 | 45 |
| | 95 n-Butylbenzene | 91 | 13.403 | 13.403 | (1.034) | 322661 | 50.0000 | 48 |
| | 96 1,2-Dichlorobenzene | 146 | 13.413 | 13.413 | (1.035) | 230476 | 50.0000 | 46 |
| | 97 Hexachloroethane | 117 | 13.698 | 13.698 | (1.057) | 81612 | 50.0000 | 49 |
| | 98 1,2-Dibromo-3-chloropropane | 75 | 14.269 | 14.269 | (1.101) | 20729 | 50.0000 | 39 |
| | 99 1,2,4-Trichlorobenzene | 180 | 15.176 | 15.176 | (1.171) | 115132 | 50.0000 | 51 |
| | 100 Hexachlorobutadiene | 225 | 15.363 | 15.363 | (1.185) | 38464 | 50.0000 | 57 |
| | 101 Naphthalene | 128 | 15.442 | 15.442 | (1.192) | 329497 | 50.0000 | 40 |
| | 102 1,2,3-Trichlorobenzene | 180 | 15.698 | 15.698 | (1.211) | 94389 | 50.0000 | 47 |

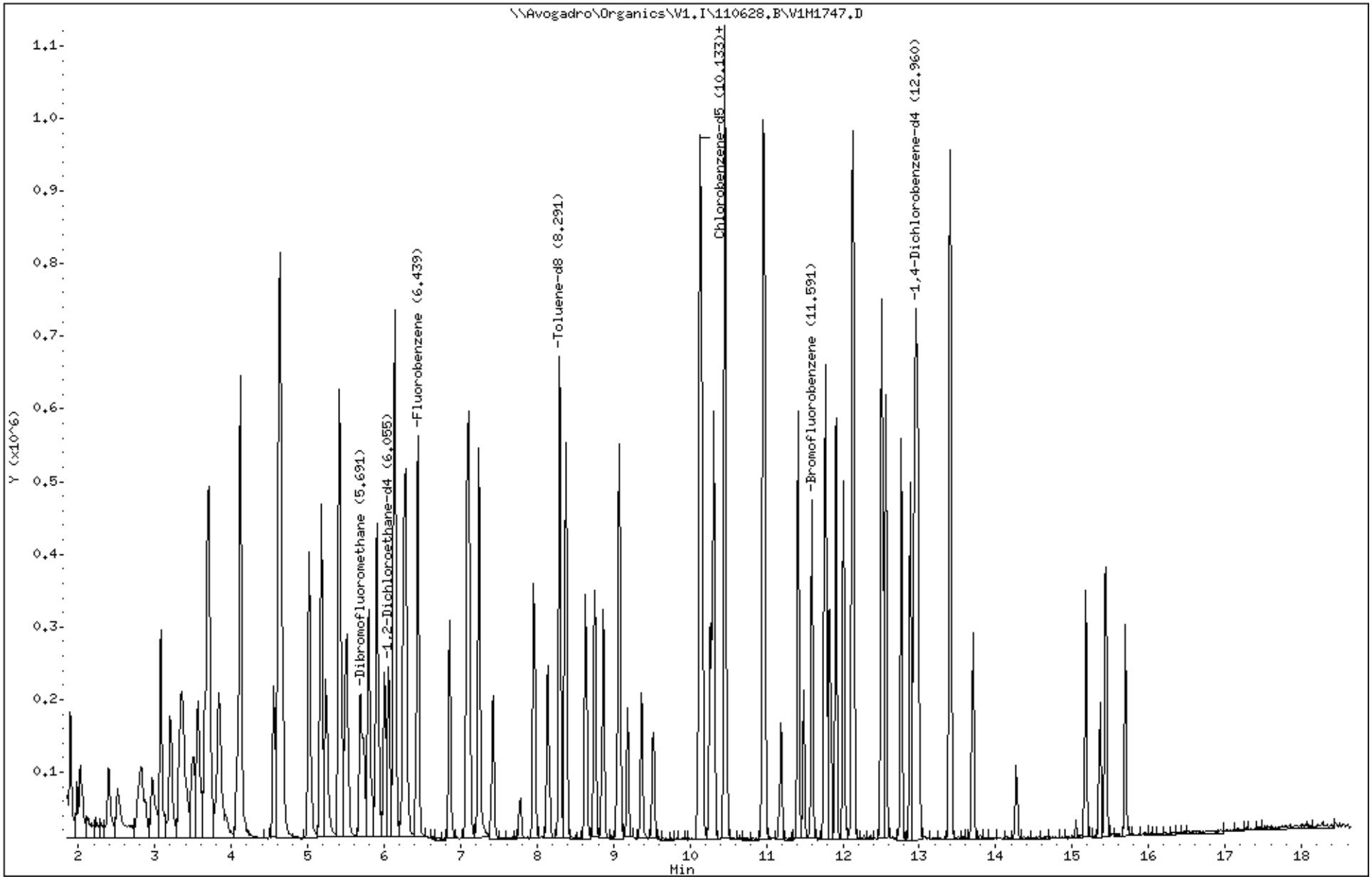
QC Flag Legend

A - Target compound detected but, quantitated amount exceeded maximum amount.
Q - Qualifier signal failed the ratio test.

Data File: \\Avogadro\Organics\V1.I\110628.B\V1M1747.D
Date : 28-JUN-2011 10:37
Client ID: LCSD-60018
Sample Info: 5ML,LCSD-60018,LCSD-60018,60018
Purge Volume: 5.0
Column phase: DB-624

Instrument: V1.i

Operator: ALM SRC: LIMS
Column diameter: 0.25



Mitkem Laboratories
Volatiles Laboratory

Instrument V1 Injection Log

METHOD: 8260W
ICAL DATE: 6-1-11

ANALYST: [illegible]

BATCH: 110601.B

Start: 01-JUN-11 11:43
End: 01-JUN-11 14:54

Comments:

Standards: IS/SS VW110601A 400 uL
STD VW110519A ___ uL
ICV ___ uL
___ uL

Reviewed By: [illegible] 6/13/11

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1404 | 11:43 | BFB1F | BFB1F | | SL | | | | | | | | | 1 | | [illegible] | |
| V1M1405 | 11:59 | VSTD0501F | VSTD0501F | | AQ | | 100 | 100 | 100 | | | | | 1 | | [illegible] | |
| V1M1406 | 12:48 | VSTD0201F | VSTD0201F | | AQ | | 103 | 101 | 102 | | | | | 1 | | [illegible] | |
| V1M1407 | 13:18 | VSTD0051F | VSTD0051F | | AQ | | 99 | 98 | 97 | | | | | 1 | | [illegible] | |
| V1M1408 | 13:50 | VSTD2001F | VSTD2001F | | AQ | | 104 | 102 | 102 | | | | | 1 | | [illegible] | |
| V1M1409 | 14:22 | VSTD1001F | VSTD1001F | | AQ | | 108 | 103 | 102 | | | | | 1 | | [illegible] | |
| V1M1410 | 14:54 | VICV0501F | VICV0501F | | AQ | | 106 | 104 | 103 | 97 | 106 | 101 | 97 | 1 | E | [illegible] | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

[illegible] 6-2-11

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Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260L
ICAL DATE: 6-22h

ANALYST: tlm

BATCH: 110622.B

Start: 22-JUN-11 07:57
End: 22-JUN-11 15:06

Comments:

Standards: BFB VW110554A 2 uL
IS/SS VW110622A 1000 uL
STD. VW110614A uL
ICV VW110614B 2.5 uL

Reviewed By: mc 6/24/11

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1630 | 07:57 | BFB1P | BFB1P | | SL | | | | | | | | | 1 | | OK | |
| V1M1633 | 09:07 | VSTD0201P | VSTD0201P | | SL | | 110 | 99 | 97 | | | | | 1 | | OK 1 uL | |
| V1M1634 | 09:34 | VSTD0501P | VSTD0501P | | SL | | 100 | 100 | 100 | | | | | 1 | | OK 2.5 uL | |
| V1M1635 | 10:02 | VSTD1001P | VSTD1001P | | SL | | 111 | 101 | 101 | | | | | 1 | | OK 5 uL → 5 mL | |
| V1M1636 | 10:30 | VSTD2001P | VSTD2001P | | SL | | 112 | 103 | 105 | | | | | 1 | | OK 10 uL | |
| V1M1640 | 12:41 | VSTD0051P | VSTD0051P | | SL | | 101 | 94 | 92 | | | | | 1 | | OK 0.25 uL | |
| V1M1643 | 15:06 | VICV0501P | VICV0501P | | SL | | 103 | 97 | 94 | 99 | 85 | 98 | 94 | 1 | R | OK | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

tlm 6-23-11

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|---|---|---|---|---|---|---|---|---|---|---|---|---|
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Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260-LOW-S ANALYST: [illegible] BATCH: 110627.B Start: 27-JUN-11 09:13
ICAL DATE: 6/22/11 End: 27-JUN-11 21:24

Comments:

Standards: BFB VW110504A 2 uL
ISBS VW110621A Auto uL
STD VW110614A 2.5 uL
uL

Reviewed By: [illegible] Manual Integration: NA MI Review: NA

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1710 | 09:13 | BFB1S | BFB1S | | SL | | | | | | | | | 1 | | OK | |
| V1M1711 | 09:31 | VSTD0501S | VSTD0501S | | | | 100 | 100 | 100 | | | | | 1 | | not used | |
| V1M1712 | 10:14 | VSTD0501S | VSTD0501S | | | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1713 | 11:05 | LCS-60011 | LCS-60011 | 60011 | SL | | 79 | 80 | 86 | 97 | 95 | 98 | 101 | 1 | R | OK | |
| V1M1714 | 11:41 | MB-60011 | MB-60011 | 60011 | SL | | 82 | 80 | 77 | 90 | 84 | 104 | 98 | 1 | | not used | |
| V1M1715 | 12:08 | MB-60011 | MB-60011 | 60011 | SL | | 79 | 79 | 79 | 98 | 91 | 103 | 101 | 1 | | OK | |
| V1M1716 | 12:36 | K1097-07B | SW-N-15 | 60011 | SL | 1 | 83 | 82 | 73 | 93 | 83 | 102 | 102 | 1 | E | NPTH=048 RR @ 1G | |
| V1M1717 | 13:04 | K1097-08B | SW-S-12.5 | 60011 | SL | 1 | 83 | 82 | 77 | 91 | 80 | 104 | 99 | 1 | | RR @ 1x | |
| V1M1718 | 13:31 | K1099-01A | SB-01-31-37 | 60011 | SL | 1 | 85 | 83 | 81 | 96 | 81 | 105 | 100 | 1 | | OK | |
| V1M1719 | 13:59 | K1099-02A | SB-04-133-137 | 60011 | SL | 1 | 84 | 82 | 81 | 95 | 82 | 103 | 98 | 1 | | OK | |
| V1M1720 | 14:27 | K1099-03A | SB-03-60-62 | 60011 | SL | 1 | 83 | 79 | 72 | 93 | 83 | 105 | 97 | 1 | E | PCE=495 RR@1G | |
| V1M1721 | 14:55 | K1097-08B | SW-S-12.5 | 60011 | SL | 1 | 82 | 81 | 82 | 96 | 85 | 103 | 100 | 1 | | OK | |
| V1M1722 | 15:23 | K1097-07B | SW-N-15 | 60011 | SL | 1 | 81 | 83 | 82 | 94 | 83 | 98 | 100 | 1 | | NPTH=115 OK | |
| V1M1723 | 15:51 | K1099-04A | SB-05-04-09 | 60011 | SL | 1 | 81 | 79 | 71 | 97 | 88 | 104 | 94 | 1 | | OK | |
| V1M1724 | 16:19 | K1099-05A | SB-02-03-12 | 60011 | SL | 1 | 81 | 80 | 78 | 98 | 80 | 104 | 101 | 1 | | OK | |
| V1M1725 | 16:47 | K1099-06A | SB-09-09-11 | 60011 | SL | 1 | 80 | 81 | 76 | 96 | 78 | 102 | 95 | 1 | | OK | |
| V1M1726 | 17:16 | K1099-07A | SB-59-09-11 | 60011 | SL | 1 | 81 | 80 | 75 | 92 | 76 | 100 | 97 | 1 | | OK | |
| V1M1727 | 17:44 | K1100-01B | 06SB27-0911-201 | 60011 | SL | 1 | 82 | 82 | 79 | 94 | 91 | 102 | 96 | 1 | | OK | |
| V1M1728 | 18:12 | K1100-02B | 06SB27-1315-201 | 60011 | SL | 1 | 80 | 81 | 79 | 92 | 83 | 90 | 95 | 1 | | OK | |
| V1M1729 | 18:40 | K1100-04B | 06SB2S-0507-201 | 60011 | SL | 1 | 79 | 80 | 80 | 97 | 81 | 100 | 99 | 1 | | OK | |
| V1M1730 | 19:08 | K1100-05B | 06SB2S-1820-201 | 60011 | SL | 1 | 82 | 80 | 81 | 95 | 77 | 104 | 100 | 1 | | OK | |
| V1M1731 | 19:36 | VBLK | VBLK | | | | 78 | 79 | 77 | 95 | 87 | 100 | 100 | 1 | | NOT used | |
| V1M1732 | 20:03 | K1100-03B | 06TBSO-20110620 | 60011 | SL | 1 | 78 | 77 | 73 | 95 | 80 | 100 | 101 | 1 | | OK [illegible] | |
| V1M1733 | 20:30 | K1072-03BMS | 80230-MIP4B-45M | 60011 | SL | 2 | 81 | 82 | 83 | 96 | 81 | 102 | 97 | 1 | R | OK | |
| V1M1734 | 20:57 | K1072-03BMSD | 80230-MIP4B-45M | 60011 | SL | 3 | 84 | 84 | 82 | 95 | 78 | 102 | 96 | 1 | R | OK | |
| V1M1735 | 21:24 | VBLK | VBLK | | | | 78 | 80 | 80 | 97 | 90 | 100 | 97 | 1 | T | NOT used | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

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VEB 6/28/11

Logbook ID 90.0204-05/11

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260W/624 ANALYST: th
ICAL DATE: 6-1-11

BATCH: 110628.B

Start: 28-JUN-11 08:40
End: 28-JUN-11 20:23

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Comments:

Standards: BFB VW110504A 2 uL
ISTD VW110621A 100 uL
SM VW110614A 20 uL
uL

Reviewed By: WL 6/29/11 Manual Integration: N/A MI Review: th

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1743 | 08:40 | BFB1T | BFB1T | | SL | | | | | | | | | 1 | | OK | |
| V1M1744 | 08:55 | VSTD0501T | VSTD0501T | | AQ | | 100 | 100 | 100 | | | | | 1 | | INT USED | |
| V1M1745 | 09:32 | VSTD0501T | VSTD0501T | | AQ | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1746 | 10:09 | LCS-60018 | LCS-60018 | 60018 | AQ | | 99 | 103 | 95 | 87 | 103 | 106 | 100 | 1 | ER | OK | |
| V1M1747 | 10:37 | LCSD-60018 | LCSD-60018 | 60018 | AQ | | 98 | 100 | 94 | 88 | 94 | 106 | 101 | 1 | ER | OK | |
| V1M1748 | 11:04 | MB-60018 | MB-60018 | 60018 | AQ | | 94 | 97 | 88 | 85 | 99 | 107 | 97 | 1 | | INT USED | |
| V1M1749 | 11:32 | MB-60018 | MB-60018 | 60018 | AQ | | 95 | 97 | 89 | 86 | 99 | 106 | 95 | 1 | | OK | |
| V1M1750 | 11:59 | K1096-01A | CD-WW-3-062311 | 60018 | AQ | 2 | 96 | 97 | 89 | 85 | 101 | 106 | 96 | 1 | | OK | 2 |
| V1M1751 | 12:27 | K1109-01A | CD-WW-5-062411 | 60018 | AQ | 2 | 95 | 99 | 89 | 88 | 100 | 105 | 95 | 1 | | OK | |
| V1M1752 | 12:55 | K1109-02A | CD-WW-6-062411 | 60018 | AQ | 2 | 97 | 99 | 90 | 86 | 99 | 108 | 98 | 1 | | OK | |
| V1M1753 | 13:22 | K1069-02A | WETWELL | 60018 | AQ | 1 | 94 | 98 | 90 | 87 | 98 | 105 | 96 | 1 | | OK | |
| V1M1754 | 13:50 | K1124-01A | CD-WW-1-062711 | 60018 | AQ | 1 | 71 | 59 | 40* | 67* | 49* | 128* | 79 | 1 | | RUN @ 1X | |
| V1M1755 | 14:18 | K1124-02A | TRIP BLANK | 60018 | AQ | 1 | 93 | 99 | 93 | 85 | 97 | 102 | 98 | 1 | | OK | |
| V1M1756 | 14:46 | K1100-07A | 06TBAQ-20110621 | 60052 | AQ | 1 | 94 | 99 | 90 | 91 | 98 | 105 | 93 | 1 | | OK | |
| V1M1757 | 15:15 | K1100-06A | 06RB-20110621 | 60052 | AQ | 1 | 93 | 99 | 90 | 85 | 101 | 102 | 93 | 1 | | OK | |
| V1M1758 | 15:43 | K1102-01A | DEC-030D | 60052 | AQ | 1 | 95 | 101 | 89 | 89 | 99 | 104 | 95 | 1 | | OK | |
| V1M1759 | 16:11 | K1102-02A | DEC-030 | 60052 | AQ | 1 | 94 | 103 | 92 | 89 | 104 | 98 | 96 | 1 | E | PCE = 2100 RUN @ 25X | |
| V1M1760 | 16:40 | K1102-03A | DEC-064D | 60052 | AQ | 1 | 92 | 99 | 92 | 91 | 100 | 104 | 98 | 1 | | RUN @ 1X | |
| V1M1761 | 17:08 | K1102-04A | DEC-064 | 60052 | AQ | 1 | 95 | 101 | 90 | 84* | 94 | 103 | 95 | 1 | E | PCE = 301 RUN @ 4X | |
| V1M1762 | 17:36 | K1102-05A | DEC-006DD | 60052 | AQ | 1 | 94 | 100 | 92 | 86 | 98 | 105 | 94 | 1 | E | PCE = 542 RUN @ 5X | |
| V1M1763 | 18:04 | K1102-06A | DEC-006D | 60052 | AQ | 1 | 94 | 107 | 94 | 88 | 95 | 93 | 90 | 1 | E | PCE = 3900 RUN @ 50X | |
| V1M1764 | 18:32 | K1102-07A | DUP-062011 | 60052 | AQ | 1 | 94 | 98 | 90 | 87 | 98 | 104 | 95 | 1 | E | PCE = 570 RUN @ 5X | |
| V1M1765 | 19:00 | K1102-08A | DEC-031D | 60052 | AQ | 1 | 91 | 95 | 89 | 90 | 94 | 108 | 97 | 1 | | OK C.O. UNDER R.L. | |
| V1M1766 | 19:28 | K1102-09A | DEC-031 | 60052 | AQ | 1 | 91 | 102 | 93 | 89 | 98 | 100 | 93 | 1 | E | PCE = 3800 RUN @ 50X | |
| V1M1767 | 19:56 | K1102-10A | DEC-045D | 60052 | AQ | 1 | 97 | 96 | 86 | 84* | 83 | 105 | 96 | 1 | | RUN @ 1X | 2 |
| V1M1768 | 20:23 | VBLK | VBLK | 60052 | AQ | | 92 | 97 | 84 | 85 | 94 | 104 | 93 | 1 | | INT USED | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

th 6-29-11

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260_LOW_S ANALYST: AED BATCH: 110630.B Start: 30-JUN-11 08:06
ICAL DATE: 6/22/11 End: 30-JUN-11 19:39

Comments:

Standards: BFB VW110504A 2 uL
IS/SS VW110621A AUTO uL
STD VW110614A 20 uL
uL

Reviewed By: [illegible] Manual Integration: N/A MI Review: N/A

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1801 | 08:06 | BFB1V | BFB1V | | | | | | | | | | | 1 | | OK | |
| V1M1803 | 08:58 | VSTD0501V | VSTD0501V | | | | 100 | 100 | 100 | | | | | 1 | | NOT USED | |
| V1M1804 | 09:40 | VSTD0501V | VSTD0501V | | | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1805 | 10:17 | LCS-60105 | LCS-60105 | 60105 | SL | | 91 | 90 | 98 | 96 | 88 | 104 | 100 | 1 | R | OK | |
| V1M1806 | 11:00 | MB-60105 | MB-60105 | 60105 | SL | | 100 | 101 | 102 | 92 | 82 | 100 | 96 | 1 | | NOT USED | |
| V1M1807 | 11:27 | MB-60105 | MB-60105 | 60105 | SL | | 96 | 94 | 98 | 95 | 82 | 105 | 100 | 1 | | OK | |
| V1M1808 | 11:54 | K1111-05B | MW-8 34-37' | 60105 | SL | 1 | 92 | 76 | 31* | 96 | 81 | 115* | 69* | 1 | | RE-RUN @ 1X, REPORTED | |
| V1M1809 | 12:21 | K1111-06B | MW-2 9-13' | 60105 | SL | 1 | 99 | 101 | 96 | 97 | 83 | 100 | 96 | 1 | | OK | |
| V1M1810 | 12:49 | K1111-07B | MW-1 11-13' | 60105 | SL | 1 | 98 | 97 | 98 | 92 | 84 | 103 | 102 | 1 | | OK | |
| V1M1811 | 13:17 | K1111-08B | DUPLICATE | 60105 | SL | 1 | 99 | 98 | 98 | 94 | 83 | 102 | 97 | 1 | | OK | |
| V1M1812 | 13:44 | K1144-01B | BACKFILL SOIL | 60105 | SL | 1 | 96 | 98 | 96 | 95 | 83 | 101 | 94 | 1 | | OK | |
| V1M1813 | 14:11 | K1111-05BRE | MW-8 34-37'RE | 60105 | SL | 2 | 72 | 22* | 3* | 114 | 89 | 181* | 34* | 1 | | OK, MATRIX EFFECT | |
| V1M1814 | 14:38 | K1155-01B | MW-7 23-25' | 60105 | SL | 1 | 99 | 99 | 97 | 95 | 83 | 101 | 94 | 1 | | OK | |
| V1M1815 | 15:06 | K1155-03B | SG-8 7-8' | 60105 | SL | 1 | 98 | 101 | 97 | 96 | 78 | 100 | 96 | 1 | | OK | |
| V1M1816 | 15:33 | K1155-04B | SG-5 5-7' | 60105 | SL | 1 | 97 | 95 | 89 | 100 | 79 | 104 | 95 | 1 | | OK | |
| V1M1817 | 16:00 | K1155-05B | SG-9 7-8' | 60105 | SL | 1 | 100 | 104 | 101 | 98 | 82 | 97 | 96 | 1 | | OK | |
| V1M1818 | 16:27 | K1151-01B | SW-E-18' | 60105 | SL | 1 | 91 | 89 | .34* | 99 | 88 | 469* | 596* | 1 | E | 1,2,4 TMB = 10,653, Re-RUN @ MED LEVEL | |
| V1M1819 | 16:55 | K1157-02B | 80230-MIP5C-36. | 60105 | SL | 1 | 99 | 97 | 99 | 92 | 82 | 104 | 99 | 1 | | TMB C.O., Re-RUN @ 1X | |
| V1M1820 | 17:23 | K1157-03B | 80230-MIP5B-42. | 60105 | SL | 1 | 95 | 95 | 98 | 93 | 81 | 102 | 101 | 1 | | Re-RUN @ 1X | |
| V1M1821 | 17:50 | K1157-04B | 80230-MW12S-35 | 60105 | SL | 1 | 94 | 92 | 96 | 96 | 79 | 103 | 103 | 1 | E | PCE = 886, Re-RUN @ MED LEVEL | |
| V1M1822 | 18:18 | K1157-05B | 80230-DUPS-50 | 60105 | SL | 1 | 96 | 92 | 91 | 90 | 74 | 102 | 96 | 1 | | OK C.O. UNKNOWN RL. | |
| V1M1823 | 18:45 | K1100-05BMS | 06SB2S-1820-201 | 60105 | SL | 2 | 95 | 93 | 99 | 95 | 83 | 102 | 105 | 1 | | OK | |
| V1M1824 | 19:12 | K1100-05BMSD | 06SB2S-1820-201 | 60105 | SL | 3 | 97 | 93 | 104 | 95 | 72 | 103 | 121* | 1 | | OK | |
| V1M1825 | 19:39 | K1099-06AMS | SB-09-09-11MS | 60105 | SL | 2 | 94 | 93 | 95 | 95 | 80 | 103 | 101 | 1 | R | OK | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

AED 7/1/11

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# MITKEM LABORATORIES: Volatile Organics Low/Medium Level Soil Extraction Log

| Date | Lab ID | | Analysis | Initial Wt. (g) | Final Wt. (g) | Sample Wt. (g) | Extraction Volume (mL) | Sample Type | Solvent&Lot# by/Date* | Comments/ Time of Encore transfer | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/27/11 | K1100 | 07BMSD | 8260_L | 32.03 | 39.96 | 7.93 | 5.0 | B | DI | | BED |
| | K1097 | 07B | 8260_L | NA | NA | 1.0 | 5.0 | E | DI H2O | | VEB |
| | K1097 | 08B | 8260_L | NA | NA | 5.0 | 5.0 | E | DI H2O | | VEB |
| | K1072 | 02B | 8260_L | | | 5.2 | | E | DI H2O | | |
| | K1072 | 03B | 8260_L | | | 5.2 | | E | DI H2O | | |
| | K1072 | 05B | 8260_M | NA | NA | 5.1 | 5.0 | E | MEOH 51070 | | |
| 6/27/11 | K1117 | 01C | 8260_M | 37.37 ~~NA VEB 6/27/11~~ | 46.23 ~~NA~~ | 8.9 | 5.0 | A | MEOH 51070 | | VEB |
| 6/27/11 | MB | | 8260_M | NA | NA | 5.0 | 5.0 | E | MEOH 51070 | | VEB |
| 6/27/11 | LCS | | 8260_M | NA | NA | 5.0 | 5.0 | E | MEOH 51070 | | VEB |
| 6/28/11 | MB | | | NA | NA | 5.0 | | E | | | VEB |
| | LCS | | | | | 5.0 | | E | | | VEB |
| | K1123 | 01B | | | | 6.2 | | D | | | |
| | | 01BMS | | | | 6.1 | | | | | |
| | | 01BMSD | | | | 5.4 | | | | | |
| 6/28/11 | K1123 | 02B | 8260_M | NA | NA | 5.8 | 5.0 | D | MEOH 51070 | | VEB |

*=Date added, if different than Rec. date

Sample Type: A. MeOH Pre-preserved; B. DI H2O/Freeze; C. NaHSO4 Pre-preserved; D. Encore; E. Unpreserved Jars

Logbook ID: 90.0189-03/11

Reviewed By: CL 7/8/11

# MITKEM LABORATORIES: Volatile Organics Low/Medium Level Soil Extraction Log

| Date | Lab ID | | Analysis | Initial Wt. (g) | Final Wt. (g) | Sample Wt. (g) | Extraction Volume (mL) | Sample Type | Solvent&Lot# by/Date* | Comments/ Time of Encore transfer | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/27/11 | K1097 | 07B | 8260_L | N/A | N/A | 5.04 | 5.0 | E | DI | | AED |
| | K1097 | 08B | | N/A | N/A | 5.01 | | E | DI | | |
| | K1099 | 01A | | | | 5.06 | | E | | | |
| | | 02A | | | | 5.61 | | E | | | |
| | | 03A | | | | 5.57 | | E | | | |
| | | 04A | | | | 5.21 | | E | | | |
| | | 05A | | | | 5.15 | | E | | | |
| | | 06A | | | | 5.22 | | E | | | |
| | K1099 | 07A | | N/A | N/A | 5.27 | | E | | | |
| | K1100 | 01B | | 31.76 | 39.43 | 7.67 | | B | | | |
| | | 02B | | 31.90 | 40.66 | 8.76 | | B | | | |
| | | 03B | | 32.14 | 32.57 | 5.0 | | B | | Trip Blank | |
| | | 04B | | 31.80 | 40.39 | 8.59 | | B | | | |
| 6/27/11 | K1100 | 05B | 8260_L | 31.65 | 39.66 | 8.01 | 5.0 | B | DI | | AED |
| 6/27/11 | K1100 | 05B ~~BMW~~ MJ AED 6/27/11 | 8260_L | 31.75 | 39.25 | 7.5 | 5.0 | B | DI | | AED |

*=Date added, if different than Rec. date

**Sample Type: A. MeOH Pre-preserved; B. DI H2O/Freeze; C. NaHSO4 Pre-preserved; D. Encore; E. Unpreserved Jars**

185

Logbook ID: 90.0189-03/11



Reviewed By: [illegible]

# MITKEM LABORATORIES: VOLATILE SAMPLES RECEIVING LOGBOOK

| VOA Log-In Date | Workorder | Client ID | Sample Numbers | Relinquished by: | Received by: | Pres. Used | F/R | Returned to R1 |
|---|---|---|---|---|---|---|---|---|
| 6/~~23~~ 03/11 VEB 6-23-11 | K1064 | Sovereign | 14-17 | VEB | AED | H | R9 | |
| | K1087 | EPA | 01-03 | SN | | T | R4 | |
| | K1076 | EPA | 13-20 | | | T | R4 | |
| | K1080 | EPA | 10-21 | | | UA | R9 | |
| 6/23/11 | K1091 | D&B | 01-09 | SN | AED | H | R10 | |
| 6/24/11 | K1092 | LABELLA | 01-06A | AED | VEB | US | R9 | |
| 6/24/11 | K1095 | Sevenson | 01 | VEB ~~VEB~~ VEB 6/24/11 | AED | F/M | R10/F10 | |
| | K1096 | Sevenson | 01 | | | H | R10 | |
| | K1098 | CRA | 01-04 | | | H | R9 | |
| | K1064 | Sovereign | 18-20, 22, 23 | | | H | R9 | |
| 6/24/11 | K1099 | AECOM | 01-07 | VEB | | US | R9 | |
| | K1100 | Tetra | 01-05 | SN | | T | R9 | |
| | K1100 | Tetra | 01-05 | SN | | M | R9 | |
| 6/24/11 | K1100 | Tetra | 06, 07 | SN | AED | H | R9 | |

Logbook ID 90.0191-12/10

Reviewed By: AED

**"Preservative Used" Key**

| | | | | |
|---|---|---|---|---|
| **UA** = Unpreserved Aqueous | **H** = HCL | **A** = Air | **M** = MeOH | **E** = Encore |
| **US** = Unpreserved Soil | **N** = $NaHSO_4$ | | **F** = Freeze | **T** = Trace, HCL |

# * Semivolatile Organics *

**REPORT NARRATIVE**

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London, Soils**

**Laboratory Workorder / SDG #: K1100**

**CT ETPH, CT ETPH by GC-FID**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All soil samples were initially prepared within the method-specified holding times. Due to somewhat low QC recoveries in the initial extraction batch, all soil samples were re re-extracted beyond the holding time:

06SB27-0911-20110620 (K1100-01ARE) exceed by-10 Days
06SB27-1315-20110620 (K1100-02ARE) exceed by-10 Days
06SB2S-0507-20110621 (K1100-04ARE) exceed by-9 Days
06SB2S-1820-20110621 (K1100-05ARE) exceed by-9 Days

The MS/MSD on sample 06SB2S-1820-20110621 was also re-extracted. The initial extraction for these samples, as well as the only extraction for aqueous sample 06RB-20110621 were prepared within the holding time.

Results for both the initial and re-extraction batches are included in this report. Please note that sample results are similar between the initial and reextraction batch, with the exception of sample 06SB2S-1820-20110621, which initially had an ETPH concentration of 540mg/Kg and in the re-extraction had an increased ETPH concentration of 1400mg/Kg.

The initial extraction batch is number 60160, and the re-extraction

batch is number 60418, and is identified by the letters RE appended to the lab sample ID on the raw data.

**B. Sample Analysis:**

All samples were analyzed within the method-specified holding times from sample extraction.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH.

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510
Soil Samples were prepared following procedures in laboratory test code: SW3545A
Soil Samples re-extractions were prepared following procedures in laboratory test code: SW3550

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

**A. Calibration:**

Calibrations met the method/SOP acceptance criteria.

**B. Blanks:**

All method blanks were within the acceptance criteria.

**C. Surrogates:**

Surrogate standard percent recoveries were within the QC limits with

the following exceptions.

06SB2S-0507-20110621 (K1100-04A), recovery is below criteria for ortho-Terphenyl at 36% with criteria of (50-150). The re-extraction of this sample had improved surrogate recovery, within the QC limits. Results for both analyses are reported.

06SB2S-1820-20110621 (K1100-05A), recovery is below criteria for ortho-Terphenyl at 49% with criteria of (50-150). The re-extraction of this sample had improved surrogate recovery, within the QC limits. Results for both analyses are reported.

**D. Spikes:**

**1. Laboratory Control Spikes (LCS):**

Percent recoveries for lab control samples were within the QC limits with the following exceptions.

LCS-60160 in batch 60160 in the initial extraction batch, Percent Recovery is outside QC Limits, recovery is marginally below criteria for Extractable Total Petroleum Hydrocarbon at 51% with criteria of (60-140), indicating a potential low bias. The batch was re-extracted with improved percent recovery.

**2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):**

Matrix spikes were performed on sample: 06SB2S-1820-20110621 (K1100-05AMS/MSD) Percent recoveries were outside of the QC limits, with generally high recovery in the MS/MSD from the initial extraction batch, and 0% recovery in the MS/MSD from the re-extraction batch. This is due to the change in the concentration of the native unspiked sample between the initial and reextraction batch.

**E. Dilutions:**

The following samples were analyzed at dilution:

06SB2S-1820-20110621 (K1100-05AMSDRE): Dilution Factor: 4
06SB2S-1820-20110621 (K1100-05AMSRE): Dilution Factor: 4
06SB2S-1820-20110621 (K1100-05ARE): Dilution Factor: 4

**F. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum RI, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____7/27/11_____

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB27-0911-20110620
**Lab ID:** K1100-01
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/20/11 13:10

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 15 | | 15 | mg/Kg | 1 | 07/12/2011 9:43 | 60160 |
| Surrogate: ortho-Terphenyl | 69.2 | | 50-150 | %REC | 1 | 07/12/2011 9:43 | 60160 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5688.D
Lab Smp Id: K1100-01A BN: 60160 Client Smp ID: 06SB27-0911-20110620
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 9:43 Operator: TM
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 12 16:09:21 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

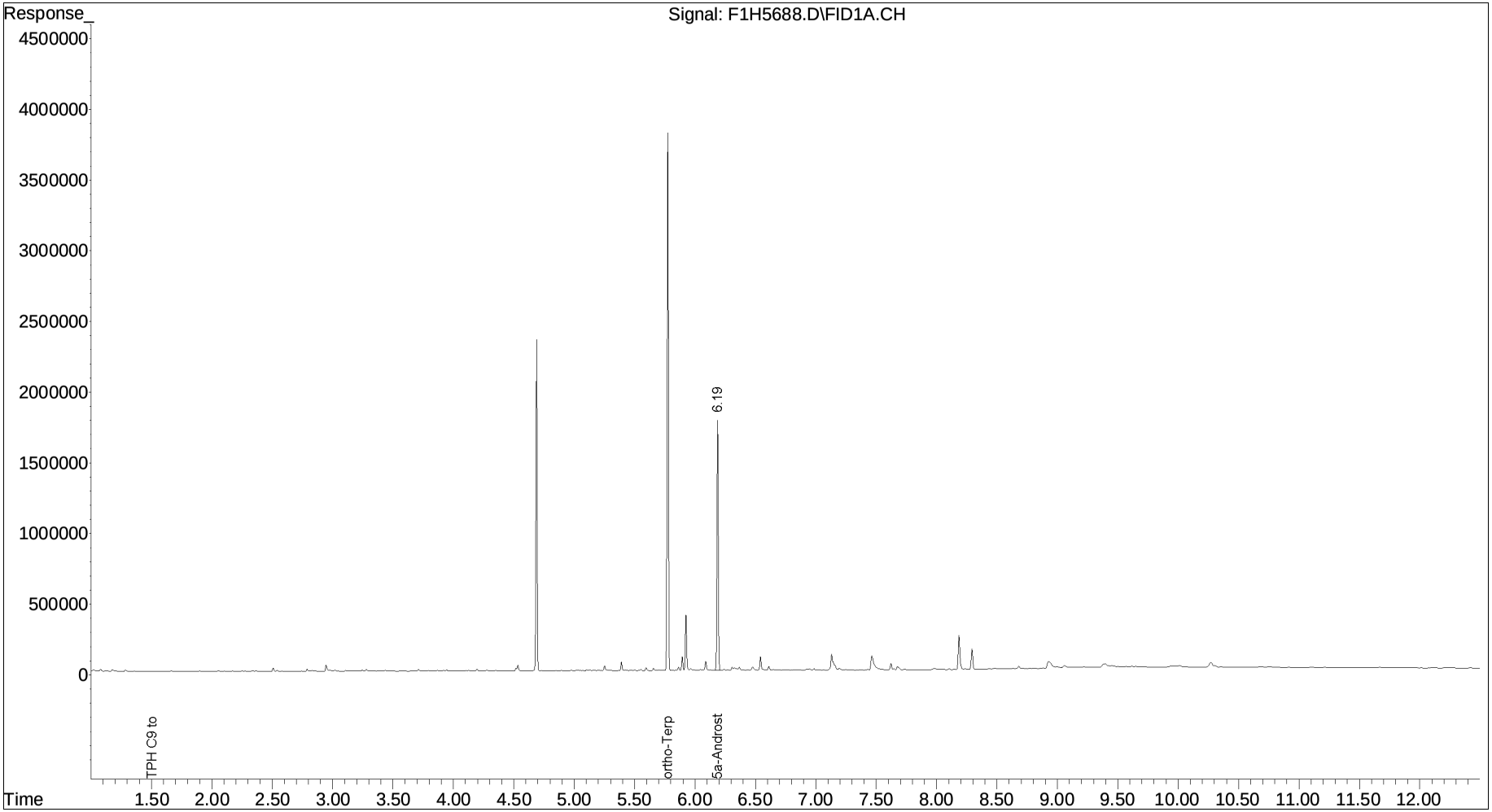
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 13176241 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 26482142 | 69.195 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 69.19% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 68993367 | 206.184 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 132458794 | |
| Corrected Range Area (IS,SS): | | 92800412 | |
| Instrument Blank Area (F1H5685): | | 23807045 | |

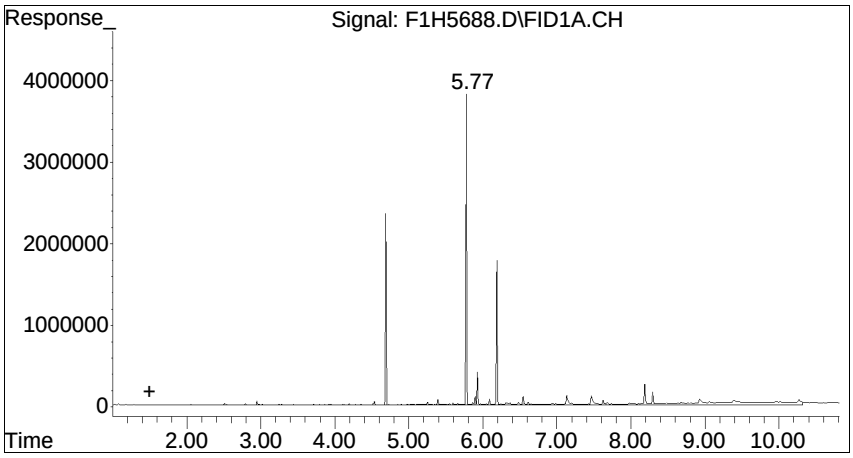
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5688.D
Lab Smp Id: K1100-01A BN: 60160 Client Smp ID: 06SB27-0911-20110620
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 9:43 Operator: TM
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 12 16:09:21 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 68993367
Conc: 206.18 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB27-0911-20110620
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1100-01
**Collection Date:** 06/20/11 13:10

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 9.1 | | 7.7 | mg/Kg | 1 | 07/14/2011 17:33 | 60418 |
| Surrogate: ortho-Terphenyl | 72.8 | | 50-150 | %REC | 1 | 07/14/2011 17:33 | 60418 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5732.D
Lab Smp Id: K1100-01ARE BN: 60418 Client Smp ID: 06SB27-0911-20110620RE
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 17:33 Operator: TM
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 15 13:16:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 14326342 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 27855997 | 72.784 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 72.78% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 82946640 | 247.883 ug/mL |

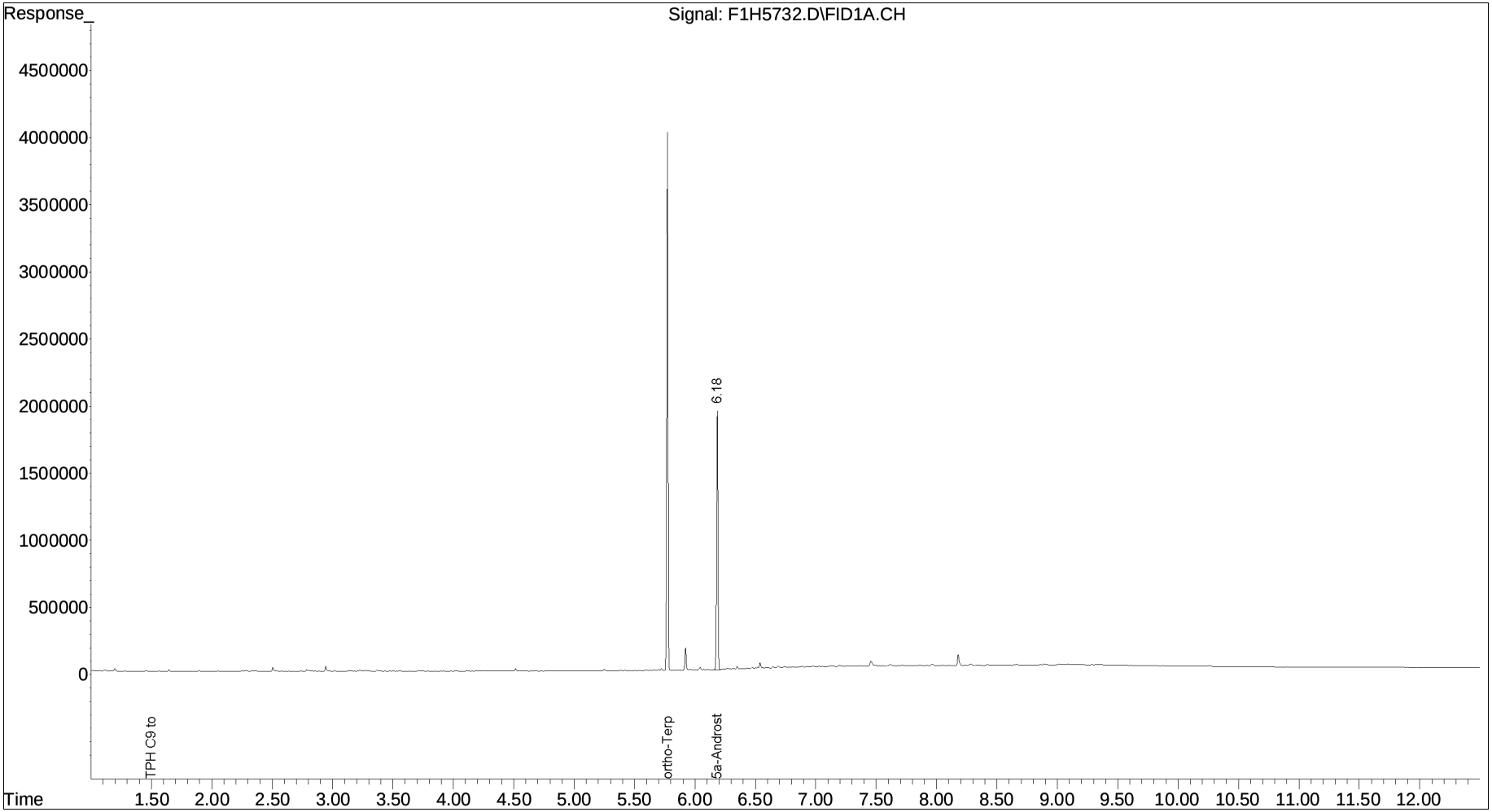
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 156105716
Corrected Range Area (IS,SS): 113923377
Instrument Blank Area (F1H5727): 30976737

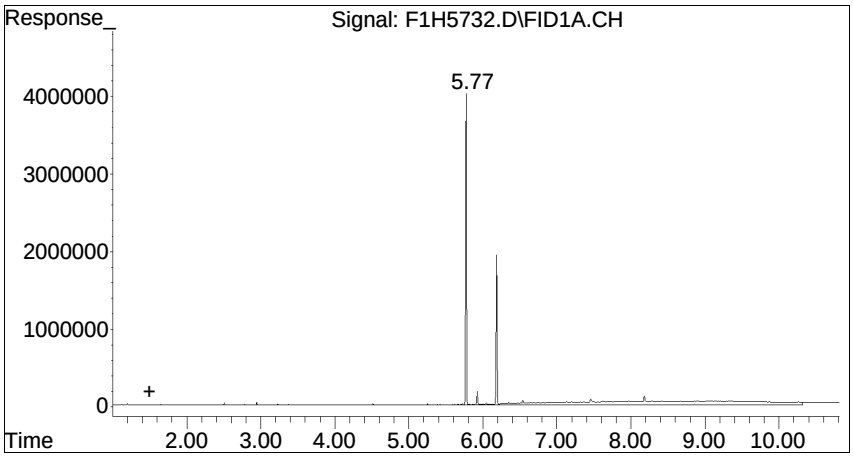
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5732.D
Lab Smp Id: K1100-01ARE BN: 60418 Client Smp ID: 06SB27-0911-20110620RE
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 17:33 Operator: TM
ALS Vial : 13 Sample Multiplier: 1

Quant Time: Jul 15 13:16:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 82946640
Conc: 247.88 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB27-1315-20110620
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1100-02
**Collection Date:** 06/20/11 13:35

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 16 | mg/Kg | 1 | 07/12/2011 10:03 | 60160 |
| Surrogate: ortho-Terphenyl | 61.2 | | 50-150 | %REC | 1 | 07/12/2011 10:03 | 60160 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5689.D
Lab Smp Id: K1100-02A BN: 60160 Client Smp ID: 06SB27-1315-20110620
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 10:03 Operator: TM
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Jul 12 16:09:22 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13545147 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.77 | 23437916 | 61.240 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 61.24% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 70512695 | 210.724 ug/mL |

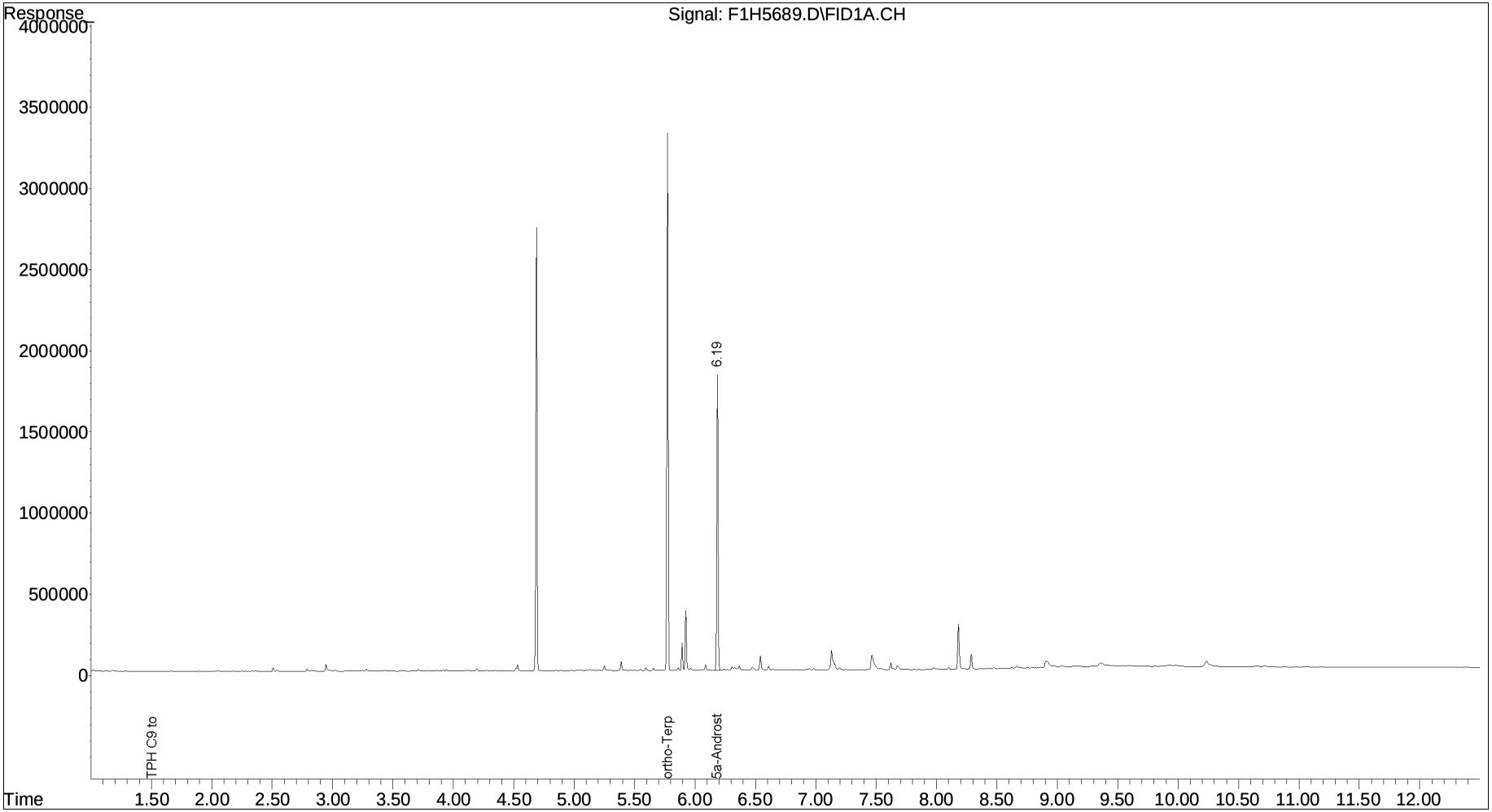
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 131302803
Corrected Range Area (IS,SS): 94319740
Instrument Blank Area (F1H5685): 23807045

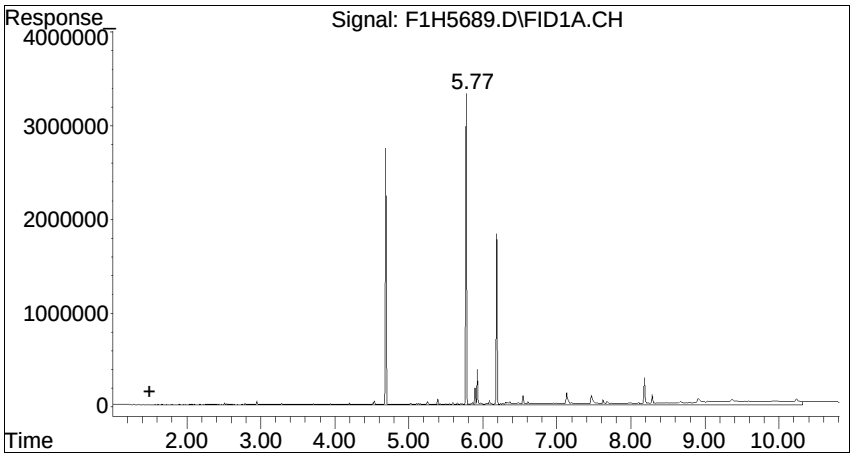
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5689.D
Lab Smp Id: K1100-02A BN: 60160 Client Smp ID: 06SB27-1315-20110620
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 10:03 Operator: TM
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Jul 12 16:09:22 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 70512695
Conc: 210.72 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB27-1315-20110620
**Lab ID:** K1100-02
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/20/11 13:35

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 7.7 | mg/Kg | 1 | 07/14/2011 16:53 | 60418 |
| Surrogate: ortho-Terphenyl | 75.0 | | 50-150 | %REC | 1 | 07/14/2011 16:53 | 60418 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5730.D
Lab Smp Id: K1100-02ARE BN: 60418 Client Smp ID: 06SB27-1315-20110620RE
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 16:53 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 15 13:16:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.18 | 13444772 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 28711353 | 75.019 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 75.02% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 33383536 | 99.765 ug/mL |

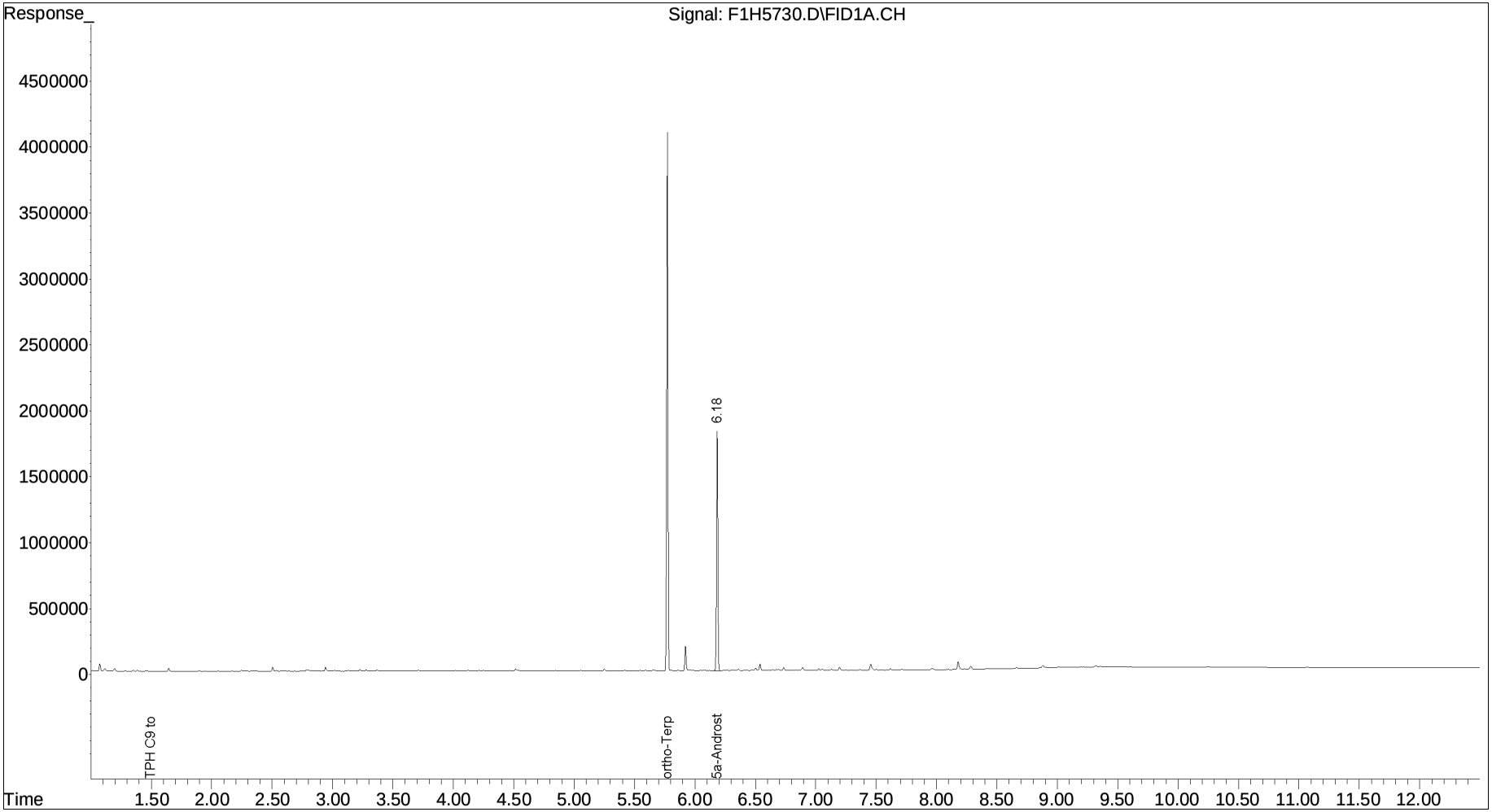
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 106516398
Corrected Range Area (IS,SS): 64360273
Instrument Blank Area (F1H5727): 30976737

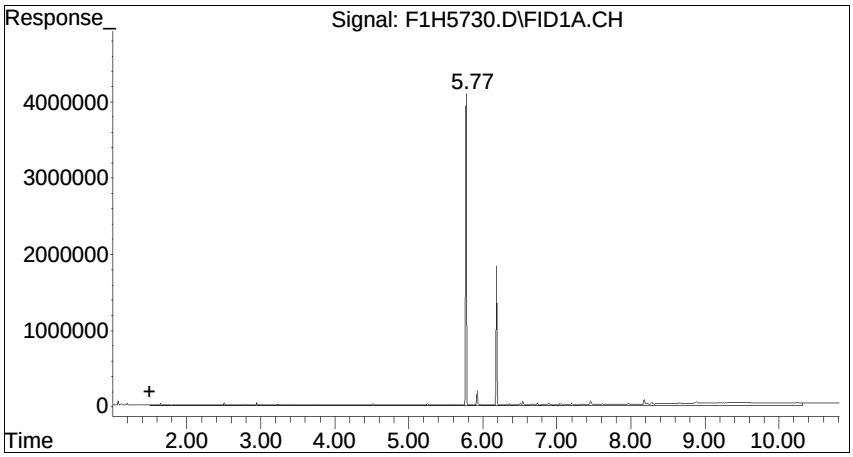
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5730.D
Lab Smp Id: K1100-02ARE BN: 60418 Client Smp ID: 06SB27-1315-20110620RE
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 16:53 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Jul 15 13:16:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 33383536
Conc: 99.77 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2S-0507-20110621
**Lab ID:** K1100-04
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 8:40

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 15 | mg/Kg | 1 | 07/12/2011 10:24 | 60160 |
| Surrogate: ortho-Terphenyl | 35.9 | S | 50-150 | %REC | 1 | 07/12/2011 10:24 | 60160 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5690.D
Lab Smp Id: K1100-04A BN: 60160 Client Smp ID: 06SB2S-0507-20110621
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 10:24 Operator: TM
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jul 12 16:09:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

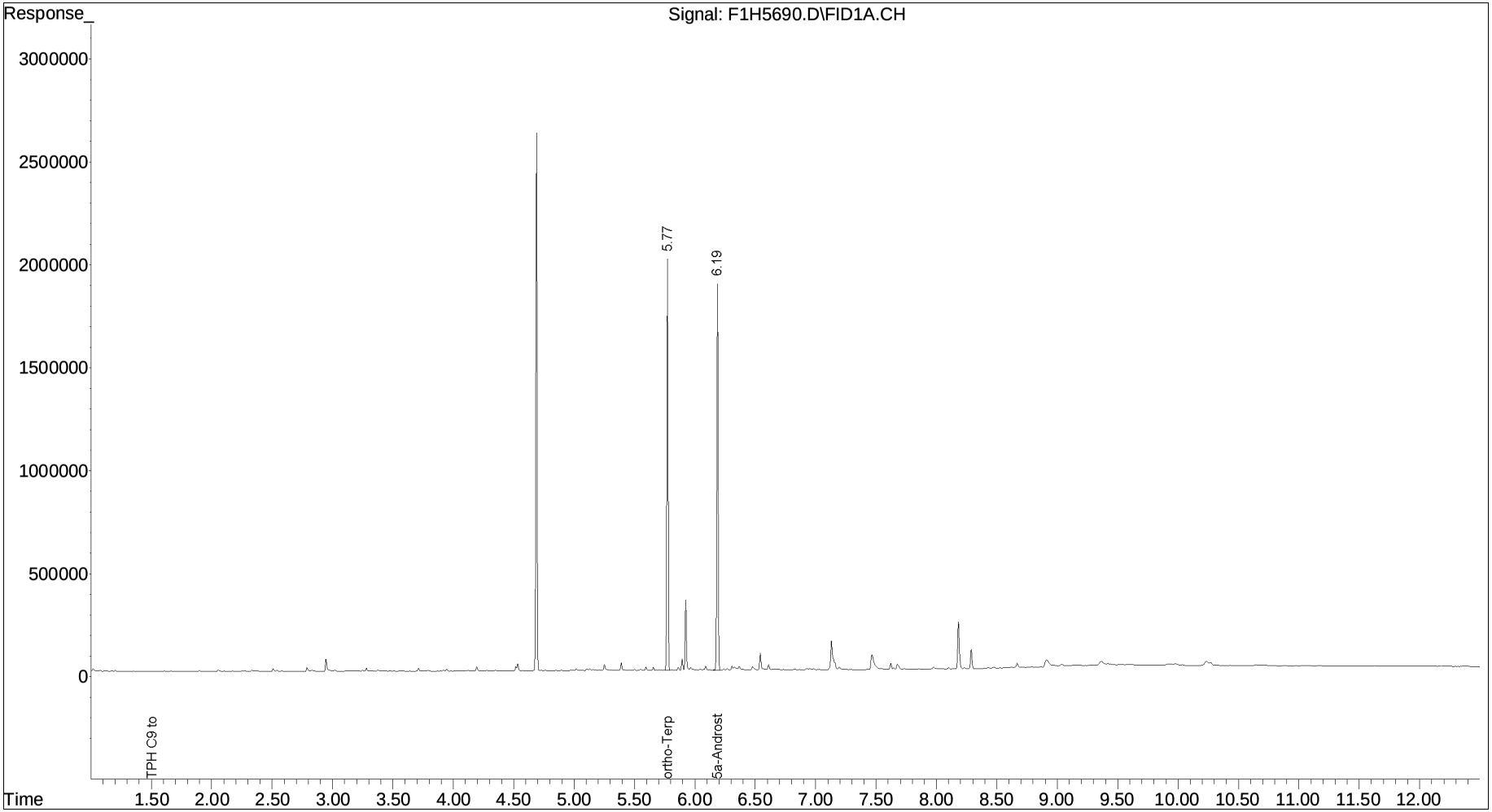
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 14009148 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 13735039 | 35.888 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 35.89% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 63636398 | 190.175 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 115187630 | |
| Corrected Range Area (IS,SS): | | 87443443 | |
| Instrument Blank Area (F1H5685): | | 23807045 | |

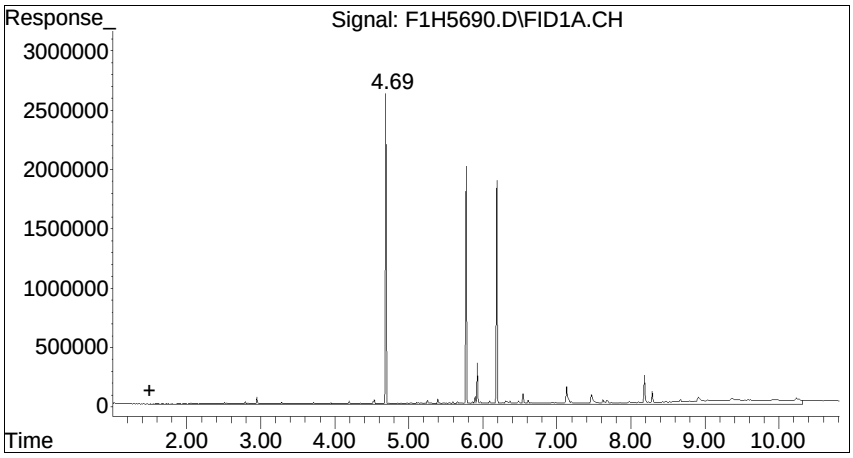
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5690.D
Lab Smp Id: K1100-04A BN: 60160 Client Smp ID: 06SB2S-0507-20110621
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 10:24 Operator: TM
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jul 12 16:09:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 63636398
Conc: 190.17 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2S-0507-20110621
**Lab ID:** K1100-04
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 8:40

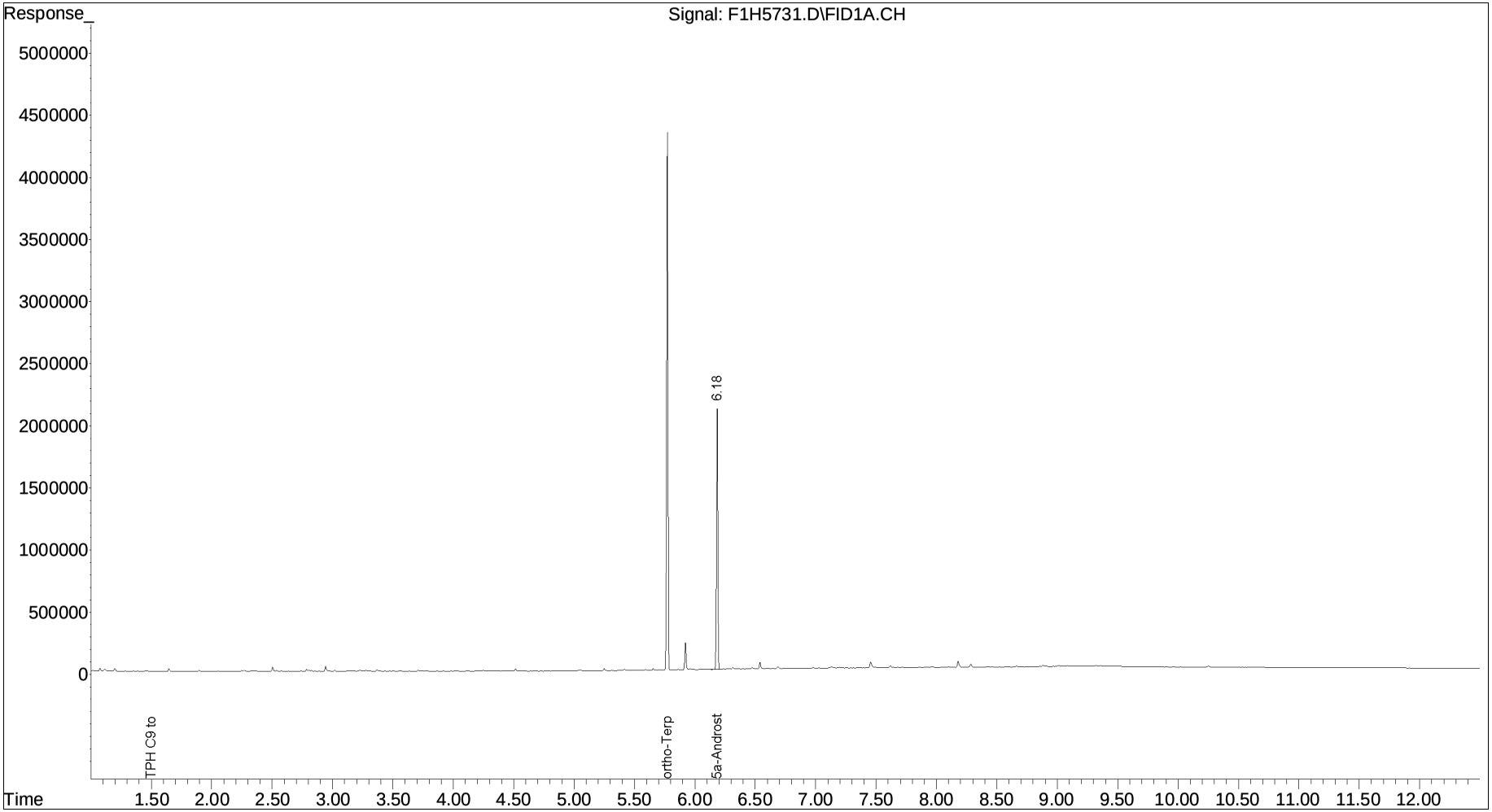
| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 7.7 | mg/Kg | 1 | 07/14/2011 17:13 | 60418 |
| Surrogate: ortho-Terphenyl | 80.9 | | 50-150 | %REC | 1 | 07/14/2011 17:13 | 60418 |

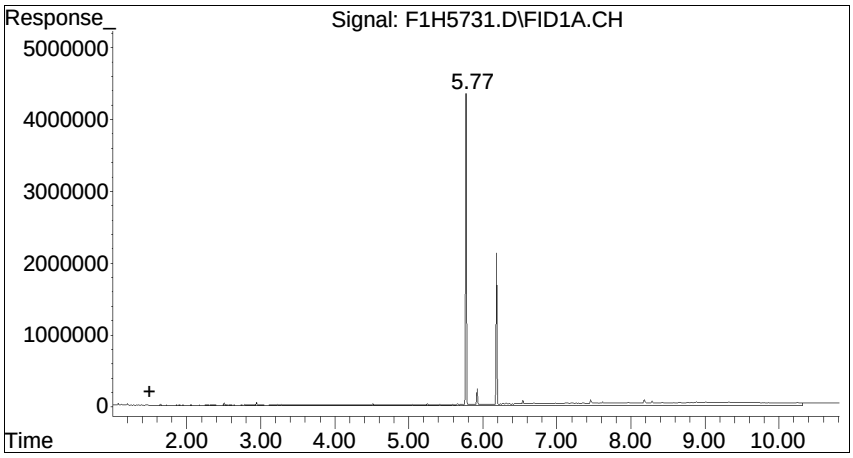
**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

```
Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5731.D
Lab Smp Id: K1100-04ARE      BN: 60418 Client Smp ID: 06SB2S-0507-20110621RE
Misc      : TPH F                     Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  17:13                      Operator: TM
ALS Vial  : 12   Sample Multiplier: 1

Quant Time: Jul 15 13:16:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.19       15513635   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.77       30962196   80.900 ug/mL
Spiked Amount    100.000                       Recovery   =   80.90%

 Target Compounds
 4) H   TPH C9 to C36                 1.50       66566062  198.930 ug/mL
           Integration Range:                      1.50 to 10.32 minutes
           Raw Range Area:                     144018629
           Corrected Range Area (IS,SS):        97542799
           Instrument Blank Area (F1H5727):     30976737

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5731.D
Lab Smp Id: K1100-04ARE BN: 60418 Client Smp ID: 06SB2S-0507-20110621RE
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 17:13 Operator: TM
ALS Vial : 12 Sample Multiplier: 1

Quant Time: Jul 15 13:16:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 66566062
Conc: 198.93 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2S-1820-20110621
**Lab ID:** K1100-05
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 10:30

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 540 | | 15 | mg/Kg | 1 | 07/12/2011 10:45 | 60160 |
| Surrogate: ortho-Terphenyl | 49.5 | S | 50-150 | %REC | 1 | 07/12/2011 10:45 | 60160 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5691.D
Lab Smp Id: K1100-05A BN: 60160 Client Smp ID: 06SB2S-1820-20110621
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 10:45 Operator: TM
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jul 12 16:09:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 16539356 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 18938593 | 49.484 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 49.48% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 2481769593 | 7416.667 ug/mL |

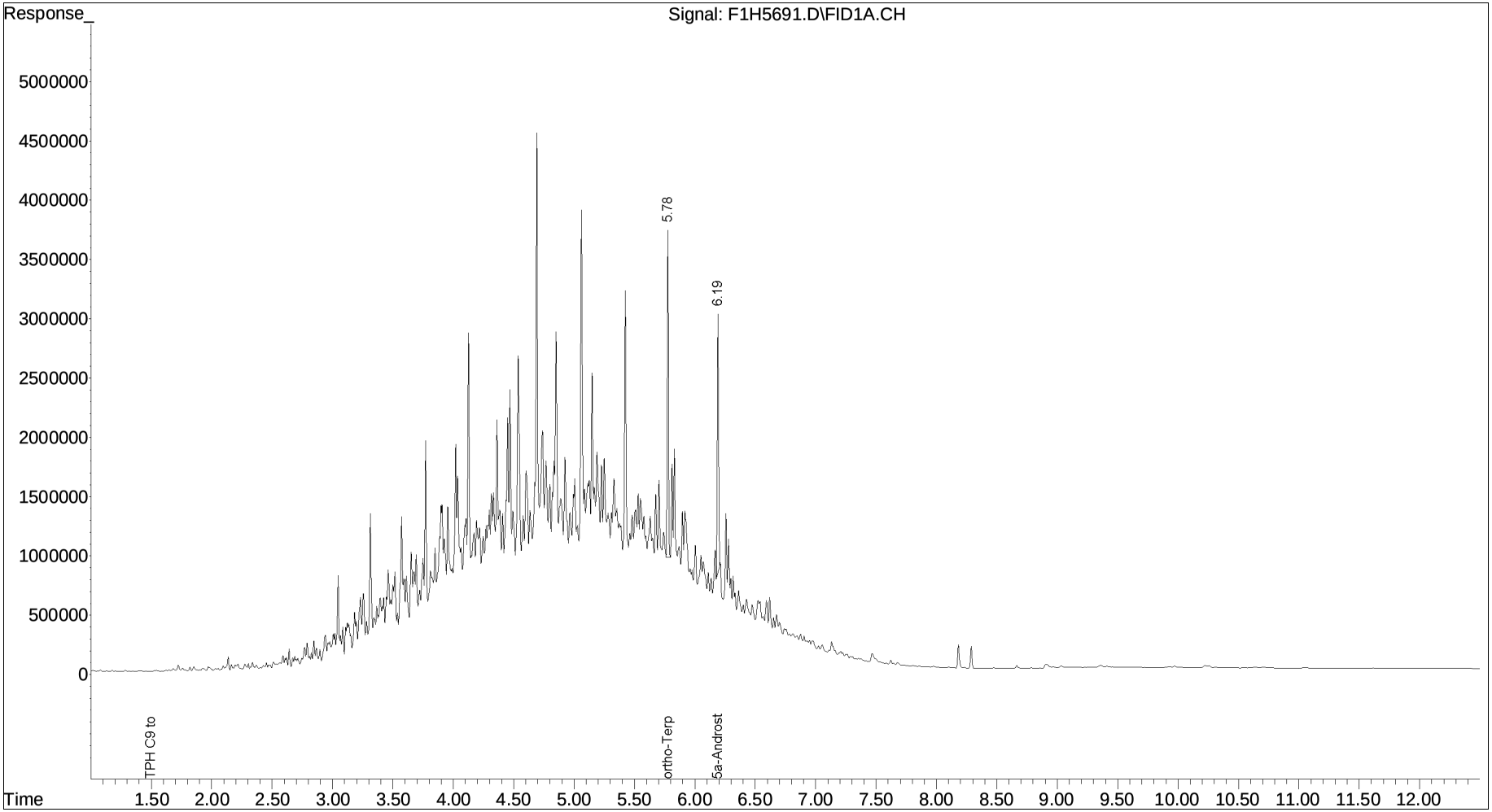
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 2541054587
Corrected Range Area (IS,SS): 2505576638
Instrument Blank Area (F1H5685): 23807045

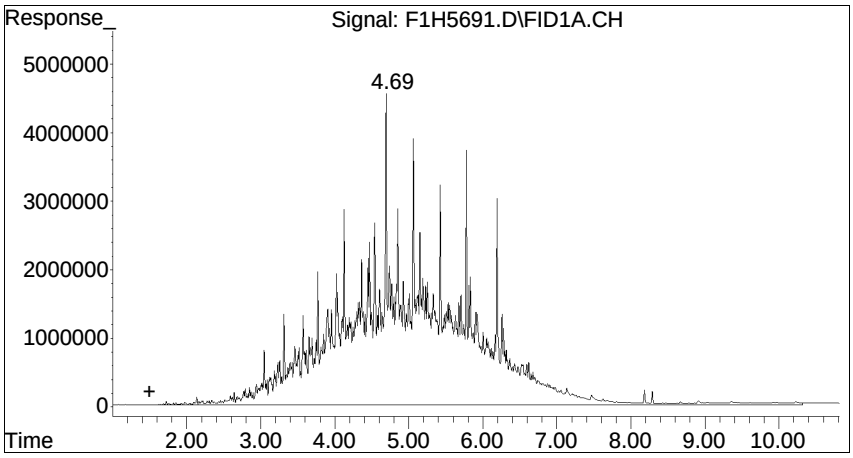
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5691.D
Lab Smp Id: K1100-05A BN: 60160 Client Smp ID: 06SB2S-1820-20110621
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 10:45 Operator: TM
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jul 12 16:09:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 2481769593
Conc: 7416.67 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2S-1820-20110621
**Lab ID:** K1100-05
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 10:30

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 1400 | | 31 | mg/Kg | 4 | 07/15/2011 10:03 | 60418 |
| Surrogate: ortho-Terphenyl | 87.1 | | 50-150 | %REC | 4 | 07/15/2011 10:03 | 60418 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5756.D
Lab Smp Id: K1100-05ARE BN: 60418 Client Smp ID: 06SB2S-1820-20110621RE
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 15 Jul 2011 10:03 Operator: TM
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 15 12:47:34 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

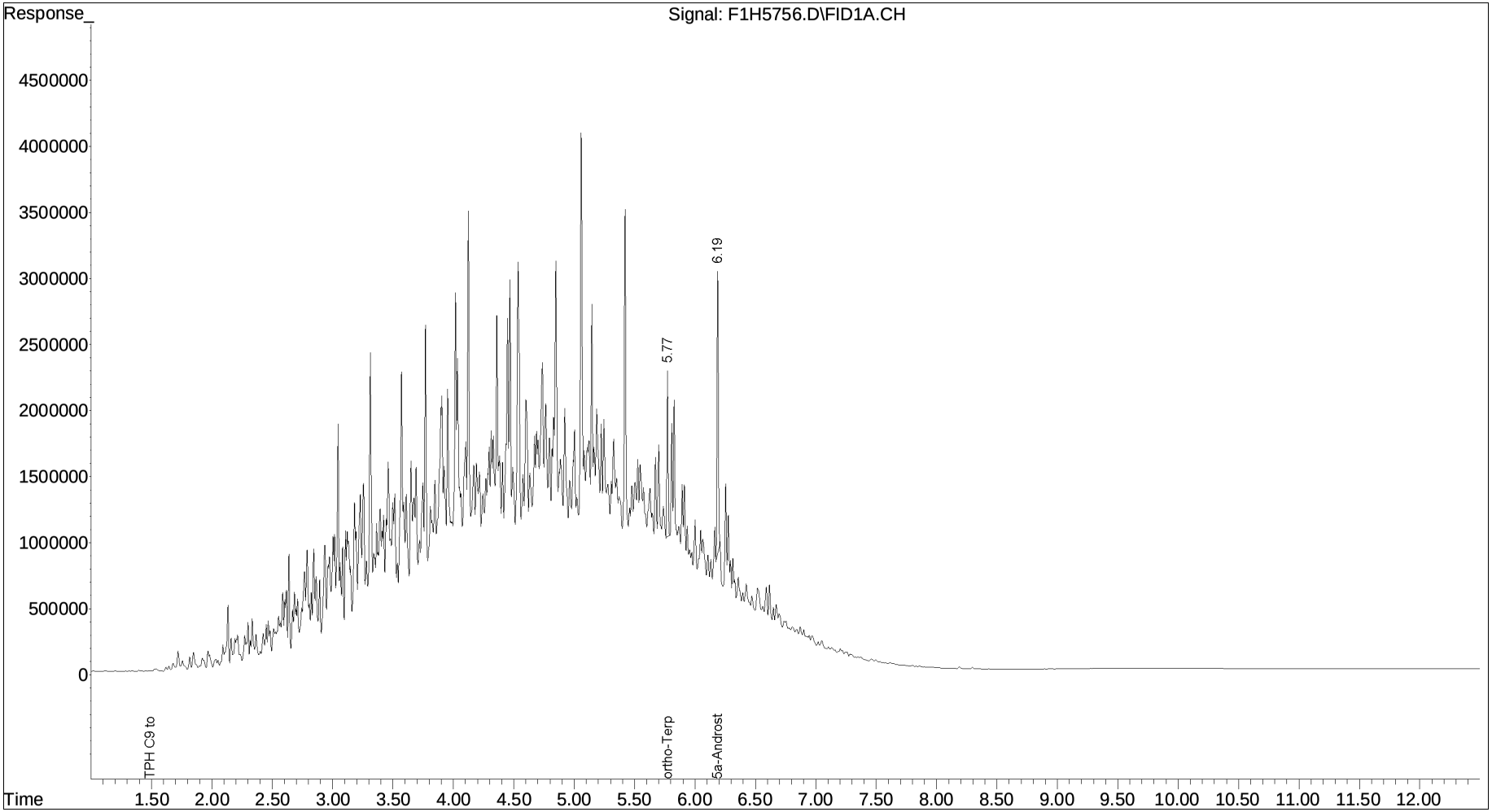
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 16698063 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 8331552 | 21.769 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 21.77% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 3101058150 | 9267.386 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Corrected Range Area (IS,SS): | | 3126417751 | |
| Instrument Blank Area (F1H5755): | | 25359601 | |

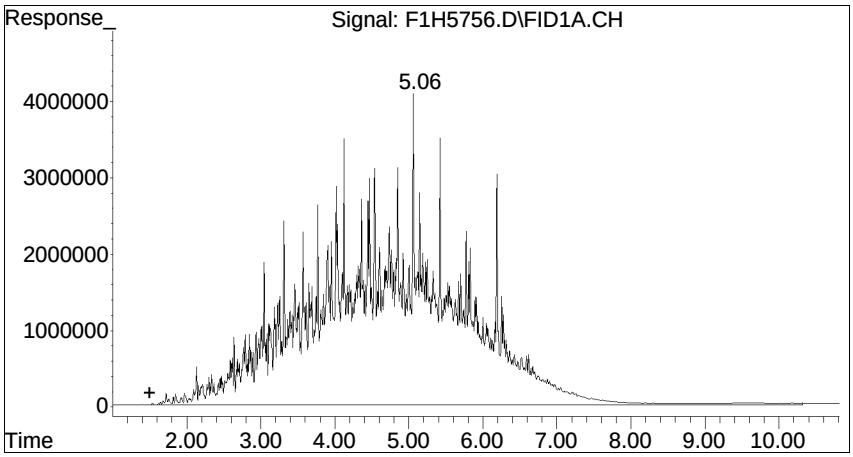
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5756.D
Lab Smp Id: K1100-05ARE BN: 60418 Client Smp ID: 06SB2S-1820-20110621RE
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 15 Jul 2011 10:03 Operator: TM
ALS Vial : 16 Sample Multiplier: 1

Quant Time: Jul 15 12:47:34 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 3101058150
Conc: 9267.39 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06RB-20110621
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1100-06
**Collection Date:** 06/21/11 10:45

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_W** |
| Extractable Total Petroleum Hydrocarbon | 0.14 | | 0.10 | mg/L | 1 | 06/29/2011 16:52 | 60048 |
| Surrogate: ortho-Terphenyl | 81.5 | | 50-150 | %REC | 1 | 06/29/2011 16:52 | 60048 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5570.D
Lab Smp Id: K1100-06B BN: 60048 Client Smp ID: 06RB-20110621
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 29 Jun 2011 16:52 Operator: TM
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Jun 30 08:08:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

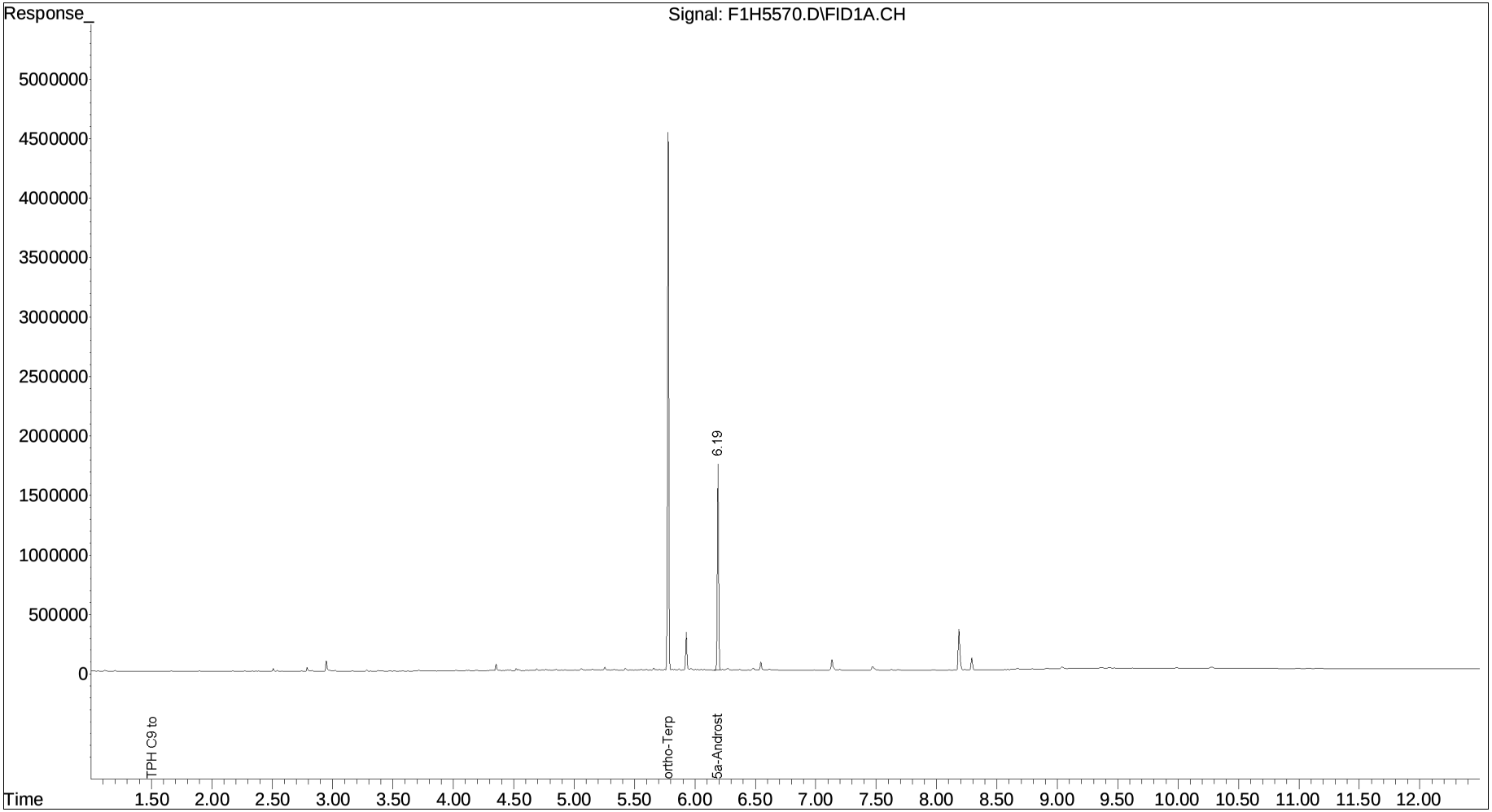
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 13015644 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 31194161 | 81.506 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 81.51% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 45463652 | 135.866 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 113619602 | |
| Corrected Range Area (IS,SS): | | 69409797 | |
| Instrument Blank Area (F1H5565): | | 23946145 | |

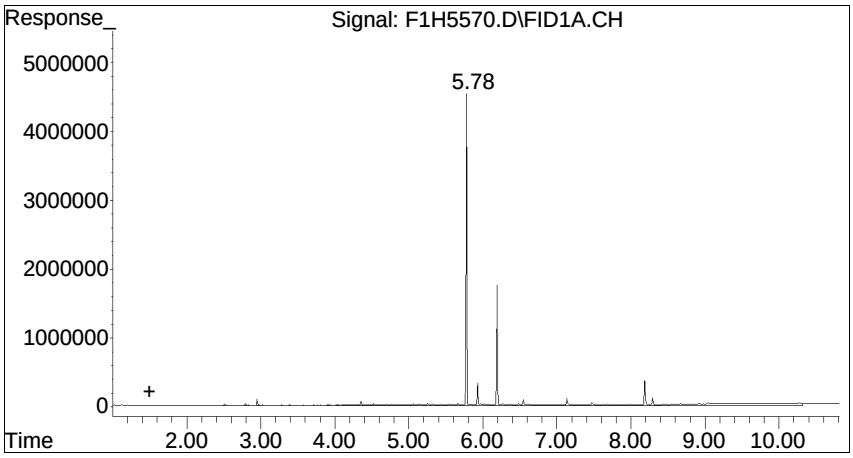
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5570.D
Lab Smp Id: K1100-06B BN: 60048 Client Smp ID: 06RB-20110621
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 29 Jun 2011 16:52 Operator: TM
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Jun 30 08:08:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 45463652
Conc: 135.87 ug/mL m

# Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files
5 =F1H5057.D 20 =F1H5059.D 50 =F1H5061.D
80 =F1H5062.D 100 =F1H5056.D 120 =F1H5063.D

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:29 Operator: TM
Lab Smp Id: FSTD1001A
Misc : TPH F ICAL L5 100 PPM
ALS Vial : 1 Sample Multiplier: 1

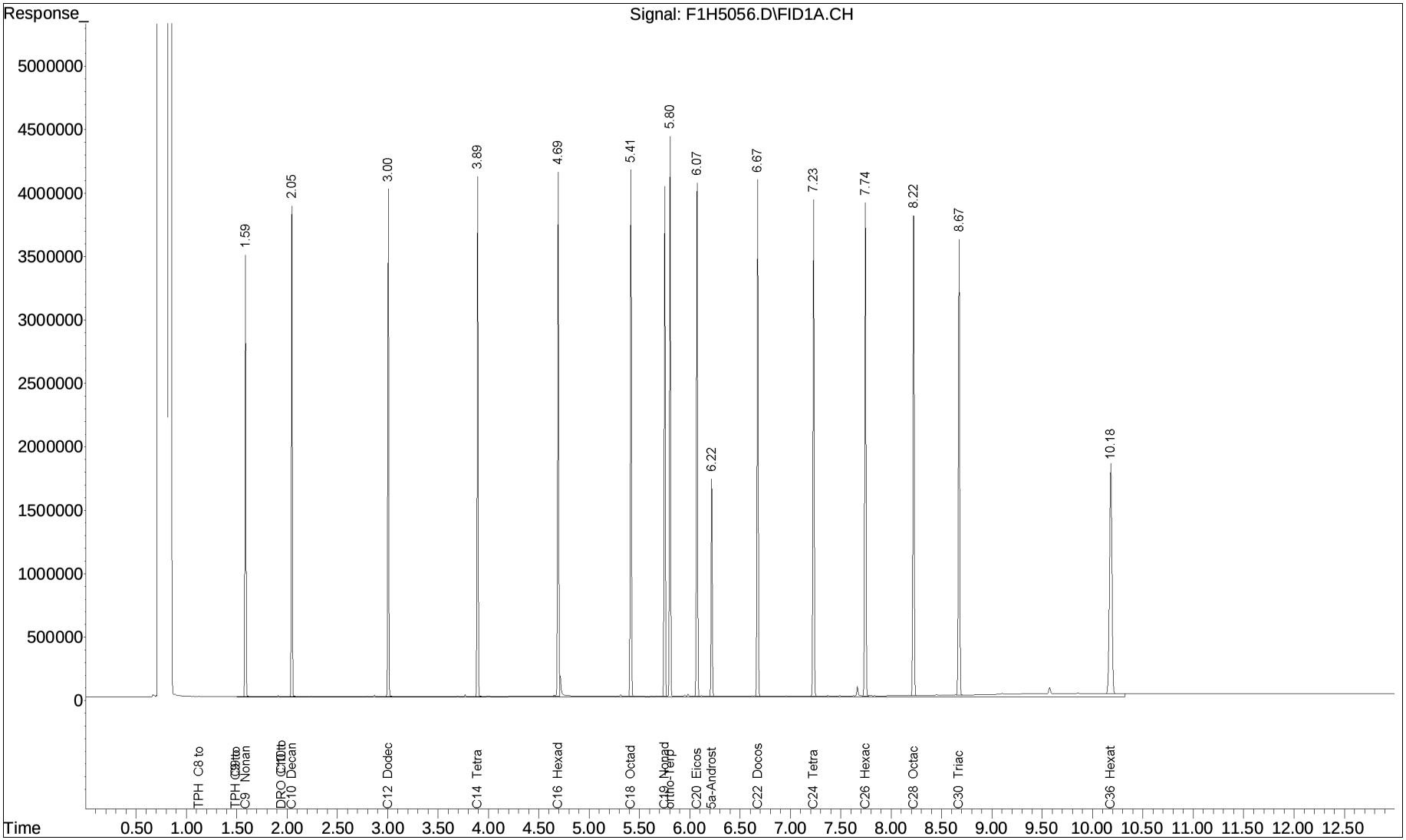
Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 12879904 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 31160170 | 100.000 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 100.00% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 31160170 | 100.000 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 100.00% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 291167731 | 1000.000 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 388570246 | |
| 4) H TPH C9 to C36 | 1.50 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 499855743 | |
| 14) T C9 Nonane | 1.59 | 22421438 | 100.000 ug/mL |
| 15) TD C10 Decane | 2.05 | 23376618 | 100.000 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 25406186 | 100.000 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 27157899 | 100.000 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 29466778 | 100.000 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 29700224 | 100.000 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 29939007 | 100.000 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 30251072 | 100.000 ug/mL |
| 22) TD C22 Docosane | 6.67 | 31208588 | 100.000 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 31254521 | 100.000 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 31693702 | 100.000 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 31652142 | 100.000 ug/mL |
| 26) T C30 Triacontane | 8.67 | 31717215 | 100.000 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 30122876 | 100.000 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 291167731 | 1000.000 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 388570246 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 529800277 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 499855743 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:29 Operator: TM
Lab Smp Id: FSTD1001A
Misc : TPH F ICAL L5 100 PPM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

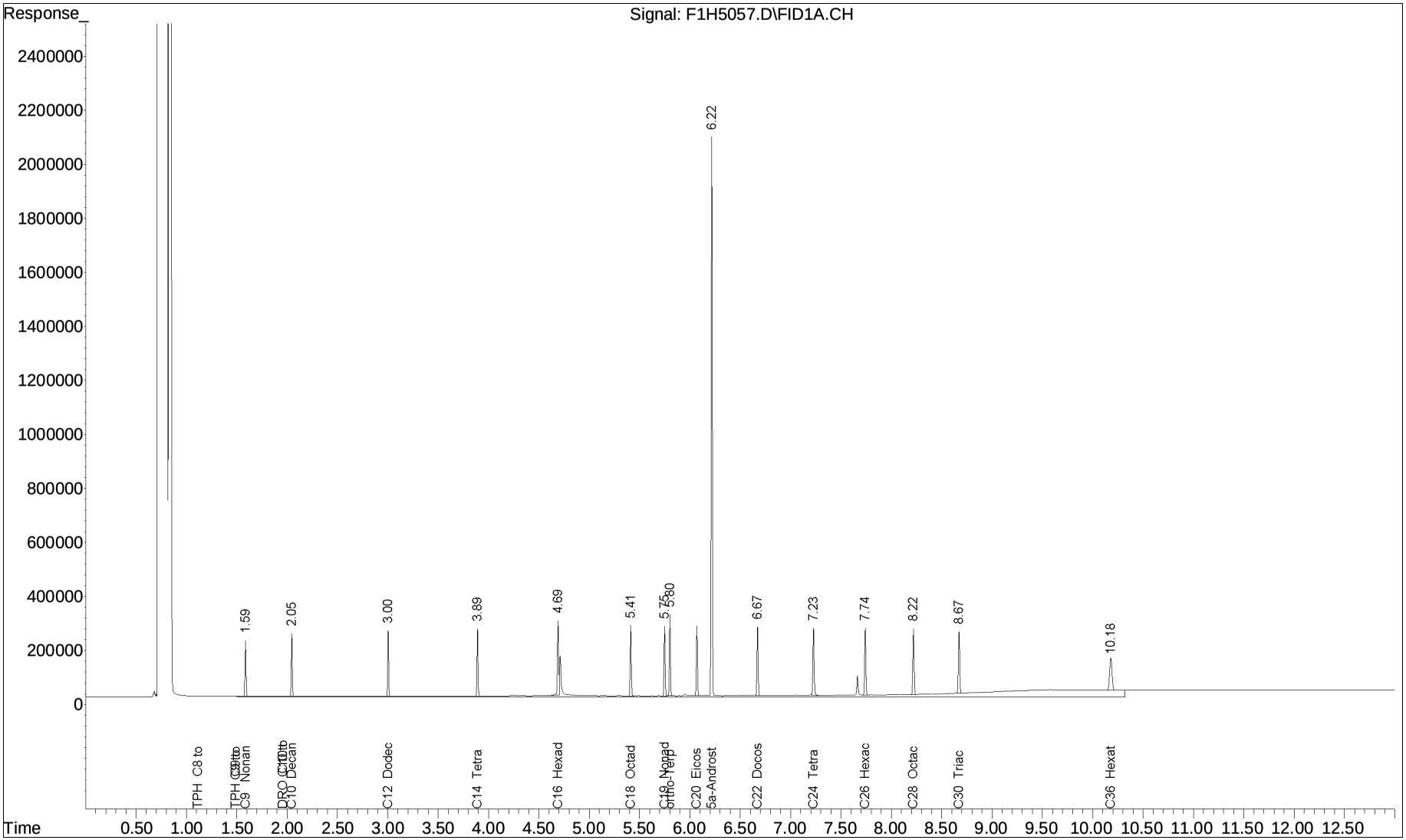
Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15503589 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 2090961 | 6.710 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 6.71% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 2090961 | 5.575 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 5.58% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 18698109 | 64.218 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 4) H TPH C9 to C36 | 1.50 | 25997358 | 89.786 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |
| 14) T C9 Nonane | 1.59 | 1399638 | 5.186 ug/mL |
| 15) TD C10 Decane | 2.05 | 1441090 | 5.121 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 1534860 | 5.019 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 1662279 | 5.085 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 2162678 | 6.097 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 1877639 | 5.252 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 1895661 | 5.260 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 1924161 | 5.284 ug/mL |
| 22) TD C22 Docosane | 6.67 | 1985758 | 5.286 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 2071922 | 5.507 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 2016132 | 5.285 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 2021589 | 5.306 ug/mL |
| 26) T C30 Triacontane | 8.67 | 2024974 | 5.304 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 1978977 | 5.458 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 18698109 | 53.350 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 119238564 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

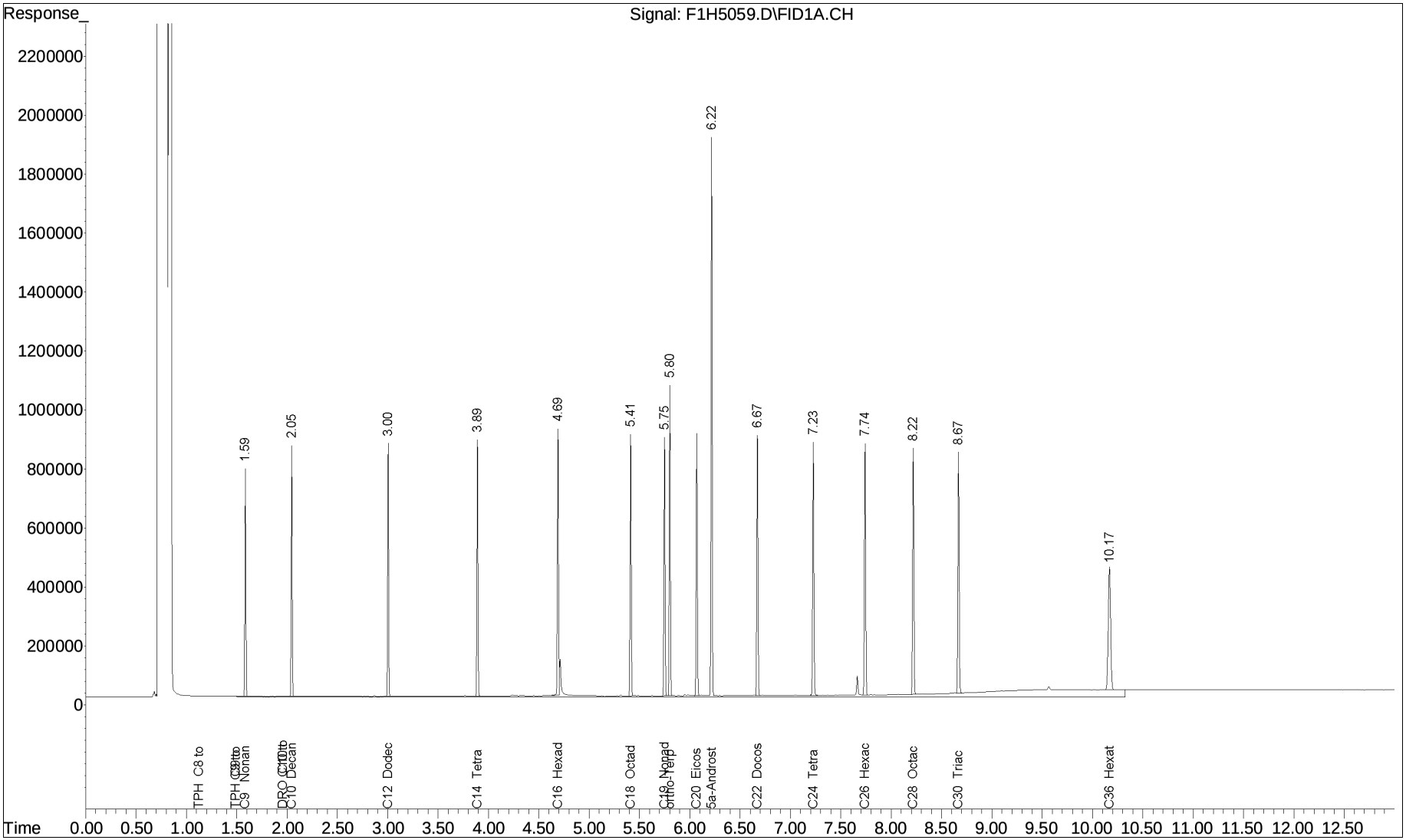
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 13906086 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 7298444 | 23.422 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 23.42% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 7298444 | 21.694 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 21.69% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 63855144 | 219.307 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 4) H TPH C9 to C36 | 1.50 | 89149659 | 307.892 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |
| 14) T C9 Nonane | 1.59 | 4983455 | 20.586 ug/mL |
| 15) TD C10 Decane | 2.05 | 5152139 | 20.413 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 5497093 | 20.040 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 5864184 | 20.000 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 6608052 | 20.771 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 6463647 | 20.157 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 6520032 | 20.171 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 6596335 | 20.196 ug/mL |
| 22) TD C22 Docosane | 6.67 | 6818376 | 20.236 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 6921619 | 20.512 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 6962914 | 20.348 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 6970784 | 20.398 ug/mL |
| 26) T C30 Triacontane | 8.67 | 7008221 | 20.465 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 6782807 | 20.856 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 63855144 | 203.124 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 182160830 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

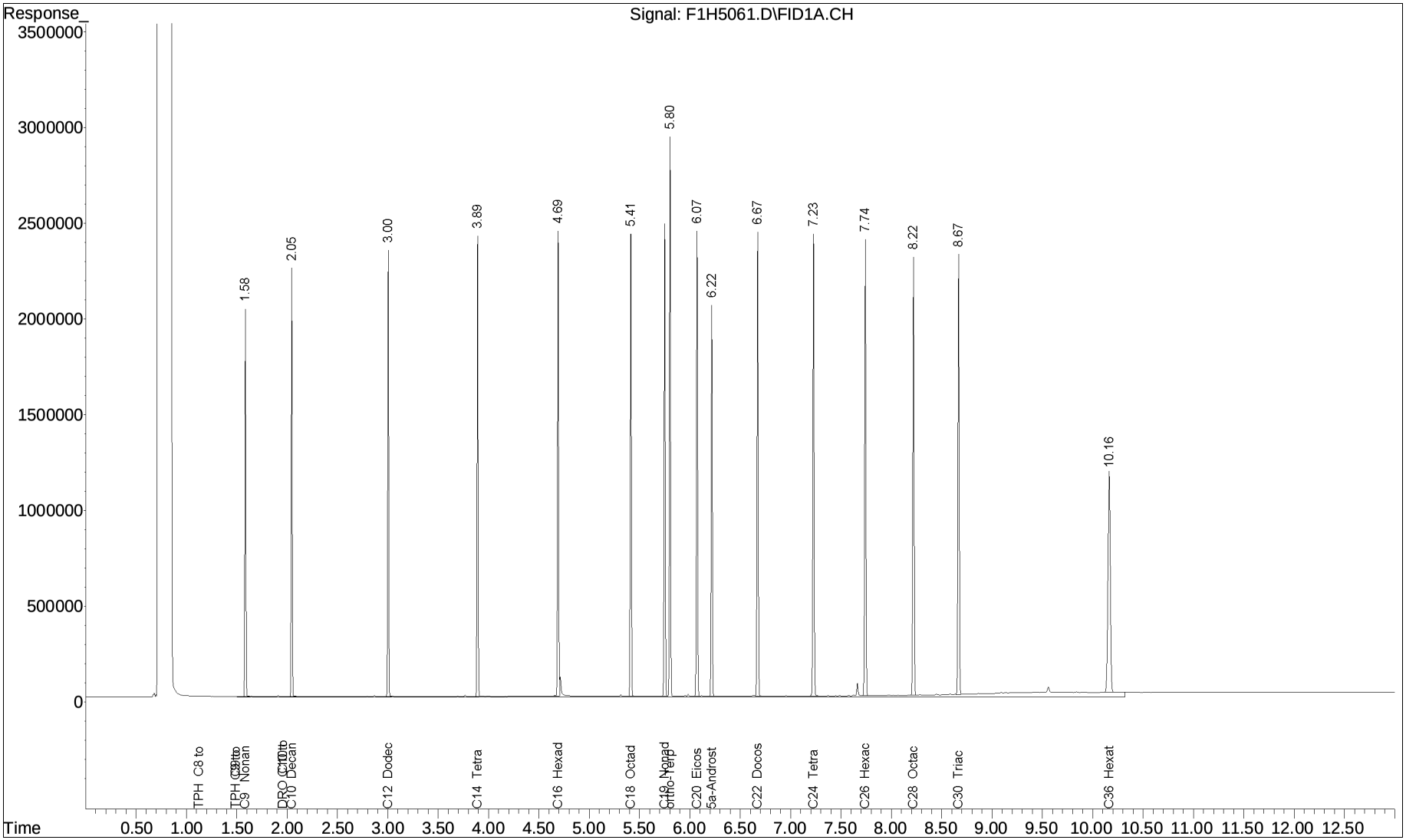
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15053093 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 20182457 | 64.770 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 64.77% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 20182457 | 55.419 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 55.42% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 173750855 | 596.738 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 4) H TPH C9 to C36 | 1.50 | 242968339 | 839.128 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |
| 14) T C9 Nonane | 1.59 | 13257207 | 50.591 ug/mL |
| 15) TD C10 Decane | 2.05 | 13779883 | 50.437 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 14777313 | 49.767 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 15781216 | 49.720 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 17147383 | 49.791 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 17533656 | 50.513 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 17761896 | 50.762 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 18028005 | 50.991 ug/mL |
| 22) TD C22 Docosane | 6.67 | 18786198 | 51.505 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 19014894 | 52.056 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 19402113 | 52.380 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 19500193 | 52.714 ug/mL |
| 26) T C30 Triacontane | 8.67 | 19609585 | 52.901 ug/mL |
| 27) T C36 Hexatriacontane | 10.16 | 18588796 | 52.801 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 173750855 | 510.588 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 348639223 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

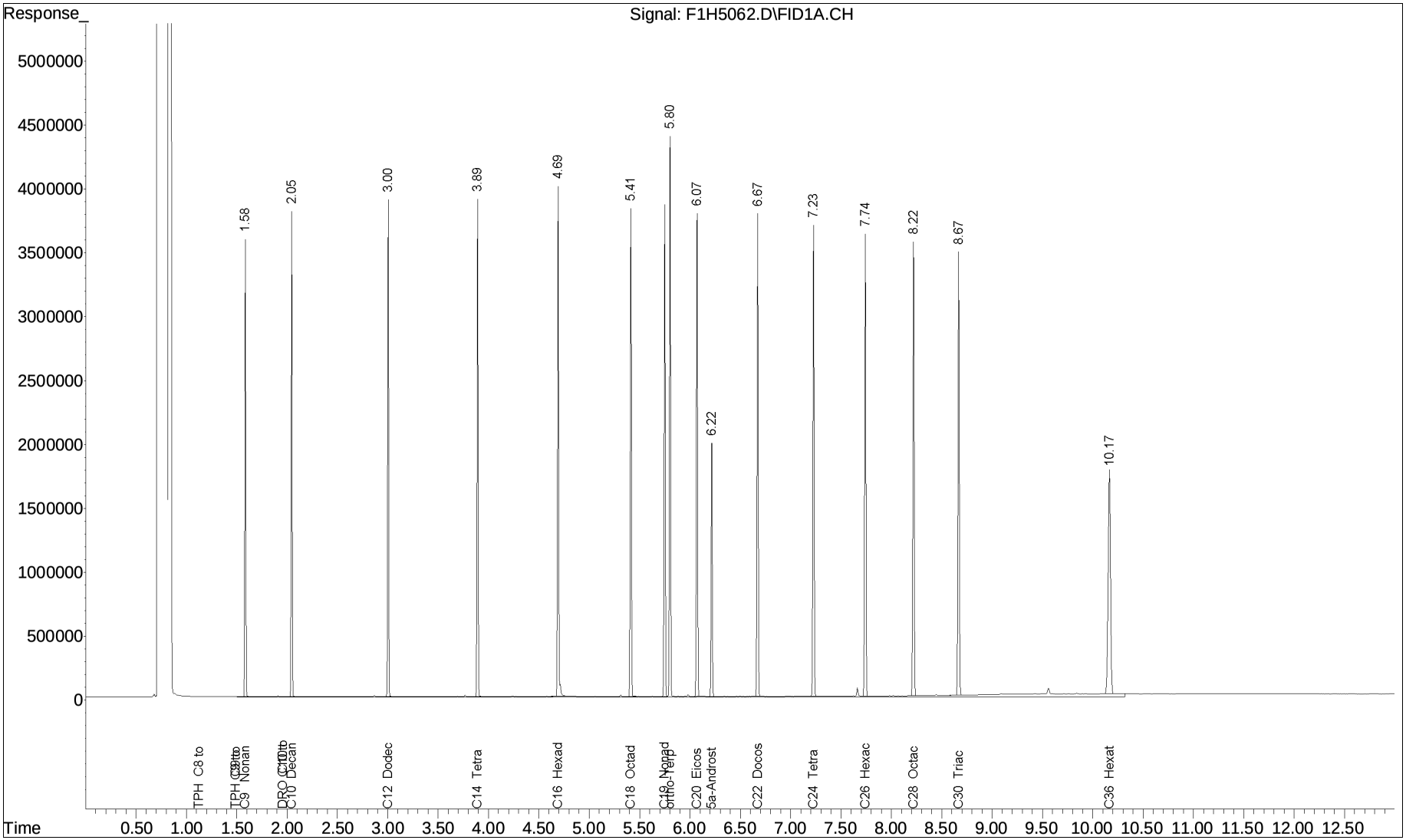
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14536430 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 31352221 | 100.616 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.62% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 31352221 | 89.150 ug/mL |
| Spiked Amount 100.000 | | Recovery = 89.15% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 274825832 | 943.875 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 365334852 | |
| 4) H TPH C9 to C36 | 1.50 | 382959416 | 1322.608 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 470032072 | |
| 14) T C9 Nonane | 1.59 | 21842610 | 86.317 ug/mL |
| 15) TD C10 Decane | 2.05 | 22687679 | 85.993 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 24359575 | 84.954 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 25785396 | 84.126 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 28335914 | 85.204 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 27889846 | 83.203 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 28065799 | 83.061 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 28311223 | 82.923 ug/mL |
| 22) TD C22 Docosane | 6.67 | 29127607 | 82.696 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 29156572 | 82.657 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 29588757 | 82.720 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 29583262 | 82.813 ug/mL |
| 26) T C30 Triacontane | 8.67 | 29723267 | 83.034 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 28501908 | 83.836 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 274825832 | 836.314 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 365334852 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 498002342 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 470032072 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

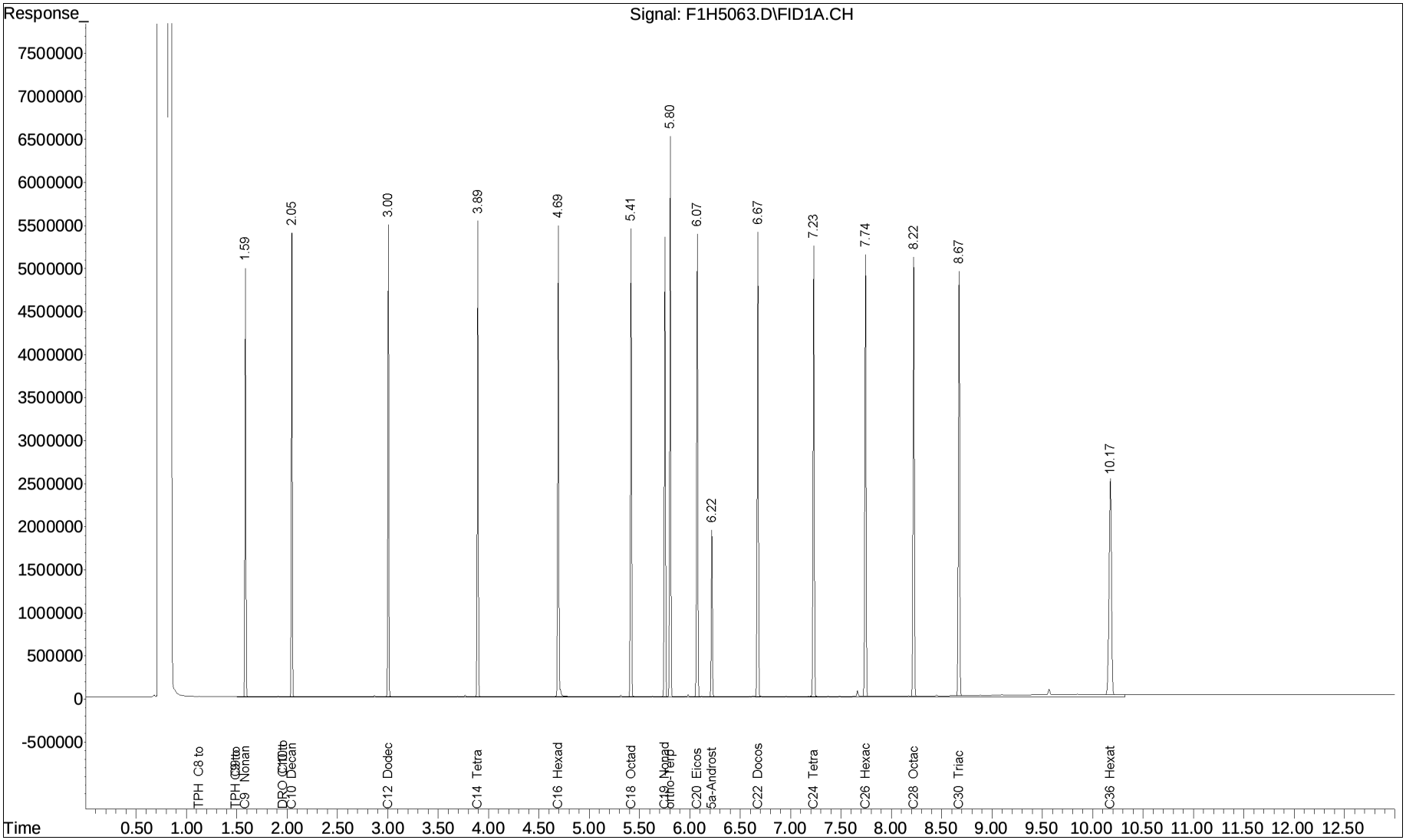
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14100029 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 45746602 | 146.811 ug/mL |
| Spiked Amount 100.000 | | Recovery = 146.81% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 45746602 | 134.107 ug/mL |
| Spiked Amount 100.000 | | Recovery = 134.11% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 395690120 | 1358.977 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 4) H TPH C9 to C36 | 1.50 | 552048300 | 1906.581 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |
| 14) T C9 Nonane | 1.59 | 31667314 | 129.015 ug/mL |
| 15) TD C10 Decane | 2.05 | 32763279 | 128.026 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 34951392 | 125.666 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 36965118 | 124.334 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 40004367 | 124.013 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 40127166 | 123.416 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 40442665 | 123.394 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 40830301 | 123.292 ug/mL |
| 22) TD C22 Docosane | 6.67 | 42060359 | 123.109 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 42170824 | 123.251 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 42892741 | 123.624 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 42924573 | 123.878 ug/mL |
| 26) T C30 Triacontane | 8.67 | 43120936 | 124.190 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 41127265 | 124.717 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 395690120 | 1241.380 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 682482642 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

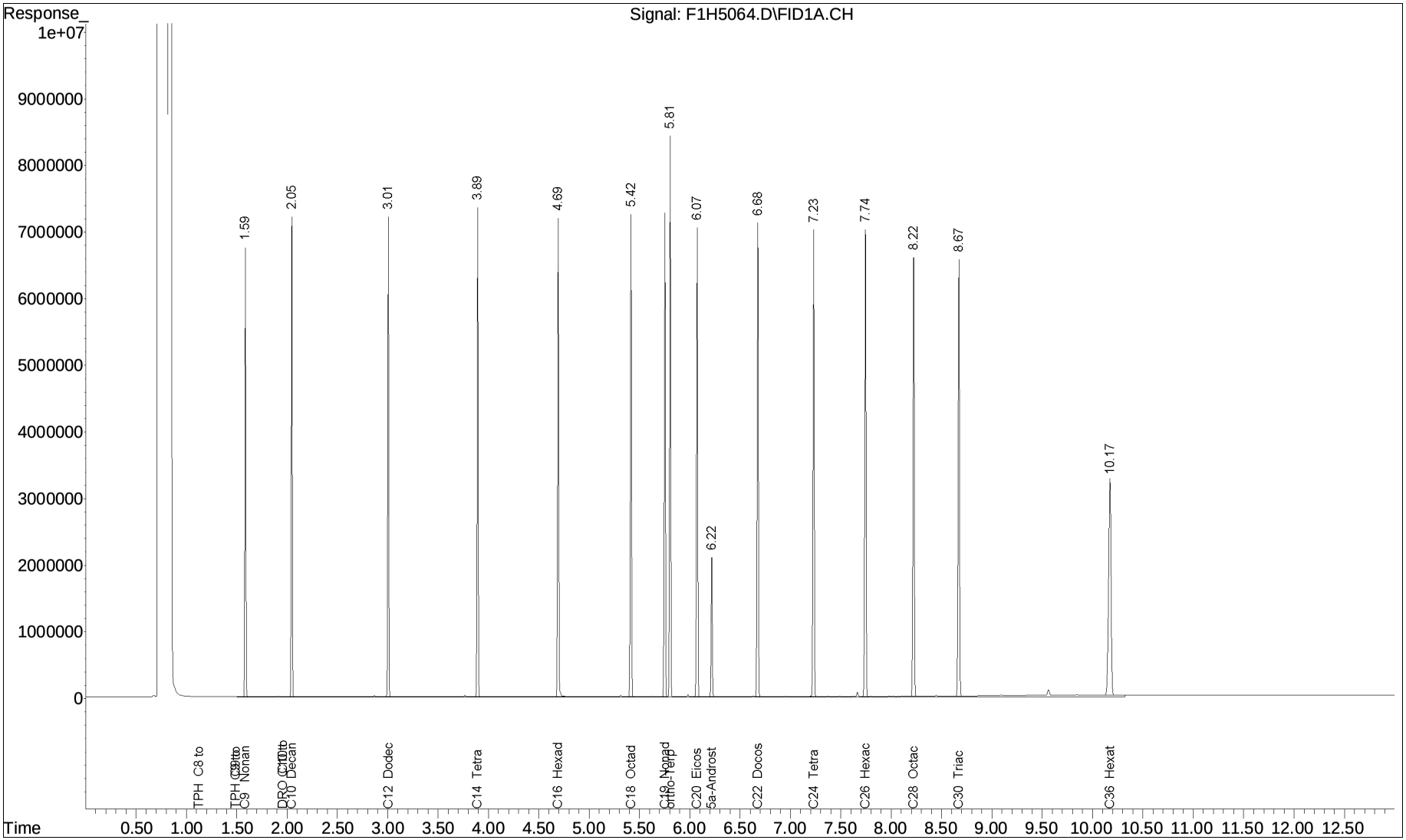
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| **Internal Standards** | | | |
| 11) I 5a-Androstane | 6.22 | 15380119 | 40.000 ug/mL |
| **System Monitoring Compounds** | | | |
| 2) S ortho-Terphenyl | 5.81 | 61137451 | 196.204 ug/mL |
| Spiked Amount 100.000 | | Recovery = 196.20% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 61137451 | 164.309 ug/mL |
| Spiked Amount 100.000 | | Recovery = 164.31% | |
| **Target Compounds** | | | |
| 3) H DRO C10 to C28 | 1.95 | 528997686 | 1816.814 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 4) H TPH C9 to C36 | 1.50 | 737982176 | 2548.732 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |
| 14) T C9 Nonane | 1.59 | 42564959 | 158.980 ug/mL |
| 15) TD C10 Decane | 2.05 | 44140472 | 158.128 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 46705175 | 153.950 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 49224939 | 151.790 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 52797715 | 150.050 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 53530164 | 150.936 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 54017181 | 151.094 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 54585598 | 151.109 ug/mL |
| 22) TD C22 Docosane | 6.68 | 56328880 | 151.151 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 56536079 | 151.484 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 57567895 | 152.111 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 57580771 | 152.345 ug/mL |
| 26) T C30 Triacontane | 8.67 | 57728590 | 152.422 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 54673759 | 151.997 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 528997686 | 1521.470 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 885034126 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

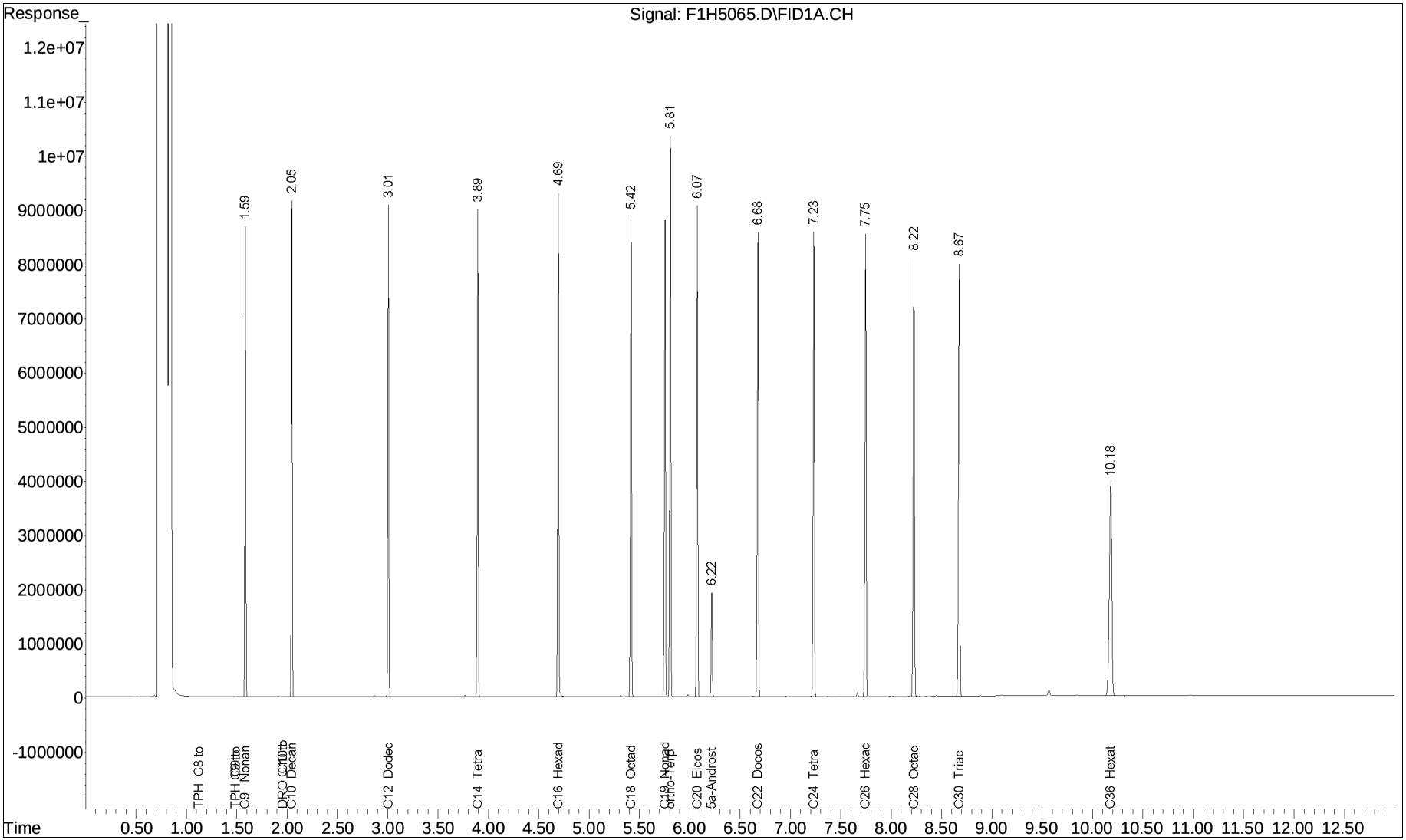
Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14242463 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.81 | 76537919 | 245.627 ug/mL |
| Spiked Amount 100.000 | | Recovery = 245.63% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 76537919 | 222.129 ug/mL |
| Spiked Amount 100.000 | | Recovery = 222.13% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 660496170 | 2268.439 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 4) H TPH C9 to C36 | 1.50 | 920044983 | 3177.513 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |
| 14) T C9 Nonane | 1.59 | 53995894 | 217.783 ug/mL |
| 15) TD C10 Decane | 2.05 | 55714988 | 215.535 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 59169932 | 210.615 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 62307058 | 207.476 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 66177089 | 203.097 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 67106255 | 204.329 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 67536447 | 203.999 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 68088820 | 203.546 ug/mL |
| 22) TD C22 Docosane | 6.68 | 69997641 | 202.832 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 69969405 | 202.452 ug/mL |
| 24) TD C26 Hexacosane | 7.75 | 71069497 | 202.786 ug/mL |
| 25) TD C28 Octacosane | 8.23 | 70895485 | 202.555 ug/mL |
| 26) T C30 Triacontane | 8.68 | 70905826 | 202.169 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 67110646 | 201.476 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 660496170 | 2051.420 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 1082289494 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc  : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 20 May 2011  21:15  Operator: TM
ALS Vial  : 11  Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 3 | H | DRO C10 to C28 | 336.012 | 377.100 E3 | -12.2 | 54 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 372.820 E3 | -11.4 | 54 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.03 |
| 14 | | C9 Nonane | 0.730 | 0.589 | 19.3 | 52 | 0.02 |
| 15 | | C10 Decane | 0.756 | 0.659 | 12.8 | 52 | 0.02 |
| 16 | | C12 Dodecane | 0.808 | 0.728 | 9.9 | 53 | 0.02 |
| 17 | | C14 Tetradecane | 0.859 | 0.782 | 9.0 | 54 | 0.02 |
| 18 | | C16 Hexadecane | 0.957 | 0.835 | 12.7 | 55 | 0.02 |
| 19 | | C18 Octadecane | 0.941 | 0.863 | 8.3 | 54 | 0.02 |
| 20 | | C19 Nonadecane | 0.950 | 0.872 | 8.2 | 55 | 0.02 |
| 21 | | C20 Eicosane | 0.960 | 0.891 | 7.2 | 55 | 0.02 |
| 22 | | C22 Docosane | 0.991 | 0.907 | 8.5 | 55 | 0.02 |
| 23 | | C24 Tetracosane | 1.001 | 0.910 | 9.1 | 55 | 0.02 |
| 24 | | C26 Hexacosane | 1.011 | 0.917 | 9.3 | 55 | 0.02 |
| 25 | | C28 Octacosane | 1.011 | 0.898 | 11.2 | 54 | 0.02 |
| 26 | | C30 Triacontane | 1.015 | 0.901 | 11.2 | 55 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.861 | 11.2 | 57 | 0.04 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.839 | 9.8 | 54 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 2 | S | ortho-Terphenyl | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 13 | S | ortho-Terphenyl ISTD | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc  : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 20 May 2011  21:15  Operator: TM
ALS Vial  : 11  Sample Multiplier: 1

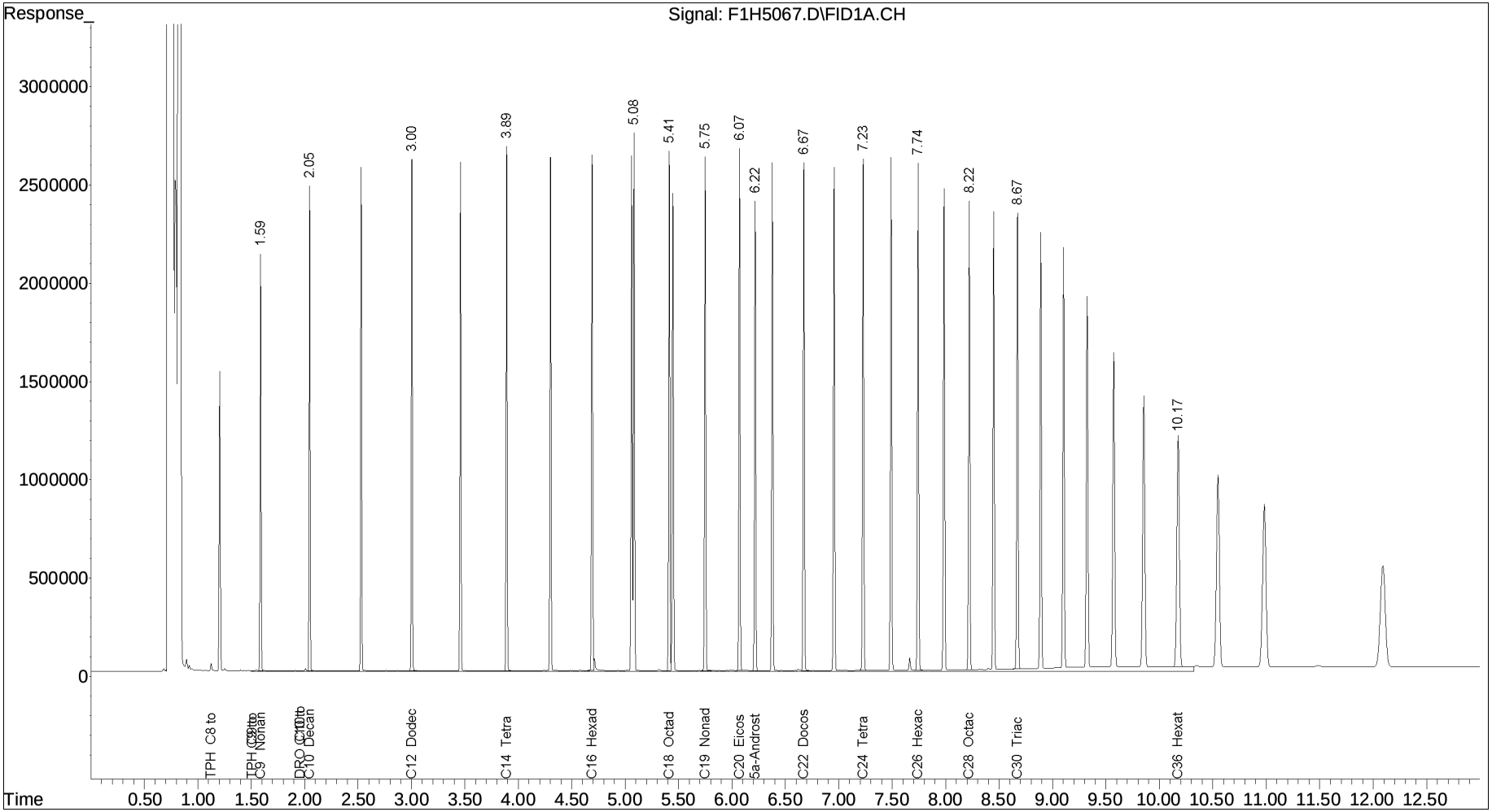
Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.22 | 17977097 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 188549953 | 561.141 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 4) H | TPH C9 to C36 | 1.50 | 260974037 | 779.910 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |
| 14) T | C9 Nonane | 1.59 | 13244545 | 40.397 ug/mL |
| 15) TD | C10 Decane | 2.05 | 14819509 | 43.634 ug/mL |
| 16) TD | C12 Dodecane | 3.00 | 16369493 | 45.093 ug/mL |
| 17) TD | C14 Tetradecane | 3.89 | 17572579 | 45.515 ug/mL |
| 18) TD | C16 Hexadecane | 4.69 | 18757962 | 43.602 ug/mL |
| 19) TD | C18 Octadecane | 5.41 | 19397875 | 45.849 ug/mL |
| 20) T | C19 Nonadecane | 5.75 | 19584711 | 45.894 ug/mL |
| 21) TD | C20 Eicosane | 6.07 | 20013327 | 46.381 ug/mL |
| 22) TD | C22 Docosane | 6.67 | 20387078 | 45.770 ug/mL |
| 23) TD | C24 Tetracosane | 7.23 | 20452636 | 45.460 ug/mL |
| 24) TD | C26 Hexacosane | 7.74 | 20597516 | 45.348 ug/mL |
| 25) TD | C28 Octacosane | 8.22 | 20181978 | 44.399 ug/mL |
| 26) T | C30 Triacontane | 8.67 | 20236921 | 44.371 ug/mL |
| 27) T | C36 Hexatriacontane | 10.18 | 19357909 | 44.387 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 188549953 | 451.335 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 720712646 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV Client Smp ID: FICV
Misc : TPH F ICV Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5564.D
Lab Smp Id: FSTD1001L  Client Smp ID: FSTD1001L
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  11:32  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jun 29 13:03:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 386.488 | E3 | -1.0 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 355.922 | E3 | -5.9 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 351.869 | E3 | -5.2 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.977 | | 7.7 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.668 | | 8.5 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.733 | | 3.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.798 | | 1.2 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.853 | | 0.7 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.900 | | 6.0 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | | 1.2 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.935 | | 1.6 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.941 | | 2.0 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.964 | | 2.7 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.956 | | 4.5 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.965 | | 4.5 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.957 | | 5.3 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.953 | | 6.1 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.900 | | 7.2 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.900 | | 3.2 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.889 | | 4.0 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.889 | | 4.0 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5564.D
Lab Smp Id: FSTD1001L  Client Smp ID: FSTD1001L
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  11:32  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

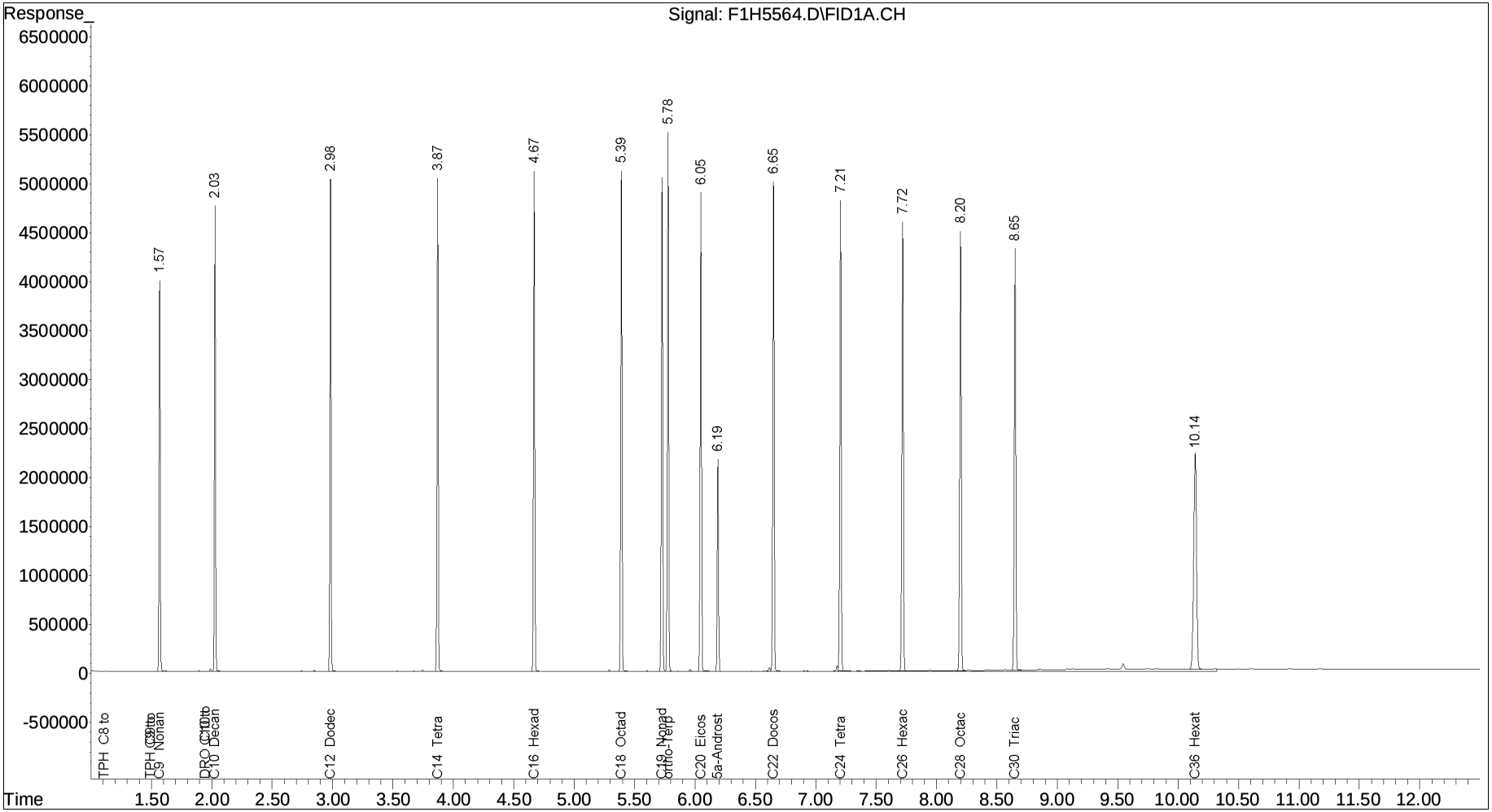
Quant Time: Jun 29 13:03:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 15823585 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 38648818 | 100.985 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 100.98% |
| 13) S ortho-Terphenyl ISTD | 5.78 | 38648818 | 92.347 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 92.35% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 355922464 | 1059.256 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 455060043 | |
| 4) H TPH C9 to C36 | 1.50 | 492616342 | 1472.164 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 578251739 | |
| 14) T C9 Nonane | 1.57 | 26412858 | 91.526 ug/mL |
| 15) TD C10 Decane | 2.03 | 29002600 | 97.017 ug/mL |
| 16) TD C12 Dodecane | 2.98 | 31580507 | 98.835 ug/mL |
| 17) TD C14 Tetradecane | 3.87 | 33738751 | 99.279 ug/mL |
| 18) TD C16 Hexadecane | 4.67 | 35614279 | 94.051 ug/mL |
| 19) TD C18 Octadecane | 5.39 | 36791665 | 98.795 ug/mL |
| 20) T C19 Nonadecane | 5.73 | 36989009 | 98.476 ug/mL |
| 21) TD C20 Eicosane | 6.05 | 37244340 | 98.062 ug/mL |
| 22) TD C22 Docosane | 6.65 | 38131030 | 97.257 ug/mL |
| 23) TD C24 Tetracosane | 7.21 | 37802688 | 95.460 ug/mL |
| 24) TD C26 Hexacosane | 7.72 | 38177447 | 95.492 ug/mL |
| 25) TD C28 Octacosane | 8.20 | 37839157 | 94.574 ug/mL |
| 26) T C30 Triacontane | 8.65 | 37706924 | 93.928 ug/mL |
| 27) T C36 Hexatriacontane | 10.14 | 35585087 | 92.700 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 355922464 | 967.928 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 455060043 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 492616342 | 1345.243 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 604506557 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 492616342 | 1345.243 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 578251739 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5564.D
Lab Smp Id: FSTD1001L  Client Smp ID: FSTD1001L
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  11:32  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jun 29 13:03:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5565.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  11:51  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

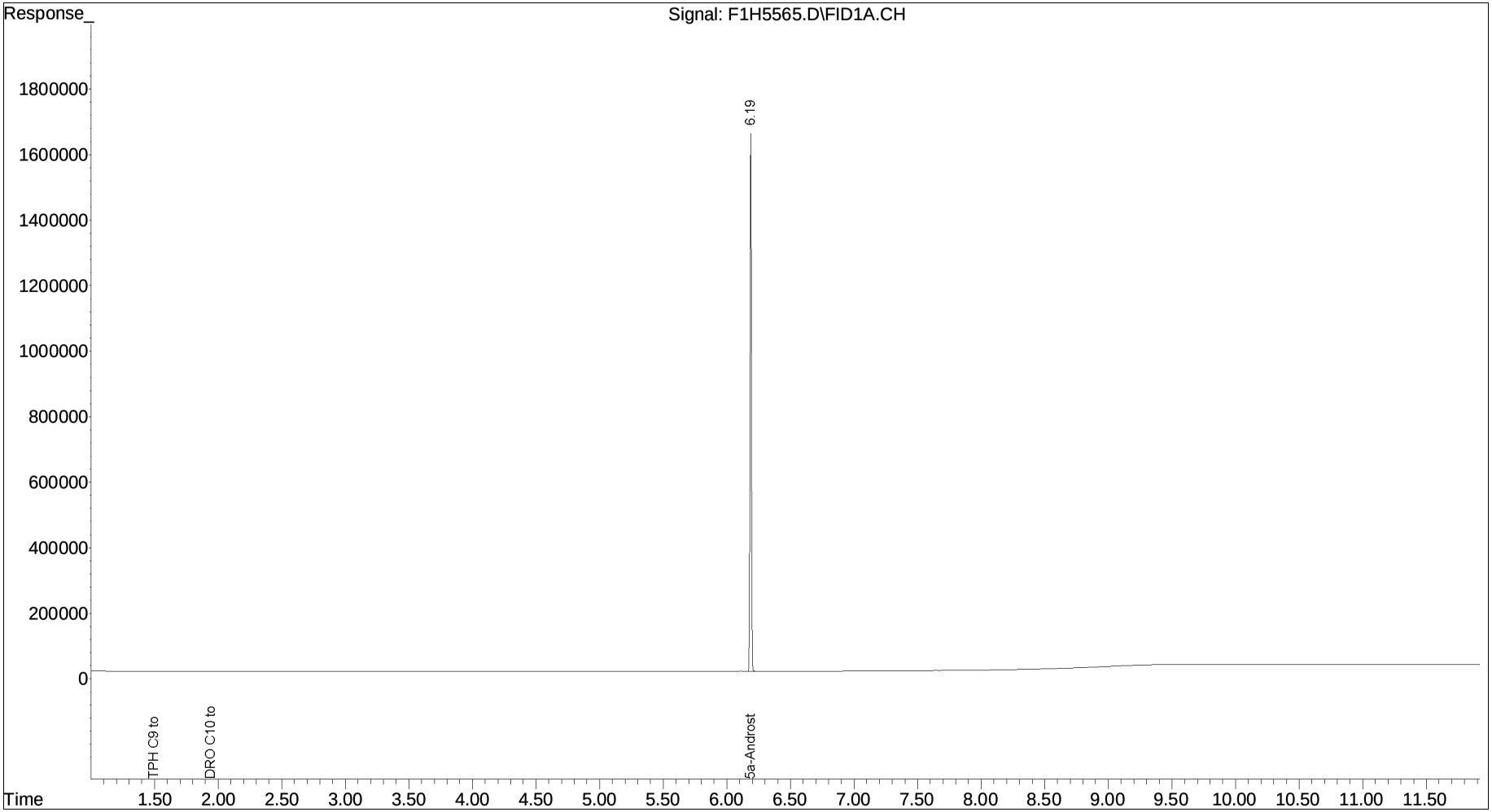
Quant Time: Jun 29 13:05:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 12173457 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 3606462 | 10.733 ug/mL |
| | Integration Range: | | 1.95 to | 8.35 minutes |
| | Raw Range Area: | | 15779919 | |
| 4) H | TPH C9 to C36 | 1.50 | 23946145 | 71.562 ug/mL |
| | Integration Range: | | 1.50 to | 10.32 minutes |
| | Raw Range Area: | | 36119602 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5565.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  11:51  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

Quant Time: Jun 29 13:05:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5572.D
Lab Smp Id: FSTD1001M  Client Smp ID: FSTD1001M
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  17:32  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jun 30 07:54:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 405.549 E3 | -6.0 | 105 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 374.203 E3 | -11.4 | 105 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 369.819 E3 | -10.5 | 105 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 105 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.975 | 7.8 | 105 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.671 | 8.1 | 106 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.737 | 2.5 | 106 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.799 | 1.1 | 105 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.852 | 0.8 | 105 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.899 | 6.1 | 105 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | 1.2 | 105 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.933 | 1.8 | 105 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.943 | 1.8 | 105 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.964 | 2.7 | 105 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.947 | 5.4 | 104 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.967 | 4.4 | 105 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.957 | 5.3 | 105 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.952 | 6.2 | 105 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.893 | 7.9 | 104 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.899 | 3.3 | 105 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.889 | 4.0 | 105 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.889 | 4.0 | 105 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5572.D
Lab Smp Id: FSTD1001M  Client Smp ID: FSTD1001M
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  17:32  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

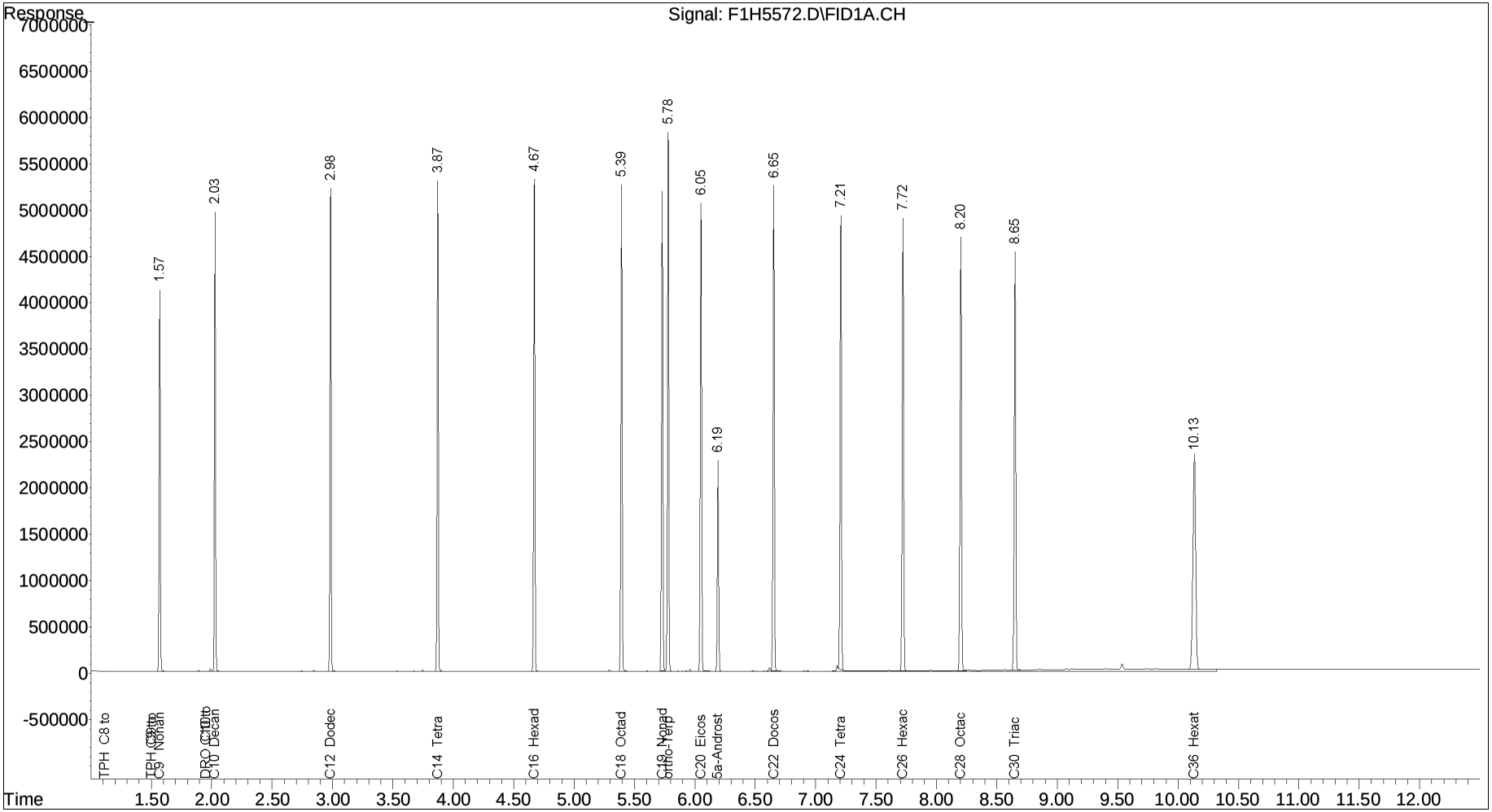
Quant Time: Jun 30 07:54:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 16646141 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 40554865 | 105.965 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 105.97% |
| 13) S | ortho-Terphenyl ISTD | 5.78 | 40554865 | 92.113 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 92.11% |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 374203134 | 1113.661 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 479317252 | |
| 4) H | TPH C9 to C36 | 1.50 | 517746064 | 1547.263 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 608018755 | |
| 14) T | C9 Nonane | 1.57 | 27940430 | 92.035 ug/mL |
| 15) TD | C10 Decane | 2.03 | 30651801 | 97.467 ug/mL |
| 16) TD | C12 Dodecane | 2.98 | 33243068 | 98.897 ug/mL |
| 17) TD | C14 Tetradecane | 3.87 | 35446421 | 99.150 ug/mL |
| 18) TD | C16 Hexadecane | 4.67 | 37416806 | 93.928 ug/mL |
| 19) TD | C18 Octadecane | 5.39 | 38687920 | 98.754 ug/mL |
| 20) T | C19 Nonadecane | 5.73 | 38826837 | 98.261 ug/mL |
| 21) TD | C20 Eicosane | 6.05 | 39224145 | 98.171 ug/mL |
| 22) TD | C22 Docosane | 6.65 | 40104067 | 97.235 ug/mL |
| 23) TD | C24 Tetracosane | 7.21 | 39389461 | 94.552 ug/mL |
| 24) TD | C26 Hexacosane | 7.72 | 40223709 | 95.639 ug/mL |
| 25) TD | C28 Octacosane | 8.20 | 39815736 | 94.596 ug/mL |
| 26) T | C30 Triacontane | 8.65 | 39626531 | 93.832 ug/mL |
| 27) T | C36 Hexatriacontane | 10.14 | 37149132 | 91.992 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 374203134 | 967.356 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 479317252 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 517746064 | 1344.003 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 633944017 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 517746064 | 1344.003 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 608018755 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5572.D
Lab Smp Id: FSTD1001M  Client Smp ID: FSTD1001M
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  17:32  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jun 30 07:54:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5684.D
Lab Smp Id: FSTD1001B  Client Smp ID: FSTD1001B
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  8:21  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 12 08:52:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 379.977 E3 | 0.7 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 347.445 E3 | -3.4 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 342.667 E3 | -2.4 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.963 | 9.0 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.643 | 11.9 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.718 | 5.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.778 | 3.7 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.826 | 3.8 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.870 | 9.1 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.902 | 4.1 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.909 | 4.3 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.918 | 4.4 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.947 | 4.4 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.943 | 5.8 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.956 | 5.4 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.946 | 6.4 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.938 | 7.6 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.862 | 11.1 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.880 | 5.4 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.868 | 6.3 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.868 | 6.3 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5684.D
Lab Smp Id: FSTD1001B  Client Smp ID: FSTD1001B
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  8:21  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

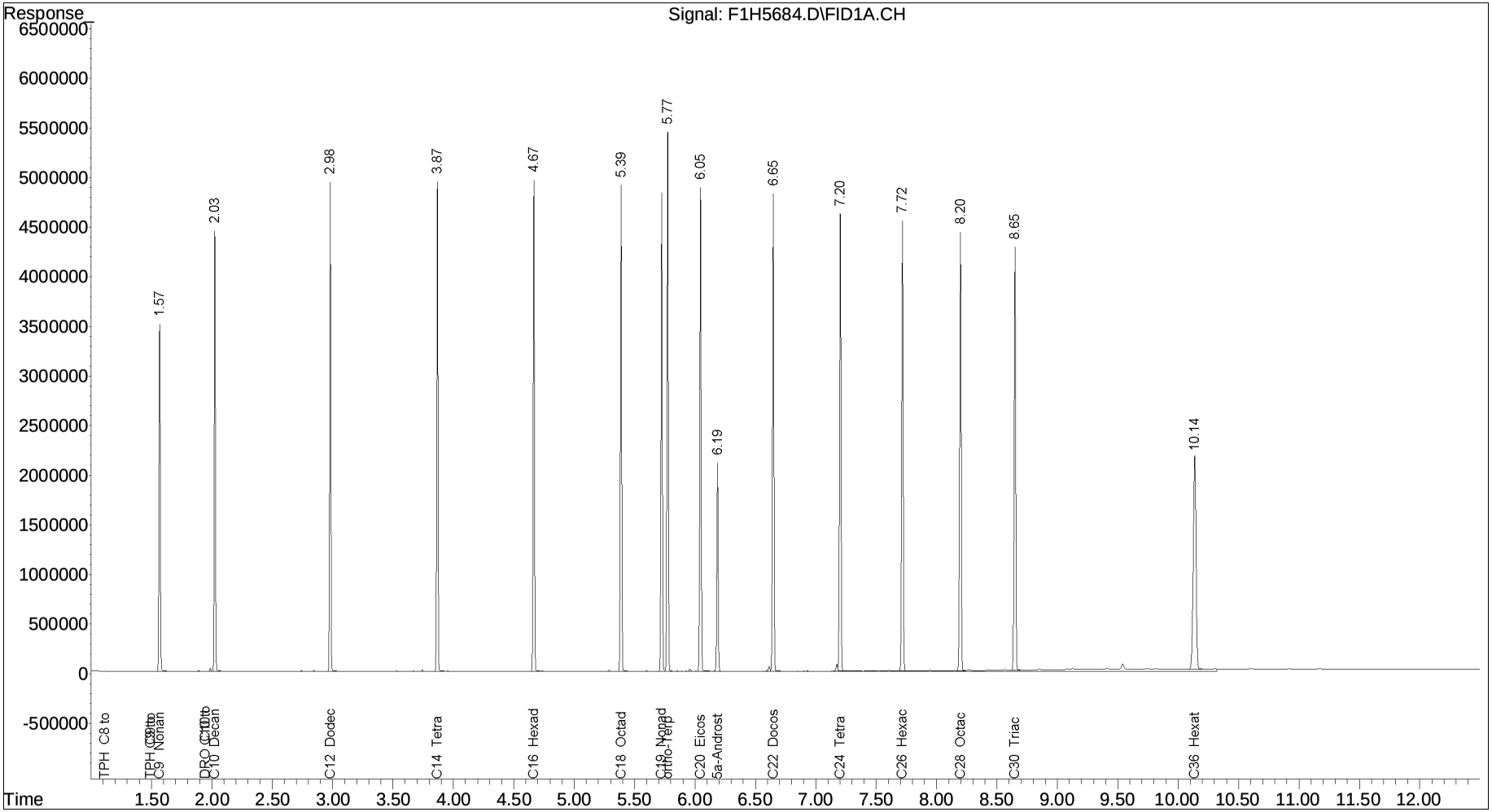
Quant Time: Jul 12 08:52:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 15787183 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.77 | 37997732 | 99.283 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 99.28% |
| 13) S | ortho-Terphenyl ISTD | 5.77 | 37997732 | 91.001 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 91.00% |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 347444551 | 1034.025 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 445554699 | |
| 4) H | TPH C9 to C36 | 1.50 | 479733307 | 1433.663 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 565414284 | |
| 14) T | C9 Nonane | 1.57 | 25381761 | 88.156 ug/mL |
| 15) TD | C10 Decane | 2.03 | 28324968 | 94.968 ug/mL |
| 16) TD | C12 Dodecane | 2.98 | 30687288 | 96.261 ug/mL |
| 17) TD | C14 Tetradecane | 3.87 | 32595020 | 96.135 ug/mL |
| 18) TD | C16 Hexadecane | 4.67 | 34336007 | 90.884 ug/mL |
| 19) TD | C18 Octadecane | 5.39 | 35596360 | 95.806 ug/mL |
| 20) T | C19 Nonadecane | 5.73 | 35878333 | 95.739 ug/mL |
| 21) TD | C20 Eicosane | 6.05 | 36241851 | 95.642 ug/mL |
| 22) TD | C22 Docosane | 6.65 | 37363914 | 95.520 ug/mL |
| 23) TD | C24 Tetracosane | 7.20 | 37230990 | 94.233 ug/mL |
| 24) TD | C26 Hexacosane | 7.72 | 37718178 | 94.561 ug/mL |
| 25) TD | C28 Octacosane | 8.20 | 37349975 | 93.566 ug/mL |
| 26) T | C30 Triacontane | 8.65 | 37019430 | 92.428 ug/mL |
| 27) T | C36 Hexatriacontane | 10.14 | 34009233 | 88.799 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 347444551 | 947.051 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 445554699 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 479733307 | 1313.083 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 591184911 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 479733307 | 1313.083 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 565414284 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5684.D
Lab Smp Id: FSTD1001B  Client Smp ID: FSTD1001B
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  8:21  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 12 08:52:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5685.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  8:42  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

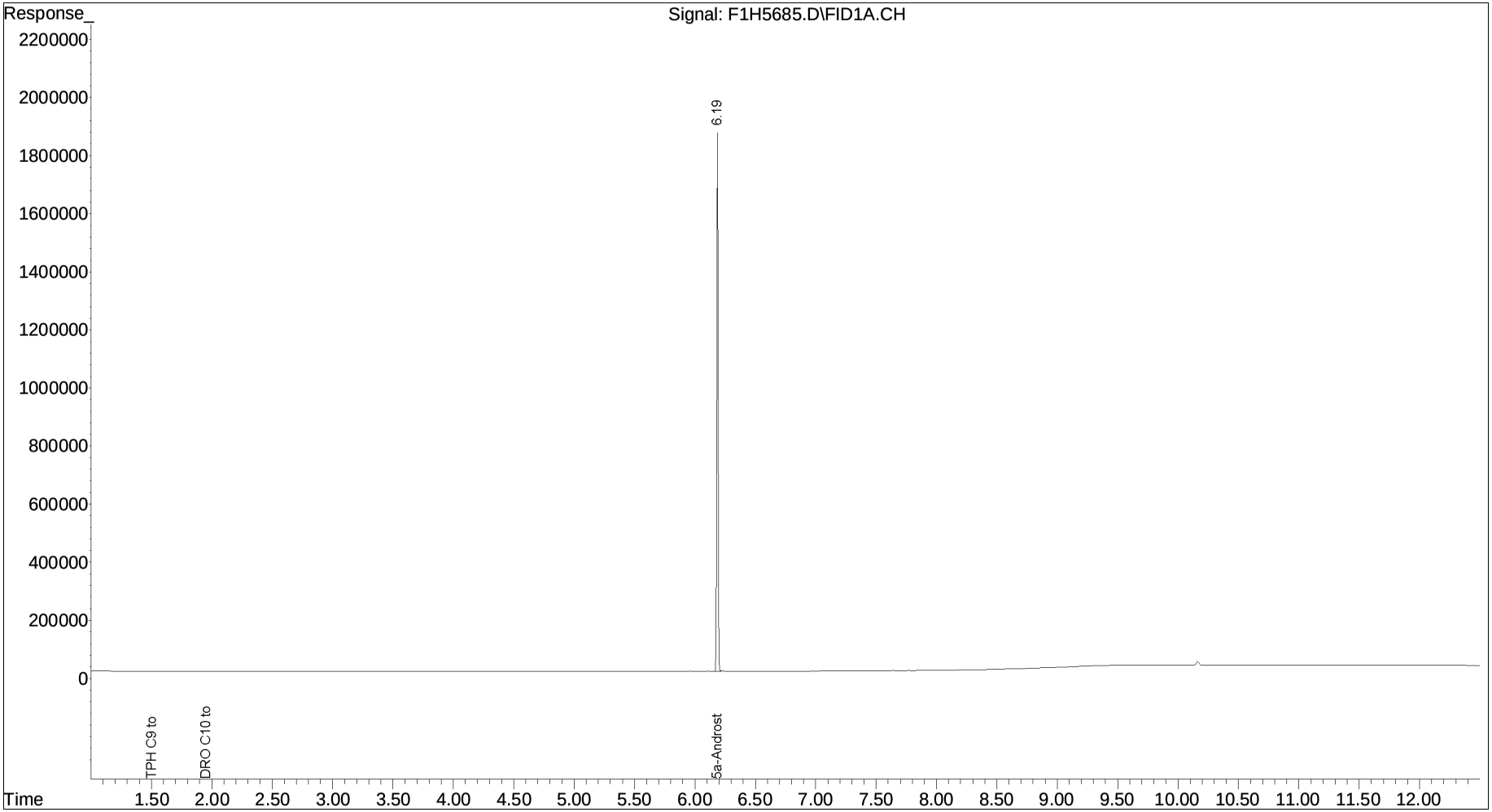
Quant Time: Jul 12 11:11:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13769942 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 3542929 | 10.544 ug/mL |
| | Integration Range: | | 1.95 to | 8.35 minutes |
| | Raw Range Area: | | 17312871 | |
| 4) H | TPH C9 to C36 | 1.50 | 23807045 | 71.146 ug/mL |
| | Integration Range: | | 1.50 to | 10.32 minutes |
| | Raw Range Area: | | 37576987 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5685.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  8:42  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

Quant Time: Jul 12 11:11:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5695.D
Lab Smp Id: FSTD1001C  Client Smp ID: FSTD1001C
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  12:06  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 12 13:21:53 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 335.953 E3 | 12.2 | 88 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 310.143 E3 | 7.7 | 89 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 307.496 E3 | 8.1 | 90 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 87 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.973 | 8.0 | 88 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.680 | 6.8 | 92 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.752 | 0.5 | 92 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.801 | 0.9 | 90 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.840 | 2.2 | 89 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.879 | 8.2 | 88 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.909 | 3.4 | 88 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.916 | 3.6 | 88 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.927 | 3.4 | 88 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.959 | 3.2 | 89 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.961 | 4.0 | 89 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.980 | 3.1 | 90 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.977 | 3.4 | 90 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.976 | 3.8 | 91 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.915 | 5.7 | 93 | 0.05 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.898 | 3.4 | 89 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.891 | 3.8 | 90 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.891 | 3.8 | 90 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5695.D
Lab Smp Id: FSTD1001C  Client Smp ID: FSTD1001C
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  12:06  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

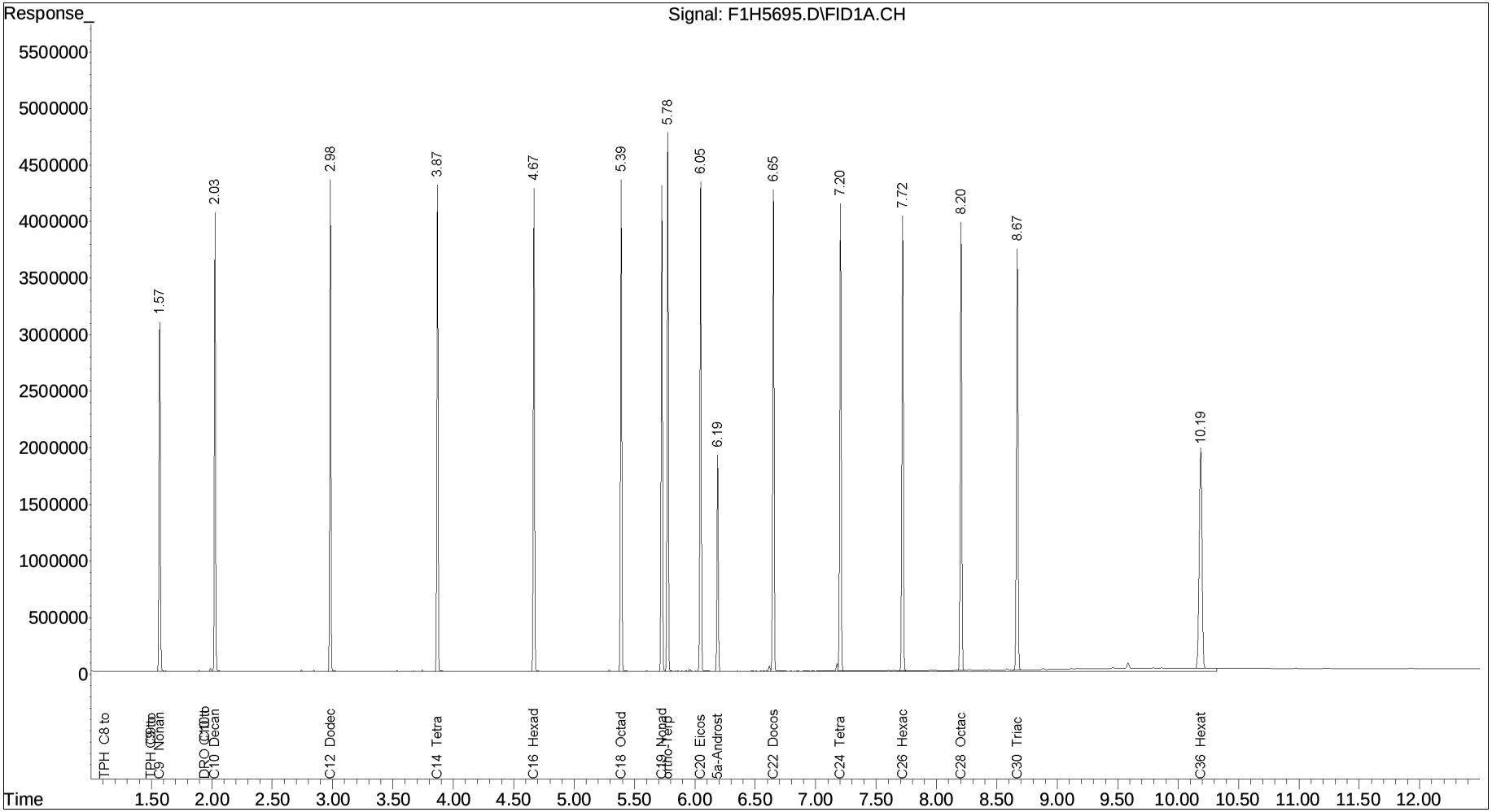
Quant Time: Jul 12 13:21:53 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 13808057 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 33595300 | 87.780 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 87.78% |
| 13) S | ortho-Terphenyl ISTD | 5.78 | 33595300 | 91.990 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 91.99% |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 310143434 | 923.013 ug/mL |
| | Integration Range: | | 1.95 to | 8.35 minutes |
| | Raw Range Area: | | 398404330 | |
| 4) H | TPH C9 to C36 | 1.50 | 430494946 | 1286.517 ug/mL |
| | Integration Range: | | 1.50 to | 10.32 minutes |
| | Raw Range Area: | | 512915402 | |
| 14) T | C9 Nonane | 1.57 | 23460784 | 93.163 ug/mL |
| 15) TD | C10 Decane | 2.03 | 25942193 | 99.446 ug/mL |
| 16) TD | C12 Dodecane | 2.98 | 27643848 | 99.143 ug/mL |
| 17) TD | C14 Tetradecane | 3.87 | 29005548 | 97.810 ug/mL |
| 18) TD | C16 Hexadecane | 4.67 | 30356761 | 91.868 ug/mL |
| 19) TD | C18 Octadecane | 5.39 | 31375656 | 96.550 ug/mL |
| 20) T | C19 Nonadecane | 5.73 | 31635926 | 96.518 ug/mL |
| 21) TD | C20 Eicosane | 6.05 | 32001161 | 96.556 ug/mL |
| 22) TD | C22 Docosane | 6.65 | 33105003 | 96.763 ug/mL |
| 23) TD | C24 Tetracosane | 7.21 | 33181129 | 96.020 ug/mL |
| 24) TD | C26 Hexacosane | 7.72 | 33813544 | 96.923 ug/mL |
| 25) TD | C28 Octacosane | 8.20 | 33718590 | 96.576 ug/mL |
| 26) T | C30 Triacontane | 8.67 | 33684679 | 96.157 ug/mL |
| 27) T | C36 Hexatriacontane | 10.19 | 31570123 | 94.245 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 310143434 | 966.546 ug/mL |
| | Integration Range: | | 1.95 to | 8.35 minutes |
| | Raw Range Area: | | 398404330 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 430494946 | 1347.201 ug/mL |
| | Integration Range: | | 1.12 to | 12.24 minutes |
| | Raw Range Area: | | 541875158 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 430494946 | 1347.201 ug/mL |
| | Integration Range: | | 1.50 to | 10.32 minutes |
| | Raw Range Area: | | 512915402 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5695.D
Lab Smp Id: FSTD1001C  Client Smp ID: FSTD1001C
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011  12:06  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 12 13:21:53 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5714.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  12:06  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 14 12:38:02 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 383.885 E3 | -0.3 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 351.372 E3 | -4.6 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 346.751 E3 | -3.6 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.965 | 8.8 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.642 | 12.1 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.716 | 5.3 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.776 | 4.0 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.828 | 3.6 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.875 | 8.6 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.907 | 3.6 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.914 | 3.8 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.923 | 3.9 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.951 | 4.0 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.944 | 5.7 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.961 | 4.9 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.954 | 5.6 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.948 | 6.6 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.867 | 10.6 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.883 | 5.1 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.872 | 5.8 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.872 | 5.8 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5714.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  12:06  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

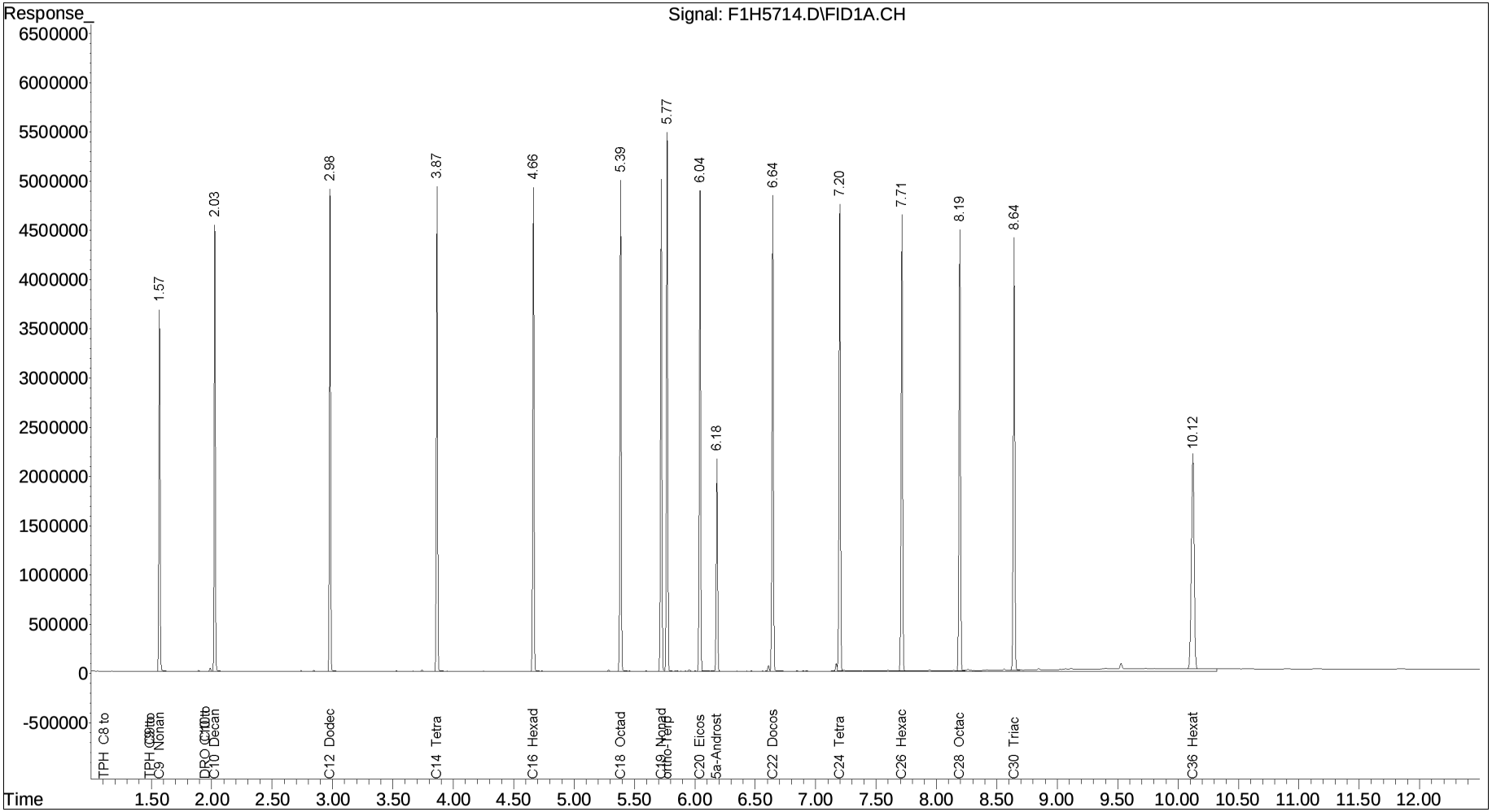
Quant Time: Jul 14 12:38:02 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.18 | 15910382 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.77 | 38388525 | 100.304 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 100.30% |
| 13) S | ortho-Terphenyl ISTD | 5.77 | 38388525 | 91.225 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 91.22% |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 351371551 | 1045.712 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 451235901 | |
| 4) H | TPH C9 to C36 | 1.50 | 485450774 | 1450.750 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 573992859 | |
| 14) T | C9 Nonane | 1.57 | 25536717 | 88.007 ug/mL |
| 15) TD | C10 Decane | 2.03 | 28485885 | 94.768 ug/mL |
| 16) TD | C12 Dodecane | 2.98 | 30862598 | 96.061 ug/mL |
| 17) TD | C14 Tetradecane | 3.87 | 32932843 | 96.379 ug/mL |
| 18) TD | C16 Hexadecane | 4.66 | 34785809 | 91.362 ug/mL |
| 19) TD | C18 Octadecane | 5.39 | 36068770 | 96.326 ug/mL |
| 20) T | C19 Nonadecane | 5.72 | 36349781 | 96.246 ug/mL |
| 21) TD | C20 Eicosane | 6.04 | 36704470 | 96.113 ug/mL |
| 22) TD | C22 Docosane | 6.64 | 37824189 | 95.948 ug/mL |
| 23) TD | C24 Tetracosane | 7.20 | 37561075 | 94.332 ug/mL |
| 24) TD | C26 Hexacosane | 7.71 | 38208874 | 95.050 ug/mL |
| 25) TD | C28 Octacosane | 8.19 | 37937038 | 94.301 ug/mL |
| 26) T | C30 Triacontane | 8.64 | 37698778 | 93.395 ug/mL |
| 27) T | C36 Hexatriacontane | 10.12 | 34493947 | 89.367 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 351371551 | 950.339 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 451235901 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 485450774 | 1318.444 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 601154199 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 485450774 | 1318.444 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 573992859 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5714.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  12:06  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 14 12:38:02 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5715.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  12:27  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

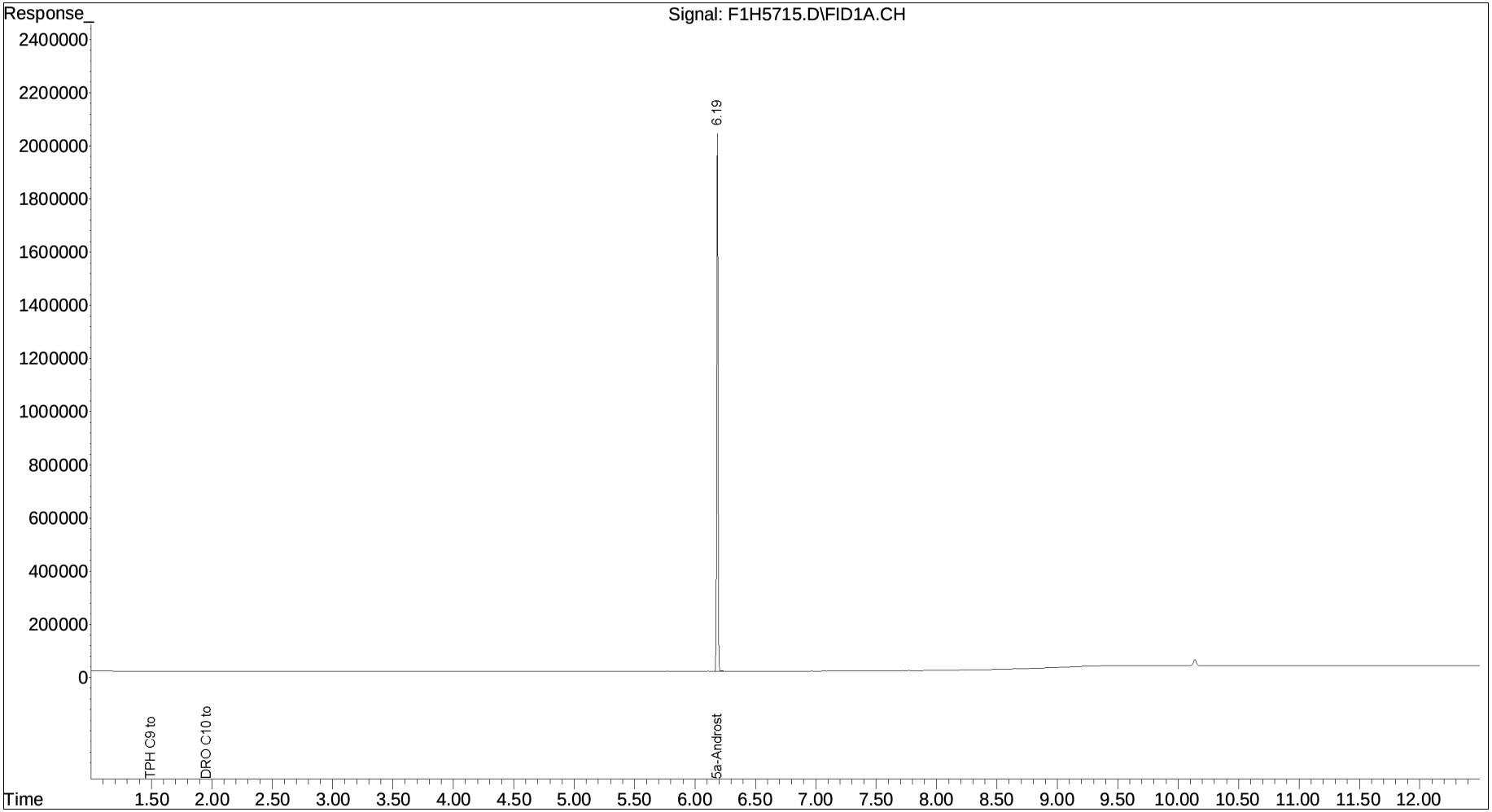
Quant Time: Jul 14 12:55:09 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 14735193 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 3626788 | 10.794 ug/mL |
| | Integration Range: | | 1.95 to | 8.35 minutes |
| | Raw Range Area: | | 18361982 | |
| 4) H | TPH C9 to C36 | 1.50 | 24787125 | 74.075 ug/mL |
| | Integration Range: | | 1.50 to | 10.32 minutes |
| | Raw Range Area: | | 39522318 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5715.D
Lab Smp Id: IBLK Client Smp ID: IBLK
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 12:27 Operator: TM
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Jul 14 12:55:09 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5726.D
Lab Smp Id: FSTD1001F  Client Smp ID: FSTD1001F
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  15:33  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 14 15:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 359.748 | E3 | 6.0 | 94 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 329.104 | E3 | 2.1 | 94 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 325.182 | E3 | 2.8 | 94 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 93 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.976 | | 7.8 | 94 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.657 | | 10.0 | 95 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.731 | | 3.3 | 95 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.791 | | 2.1 | 95 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.842 | | 2.0 | 94 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.886 | | 7.4 | 94 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.916 | | 2.7 | 94 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.922 | | 2.9 | 93 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.930 | | 3.1 | 93 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.956 | | 3.5 | 93 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.950 | | 5.1 | 93 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.966 | | 4.5 | 93 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.960 | | 5.0 | 93 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.955 | | 5.9 | 93 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.889 | | 8.4 | 95 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.893 | | 4.0 | 94 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.882 | | 4.8 | 94 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.882 | | 4.8 | 94 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5726.D
Lab Smp Id: FSTD1001F  Client Smp ID: FSTD1001F
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  15:33  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

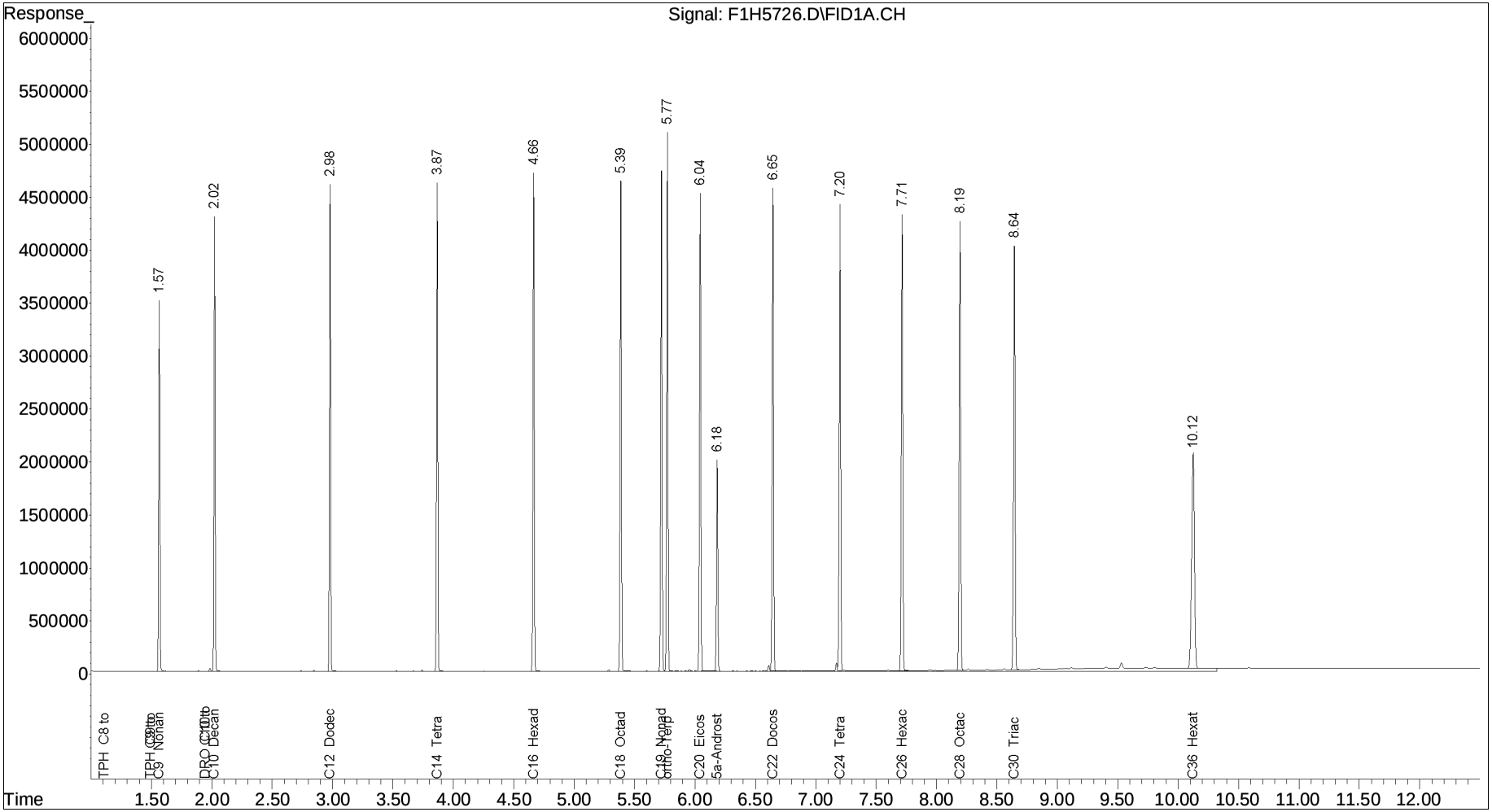
Quant Time: Jul 14 15:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.18 | 14746011 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.77 | 35974838 | 93.998 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 94.00% |
| 13) S | ortho-Terphenyl ISTD | 5.77 | 35974838 | 92.240 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 92.24% |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 329104246 | 979.442 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 424547291 | |
| 4) H | TPH C9 to C36 | 1.50 | 455254682 | 1360.510 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 547089280 | |
| 14) T | C9 Nonane | 1.57 | 24204101 | 90.001 ug/mL |
| 15) TD | C10 Decane | 2.02 | 26955461 | 96.758 ug/mL |
| 16) TD | C12 Dodecane | 2.98 | 29170113 | 97.962 ug/mL |
| 17) TD | C14 Tetradecane | 3.87 | 31023113 | 97.959 ug/mL |
| 18) TD | C16 Hexadecane | 4.67 | 32673585 | 92.590 ug/mL |
| 19) TD | C18 Octadecane | 5.39 | 33769402 | 97.306 ug/mL |
| 20) T | C19 Nonadecane | 5.72 | 33981029 | 97.079 ug/mL |
| 21) TD | C20 Eicosane | 6.04 | 34276729 | 96.843 ug/mL |
| 22) TD | C22 Docosane | 6.65 | 35255209 | 96.493 ug/mL |
| 23) TD | C24 Tetracosane | 7.20 | 35007098 | 94.860 ug/mL |
| 24) TD | C26 Hexacosane | 7.72 | 35593877 | 95.536 ug/mL |
| 25) TD | C28 Octacosane | 8.19 | 35379659 | 94.888 ug/mL |
| 26) T | C30 Triacontane | 8.64 | 35194388 | 94.076 ug/mL |
| 27) T | C36 Hexatriacontane | 10.12 | 32770917 | 91.607 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 329104246 | 960.398 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 424547291 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 455254682 | 1334.064 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 579867838 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 455254682 | 1334.064 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 547089280 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5726.D
Lab Smp Id: FSTD1001F  Client Smp ID: FSTD1001F
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  15:33  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 14 15:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5727.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  15:53  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

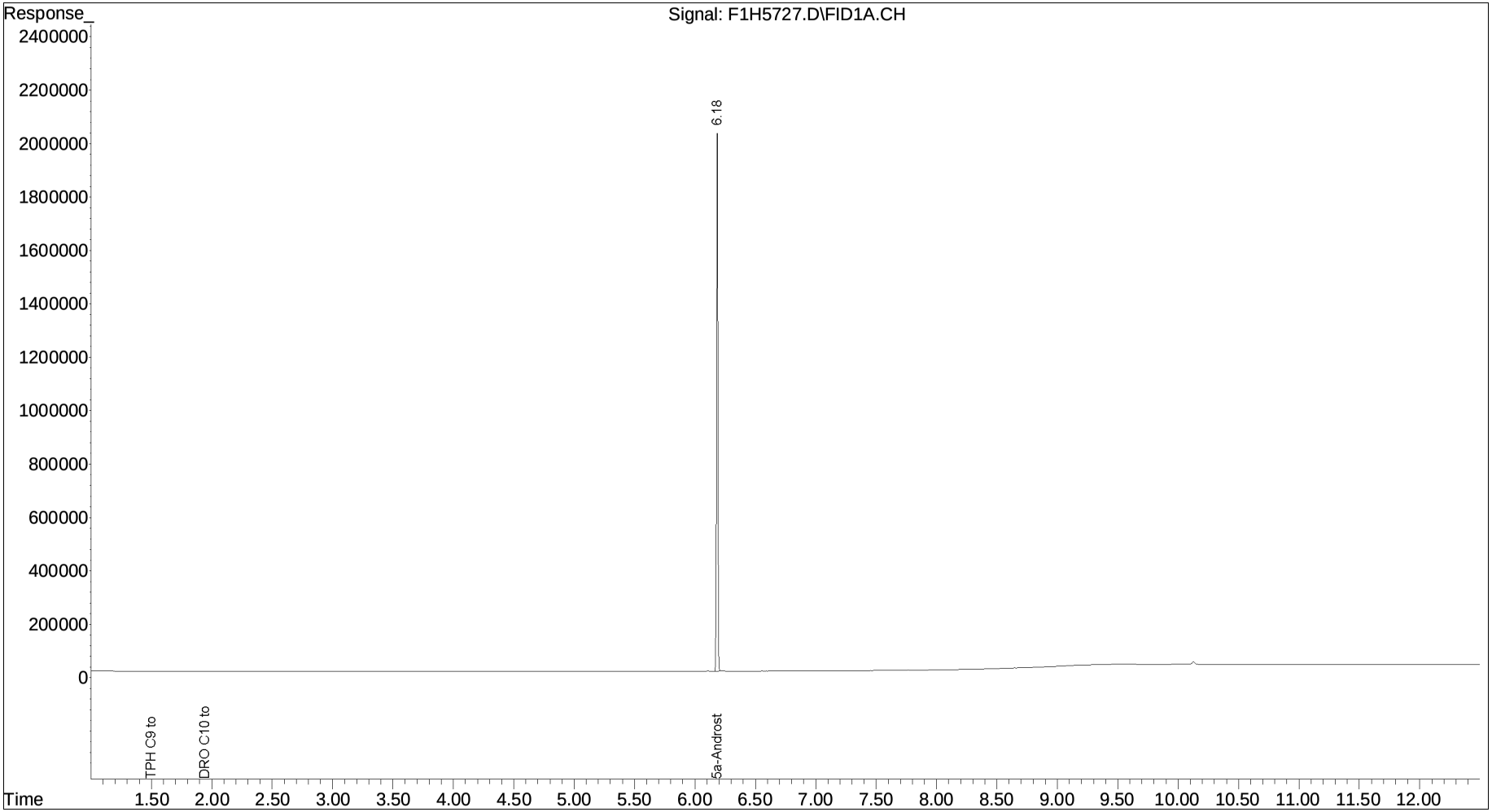
Quant Time: Jul 15 08:16:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.18 | 15079765 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 5121292 | 15.241 ug/mL |
| | Integration Range: | | 1.95 to | 8.35 minutes |
| 4) H | TPH C9 to C36 | 1.50 | 30976737 | 92.573 ug/mL |
| | Integration Range: | | 1.50 to | 10.32 minutes |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5727.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  15:53  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

Quant Time: Jul 15 08:16:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5739.D
Lab Smp Id: FSTD1001G  Client Smp ID: FSTD1001G
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  18:52  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 15 08:16:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 378.612 E3 | 1.1 | 99 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 345.810 E3 | -2.9 | 98 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 341.508 E3 | -2.1 | 98 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.977 | 7.7 | 99 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.658 | 9.9 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.733 | 3.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.793 | 1.9 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.844 | 1.7 | 99 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.888 | 7.2 | 99 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.918 | 2.4 | 99 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.923 | 2.8 | 98 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.930 | 3.1 | 98 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.955 | 3.6 | 98 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.946 | 5.5 | 98 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.960 | 5.0 | 97 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.952 | 5.8 | 97 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.948 | 6.6 | 97 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.883 | 9.0 | 99 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.892 | 4.1 | 98 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.881 | 4.9 | 98 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.881 | 4.9 | 98 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5739.D
Lab Smp Id: FSTD1001G  Client Smp ID: FSTD1001G
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  18:52  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

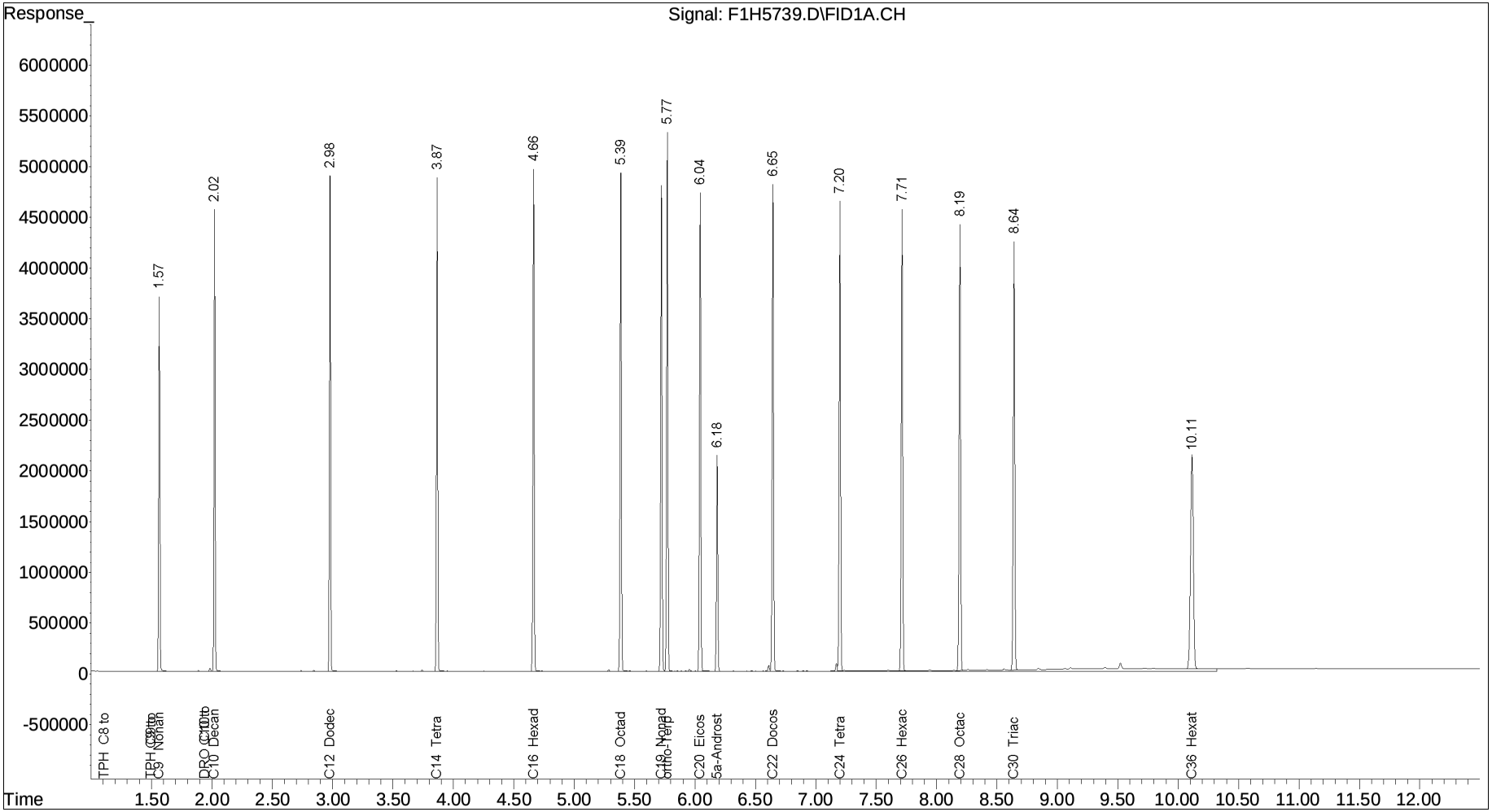
Quant Time: Jul 15 08:16:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.18 | 15508147 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 37861199 | 98.927 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 98.93% |
| 13) S ortho-Terphenyl ISTD | 5.77 | 37861199 | 92.305 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 92.31% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 345809942 | 1029.160 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 444609073 | |
| 4) H TPH C9 to C36 | 1.50 | 478111423 | 1428.817 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 568557714 | |
| 14) T C9 Nonane | 1.57 | 25526944 | 90.255 ug/mL |
| 15) TD C10 Decane | 2.02 | 28422298 | 97.009 ug/mL |
| 16) TD C12 Dodecane | 2.98 | 30733009 | 98.139 ug/mL |
| 17) TD C14 Tetradecane | 3.87 | 32708467 | 98.205 ug/mL |
| 18) TD C16 Hexadecane | 4.66 | 34440959 | 92.802 ug/mL |
| 19) TD C18 Octadecane | 5.39 | 35584195 | 97.496 ug/mL |
| 20) T C19 Nonadecane | 5.72 | 35797343 | 97.242 ug/mL |
| 21) TD C20 Eicosane | 6.04 | 36065065 | 96.888 ug/mL |
| 22) TD C22 Docosane | 6.65 | 37032565 | 96.376 ug/mL |
| 23) TD C24 Tetracosane | 7.20 | 36684303 | 94.520 ug/mL |
| 24) TD C26 Hexacosane | 7.71 | 37218267 | 94.987 ug/mL |
| 25) TD C28 Octacosane | 8.19 | 36920813 | 94.155 ug/mL |
| 26) T C30 Triacontane | 8.64 | 36747633 | 93.400 ug/mL |
| 27) T C36 Hexatriacontane | 10.11 | 34229560 | 90.982 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 345809942 | 959.555 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 444609073 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 478111423 | 1332.190 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 598405542 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 478111423 | 1332.190 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 568557714 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5739.D
Lab Smp Id: FSTD1001G  Client Smp ID: FSTD1001G
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 14 Jul 2011  18:52  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 15 08:16:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5754.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  9:23  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 15 10:01:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 329.950 | E3 | 13.8 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 301.673 | E3 | 10.2 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 298.668 | E3 | 10.7 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.972 | | 8.1 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.652 | | 10.7 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.724 | | 4.2 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.780 | | 3.5 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.828 | | 3.6 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.872 | | 8.9 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.904 | | 3.9 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.913 | | 3.9 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.923 | | 3.9 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.955 | | 3.6 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.953 | | 4.8 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.974 | | 3.7 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.970 | | 4.1 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.967 | | 4.7 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.899 | | 7.3 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.888 | | 4.5 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.879 | | 5.1 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.879 | | 5.1 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5754.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  9:23  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

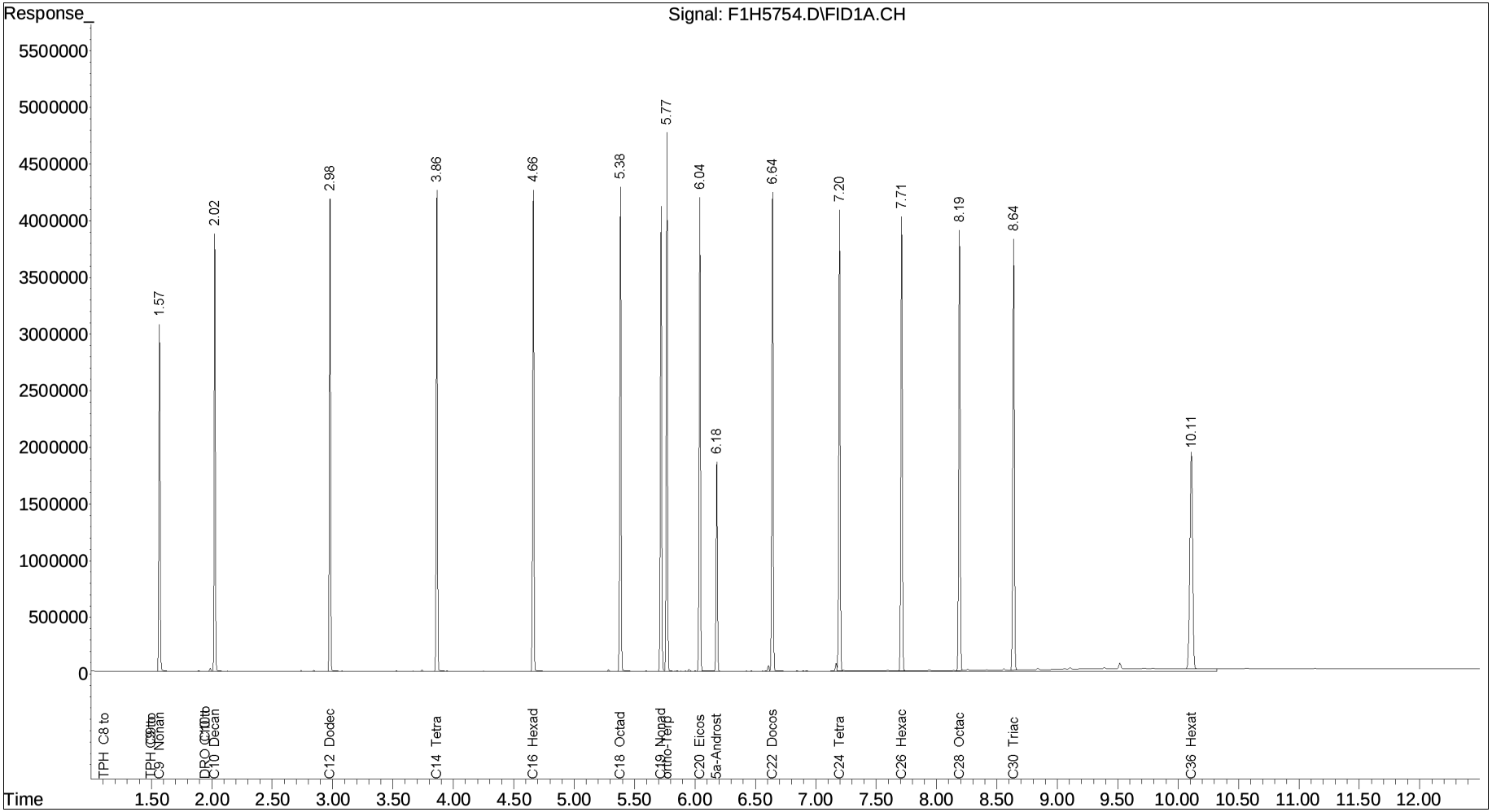
Quant Time: Jul 15 10:01:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.18 | 13584080 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 32995026 | 86.212 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 86.21% |
| 13) S ortho-Terphenyl ISTD | 5.77 | 32995026 | 91.836 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 91.84% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 301673397 | 897.806 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 387835502 | |
| 4) H TPH C9 to C36 | 1.50 | 418135085 | 1249.580 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 497578281 | |
| 14) T C9 Nonane | 1.57 | 22129443 | 89.325 ug/mL |
| 15) TD C10 Decane | 2.03 | 24592181 | 95.825 ug/mL |
| 16) TD C12 Dodecane | 2.98 | 26498880 | 96.604 ug/mL |
| 17) TD C14 Tetradecane | 3.86 | 28123371 | 96.399 ug/mL |
| 18) TD C16 Hexadecane | 4.66 | 29616354 | 91.105 ug/mL |
| 19) TD C18 Octadecane | 5.38 | 30715892 | 96.078 ug/mL |
| 20) T C19 Nonadecane | 5.72 | 30993179 | 96.116 ug/mL |
| 21) TD C20 Eicosane | 6.04 | 31333723 | 96.101 ug/mL |
| 22) TD C22 Docosane | 6.64 | 32432947 | 96.361 ug/mL |
| 23) TD C24 Tetracosane | 7.20 | 32365874 | 95.205 ug/mL |
| 24) TD C26 Hexacosane | 7.71 | 33062083 | 96.331 ug/mL |
| 25) TD C28 Octacosane | 8.19 | 32932093 | 95.879 ug/mL |
| 26) T C30 Triacontane | 8.64 | 32823974 | 95.245 ug/mL |
| 27) T C36 Hexatriacontane | 10.11 | 30515092 | 92.598 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 301673397 | 955.651 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 387835502 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 418135085 | 1330.097 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 524370206 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 418135085 | 1330.097 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 497578281 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5754.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  9:23  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 15 10:01:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5755.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  9:43  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

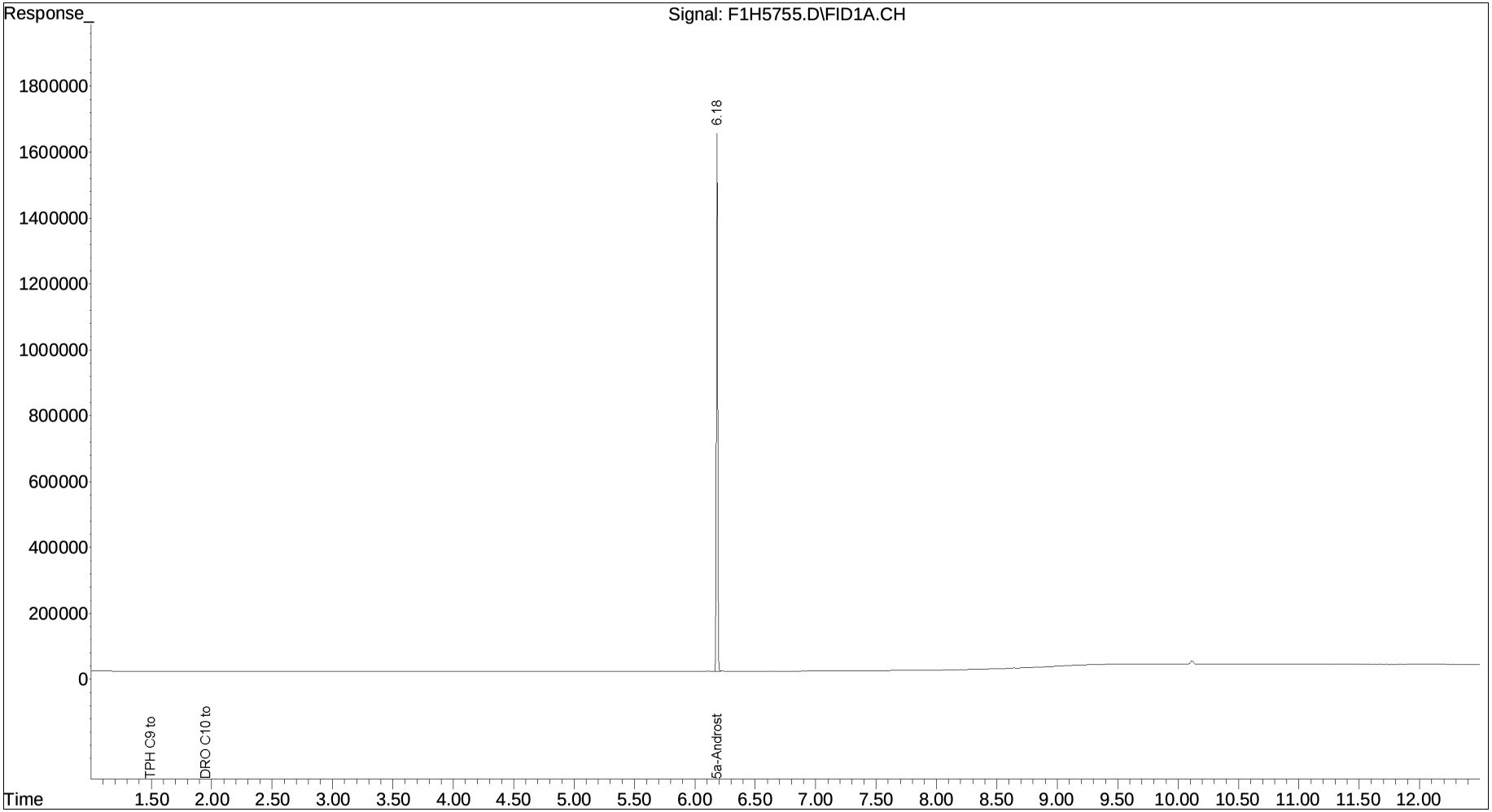
Quant Time: Jul 15 12:41:19 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.18 | 12287400 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 3854827 | 11.472 ug/mL |
| | Integration Range: | | 1.95 to | 8.35 minutes |
| | Raw Range Area: | | 16142227 | |
| 4) H | TPH C9 to C36 | 1.50 | 25359601 | 75.786 ug/mL |
| | Integration Range: | | 1.50 to | 10.32 minutes |
| | Raw Range Area: | | 37647001 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5755.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  9:43  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

Quant Time: Jul 15 12:41:19 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5761.D
Lab Smp Id: FSTD1001I  Client Smp ID: FSTD1001I
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  11:29  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 15 12:41:40 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 314.869 E3 | 17.7 | 95 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 289.851 E3 | 13.7 | 96 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 287.866 E3 | 14.0 | 96 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.973 | 8.0 | 95 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.671 | 8.1 | 98 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.744 | 1.6 | 98 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.795 | 1.6 | 97 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.838 | 2.4 | 96 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.876 | 8.5 | 96 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.905 | 3.8 | 95 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.911 | 4.1 | 95 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.921 | 4.1 | 95 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.955 | 3.6 | 95 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.956 | 4.5 | 96 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.983 | 2.8 | 96 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.985 | 2.6 | 97 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.988 | 2.7 | 97 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.927 | 4.4 | 98 | 0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.896 | 3.7 | 96 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.890 | 3.9 | 96 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.890 | 3.9 | 96 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5761.D
Lab Smp Id: FSTD1001I  Client Smp ID: FSTD1001I
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  11:29  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

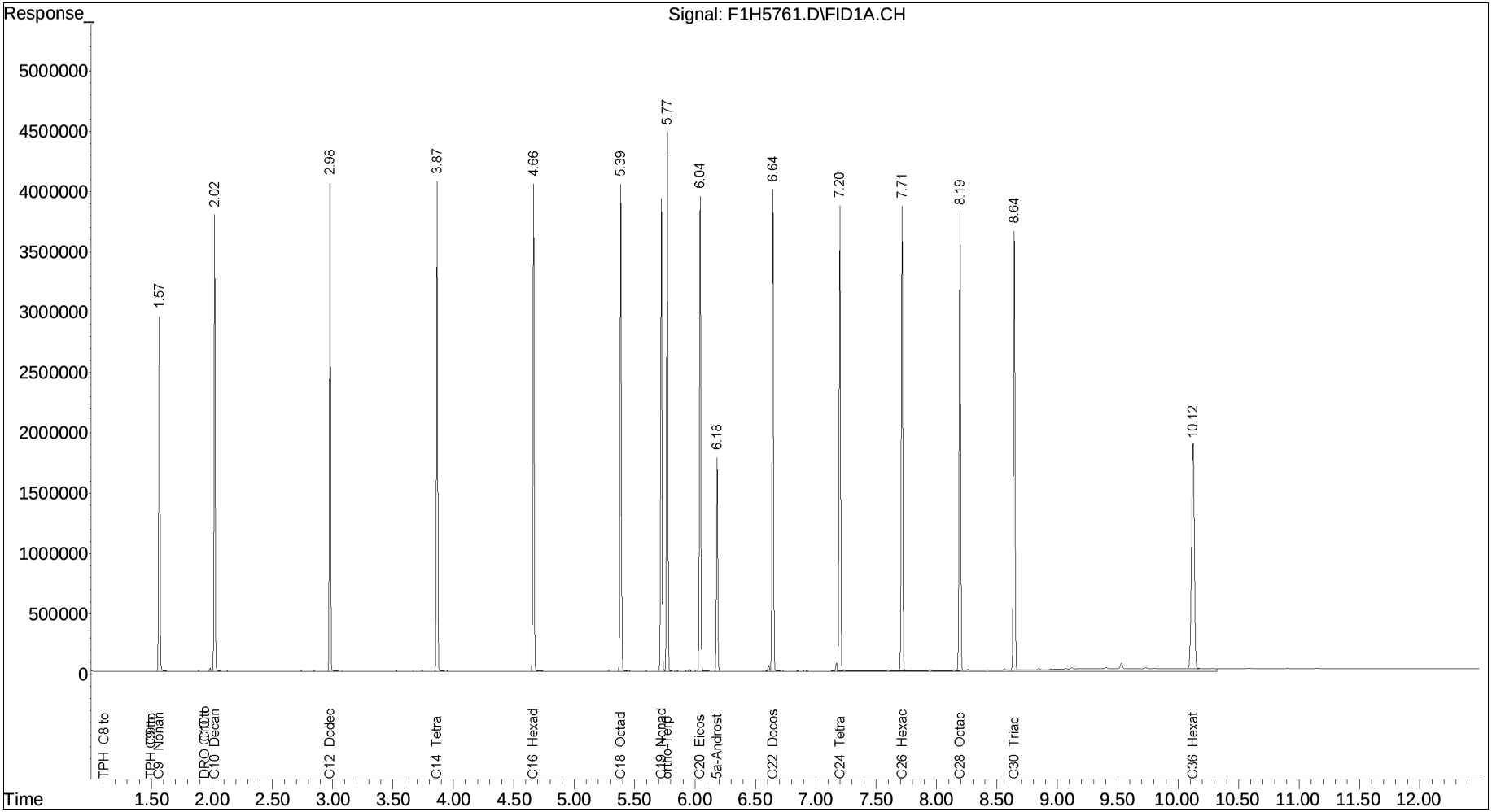
Quant Time: Jul 15 12:41:40 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.18 | 12943247 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.77 | 31486948 | 82.271 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 82.27% |
| 13) S | ortho-Terphenyl ISTD | 5.77 | 31486948 | 91.977 ug/mL |
| Spiked Amount | 100.000 | | Recovery | = 91.98% |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 289851176 | 862.622 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 371991196 | |
| 4) H | TPH C9 to C36 | 1.50 | 403012785 | 1204.387 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 479138961 | |
| 14) T | C9 Nonane | 1.57 | 21720063 | 92.013 ug/mL |
| 15) TD | C10 Decane | 2.02 | 24061255 | 98.399 ug/mL |
| 16) TD | C12 Dodecane | 2.98 | 25740789 | 98.486 ug/mL |
| 17) TD | C14 Tetradecane | 3.87 | 27118748 | 97.558 ug/mL |
| 18) TD | C16 Hexadecane | 4.66 | 28349309 | 91.525 ug/mL |
| 19) TD | C18 Octadecane | 5.39 | 29268053 | 96.082 ug/mL |
| 20) T | C19 Nonadecane | 5.72 | 29486599 | 95.972 ug/mL |
| 21) TD | C20 Eicosane | 6.04 | 29794996 | 95.906 ug/mL |
| 22) TD | C22 Docosane | 6.64 | 30885894 | 96.308 ug/mL |
| 23) TD | C24 Tetracosane | 7.20 | 30940159 | 95.517 ug/mL |
| 24) TD | C26 Hexacosane | 7.71 | 31810078 | 97.272 ug/mL |
| 25) TD | C28 Octacosane | 8.19 | 31881895 | 97.417 ug/mL |
| 26) T | C30 Triacontane | 8.64 | 31965002 | 97.344 ug/mL |
| 27) T | C36 Hexatriacontane | 10.12 | 29989944 | 95.510 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 289851176 | 963.661 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 371991196 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 403012785 | 1345.465 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 505031232 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 403012785 | 1345.465 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 479138961 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5761.D
Lab Smp Id: FSTD1001I  Client Smp ID: FSTD1001I
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  11:29  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 15 12:41:40 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1100
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_S

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **MB-60160** SampType: **MBLK** TestCode: **CTETPH_S** Prep Date: **07/01/11 16:50** Run ID: **F1_110712A**
Client ID: **MB-60160** Batch ID: **60160** Units: **mg/Kg** Analysis Date: **07/12/11 9:02** SeqNo: **1560814**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 2.6 | 14 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 4.204 | | 1.7 | 6.666 | 0 | 63.1 | 50 | 150 | 0 | | | |

Sample ID: **MB-60418** SampType: **MBLK** TestCode: **CTETPH_S** Prep Date: **07/14/11 8:35** Run ID: **F1_110714A**
Client ID: **MB-60418** Batch ID: **60418** Units: **mg/Kg** Analysis Date: **07/14/11 12:46** SeqNo: **1564025**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 1.3 | 7.0 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 3.098 | | 0.83 | 3.333 | 0 | 93.0 | 50 | 150 | 0 | | | |

Sample ID: **LCS-60160** SampType: **LCS** TestCode: **CTETPH_S** Prep Date: **07/01/11 16:50** Run ID: **F1_110712A**
Client ID: **LCS-60160** Batch ID: **60160** Units: **mg/Kg** Analysis Date: **07/12/11 9:22** SeqNo: **1560815**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 171.0 | 2.6 | 14 | 333.3 | 0 | 51.3 | 60 | 140 | 0 | | | S |
| Surrogate: ortho-Terphenyl | 3.931 | | 1.7 | 6.666 | 0 | 59.0 | 50 | 150 | 0 | | | |

Sample ID: **LCS-60418** SampType: **LCS** TestCode: **CTETPH_S** Prep Date: **07/14/11 8:35** Run ID: **F1_110714A**
Client ID: **LCS-60418** Batch ID: **60418** Units: **mg/Kg** Analysis Date: **07/14/11 13:06** SeqNo: **1564026**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 145.5 | 1.3 | 7.0 | 166.7 | 0 | 87.3 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 3.154 | | 0.83 | 3.333 | 0 | 94.6 | 50 | 150 | 0 | | | |

Sample ID: **K1100-05AMS** SampType: **MS** TestCode: **CTETPH_S** Prep Date: **07/01/11 16:50** Run ID: **F1_110712A**
Client ID: **06SB2S-1820-201106** Batch ID: **60160** Units: **mg/Kg** Analysis Date: **07/12/11 11:05** SeqNo: **1560820**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1365 | 2.9 | 16 | 371.1 | 544.1 | 221 | 50 | 150 | 0 | | | S |
| Surrogate: ortho-Terphenyl | 4.859 | | 1.8 | 7.422 | 0 | 65.5 | 50 | 150 | 0 | | | |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
LOD - Limit of Detection
LOQ - Limit of Quantitation
B - Analyte detected in the associated Method Blank
^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1100
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **MB-60048** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **06/28/11 11:03** Run ID: **F1_110629B**
Client ID: **MB-60048** Batch ID: **60048** Units: **mg/L** Analysis Date: **06/29/11 16:12** SeqNo: **1560999**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.07788 | | 0.0025 | 0.1000 | 0 | 77.9 | 50 | 150 | 0 | | | |

Sample ID: **LCS-60048** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **06/28/11 11:03** Run ID: **F1_110629B**
Client ID: **LCS-60048** Batch ID: **60048** Units: **mg/L** Analysis Date: **06/29/11 16:32** SeqNo: **1561000**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.896 | 0.018 | 0.10 | 5.000 | 0 | 77.9 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.08381 | | 0.0025 | 0.1000 | 0 | 83.8 | 50 | 150 | 0 | | | |



**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1100
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_S

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **K1100-05AMSRE** SampType: **MS** TestCode: **CTETPH_S** Prep Date: **07/14/11 8:35** Run ID: **F1_110715A**
Client ID: **06SB2S-1820-201106** Batch ID: **60418** Units: **mg/Kg** Analysis Date: **07/15/11 10:23** SeqNo: **1564071**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1381 | 5.8 | 31 | 184.8 | 1384 | 0 | 50 | 150 | 0 | | | S |
| Surrogate: ortho-Terphenyl | 3.042 | | 3.7 | 3.696 | 0 | 82.3 | 50 | 150 | 0 | | | |

Sample ID: **K1100-05AMSD** SampType: **MSD** TestCode: **CTETPH_S** Prep Date: **07/01/11 16:50** Run ID: **F1_110712A**
Client ID: **06SB2S-1820-201106** Batch ID: **60160** Units: **mg/Kg** Analysis Date: **07/12/11 11:45** SeqNo: **1560821**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1016 | 2.9 | 15 | 366.5 | 544.1 | 129 | 50 | 150 | 1365 | 29.3 | 30 | |
| Surrogate: ortho-Terphenyl | 5.468 | | 1.8 | 7.330 | 0 | 74.6 | 50 | 150 | 0 | | | |

Sample ID: **K1100-05AMSDRE** SampType: **MSD** TestCode: **CTETPH_S** Prep Date: **07/14/11 8:35** Run ID: **F1_110715A**
Client ID: **06SB2S-1820-201106** Batch ID: **60418** Units: **mg/Kg** Analysis Date: **07/15/11 10:44** SeqNo: **1564072**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1360 | 5.8 | 31 | 186.7 | 1384 | 0 | 50 | 150 | 1381 | 1.53 | 30 | S |
| Surrogate: ortho-Terphenyl | 2.570 | | 3.7 | 3.733 | 0 | 68.8 | 50 | 150 | 0 | | | |

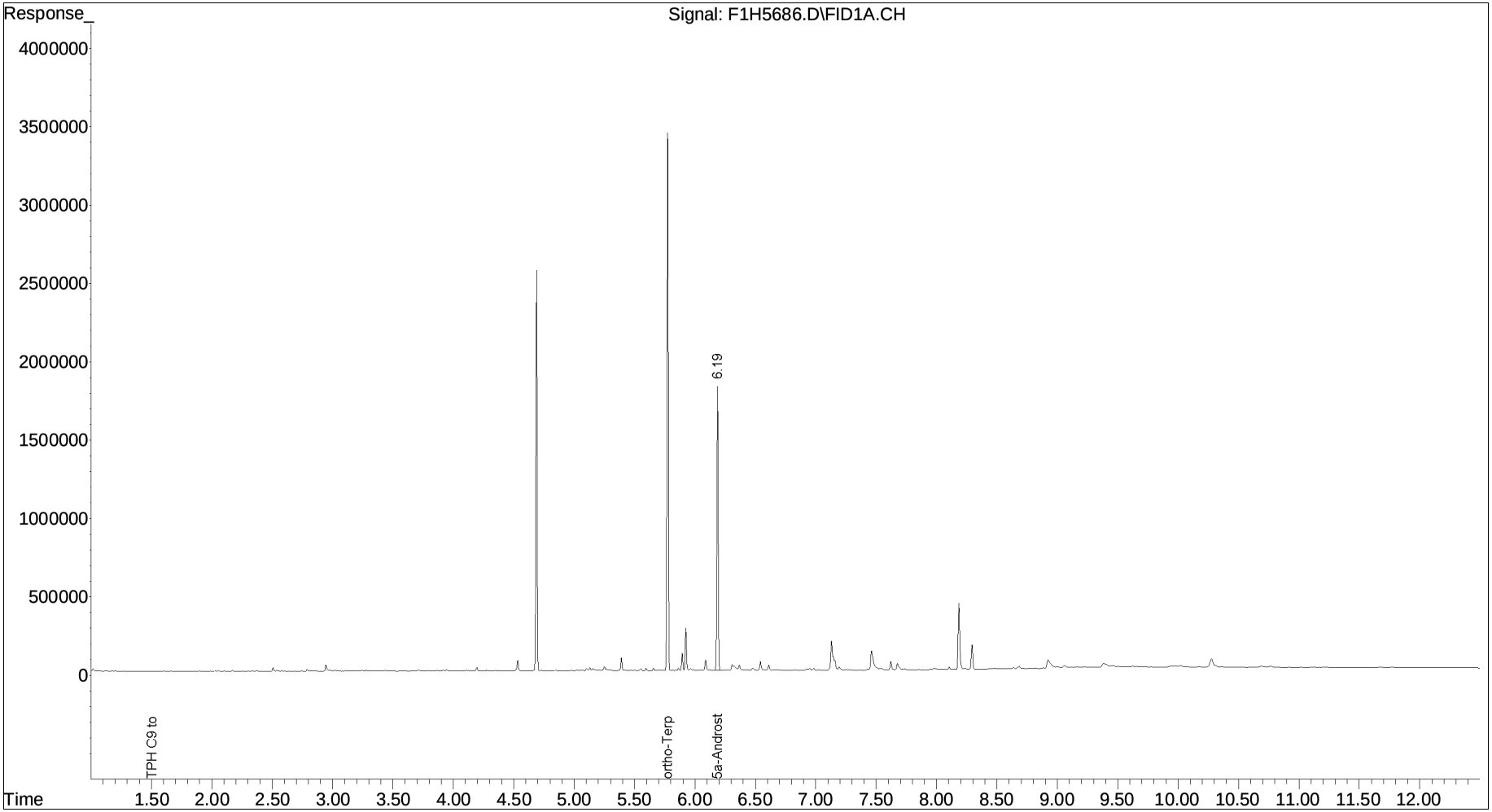


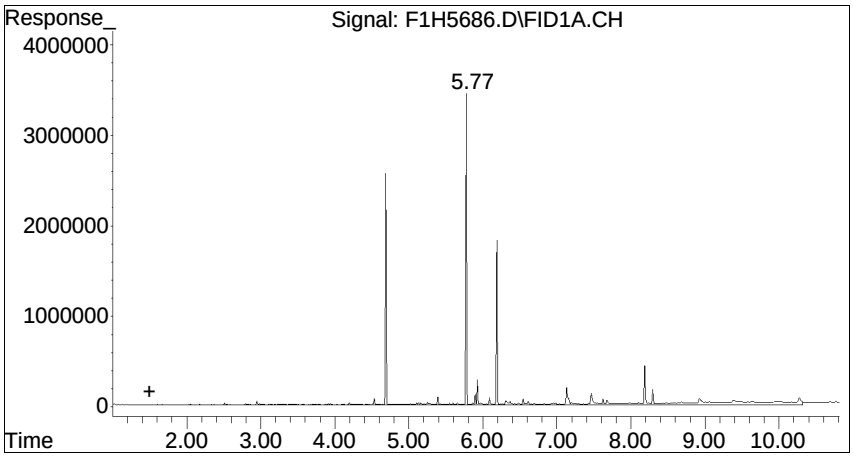
**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

```
Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5686.D
Lab Smp Id: MB-60160      BN: 60160    Client Smp ID: MB-60160
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011   9:02                      Operator: TM
ALS Vial  : 31   Sample Multiplier: 1

Quant Time: Jul 12 11:12:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.19       13277210   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.77       24134194   63.060 ug/mL
Spiked Amount    100.000                       Recovery   =   63.06%

 Target Compounds
 4) H   TPH C9 to C36                 1.50       69410561  207.431 ug/mL
           Integration Range:                     1.50 to 10.32 minutes
           Raw Range Area:                     130629009
           Corrected Range Area (IS,SS):        93217606
           Instrument Blank Area (F1H5685):     23807045

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5686.D
Lab Smp Id: MB-60160 BN: 60160 Client Smp ID: MB-60160
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 9:02 Operator: TM
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 12 11:12:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 69410561
Conc: 207.43 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5716.D
Lab Smp Id: MB-60418 BN: 60418 Client Smp ID: MB-60418
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 12:46 Operator: TM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Jul 15 13:13:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.18 | 14261775 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 35573776 | 92.950 ug/mL |

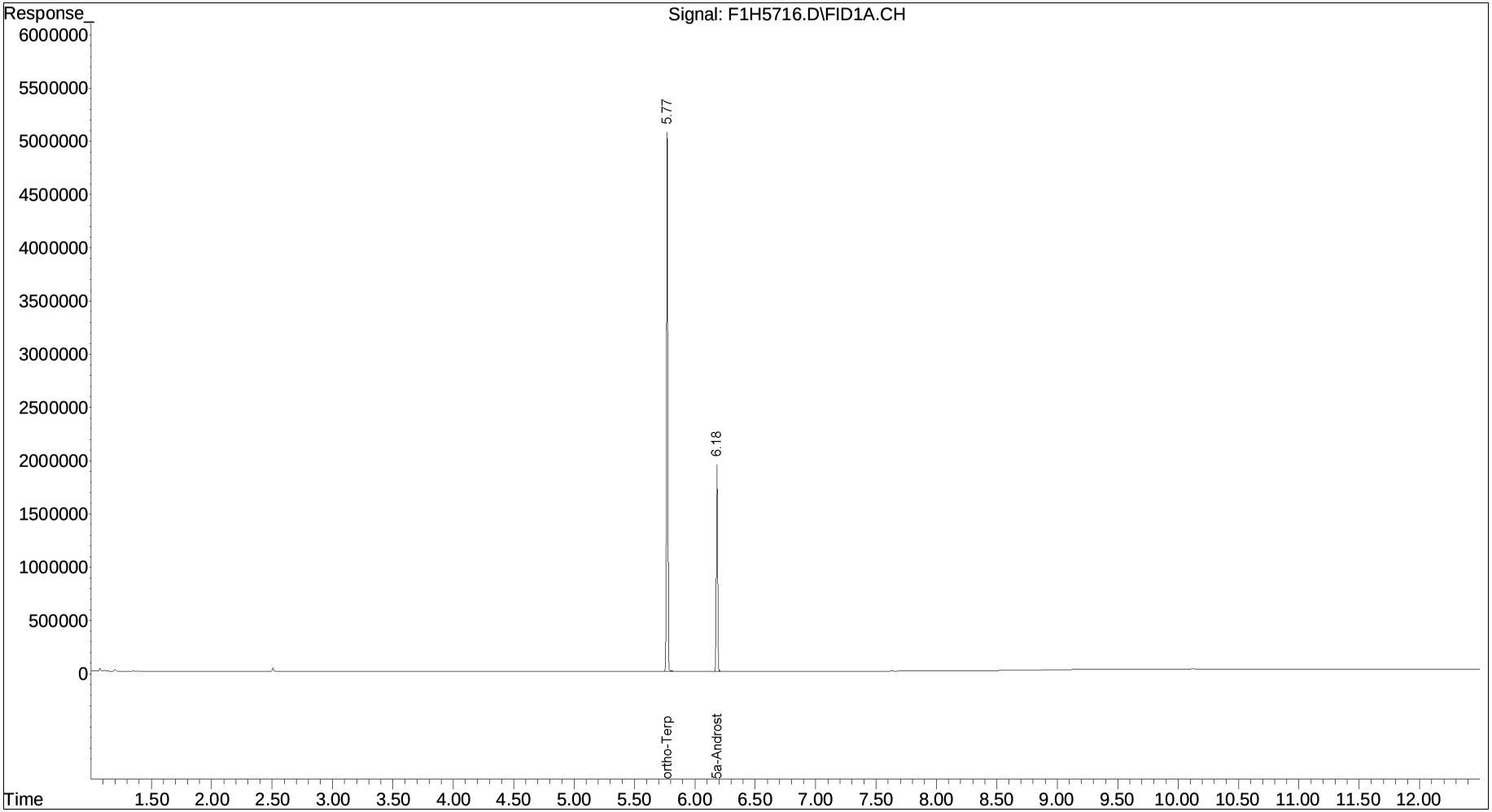
Spiked Amount 100.000 Recovery = 92.95%

Target Compounds

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5716.D
Lab Smp Id: MB-60418 BN: 60418 Client Smp ID: MB-60418
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 12:46 Operator: TM
ALS Vial : 2 Sample Multiplier: 1

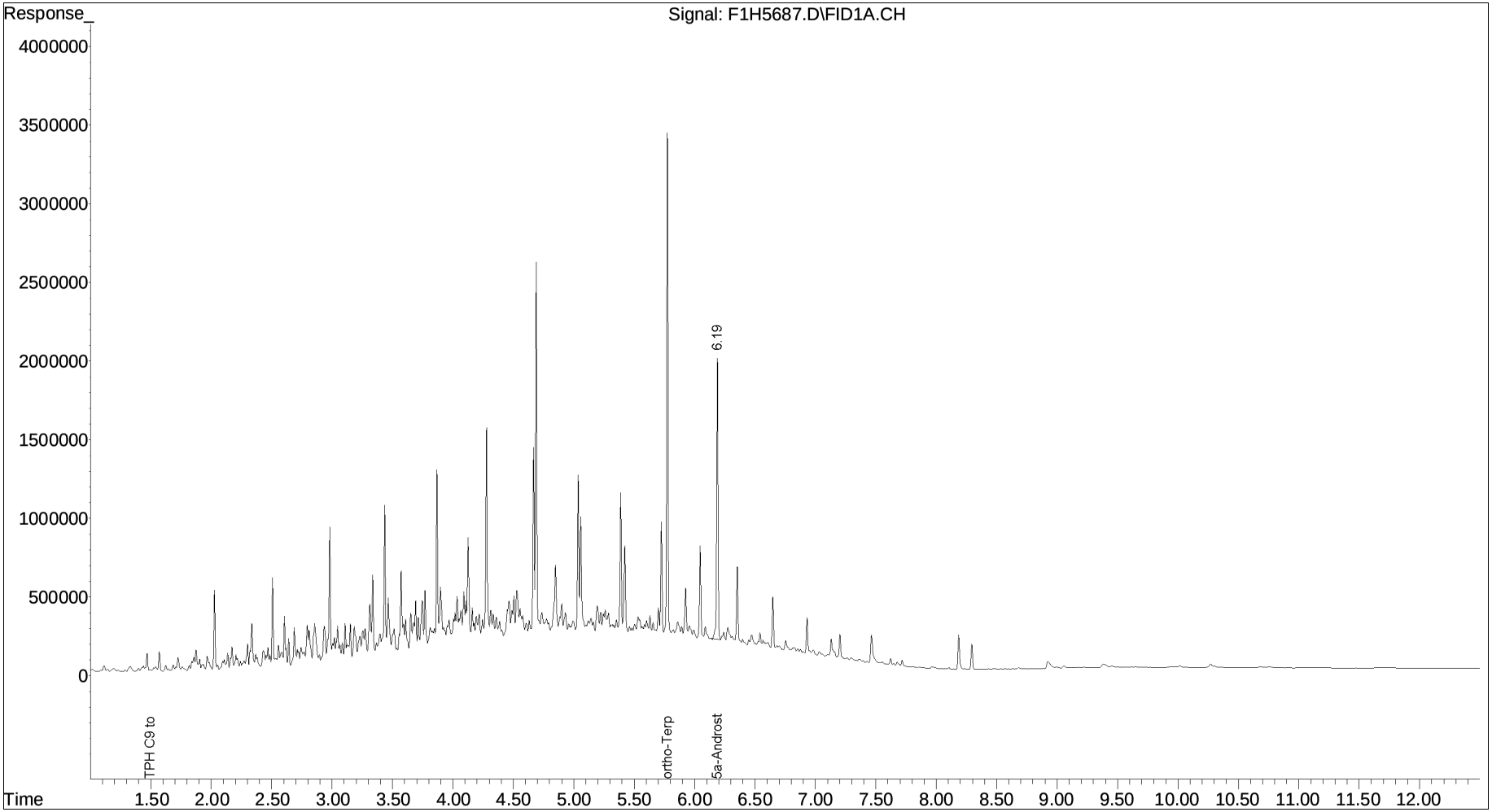
Quant Time: Jul 15 13:13:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

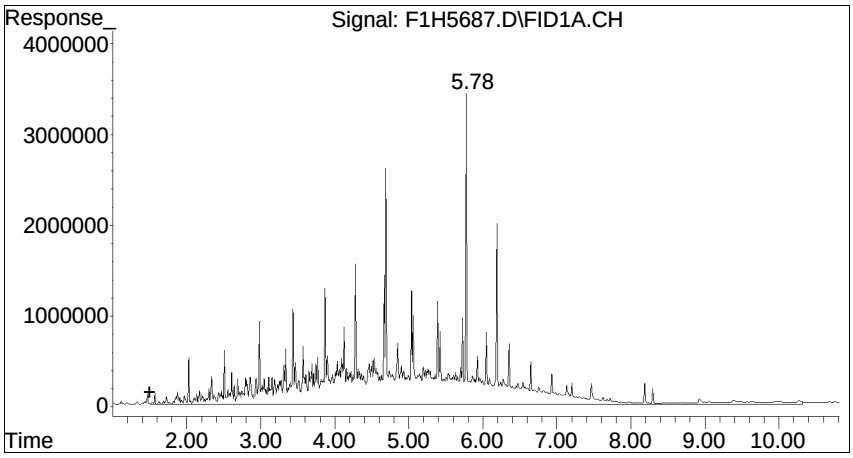


```
Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5687.D
Lab Smp Id: LCS-60160      BN: 60160   Client Smp ID: LCS-60160
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 12 Jul 2011   9:22                      Operator: TM
ALS Vial  : 32   Sample Multiplier: 1

Quant Time: Jul 12 16:09:20 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.19       14037065   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.78       22567064   58.965 ug/mL
Spiked Amount    100.000                       Recovery   =   58.97%

 Target Compounds
 4) H   TPH C9 to C36                 1.50      858524347 2565.665 ug/mL
           Integration Range:                      1.50 to 10.32 minutes
           Raw Range Area:                      918935521
           Corrected Range Area (IS,SS):        882331392
           Instrument Blank Area (F1H5685):      23807045

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5687.D
Lab Smp Id: LCS-60160 BN: 60160 Client Smp ID: LCS-60160
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 9:22 Operator: TM
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 12 16:09:20 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 858524347
Conc: 2565.67 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5717.D
Lab Smp Id: LCS-60418 BN: 60418 Client Smp ID: LCS-60418
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 13:06 Operator: TM
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 15 13:13:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.19 | 15236617 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.77 | 36218192 | 94.634 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 94.63% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 1460471508 | 4364.560 ug/mL |

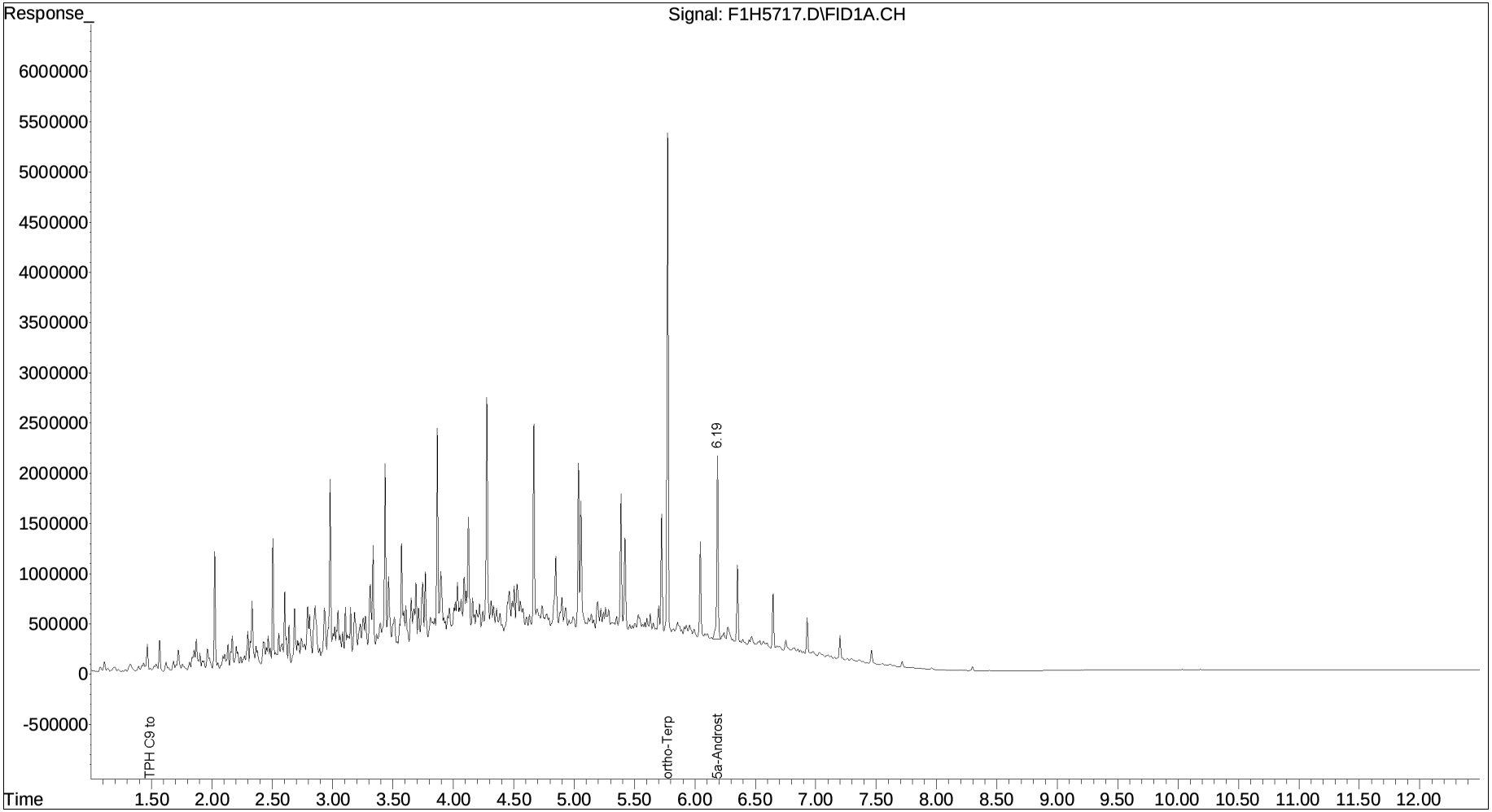
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 1536713442
Corrected Range Area (IS,SS): 1485258633
Instrument Blank Area (F1H5715): 24787125

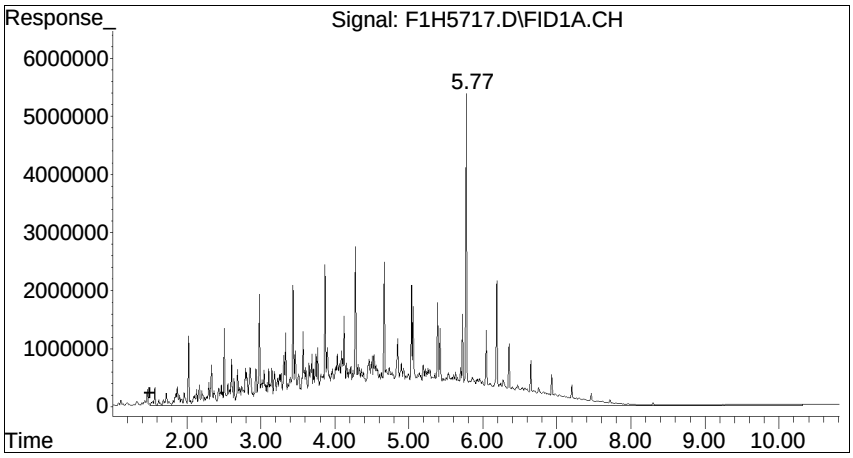
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5717.D
Lab Smp Id: LCS-60418 BN: 60418 Client Smp ID: LCS-60418
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 13:06 Operator: TM
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Jul 15 13:13:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 1460471508
Conc: 4364.56 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5692.D
Lab Smp Id: K1100-05AMS BN: 60160 Client Smp ID: 06SB2S-1820-20110621MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 11:05 Operator: TM
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jul 12 16:09:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

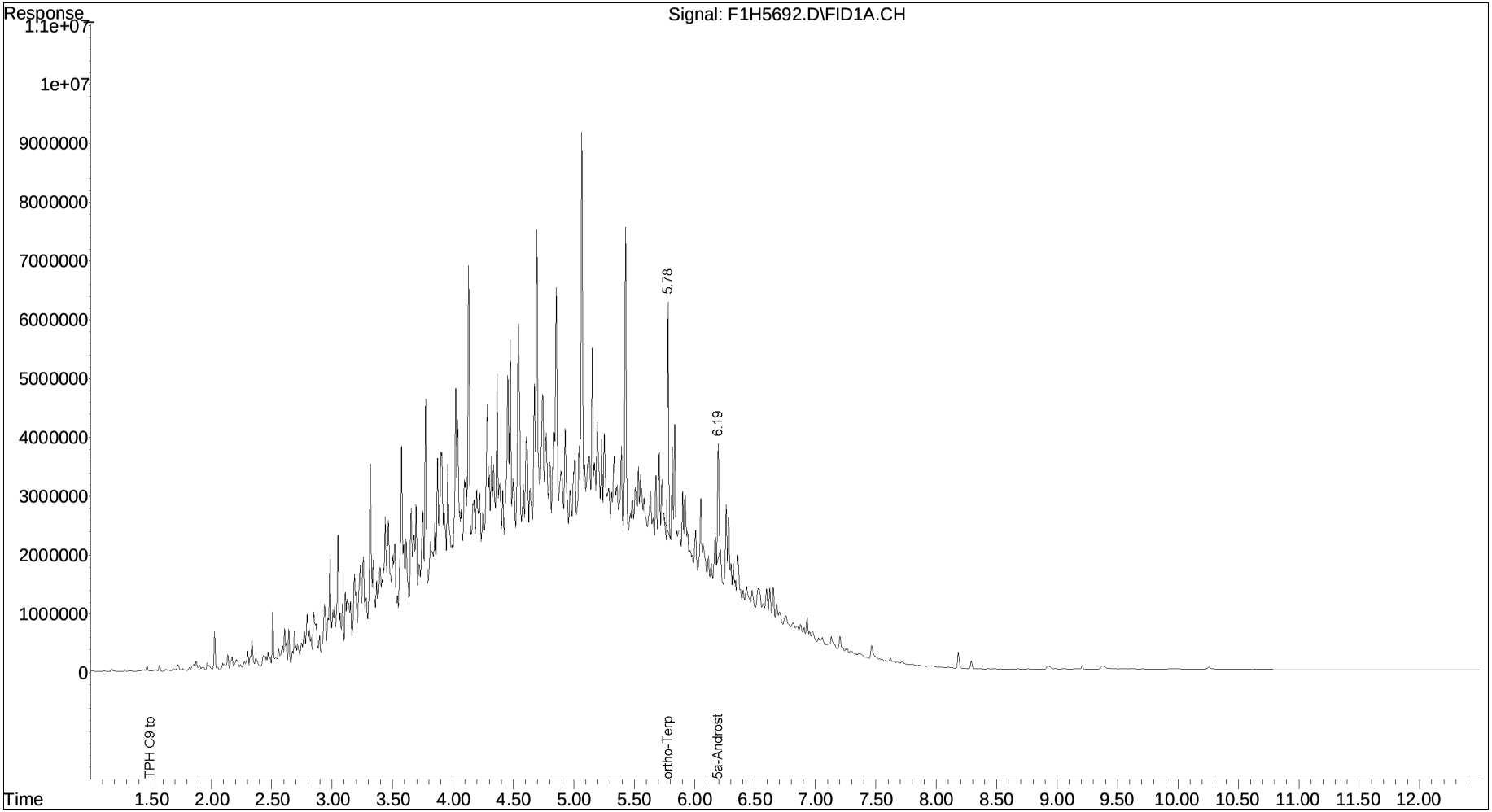
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.20 | 16362039 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 25054931 | 65.465 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 65.47% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 6152387038 | 18386.158 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 6217611053 | |
| Corrected Range Area (IS,SS): | | 6176194083 | |
| Instrument Blank Area (F1H5685): | | 23807045 | |

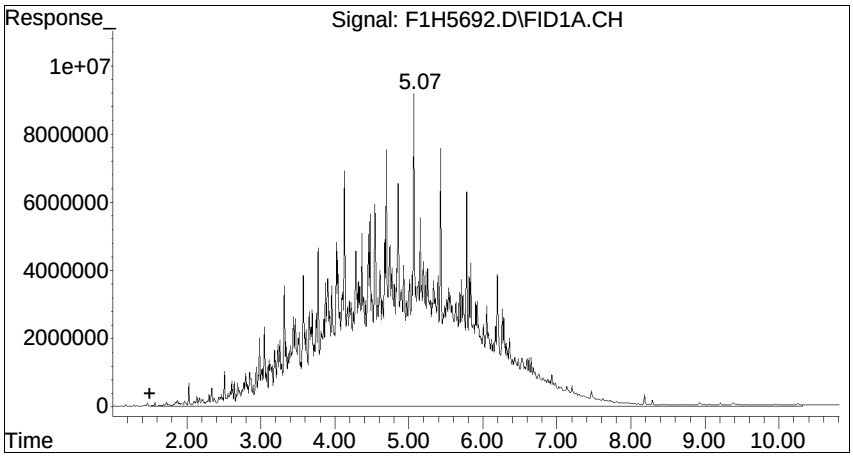
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5692.D
Lab Smp Id: K1100-05AMS BN: 60160 Client Smp ID: 06SB2S-1820-20110621MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 11:05 Operator: TM
ALS Vial : 37 Sample Multiplier: 1

Quant Time: Jul 12 16:09:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 6152387038
Conc: 18386.16 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5694.D
Lab Smp Id: K1100-05AMSD BN: 60160Client Smp ID: 06SB2S-1820-20110621MSD
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 11:45 Operator: TM
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Jul 12 16:09:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 15239439 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 28545945 | 74.587 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 74.59% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 4638505015 | 13861.984 ug/mL |

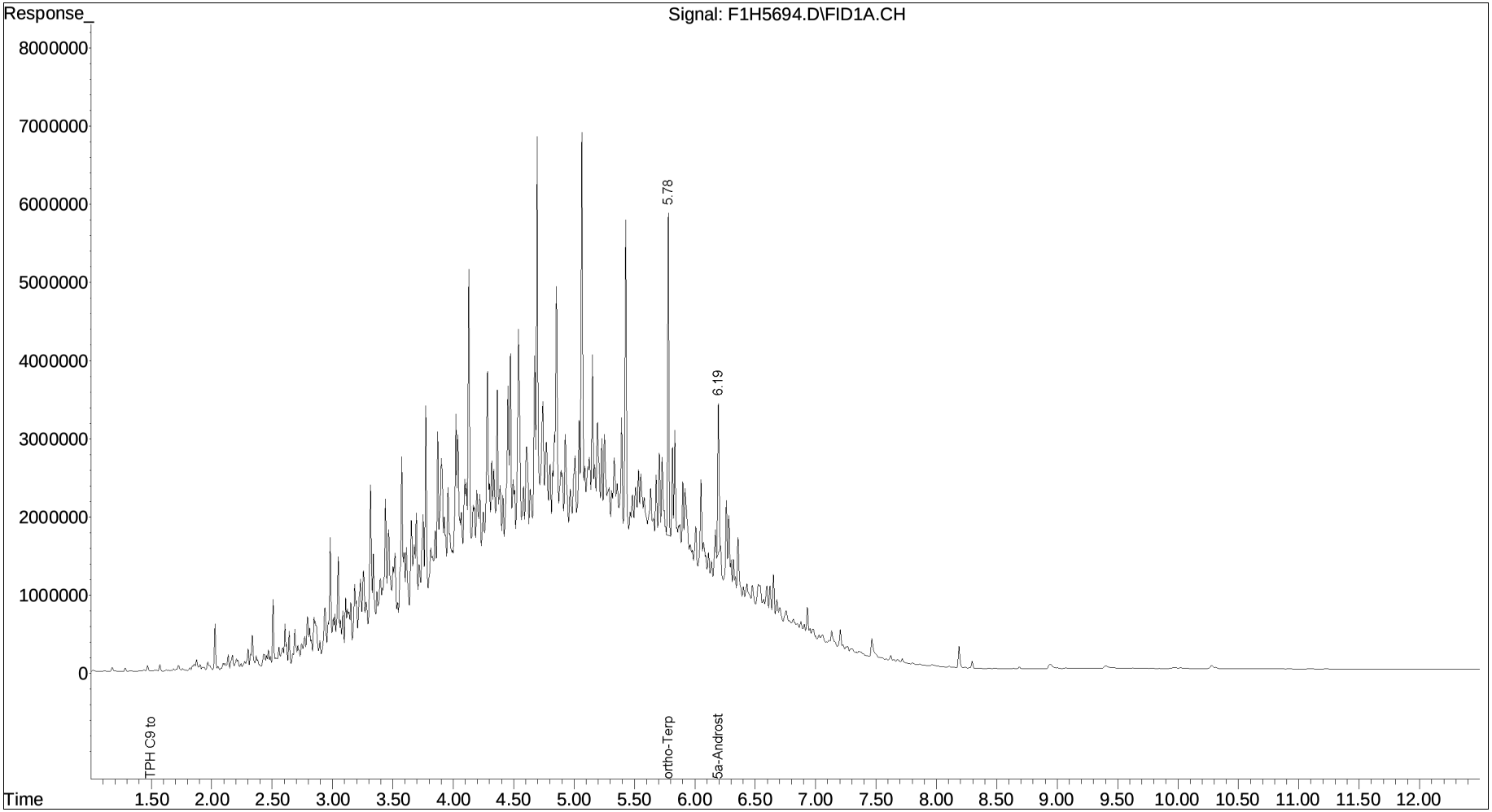
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 4706097443
Corrected Range Area (IS,SS): 4662312060
Instrument Blank Area (F1H5685): 23807045

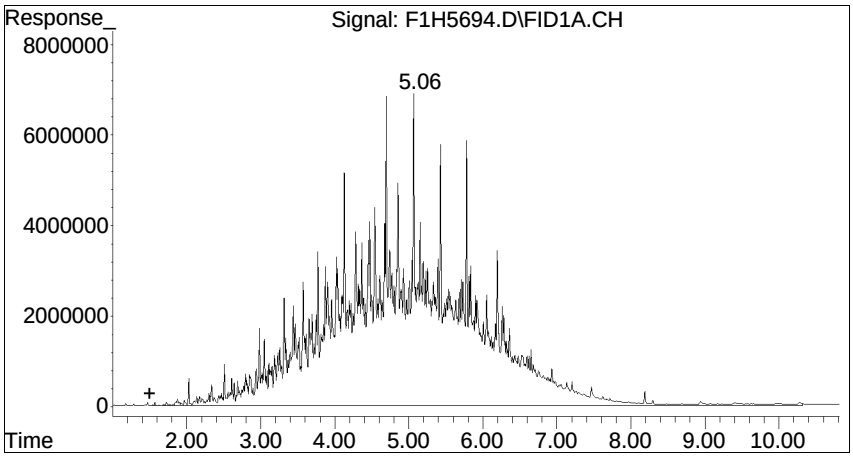
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5694.D
Lab Smp Id: K1100-05AMSD BN: 60160Client Smp ID: 06SB2S-1820-20110621MSD
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 11:45 Operator: TM
ALS Vial : 38 Sample Multiplier: 1

Quant Time: Jul 12 16:09:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25





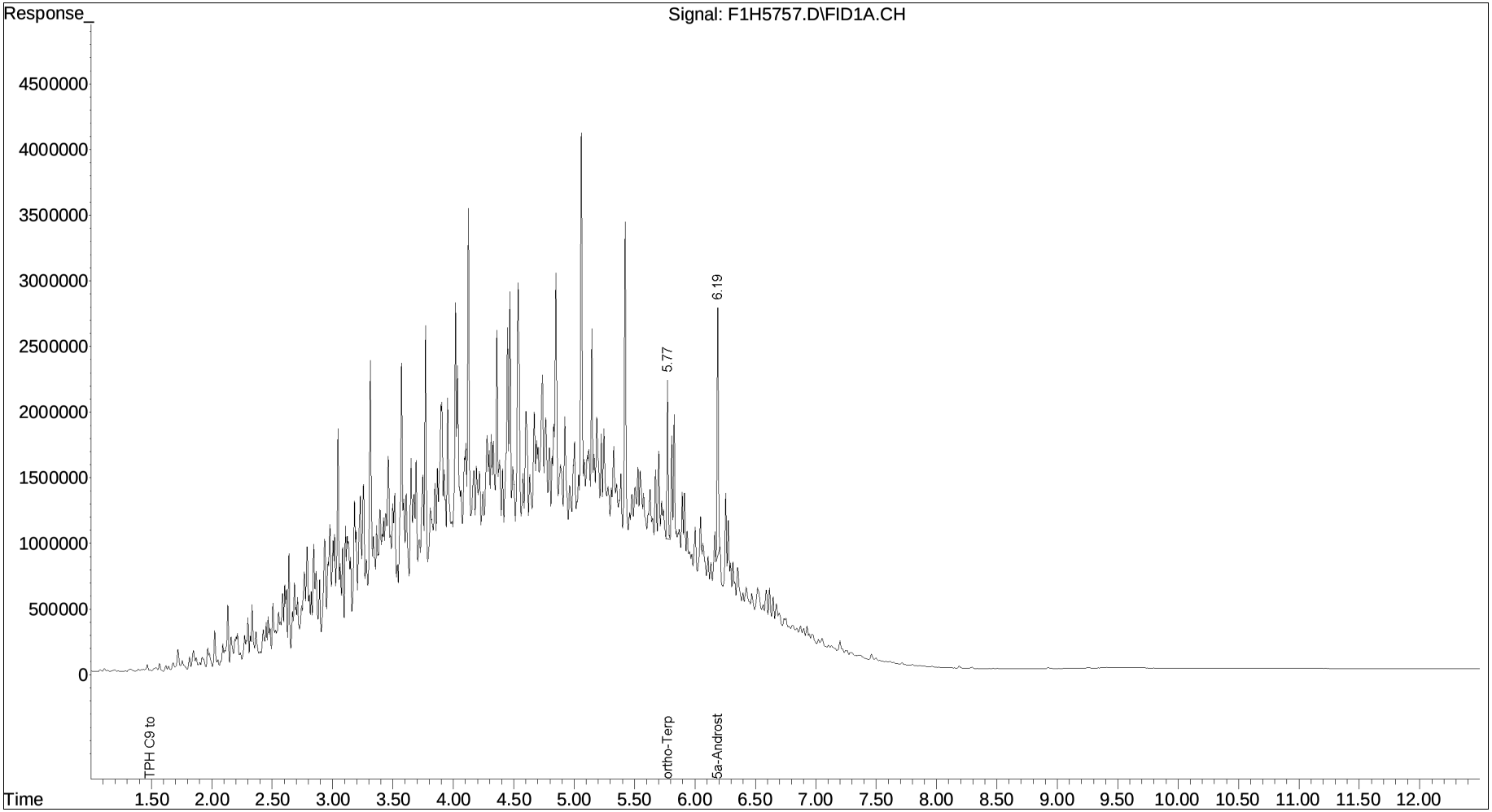

#4 TPH C9 to C36

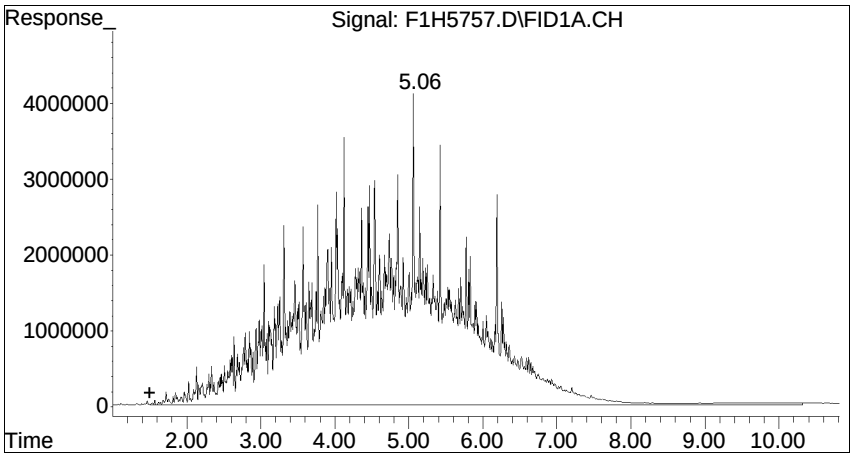
R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 4638505015
Conc: 13861.98 ug/mL m

```
Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5757.D
Lab Smp Id: K1100-05AREMS      BN: 60418lient Smp ID: 06SB2S-1820-20110621REMS
Misc      : TPH F 4X DIL               Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 15 Jul 2011  10:23                      Operator: TM
ALS Vial  : 17   Sample Multiplier: 1

Quant Time: Jul 15 12:47:35 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.19       14602116   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.77        7872524   20.570 ug/mL
Spiked Amount    100.000                       Recovery   =   20.57%

 Target Compounds
 4) H   TPH C9 to C36                 1.50     3126181451 9342.466 ug/mL
           Integration Range:                      1.50 to 10.32 minutes
           Raw Range Area:                    3174015692
           Corrected Range Area (IS,SS):      3151541052
           Instrument Blank Area (F1H5755):     25359601

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5757.D
Lab Smp Id: K1100-05AREMS BN: 60418lient Smp ID: 06SB2S-1820-20110621REMS
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 15 Jul 2011 10:23 Operator: TM
ALS Vial : 17 Sample Multiplier: 1

Quant Time: Jul 15 12:47:35 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 3126181451
Conc: 9342.47 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5758.D
Lab Smp Id: K1100-05AREMSD BN: 60418ient Smp ID: 06SB2S-1820-20110621REMS
D
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 15 Jul 2011 10:44 Operator: TM
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 15 12:47:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 17714305 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 6585248 | 17.206 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 17.21% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 3048241437 | 9109.546 ug/mL |

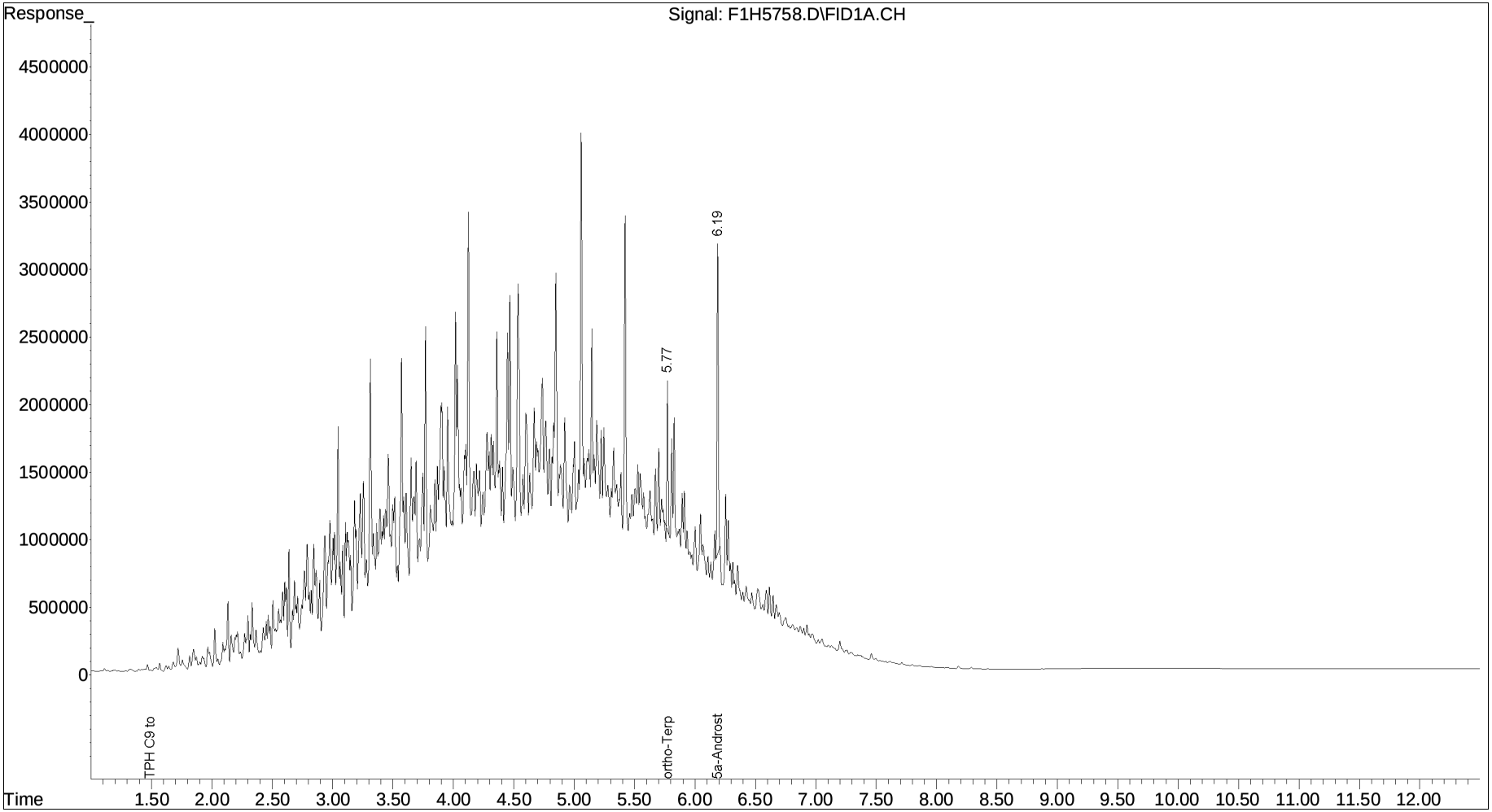
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 3097900591
Corrected Range Area (IS,SS): 3073601038
Instrument Blank Area (F1H5755): 25359601

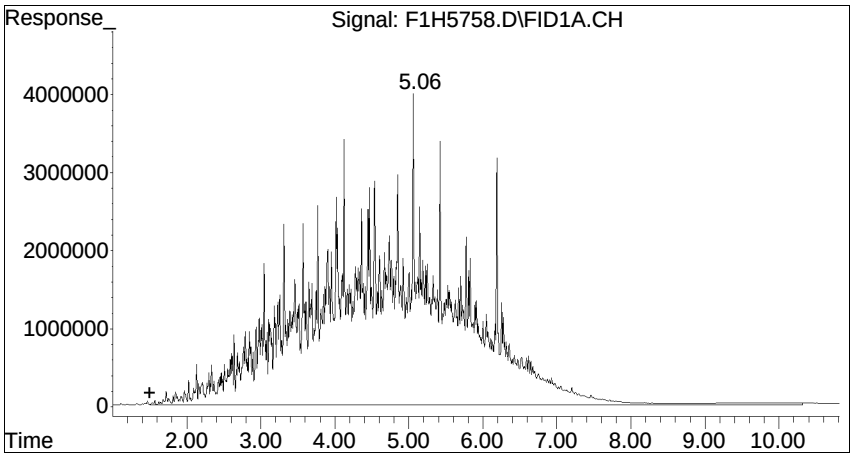
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5758.D
Lab Smp Id: K1100-05AREMSD BN: 60418ient Smp ID: 06SB2S-1820-20110621REMSD
Misc : TPH F 4X DIL Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 15 Jul 2011 10:44 Operator: TM
ALS Vial : 18 Sample Multiplier: 1

Quant Time: Jul 15 12:47:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 3048241437
Conc: 9109.55 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5568.D
Lab Smp Id: MB-60048 BN: 60048 Client Smp ID: MB-60048
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 29 Jun 2011 16:12 Operator: TM
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Jun 30 08:08:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.20 | 12400201 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| 2) S | ortho-Terphenyl | 5.78 | 29807805 | 77.884 ug/mL |
| Spiked Amount | 100.000 | | Recovery = | 77.88% |
| Target Compounds | | | | |
| 4) H | TPH C9 to C36 | 1.50 | 29764642 | 88.950 ug/mL |

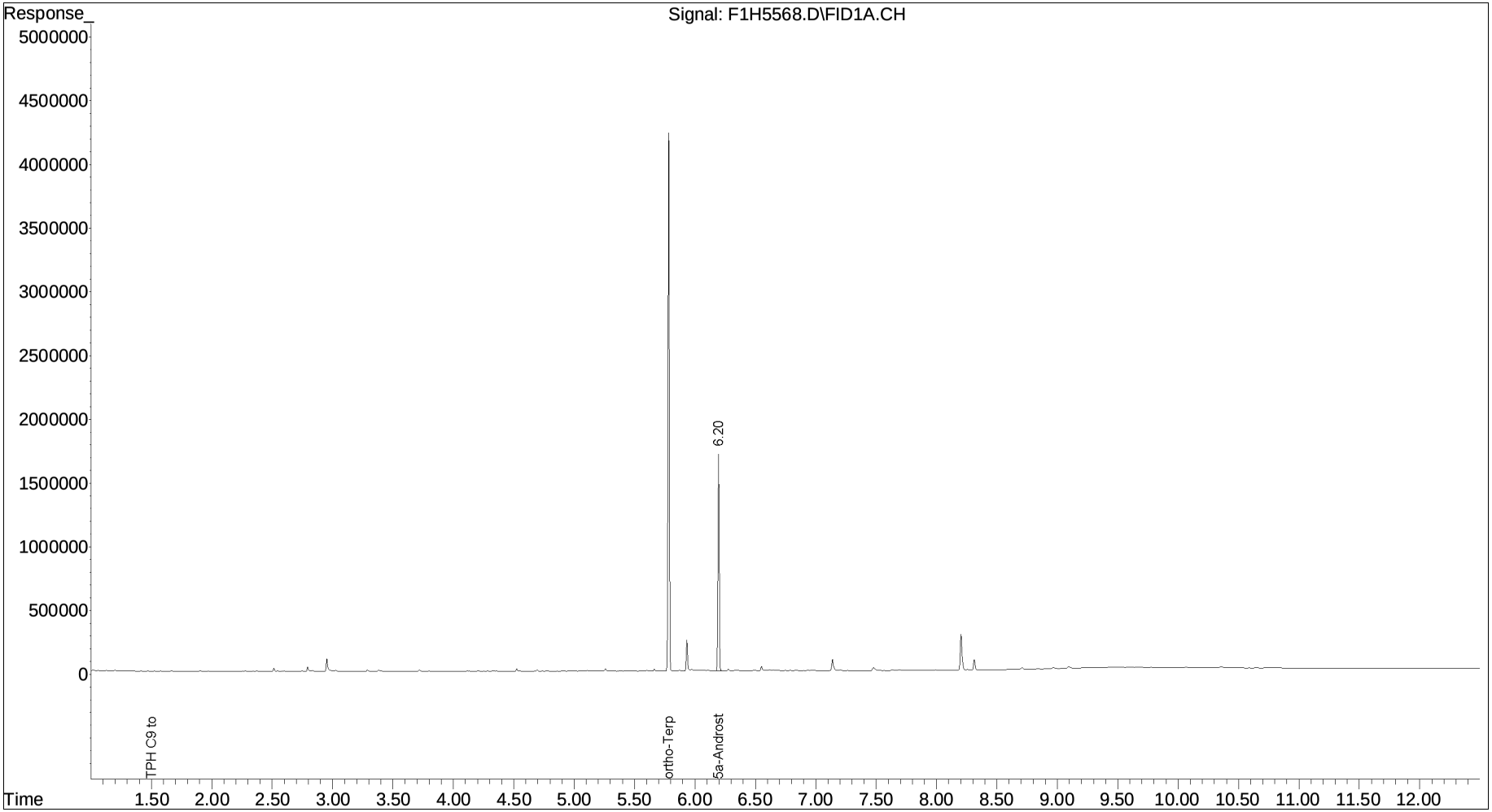
Integration Range: 1.50 to 10.32 minutes
Raw Range Area: 95918794
Corrected Range Area (IS,SS): 53710787
Instrument Blank Area (F1H5565): 23946145

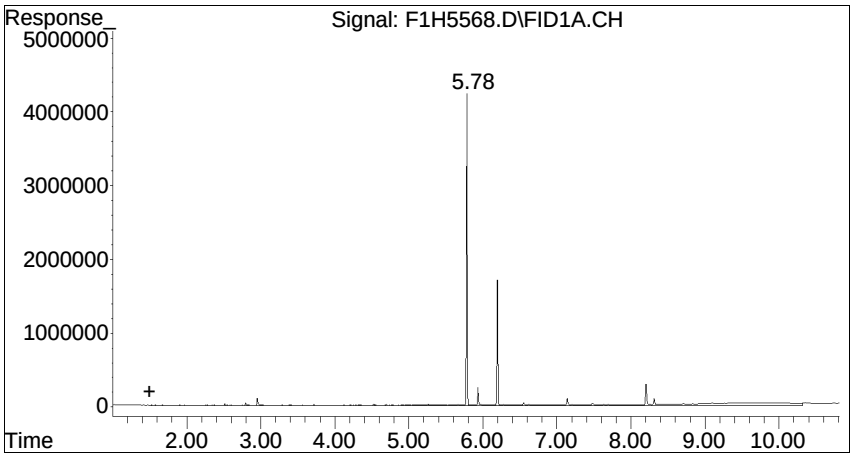
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5568.D
Lab Smp Id: MB-60048 BN: 60048 Client Smp ID: MB-60048
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 29 Jun 2011 16:12 Operator: TM
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Jun 30 08:08:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25





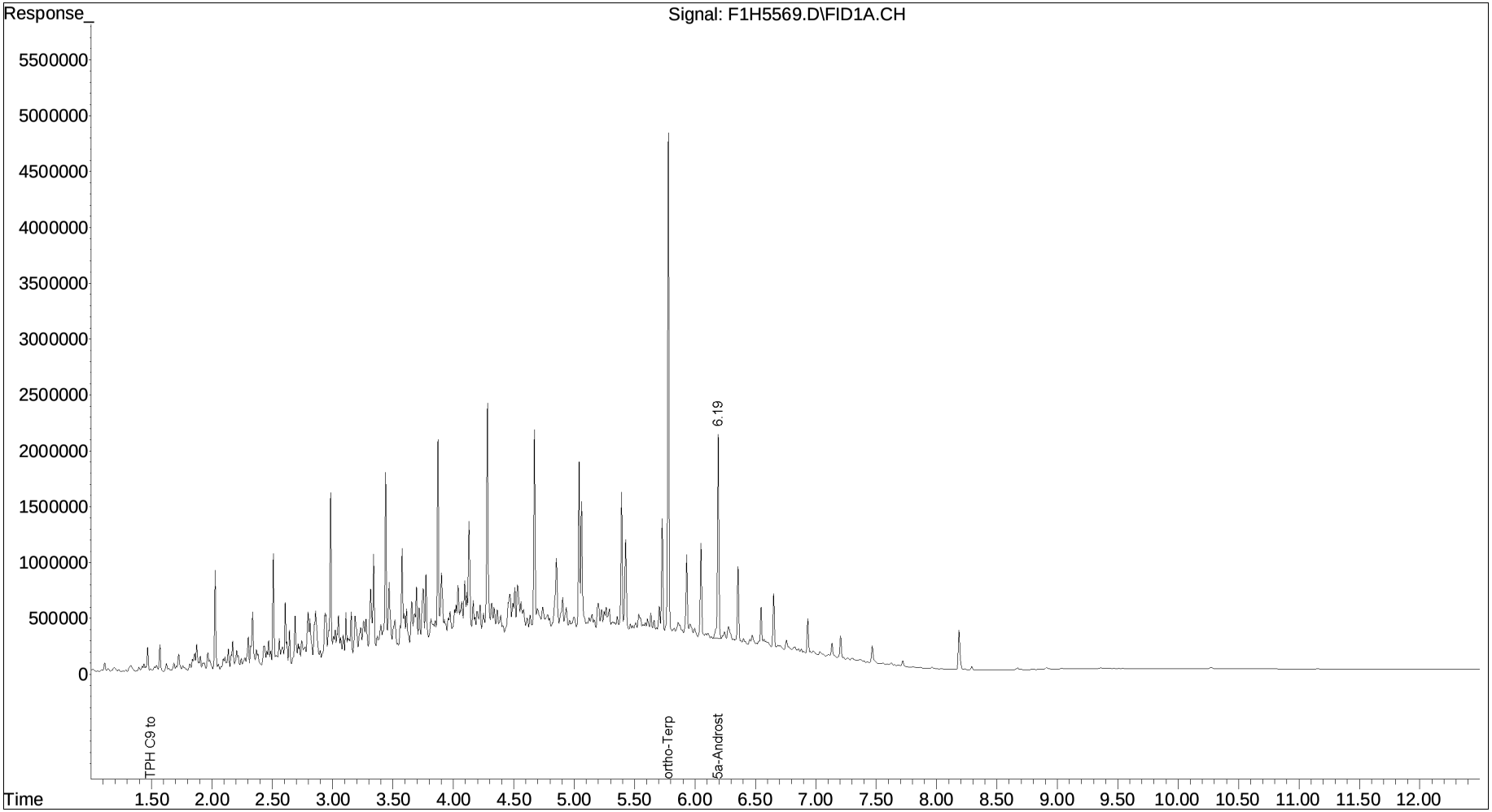

#4 TPH C9 to C36

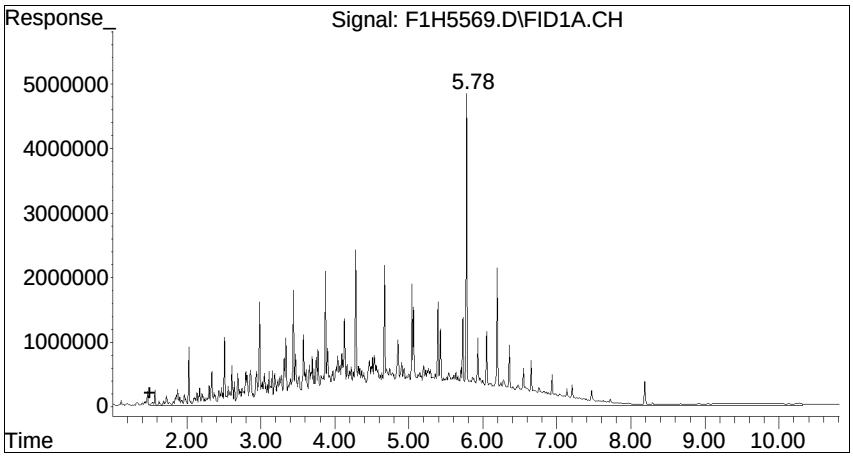
R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 29764642
Conc: 88.95 ug/mL m

```
Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5569.D
Lab Smp Id: LCS-60048      BN: 60048   Client Smp ID: LCS-60048
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 29 Jun 2011  16:32                      Operator: TM
ALS Vial  : 47   Sample Multiplier: 1

Quant Time: Jun 30 08:08:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.19       14898375   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.78       32077015   83.813 ug/mL
Spiked Amount    100.000                       Recovery   =   83.81%

 Target Compounds
 4) H   TPH C9 to C36                 1.50     1303615818 3895.803 ug/mL
           Integration Range:                      1.50 to 10.32 minutes
           Raw Range Area:                     1374537353
           Corrected Range Area (IS,SS):       1327561963
           Instrument Blank Area (F1H5565):      23946145

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5569.D
Lab Smp Id: LCS-60048 BN: 60048 Client Smp ID: LCS-60048
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 29 Jun 2011 16:32 Operator: TM
ALS Vial : 47 Sample Multiplier: 1

Quant Time: Jun 30 08:08:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.500 min
Delta R.T.: 0.000 min
Response: 1303615818
Conc: 3895.80 ug/mL m

Monday, July 11, 2011 16:03



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/1/2011 4:50:47 P**
Prep End Date: **7/11/2011 4:01:00 P**
Prep Batch ID: **60160**

Prep Code: **CTETPH_S_PR**
Technician: **Jill L Cartwright**

Prep Type: **PFEX/SW3545**

Prep Factor Units: mL / g

QC Matrix: **NASO4**
QC Matrix Lot: **106147**

Filter?: **FILTER**
Filter Lot: **FC002266**

Solvent (1): **MECL2**
Solvent (1) Lot: **DE 183**

Solvent (2): **N/A**
Solvent (2) Lot: **N/A**

Solvent (3): **N/A**
Solvent (3) Lot: **N/A**

Solvent (4): **N/A**
Solvent (4) Lot: **N/A**

Solvent (5): **N/A**
Solvent (5) Lot: **N/A**

Solvent (6): **N/A**
Solvent (6) Lot: **N/A**

Clean Up (1): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (2): **N/A**
Clean Up (2) Lot: **N/A**

Clean Up (3): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (4): **N/A**
Clean Up (4) Lot: **N/A**

Start Time: **N/A**
End Time: **N/A**

Cycles/Hour **0**

Sonicator Tuned? **N/A**

Bath Temp1 (C): **N/A**

Therm ID1: **N/A**

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60160 | Batch QC | | | 15 | 1 | OFW110118A | 1 | | | JLC | TM | | | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60160 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | TM | | | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-01A | 06SB27-0911-20110620 | | S | 15.14 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-02A | 06SB27-1315-20110620 | | S | 15.02 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-04A | 06SB25-0507-20110621 | | S | 15.16 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05A | 06SB25-1820-20110621 | | S | 15.32 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMS | 06SB25-1820-20110621 | | S | 15.14 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMSD | 06SB25-1820-20110621 | | S | 15.33 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |

Antonio AP Cardoso — 07/11/2011
Analyst Reviewed — Date

Timothy McDaniel — 07/11/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

YES / NO

Soxhlet Cycle/Hour:_____

Drip Rate_____

Reviewed By:_____

Water Bath Temp:_____/MT-___

7/11/11
TM

Logbook ID: 50.0147-06/11

Wednesday, June 29, 2011 11:12



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: 6/28/2011 11:03:07
Prep End Date: 6/29/2011 11:11:00 Prep Code: TPH_W_PR Prep Type: SEPF/SW3510C Prep Factor Units: mL / mL
Prep Batch ID: 60048 Technician: Brian L Dlhopolsky

QC Matrix: NASO4 Solvent (1): MECL2 Solvent (3): N/A Solvent (5): N/A Clean Up (1): N/A Clean Up (3): N/A
QC Matrix Lot: 106147 Solvent (1) Lot: DE 200 Solvent (3) Lot: N/A Solvent (5) Lot: N/A Clean Up (1) Lot: N/A Clean Up (1) Lot: N/A

Filter?: FILTER Solvent (2): N/A Solvent (4): N/A Solvent (6): N/A Clean Up (2): N/A Clean Up (4): N/A
Filter Lot: FC002266 Solvent (2) Lot: N/A Solvent (4) Lot: N/A Solvent (6) Lot: N/A Clean Up (2) Lot: N/A Clean Up (4) Lot: N/A

Start Time: N/A Cycles/Hour 0 Sonicator Tuned? N/A Bath Temp1 (C): N/A Therm ID1: N/A
End Time: N/A

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60048 | Batch CC | | | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | | | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| LCS-60048 | Batch CC | | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | | | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-14J | MW-6-062211-170 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-15J | MW-7-062211-81 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-15JMS | MW-7-062211-81 | | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-15JMSD | MW-7-062211-81 | | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-17B | MW-6S-062211-8 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-18J | MW-7S-062311-18 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-19J | MW-8-062311-40 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-20J | MW-9-062311-45 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-22J | RB-062311 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1100-06B | 06RB-20110621 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/14/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1109-01D | CD-WW-5-062411 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/04/11 | 01 | 06/29/11 | AAPC | R21 | 4.0 | ☐ | ☑ | Turbo Vap 1 |
| K1109-02D | CD-WW-6-062411 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/04/11 | 01 | 06/29/11 | AAPC | R21 | 4.0 | ☐ | ☑ | Turbo Vap 1 |
| K1117-02B | COMPOSITE 1, 11, 12 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/07/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |

Antonio AP Cardoso 06/29/2011 Timothy McDaniel 06/29/2011
Analyst Reviewed Date Manager Reviewed Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

6/29/11.
TM

Logbook ID: 50.0147-06/11

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: **7/14/2011 8:35:29 A**

Prep End Date: **7/14/2011 11:00:00** Prep Code: **CTETPH_S_PR** Prep Type: **SONC/SW3550B** Prep Factor Units: mL / g

Prep Batch ID: **60418** Technician: **Antonio AP Cardoso**

QC Matrix: **NASO4** Solvent (1): **MECL2** Solvent (3): **N/A** Solvent (5): **N/A** Clean Up (1): **N/A** Clean Up (3): **N/A**

QC Matrix Lot: **106147** Solvent (1) Lot: **DE 183** Solvent (3) Lot: **N/A** Solvent (5) Lot: **N/A** Clean Up (1) Lot: **N/A** Clean Up (1) Lot: **N/A**

Filter?: **FILTER** Solvent (2): **N/A** Solvent (4): **N/A** Solvent (6): **N/A** Clean Up (2): **N/A** Clean Up (4): **N/A**

Filter Lot: **FC002266** Solvent (2) Lot: **N/A** Solvent (4) Lot: **N/A** Solvent (6) Lot: **N/A** Clean Up (2) Lot: **N/A** Clean Up (4) Lot: **N/A**

Start Time: **N/A** Cycles/Hour **0** Sonicator Tuned? **Yes** Bath Temp1 (C): **N/A** Therm ID1: **N/A**

End Time: **N/A**

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60418 | BatchQC | | 30 | 1 | OFW110622A | 1 | | | APC | TM | | | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60418 | BatchQC | | 30 | 1 | OFW110622A | 1 | OFW110701A | 1 | APC | TM | | | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-01A RE | 06SB27-0911-201106 | S | 30.2 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-02A RE | 06SB27-1315-201106 | S | 30.5 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-04A RE | 06SB2S-0507-201106 | S | 30.2 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05A RE | 06SB2S-1820-201106 | S | 30.1 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMS RE | 06SB2S-1820-201106 | S | 30.4 | 1 | OFW110622A | 1 | OFW110701A | 1 | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMSD RE | 06SB2S-1820-201106 | S | 30.1 | 1 | OFW110622A | 1 | OFW110701A | 1 | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |

Antonio AP Cardoso 07/14/2011 Timothy McDaniel 07/15/2011

Analyst Reviewed Date Manager Reviewed Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

7/14/11 AC

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | KM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700L | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

KM 5/24/11

Injection Log AQ : TPH-AGF
QT: TPH05205

Directory: O:\F1.I\110629.B

INLET MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5560.d | 1. | ICAL 7159 | | 29 Jun 2011 10:43 |
| 2 | 96 | F1h5561.d | 1. | | | 29 Jun 2011 11:03 |
| 3 | 99 | F1h5562.d | 1. | | | 29 Jun 2011 11:19 |
| 4 | 99 | F1h5563.d | 1. | | | 29 Jun 2011 11:23 |
| 5 | 1 | F1h5564.d | 1. | FSTD1001L | TPH F ICAL L5 100... | 29 Jun 2011 11:32 |
| 6 | 100 | F1h5565.d | 1. | IBLK | TPH F | 29 Jun 2011 11:51 |
| 7 | 44 | F1h5566.d | 1. | K1109-01D,,60048 | TPH F | 29 Jun 2011 12:09 |
| 8 | 45 | F1h5567.d | 1. | K1109-02D,,60048 | TPH F | 29 Jun 2011 12:28 |
| 9 | 46 | F1h5568.d | 1. | MB-60048,,60048 | TPH F | 29 Jun 2011 16:12 |
| 10 | 47 | F1h5569.d | 1. | LCS-60048,,60048 | TPH F | 29 Jun 2011 16:32 |
| 11 | 48 | F1h5570.d | 1. | K1100-06B,,60048 | TPH F | 29 Jun 2011 16:52 |
| 12 | 49 | F1h5571.d | 1. | K1117-02B,,60048 | TPH F | 29 Jun 2011 17:12 |
| 13 | 1 | F1h5572.d | 1. | FSTD1001M | TPH F ICAL L5 100... | 29 Jun 2011 17:32 |
| 14 | 100 | F1h5573.d | 1. | IBLK | TPH F | 29 Jun 2011 17:52 |
| 15 | 50 | F1h5574.d | 1. | K1064-14J,,60048 | TPH F | 29 Jun 2011 18:12 |
| 16 | 51 | F1h5575.d | 1. | K1064-15J,,60048 | TPH F | 29 Jun 2011 18:32 |
| 17 | 52 | F1h5576.d | 1. | K1064-15JMS,,60048 | TPH F | 29 Jun 2011 18:52 |
| 18 | 53 | F1h5577.d | 1. | K1064-15JMSD,,60048 | TPH F | 29 Jun 2011 19:12 |
| 19 | 54 | F1h5578.d | 1. | K1064-17B,,60048 | TPH F | 29 Jun 2011 19:32 |
| 20 | 55 | F1h5579.d | 1. | K1064-18J,,60048 | TPH F | 29 Jun 2011 19:52 |
| 21 | 56 | F1h5580.d | 1. | K1064-19J,,60048 | TPH F | 29 Jun 2011 20:12 |
| 22 | 57 | F1h5581.d | 1. | K1064-20J,,60048 | TPH F | 29 Jun 2011 20:32 |
| 23 | 58 | F1h5582.d | 1. | K1064-22J,,60048 | TPH F | 29 Jun 2011 20:51 |
| 24 | 1 | F1h5583.d | 1. | FSTD1001N | TPH F ICAL L5 100... | 29 Jun 2011 21:11 |
| 25 | 100 | F1h5584.d | 1. | IBLK | TPH F | 29 Jun 2011 21:31 |

GM 6/30/11

# Injection Log

AQ : TPH_AGR
QT : TPH 0 520R

Directory: O:\F1.I\110712.B

INLET Alm. NT : L/ES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5680.d | 1. | | | 12 Jul 2011 07:33 |
| 2 | 96 | F1h5681.d | 1. | ICAL 7159 | | 12 Jul 2011 07:52 |
| 3 | 99 | F1h5682.d | 1. | | | 12 Jul 2011 08:08 |
| 4 | 99 | F1h5683.d | 1. | | | 12 Jul 2011 08:12 |
| 5 | 1 | F1h5684.d | 1. | FSTD1001B ✓ | TPH F ICAL L5 100... | 12 Jul 2011 08:21 |
| 6 | 100 | F1h5685.d | 1. | IBLK ✓ | TPH F | 12 Jul 2011 08:42 |
| 7 | 31 | F1h5686.d | 1. | MB-60160,,60160 X — TPH RR 210 | TPH F RR OTP 63 | 12 Jul 2011 09:02 |
| 8 | 32 | F1h5687.d | 1. | LCS-60160,,60160 X TPH 51% | TPH F RR OTP 58 | 12 Jul 2011 09:22 |
| 9 | 33 | F1h5688.d | 1. | K1100-01A,,60160 TPH 2009 | TPH F OTP 69 | 12 Jul 2011 09:43 |
| 10 | 34 | F1h5689.d | 1. | K1100-02A,,60160 TPH 211 | TPH F OTP 61 | 12 Jul 2011 10:03 |
| 11 | 35 | F1h5690.d | 1. | K1100-04A,,60160 X TPH 150 | TPH F X OTP 36 | 12 Jul 2011 10:24 |
| 12 | 36 | F1h5691.d | 1. | K1100-05A,,60160 X TPH 7417 | TPH F X OTP 49 | 12 Jul 2011 10:45 |
| 13 | 37 | F1h5692.d | 1. | K1100-05AMS,,60160 18386 | TPH F OTP 65 | 12 Jul 2011 11:05 |
| 14 | 39 | F1h5693.d | 1. | K1200-01D,,60303 ✓ | TPH F | 12 Jul 2011 11:24 |
| 15 | 38 | F1h5694.d | 1. | K1100-05AMSD,,60160 13862 | TPH F OTP 74 | 12 Jul 2011 11:45 |
| 16 | 1 | F1h5695.d | 1. | FSTD1001C ✓ | TPH F ICAL L5 100... | 12 Jul 2011 12:06 |
| 17 | 100 | F1h5696.d | 1. | IBLK ✓ | TPH F | 12 Jul 2011 12:43 |
| 18 | 100 | F1h5697.d | 1. | IBLK ✓ (N.A.) | TPH F | 12 Jul 2011 13:04 |
| 19 | 40 | F1h5698.d | 1. | MB-60303,,60303 ✓ | TPH F | 12 Jul 2011 13:24 |
| 20 | 41 | F1h5699.d | 1. | LCS-60303,,60303 ✓ | TPH F | 12 Jul 2011 13:45 |
| 21 | 42 | F1h5700.d | 1. | K1209-01D,,60303 ✓ | TPH F | 12 Jul 2011 14:05 |
| 22 | 1 | F1h5701.d | 1. | FSTD1001D ✓ | TPH F ICAL L5 100... | 12 Jul 2011 14:26 |
| 23 | 100 | F1h5702.d | 1. | IBLK ✓ | TPH F | 12 Jul 2011 14:46 |

- Reextract K1100 by sonication
  - Redoe 60160 - MB Fails (210 on column, limit is 200)
    LCS Fails (51%; limit is 60)
    Have OTP Bar #4 & 5

Yee 7/12/11

Yee 7/15/11

# Injection Log

AQ : TPH - REF
QT: TPH 0520F

Directory: O:\F1.I\110714.B

INLET MAINT : NONE

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5710.d | 1. | ICAL 7159 | | 14 Jul 2011 11:20 |
| 2 | 96 | F1h5711.d | 1. | | | 14 Jul 2011 11:38 |
| 3 | 99 | F1h5712.d | 1. | | | 14 Jul 2011 11:55 |
| 4 | 99 | F1h5713.d | 1. | | | 14 Jul 2011 11:59 |
| 5 | 1 | F1h5714.d | 1. | FSTD1001E | TPH F ICAL L5 100... | 14 Jul 2011 12:06 |
| 6 | 100 | F1h5715.d | 1. | IBLK | TPH F | 14 Jul 2011 12:27 |
| 7 | 2 | F1h5716.d | 1. | MB-60389,,60389 => 60418 see below | TPH F | 14 Jul 2011 12:46 |
| 8 | 3 | F1h5717.d | 1. | LCS-60389,,60389 | TPH F | 14 Jul 2011 13:06 |
| 9 | 4 | F1h5718.d | 1. | K1219-01D,,60377 | TPH F | 14 Jul 2011 13:25 |
| 10 | 5 | F1h5719.d | 1. | MB-60377,,60377 | TPH F | 14 Jul 2011 13:45 |
| 11 | 6 | F1h5720.d | 1. | LCS-60377,,60377 RR | TPH F | 14 Jul 2011 14:05 |
| 12 | 7 | F1h5721.d | 1. | LCSD-60377,,60377 | TPH F | 14 Jul 2011 14:25 |
| 13 | 8 | F1h5722.d | 1. | K1233-01D,,60377 GM 7/15/11 | TPH F | 14 Jul 2011 14:45 |
| 14 | 9 | F1h5723.d | 1. | K1216-03B,,60377 RR 50 ~~20X~~ ? | TPH F | 14 Jul 2011 15:04 |
| 15 | 99 | F1h5724.d | 1. | | | 14 Jul 2011 15:20 |
| 16 | 99 | F1h5725.d | 1. | | | 14 Jul 2011 15:24 |
| 17 | 1 | F1h5726.d | 1. | FSTD1001F | TPH F ICAL L5 100... | 14 Jul 2011 15:33 |
| 18 | 100 | F1h5727.d | 1. | IBLK | TPH F | 14 Jul 2011 15:53 |
| 19 | 6 | F1h5728.d | 1. | LCS-60377,,60377 GM 7/15/11 | TPH F | 14 Jul 2011 16:13 |
| 20 | 10 | F1h5729.d | 1. | K1100-05ARE,,60389 RR ~~3X~~ 4X | TPH F | 14 Jul 2011 16:33 |
| 21 | 11 | F1h5730.d | 1. | K1100-02ARE,,60389 | TPH F | 14 Jul 2011 16:53 |
| 22 | 12 | F1h5731.d | 1. | K1100-04ARE,,60389 | TPH F | 14 Jul 2011 17:13 |
| 23 | 13 | F1h5732.d | 1. | K1100-01ARE,,60389 | TPH F | 14 Jul 2011 17:33 |
| 24 | 99 | F1h5733.d | 1. | | | 14 Jul 2011 17:49 |
| 25 | 14 | F1h5734.d | 1. | K1100-05AMSRE,,60389 RR 4X | TPH F | 14 Jul 2011 17:58 |
| 26 | 99 | F1h5735.d | 1. | | | 14 Jul 2011 18:14 |
| 27 | 15 | F1h5736.d | 1. | K1100-05AMSDRE,,60389 RR 4X | TPH F | 14 Jul 2011 18:23 |
| 28 | 99 | F1h5737.d | 1. | | | 14 Jul 2011 18:39 |
| 29 | 99 | F1h5738.d | 1. | | | 14 Jul 2011 18:43 |
| 30 | 1 | F1h5739.d | 1. | FSTD1001G | TPH F ICAL L5 100... | 14 Jul 2011 18:52 |
| 31 | 100 | F1h5740.d | 1. | IBLK | TPH F | 14 Jul 2011 19:12 |

Note - prep batch 60389 is now 60418
- see F1-110712A - K1100 - original extracts within HT (batch ~~60161~~ GM 7/15 60160)
- Re extracts are in batch 60418
GM 7/15/11

# Injection Log

AQ : TPW - ACOF
QT : TPH 0520F

Directory: O:\F1.I\110715.B

INLET MAINT: NONE

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5750.d | 1. | | | 15 Jul 2011 08:36 |
| 2 | 96 | F1h5751.d | 1. | ICAL 7159 | | 15 Jul 2011 08:55 |
| 3 | 99 | F1h5752.d | 1. | | | 15 Jul 2011 09:11 |
| 4 | 99 | F1h5753.d | 1. | | | 15 Jul 2011 09:15 |
| 5 | 1 | F1h5754.d | 1. | FSTD1001H | TPH F ICAL L5 100... | 15 Jul 2011 09:23 |
| 6 | 100 | F1h5755.d | 1. | IBLK | TPH F | 15 Jul 2011 09:43 |
| 7 | 16 | F1h5756.d | 1. | K1100-05ARE,,~~60389~~ 60418,,4 | TPH F 4X DIL | 15 Jul 2011 10:03 |
| 8 | 17 | F1h5757.d | 1. | K1100-05AREMS,,~~60389~~ 60418,,4 | TPH F 4X DIL | 15 Jul 2011 10:23 |
| 9 | 18 | F1h5758.d | 1. | K1100-05AREMSD,,~~60389~~ 60418,,4 | TPH F 4X DIL | 15 Jul 2011 10:44 |
| 10 | 19 | F1h5759.d | 1. | K1216-03B,,60377,,50 | TPH F 50X DIL | 15 Jul 2011 11:04 |
| 11 | 99 | F1h5760.d | 1. | | | 15 Jul 2011 11:20 |
| 12 | 1 | F1h5761.d | 1. | FSTD1001I | TPH F ICAL L5 100... | 15 Jul 2011 11:29 |
| 13 | 100 | F1h5762.d | 1. | IBLK | TPH F | 15 Jul 2011 11:49 |
| 14 | 1 | F1h5763.d | 1. | FSTD1001J | TPH F ICAL L5 100... | 15 Jul 2011 16:03 |
| 15 | 100 | F1h5764.d | 1. | IBLK | TPH F | 15 Jul 2011 16:23 |
| 16 | 20 | F1h5765.d | 1. | MB-60441,,60441 | TPH F | 15 Jul 2011 16:44 |
| 17 | 21 | F1h5766.d | 1. | LCS-60441,,60441 | TPH F | 15 Jul 2011 17:04 |
| 18 | 22 | F1h5767.d | 1. | LCSD-60441,,60441 | TPH F | 15 Jul 2011 17:24 |
| 19 | 23 | F1h5768.d | 1. | K1216-02A,,60441,,50 SS DL OOT | TPH F 50X DIL | 15 Jul 2011 17:44 |
| 20 | 99 | F1h5769.d | 1. | | | 15 Jul 2011 18:00 |
| 21 | 24 | F1h5770.d | 1. | K1216-02A,,60441,,5 use 50X | TPH F 5X DIL | 15 Jul 2011 18:09 |
| 22 | 99 | F1h5771.d | 1. | | | 15 Jul 2011 18:25 |
| 23 | 99 | F1h5772.d | 1. | | | 15 Jul 2011 18:29 |
| 24 | 25 | F1h5773.d | 1. | K1216-02A,,60441 | TPH F | 15 Jul 2011 18:38 |
| 25 | 99 | F1h5774.d | 1. | | | 15 Jul 2011 18:54 |
| 26 | 99 | F1h5775.d | 1. | | | 15 Jul 2011 18:58 |
| 27 | 1 | F1h5776.d | 1. | FSTD1001K | TPH F ICAL L5 100... | 15 Jul 2011 19:07 |
| 28 | 100 | F1h5777.d | 1. | IBLK | TPH F | 15 Jul 2011 19:27 |

7/18/11

**Client:** TETRA_NAVY

**Work Order:** K1100 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Soil**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 01A | 001 | CTETPH_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 01A | 001 | CTETPH_S | Out | Jill L Cartwright | 7/3/2011 9:55:53 AM |
| 01A | 001 | CTETPH_S | In | Jill L Cartwright | 7/3/2011 3:08:42 PM |
| 01A | 001 | CTETPH_S | Out | Antonio AP Cardoso | 7/14/2011 9:07:40 AM |
| 01A | 001 | CTETPH_S | In | Antonio AP Cardoso | 7/14/2011 9:07:57 AM |
| 01A | 001 | PMoist | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 01A | 001 | PMoist | Out | Shirley S Ng | 7/11/2011 5:26:10 PM |
| 01A | 001 | PMoist | In | Shirley S Ng | 7/11/2011 6:10:15 PM |
| 01B | 001 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 01B | 002 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 01C | 001 | SW8260_MED_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 02A | 001 | CTETPH_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 02A | 001 | CTETPH_S | Out | Jill L Cartwright | 7/3/2011 9:55:53 AM |
| 02A | 001 | CTETPH_S | In | Jill L Cartwright | 7/3/2011 3:08:42 PM |
| 02A | 001 | CTETPH_S | Out | Antonio AP Cardoso | 7/14/2011 9:07:40 AM |
| 02A | 001 | CTETPH_S | In | Antonio AP Cardoso | 7/14/2011 9:07:57 AM |
| 02A | 001 | PMoist | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 02A | 001 | PMoist | Out | Shirley S Ng | 7/11/2011 5:26:10 PM |
| 02A | 001 | PMoist | In | Shirley S Ng | 7/11/2011 6:10:15 PM |
| 02B | 001 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 02B | 002 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 02C | 001 | SW8260_MED_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 03B | 001 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 03B | 002 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 03C | 001 | SW8260_MED_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 04A | 001 | CTETPH_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 04A | 001 | CTETPH_S | Out | Jill L Cartwright | 7/3/2011 2:13:59 PM |
| 04A | 001 | CTETPH_S | In | Jill L Cartwright | 7/3/2011 3:08:42 PM |
| 04A | 001 | CTETPH_S | Out | Antonio AP Cardoso | 7/14/2011 9:07:40 AM |
| 04A | 001 | CTETPH_S | In | Antonio AP Cardoso | 7/14/2011 9:07:57 AM |
| 04A | 001 | PMoist | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 04A | 001 | PMoist | Out | Shirley S Ng | 7/11/2011 5:26:10 PM |
| 04A | 001 | PMoist | In | Shirley S Ng | 7/11/2011 6:10:15 PM |

**Client:** TETRA_NAVY

**Work Order:** K1100 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Soil**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 04B | 001 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 04B | 002 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 04C | 001 | SW8260_MED_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05A | 001 | CTETPH_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05A | 001 | CTETPH_S | Out | Jill L Cartwright | 7/3/2011 9:55:53 AM |
| 05A | 001 | CTETPH_S | In | Jill L Cartwright | 7/3/2011 3:08:42 PM |
| 05A | 001 | CTETPH_S | Out | Antonio AP Cardoso | 7/14/2011 9:07:40 AM |
| 05A | 001 | CTETPH_S | In | Antonio AP Cardoso | 7/14/2011 9:07:57 AM |
| 05A | 001 | PMoist | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05A | 002 | CTETPH_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05A | 002 | CTETPH_S | Out | Antonio AP Cardoso | 7/14/2011 9:07:40 AM |
| 05A | 002 | CTETPH_S | In | Antonio AP Cardoso | 7/14/2011 9:07:57 AM |
| 05A | 002 | PMoist | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05A | 002 | PMoist | Out | Shirley S Ng | 7/11/2011 5:26:10 PM |
| 05A | 002 | PMoist | In | Shirley S Ng | 7/11/2011 6:10:15 PM |
| 05B | 001 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05B | 002 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05B | 003 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05B | 004 | SW8260_LOW_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05C | 001 | SW8260_MED_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 05C | 002 | SW8260_MED_S | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 06A | 001 | SW8260_W | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 06A | 002 | SW8260_W | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 06B | 001 | CTETPH_W | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 06B | 002 | CTETPH_W | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 07A | 001 | SW8260_W | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |
| 07A | 002 | SW8260_W | In | LOGIN: dmckenna | 6/24/2011 1:09:00 PM |

**Last Page of Data Report**

Report Date:
17-Aug-11 12:40

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# *Laboratory Report*

Tetra Tech NUS Inc.
661 Andersen Drive, Foster Plaza #7
Pittsburgh, PA 15220

Attn: Tobrena Skeen

Work Order: K1283
Project : CTO-WE56, NSB New London
Project #:

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| K1283-01 | 06MW-DUP01-20110718 | Aqueous | 18-Jul-11 00:00 | 21-Jul-11 10:10 |
| K1283-02 | 06MW09-20110718 | Aqueous | 18-Jul-11 16:20 | 21-Jul-11 10:10 |
| K1283-03 | TB06-071811 | Aqueous | 18-Jul-11 10:00 | 21-Jul-11 10:10 |
| K1283-04 | 06MW01-20110719 | Aqueous | 19-Jul-11 12:27 | 21-Jul-11 10:10 |
| K1283-05 | 06MW02-20110719 | Aqueous | 19-Jul-11 14:07 | 21-Jul-11 10:10 |
| K1283-06 | 06MW06-20110719 | Aqueous | 19-Jul-11 09:17 | 21-Jul-11 10:10 |
| K1283-07 | 06MW07-20110719 | Aqueous | 19-Jul-11 12:48 | 21-Jul-11 10:10 |
| K1283-08 | 06MW08-20110719 | Aqueous | 19-Jul-11 14:56 | 21-Jul-11 10:10 |
| K1283-09 | 06MW13-20110719 | Aqueous | 19-Jul-11 09:25 | 21-Jul-11 10:10 |
| K1283-10 | TB06-20110719 | Aqueous | 19-Jul-11 09:00 | 21-Jul-11 13:30 |
| K1283-11 | 06MW03-20110720 | Aqueous | 20-Jul-11 13:44 | 21-Jul-11 13:30 |
| K1283-12 | 06MW10-20110720 | Aqueous | 20-Jul-11 11:16 | 21-Jul-11 13:30 |
| K1283-13 | 06MW11-20110720 | Aqueous | 20-Jul-11 10:59 | 21-Jul-11 13:30 |
| K1283-14 | 06MW12-20110720 | Aqueous | 20-Jul-11 13:50 | 21-Jul-11 13:30 |
| K1283-15 | 06MW04-20110721 | Aqueous | 21-Jul-11 09:07 | 21-Jul-11 13:30 |
| K1283-16 | 06MW05-20110721 | Aqueous | 21-Jul-11 08:54 | 21-Jul-11 13:30 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Mitkem Laboratories is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-05-030 |

Authorized by:

Yihai Ding
Laboratory Director

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1283**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**

**HC Due:** 08/11/11
**Fax Due:**
**Fax Report:** ☐

**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** *DoD*
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1283-01A | 06MW-DUP01-20110718 | 07/18/2011 00:00 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-01B | 06MW-DUP01-20110718 | 07/18/2011 00:00 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-02A | 06MW09-20110718 | 07/18/2011 16:20 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-02B | 06MW09-20110718 | 07/18/2011 16:20 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-03A | TB06-071811 | 07/18/2011 10:00 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-04A | 06MW01-20110719 | 07/19/2011 12:27 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-04B | 06MW01-20110719 | 07/19/2011 12:27 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-05A | 06MW02-20110719 | 07/19/2011 14:07 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-05B | 06MW02-20110719 | 07/19/2011 14:07 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-06A | 06MW06-20110719 | 07/19/2011 09:17 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-06B | 06MW06-20110719 | 07/19/2011 09:17 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-07A | 06MW07-20110719 | 07/19/2011 12:48 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-07B | 06MW07-20110719 | 07/19/2011 12:48 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-08A | 06MW08-20110719 | 07/19/2011 14:56 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-08B | 06MW08-20110719 | 07/19/2011 14:56 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-09A | 06MW13-20110719 | 07/19/2011 09:25 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | Y | Y | SUB |
| K1283-09B | 06MW13-20110719 | 07/19/2011 09:25 | 07/21/2011 | Aqueous | CTETPH_W | / | | | Y | | J4 |
| K1283-10A | TB06-20110719 | 07/19/2011 09:00 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1283**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 08/11/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** *DoD*
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1283-11A | 06MW03-20110720 | 07/20/2011 13:44 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-11B | 06MW03-20110720 | 07/20/2011 13:44 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-12A | 06MW10-20110720 | 07/20/2011 11:16 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-12B | 06MW10-20110720 | 07/20/2011 11:16 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-13A | 06MW11-20110720 | 07/20/2011 10:59 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-13B | 06MW11-20110720 | 07/20/2011 10:59 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-14A | 06MW12-20110720 | 07/20/2011 13:50 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-14B | 06MW12-20110720 | 07/20/2011 13:50 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-15A | 06MW04-20110721 | 07/21/2011 09:07 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-15B | 06MW04-20110721 | 07/21/2011 09:07 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-16A | 06MW05-20110721 | 07/21/2011 08:54 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-16B | 06MW05-20110721 | 07/21/2011 08:54 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Sample Transmittal Documentation

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000162-1

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Lab Pick-Up** | **Mitkem Laboratories**<br>**175 Metro Center Blvd**<br>**Warwick, RI 02886-1755** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Edward Lawler**<br>**(401) 732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/18/2011 | 06MW-DUP01-20110718 | 00:00 | **CT DPH ETPH - Mitkem SOP 60.0050** | QC | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/18/2011 | 06MW-DUP01-20110718 | 00:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/18/2011 | 06MW09-20110718 | 16:20 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-09 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/18/2011 | 06MW09-20110718 | 16:20 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-09 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/18/2011 | TB06-071811 | 10:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 07/19/2011 | 06MW01-20110719 | 12:27 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-01 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/19/2011 | 06MW01-20110719 | 12:27 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-01 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/19/2011 | 06MW02-20110719 | 14:07 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-02 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/19/2011 | 06MW02-20110719 | 14:07 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-02 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/19/2011 | 06MW06-20110719 | 09:17 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-06 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW06-20110719 | 09:17 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-06 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW07-20110719 | 12:48 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-07 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW07-20110719 | 12:48 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-07 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW08-20110719 | 14:56 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-08 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW08-20110719 | 14:56 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-08 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW13-20110719 | 09:25 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-13 | GW | ETPH | 4°C | 6 | Glass - Amber | 1L | lab QC MS/MSD |
| 07/19/2011 | 06MW13-20110719 | 09:25 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-13 | GW | VPH | 4°C/HCL | 6 | Glass - Clear | 40ml vials | lab QC MS/MSD |

| | Date: | Time: | | Date: | Time: |
|---|---|---|---|---|---|
| 1. Relinquished By: **Robin Clark** | 07/20/2011 | 06:40 | Received By: **Lab Pick-Up** | 07/20/2011 | 07:40 |
| 2. Relinquished By: | 7/20/11 | 1010 | Received By: | 7-20-11 | 10:10 |

5°C Iced

| | | | | | |
|---|---|---|---|---|---|
| | | | | | |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| [illegible] | 7.21.11 | 10:38 | [illegible] | 7/21/11 | 10:38 |

5°C

Comments:

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000162-3

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Hand Deliver** | **Mitkem Laboratories**<br>**175 Metro Center Blvd**<br>**Warwick, RI 02886-1755** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Edward Lawler**<br>**(401) 732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/2011 | TB06-20110719 | 09:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 07/20/2011 | 06MW03-20110720 | 13:44 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-03 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW03-20110720 | 13:44 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-03 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW10-20110720 | 11:16 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-10 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW10-20110720 | 11:16 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-10 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW11-20110720 | 10:59 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-11 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW11-20110720 | 10:59 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-11 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW12-20110720 | 13:50 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-12 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW12-20110720 | 13:50 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-12 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/21/2011 | 06MW04-20110721 | 09:07 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-04 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/21/2011 | 06MW04-20110721 | 09:07 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-04 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/21/2011 | 06MW05-20110721 | 08:54 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-05 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/21/2011 | 06MW05-20110721 | 08:54 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-05 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |

| | | | | | |
|---|---|---|---|---|---|
| 1. Relinquished By:<br>**Robin Clark** | Date:<br>07/21/2011 | Time:<br>12:08 | Received By:<br>**Hand Deliver** | Date:<br>07/21/2011 | Time:<br>13:08 |
| 2. Relinquished By: | Date:<br>7/21/11 | Time:<br>1240 | Received By: | Date:<br>7-21-11 | Time:<br>13:30 |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |

6.5°C

---

Comments:
last set of samples for this sampling event.

# SPECTRUM ANALYTICAL, INC. RI DIVISION

## Sample Condition Form

Page 1 of 1

| | | | |
|---|---|---|---|
| Received By: Daniel mckenna | Reviewed By: | Date: 7-21-11 | Mitkem Work Order #: K1283 |
| Client Project: New London | | Client: TETRA Navy | |

| | | Lab Sample ID | | Preservation (pH) $HNO_3$ | $H_2SO_4$ | HCl | NaOH | $H_3PO_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) Cooler Sealed | Yes / No | K1283 | 01 | | | | | | H | |
| | | | 02 | | | | | | | |
| 2) Custody Seal(s) | Present / Absent | | 03 | | | | | | | |
| | Coolers / Bottles | | 04 | | | | | | | |
| | Intact / Broken | | 05 | | | | | | | |
| | | | 06 | | | | | | | |
| 3) Custody Seal Number(s) | N/A | | 07 | | | | | | | |
| | | | 08 | | | | | | | |
| | | K1283 | 09 | | | | | | H | |
| 4) Chain-of-Custody | Present / Absent | | | | | | | | | |
| 5) Cooler Temperature | 5°C | | | | | | | | | |
| IR Temp Gun ID | MT-1 | | | | | | | | | |
| Coolant Condition | Iced | | | | | | | | | |
| 6) Airbill(s) | Present / Absent | | | | | | | | | |
| Airbill Number(s) | Courier | | | | | | | | | |
| 7) Samples Bottles | Intact / Broken / Leaking | | | | | | | | | |
| 8) Date Received | 7-21-11 | | | | | | | | | |
| 9) Time Received | 10:10 | | | | | | | | | |

DRO 7-21-11

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

# SPECTRUM ANALYTICAL, INC. RI DIVISION

## Sample Condition Form

Page 1 of 1

| | | | |
|---|---|---|---|
| Received By: Daniel Melen | Reviewed By: CR | Date: 7-21 | Mitkem Work Order #: K1283 |
| Client Project: New London | | Client: Tetra navy | |

| | | Lab Sample ID | | HNO$_3$ | H$_2$SO$_4$ | HCl | NaOH | H$_3$PO$_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) Cooler Sealed | Yes / No | K1283 | 10 | | | | | | H | |
| | | | 11 | | | | | | | |
| 2) Custody Seal(s) | Present / Absent | | 12 | | | | | | | |
| | Coolers / Bottles | | 13 | | | | | | | |
| | Intact / Broken | | 14 | | | | | | | |
| | | | 15 | | | | | | | |
| 3) Custody Seal Number(s) | NA | K1283 | 16 | | | | | | H | |
| 4) Chain-of-Custody | Present / Absent | | | | | | | | | |
| 5) Cooler Temperature | 6°C 5°C | | | | | | | | | |
| IR Temp Gun ID | MT-1 | | | | | | | | | |
| Coolant Condition | Iced | | | | | | | | | |
| 6) Airbill(s) | Present / Absent | | | | | | | | | |
| Airbill Number(s) | Courier | | | | | | | | | |
| 7) Samples Bottles | Intact / Broken / Leaking | | | | | | | | | |
| 8) Date Received | 7-21-11 | | | | | | | | | |
| 9) Time Received | 13:30 | | | | | | | | | |

DRM 7-21-11

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

# * Semivolatile Organics *

**REPORT NARRATIVE**

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London**

**Laboratory Workorder / SDG #: K1283**

**CT ETPH, CT ETPH by GC-FID**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

Analyses for Volatile Petroleum Hydrocarbons by the Massachusetts method (MA_VPH) were performed by Mitkem's parent company, Spectrum Analytical, Inc. of Agawam, MA. The entire Spectrum report, including any notes on these analyses, follows the "Last Page" of the Mitkem data report.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH.

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510.

## V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

The following analytes were detected below the reporting limit in method blanks associated with these samples:

MB-60579 in batch 60579, and MB-60598 in batch 60598, contained Extractable Total Petroleum Hydrocarbons above the Method Detection Limit but below the Reporting Limit.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on sample: 06MW13-20110719 (K1283-09BMS/MSD).

Percent recoveries and replicate RPDs were within the QC limits.

**E. Dilutions:**

No sample in this SDG required analysis at dilution.

**F. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:___ _____

Date:_____8/17/11_____

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-DUP01-20110718 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-01 **Collection Date:** 07/18/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.86 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 20:29 | 60579 |
| Surrogate: ortho-Terphenyl | 77.0 | | | 50-150 | %REC | 1 | 07/27/2011 20:29 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5846.D
Lab Smp Id: K1283-01B BN: 60579 Client Smp ID: 06MW-DUP01-20110718
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 20:29 Operator: TM
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jul 28 12:11:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 14172299 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 29478153 | 77.023 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 77.02% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 287814595 | 860.122 ug/mL |

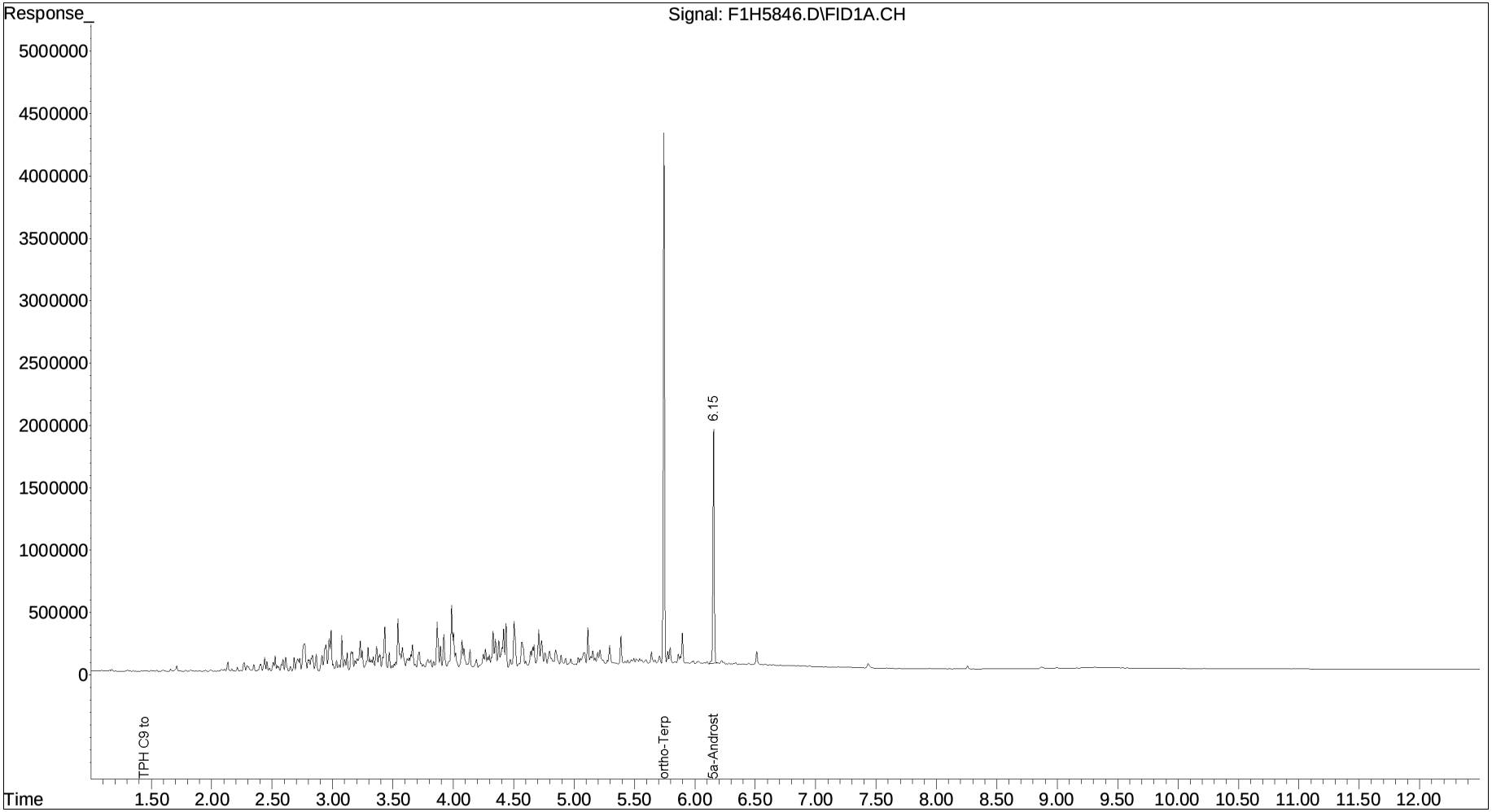
Integration Range: 1.44 to 10.17 minutes
Raw Range Area: 349518763
Corrected Range Area (IS,SS): 305868311
Instrument Blank Area (F1H5845): 18053716

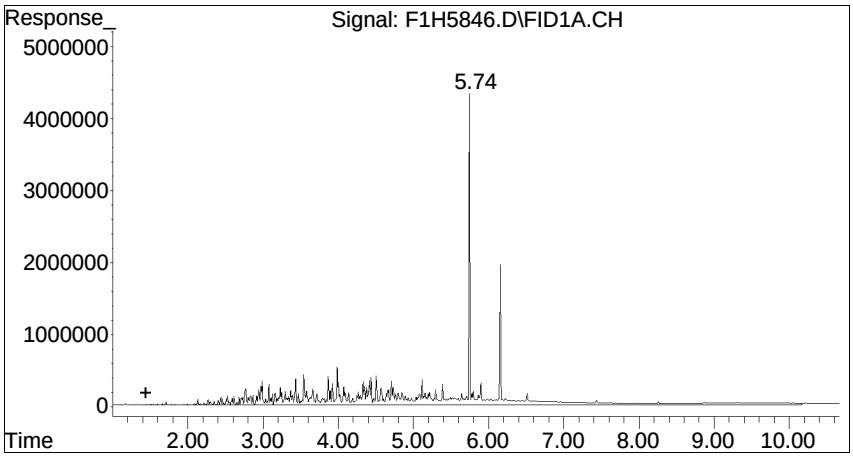
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5846.D
Lab Smp Id: K1283-01B BN: 60579 Client Smp ID: 06MW-DUP01-20110718
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 20:29 Operator: TM
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Jul 28 12:11:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 287814595
Conc: 860.12 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW09-20110718 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-02 **Collection Date:** 07/18/11 16:20

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.78 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 20:49 | 60579 |
| Surrogate: ortho-Terphenyl | 67.2 | | | 50-150 | %REC | 1 | 07/27/2011 20:49 | 60579 |

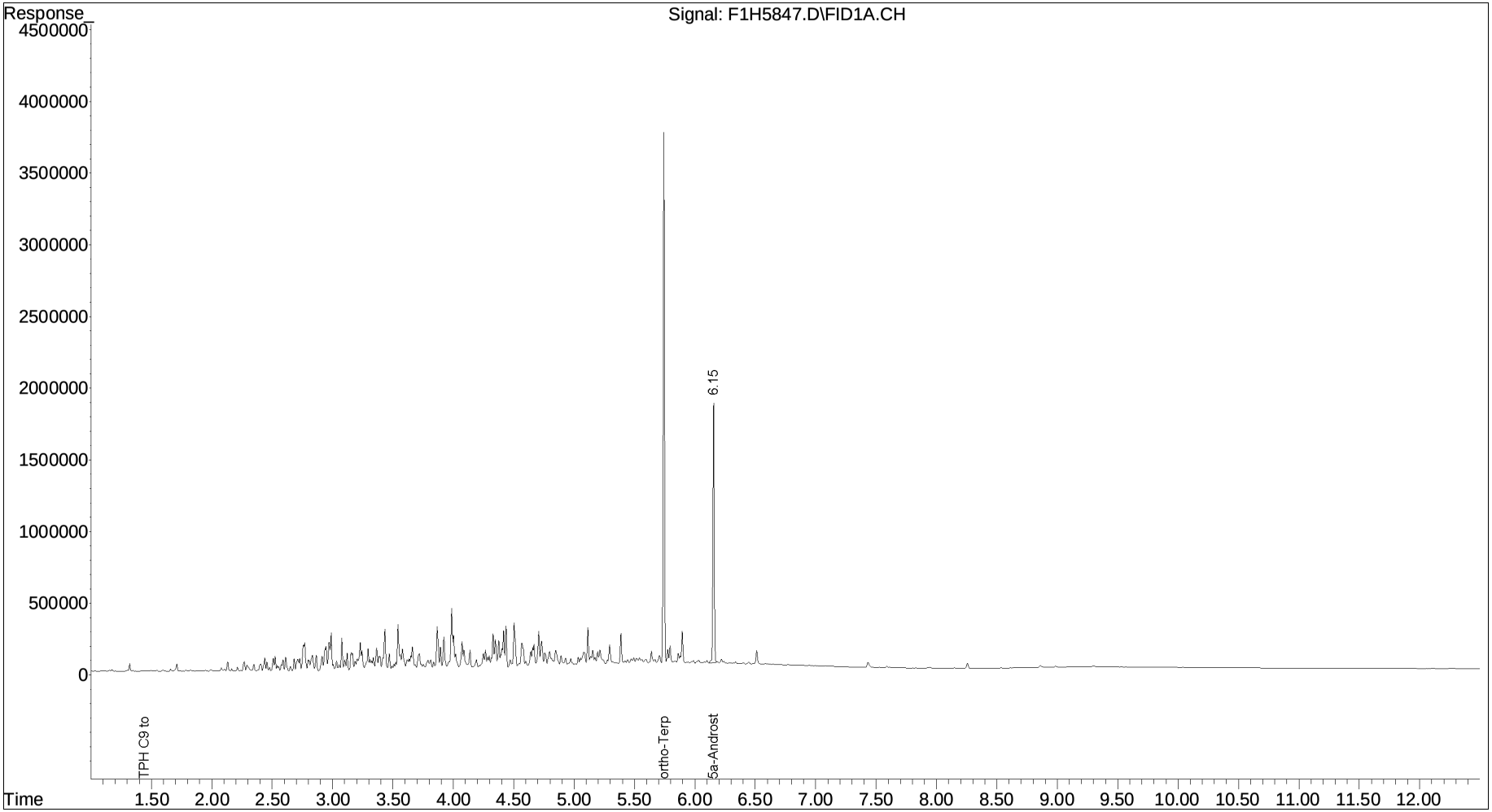
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

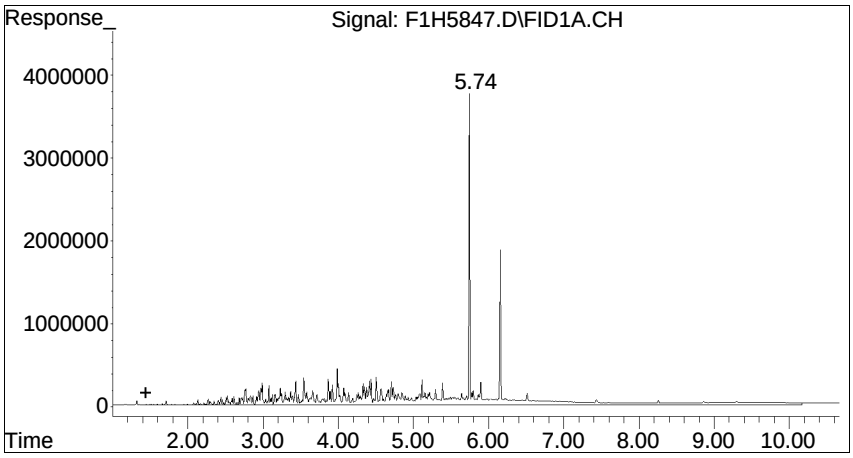
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5847.D
Lab Smp Id: K1283-02B      BN: 60579   Client Smp ID: 06MW09-20110718
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  20:49                      Operator: TM
ALS Vial  : 29   Sample Multiplier: 1

Quant Time: Jul 28 12:11:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       13682708   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       25737507   67.249 ug/mL
Spiked Amount    100.000                       Recovery   =   67.25%

 Target Compounds
 4) H   TPH C9 to C36                 1.44      261276311  780.814 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     318750242
           Corrected Range Area (IS,SS):       279330027
           Instrument Blank Area (F1H5845):     18053716

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5847.D
Lab Smp Id: K1283-02B BN: 60579 Client Smp ID: 06MW09-20110718
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 20:49 Operator: TM
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Jul 28 12:11:24 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 261276311
Conc: 780.81 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW01-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-04 **Collection Date:** 07/19/11 12:27

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 2.5 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 9:43 | 60598 |
| Surrogate: ortho-Terphenyl | 92.4 | | | 50-150 | %REC | 1 | 08/03/2011 9:43 | 60598 |

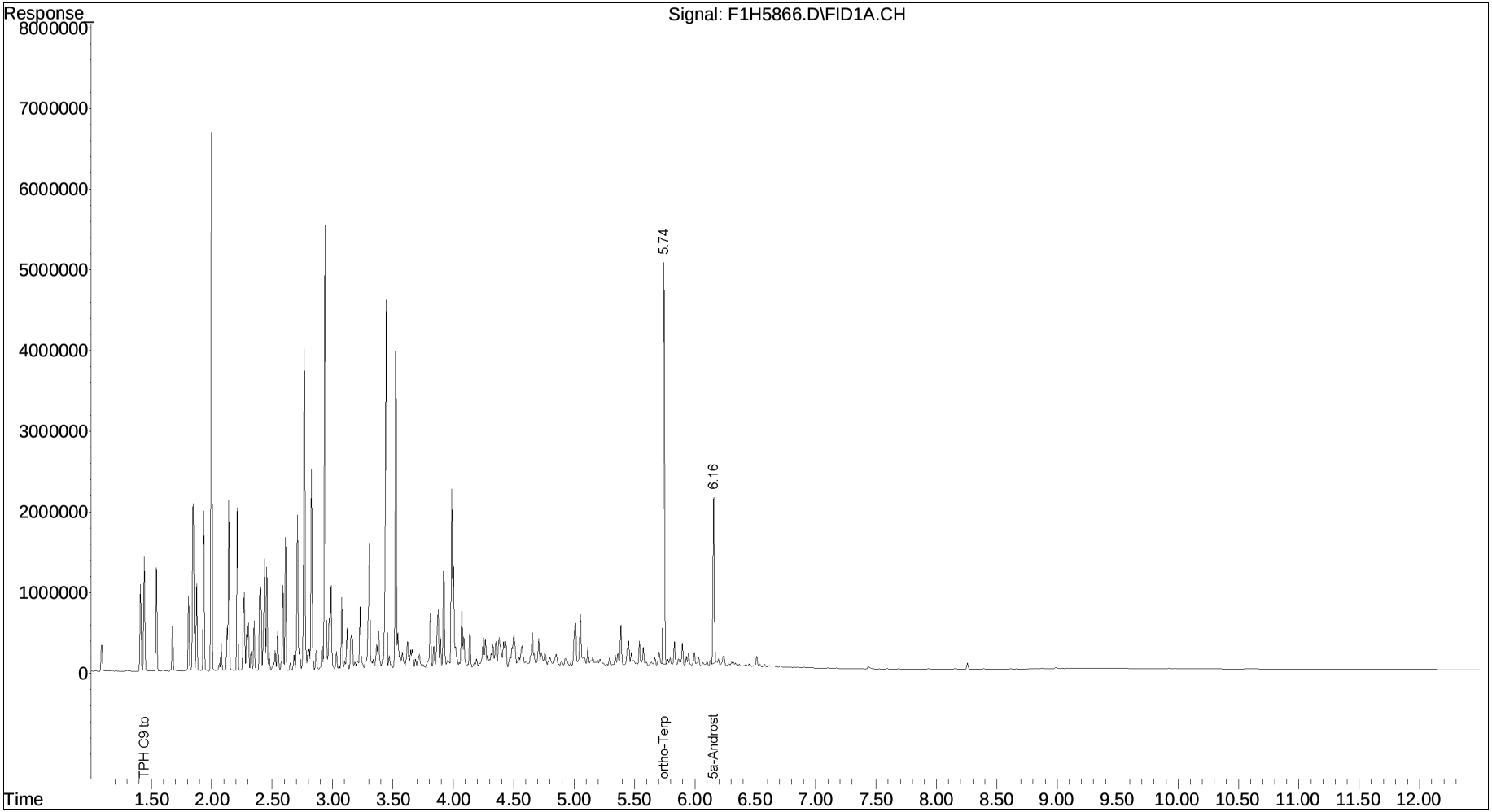
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

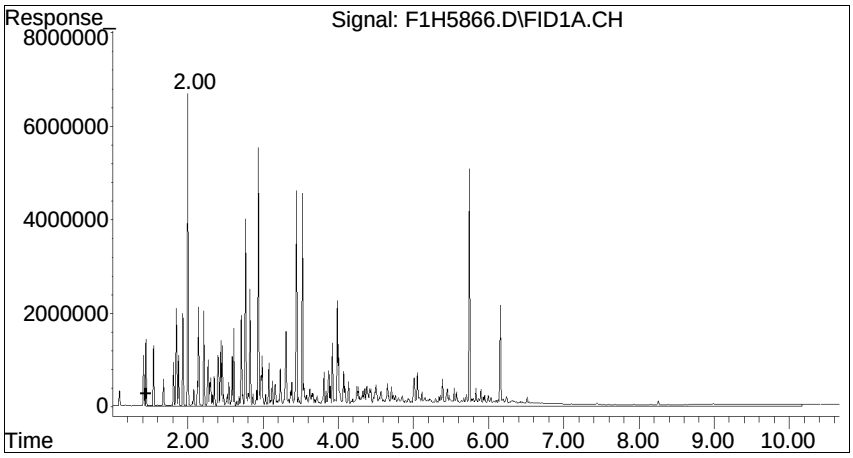
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5866.D
Lab Smp Id: K1283-04B      BN: 60598   Client Smp ID: 06MW01-20110719
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011   9:43                      Operator: TM
ALS Vial  : 5   Sample Multiplier: 1

Quant Time: Aug 10 11:44:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.16       15588855   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       35358825   92.388 ug/mL
Spiked Amount    100.000                       Recovery   =   92.39%

 Target Compounds
 4) H   TPH C9 to C36                 1.44      829092843 2477.710 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     907634078
           Corrected Range Area (IS,SS):       856686398
           Instrument Blank Area (F1H5862):     27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5866.D
Lab Smp Id: K1283-04B BN: 60598 Client Smp ID: 06MW01-20110719
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 9:43 Operator: TM
ALS Vial : 5 Sample Multiplier: 1

Quant Time: Aug 10 11:44:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 829092843
Conc: 2477.71 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW02-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-05 **Collection Date:** 07/19/11 14:07

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.23 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:09 | 60579 |
| Surrogate: ortho-Terphenyl | 68.7 | | | 50-150 | %REC | 1 | 07/27/2011 21:09 | 60579 |

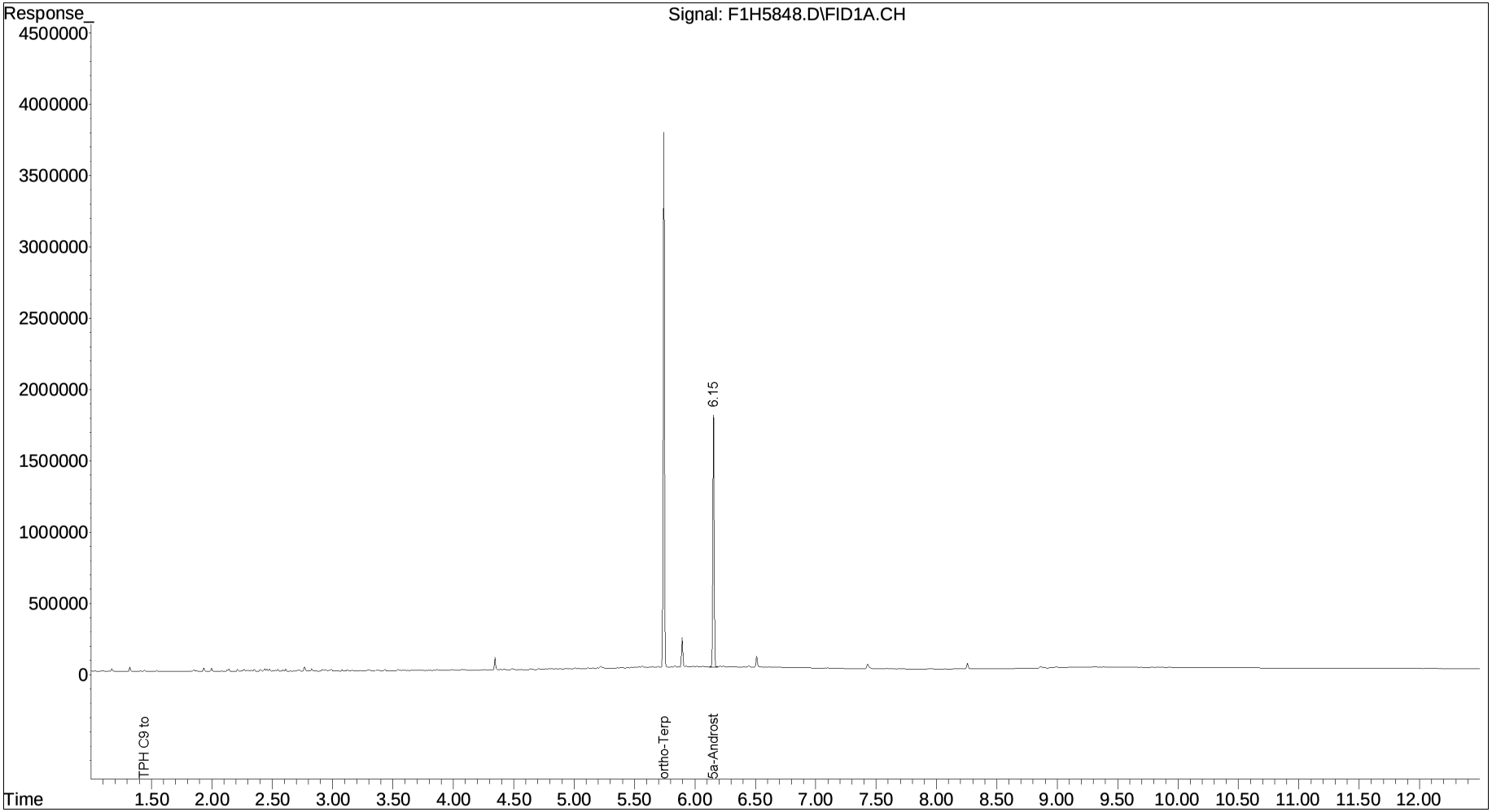
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

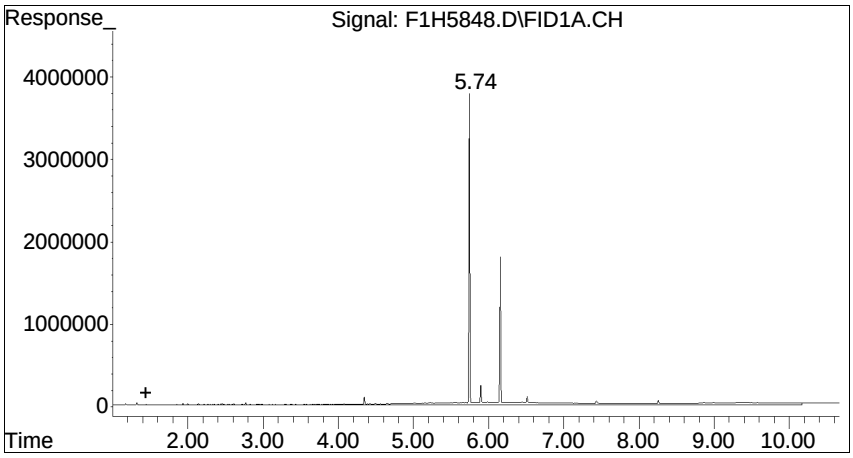
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5848.D
Lab Smp Id: K1283-05B      BN: 60579   Client Smp ID: 06MW02-20110719
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  21:09                      Operator: TM
ALS Vial  : 30   Sample Multiplier: 1

Quant Time: Jul 28 12:11:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       13226965   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       26290290   68.693 ug/mL
Spiked Amount    100.000                       Recovery   =   68.69%

 Target Compounds
 4) H   TPH C9 to C36                 1.44       78064064  233.291 ug/mL
           Integration Range:                     1.44 to 10.17 minutes
           Raw Range Area:                     135635035
           Corrected Range Area (IS,SS):        96117780
           Instrument Blank Area (F1H5845):     18053716

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5848.D
Lab Smp Id: K1283-05B BN: 60579 Client Smp ID: 06MW02-20110719
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 21:09 Operator: TM
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Jul 28 12:11:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 78064064
Conc: 233.29 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW06-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-06 **Collection Date:** 07/19/11 9:17

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | 0.38 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:29 | 60579 |
| Surrogate: ortho-Terphenyl | 71.6 | | | 50-150 | %REC | 1 | 07/27/2011 21:29 | 60579 |

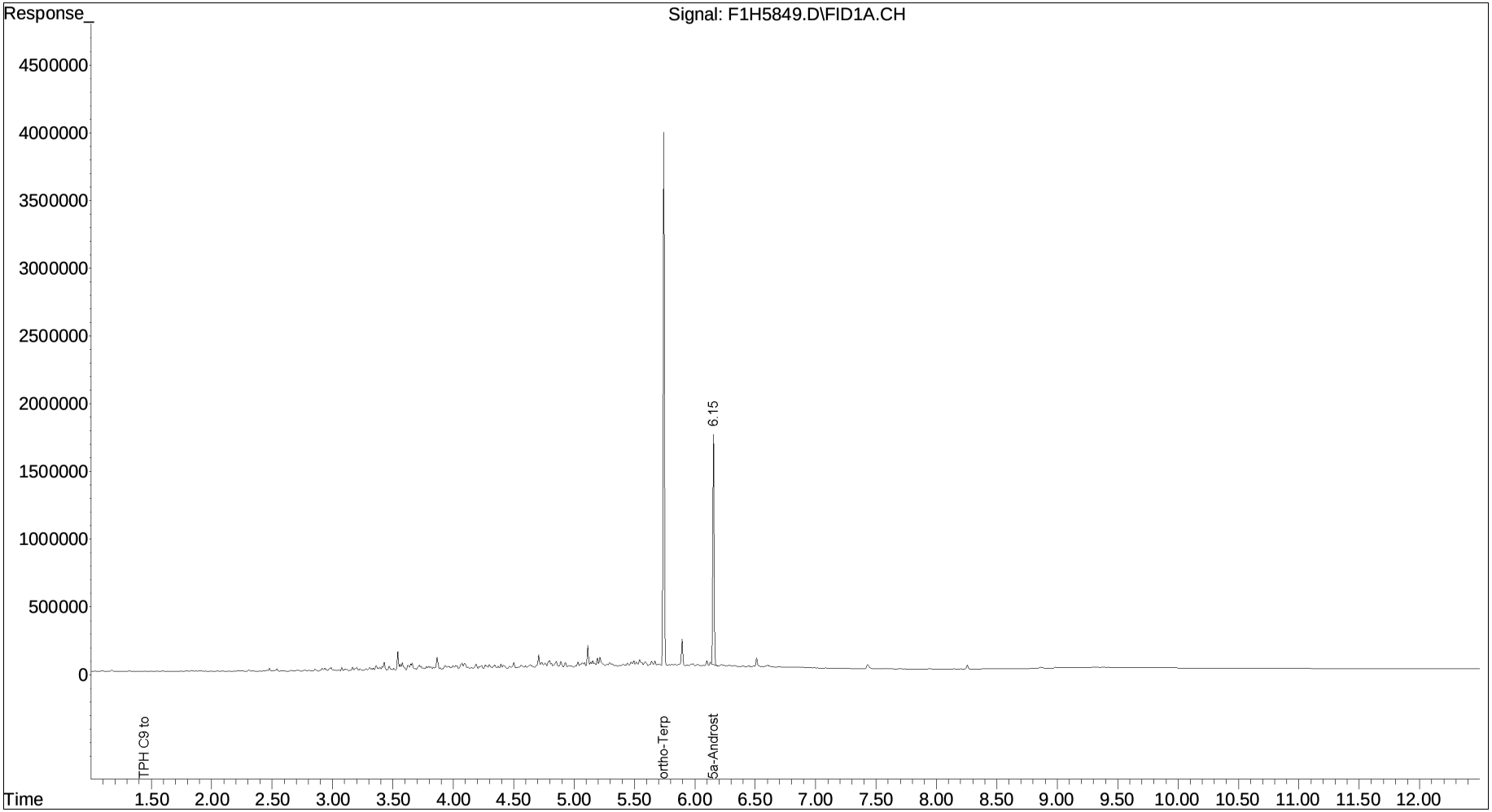
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

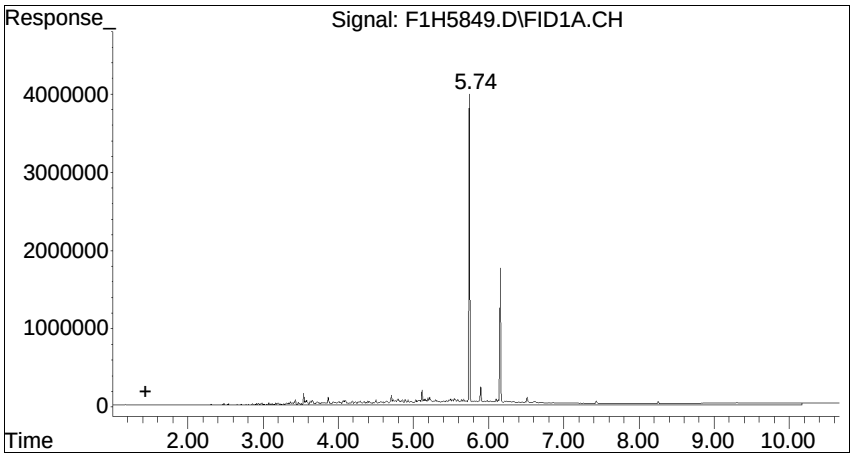
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5849.D
Lab Smp Id: K1283-06B      BN: 60579   Client Smp ID: 06MW06-20110719
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  21:29                      Operator: TM
ALS Vial  : 31   Sample Multiplier: 1

Quant Time: Jul 28 12:11:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       12693693   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       27384058   71.551 ug/mL
Spiked Amount    100.000                       Recovery   =   71.55%

 Target Compounds
 4) H   TPH C9 to C36                 1.44      127109668  379.862 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     185241135
           Corrected Range Area (IS,SS):       145163384
           Instrument Blank Area (F1H5845):     18053716

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5849.D
Lab Smp Id: K1283-06B BN: 60579 Client Smp ID: 06MW06-20110719
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 21:29 Operator: TM
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Jul 28 12:11:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 127109668
Conc: 379.86 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW07-20110719
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-07
**Collection Date:** 07/19/11 12:48

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.20 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:49 | 60579 |
| Surrogate: ortho-Terphenyl | 76.1 | | | 50-150 | %REC | 1 | 07/27/2011 21:49 | 60579 |

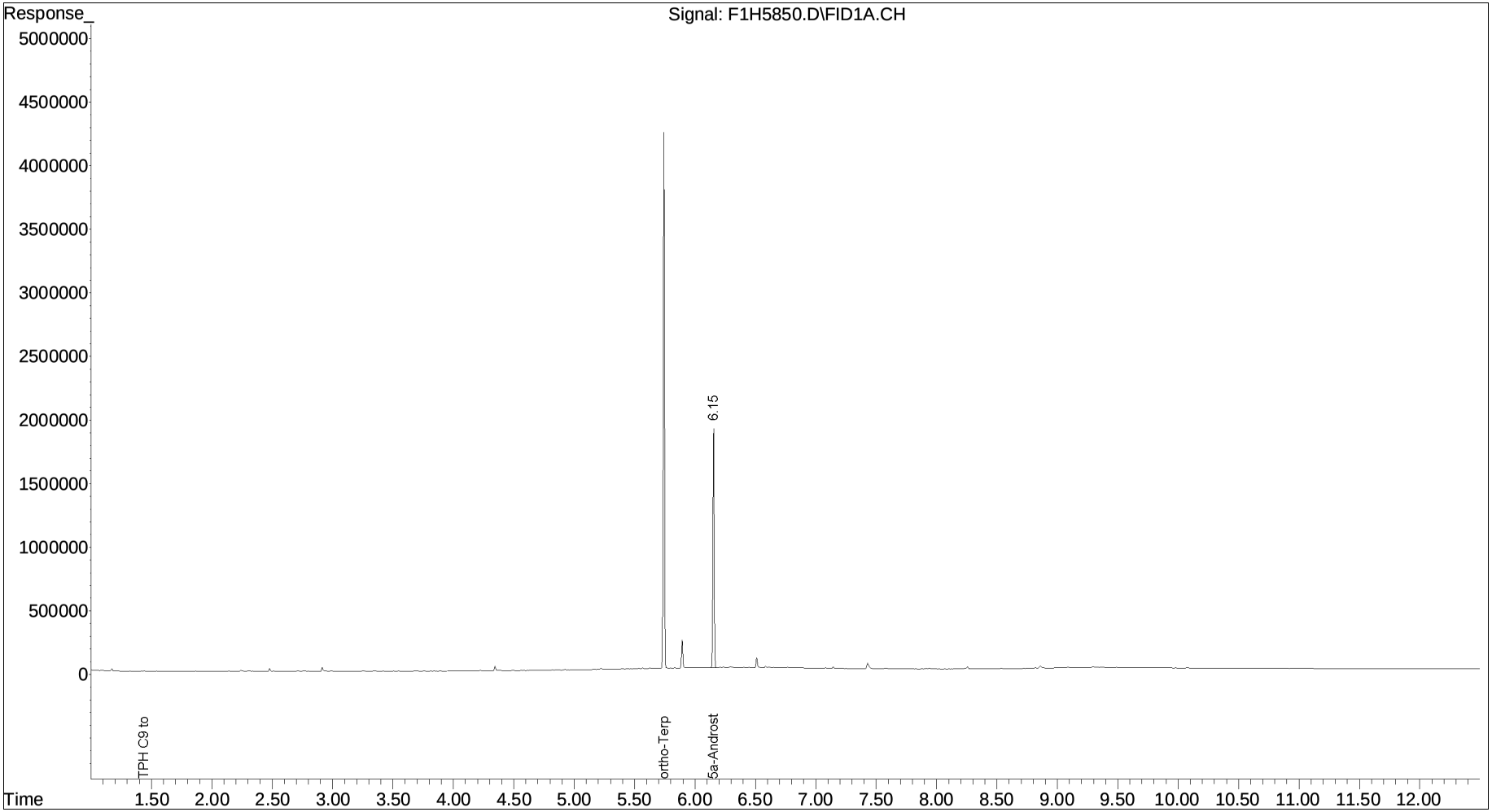
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

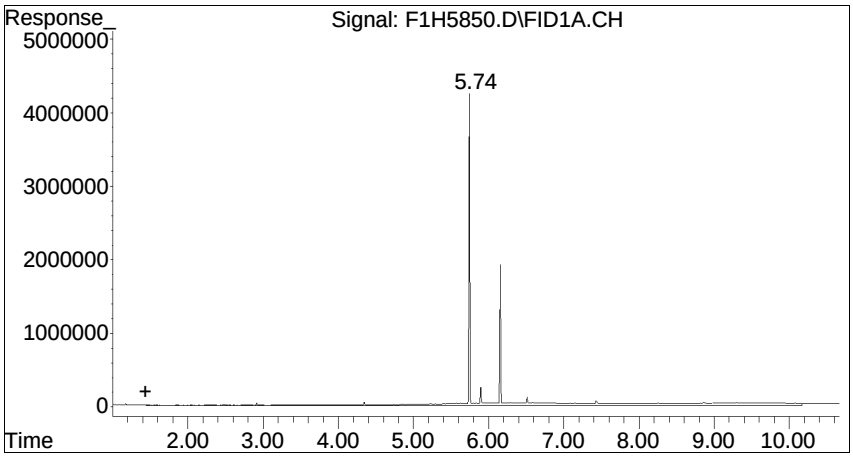
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5850.D
Lab Smp Id: K1283-07B      BN: 60579   Client Smp ID: 06MW07-20110719
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  21:49                      Operator: TM
ALS Vial  : 32   Sample Multiplier: 1

Quant Time: Jul 28 12:11:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       13943421   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       29125562   76.101 ug/mL
Spiked Amount    100.000                       Recovery   =   76.10%

 Target Compounds
 4) H   TPH C9 to C36                 1.44       67749616  202.467 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                      128872315
           Corrected Range Area (IS,SS):         85803332
           Instrument Blank Area (F1H5845):      18053716

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5850.D
Lab Smp Id: K1283-07B BN: 60579 Client Smp ID: 06MW07-20110719
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 21:49 Operator: TM
ALS Vial : 32 Sample Multiplier: 1

Quant Time: Jul 28 12:11:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 67749616
Conc: 202.47 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW08-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-08 **Collection Date:** 07/19/11 14:56

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.19 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 22:09 | 60579 |
| Surrogate: ortho-Terphenyl | 66.5 | | | 50-150 | %REC | 1 | 07/27/2011 22:09 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5851.D
Lab Smp Id: K1283-08B BN: 60579 Client Smp ID: 06MW08-20110719
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 22:09 Operator: TM
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 28 12:11:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

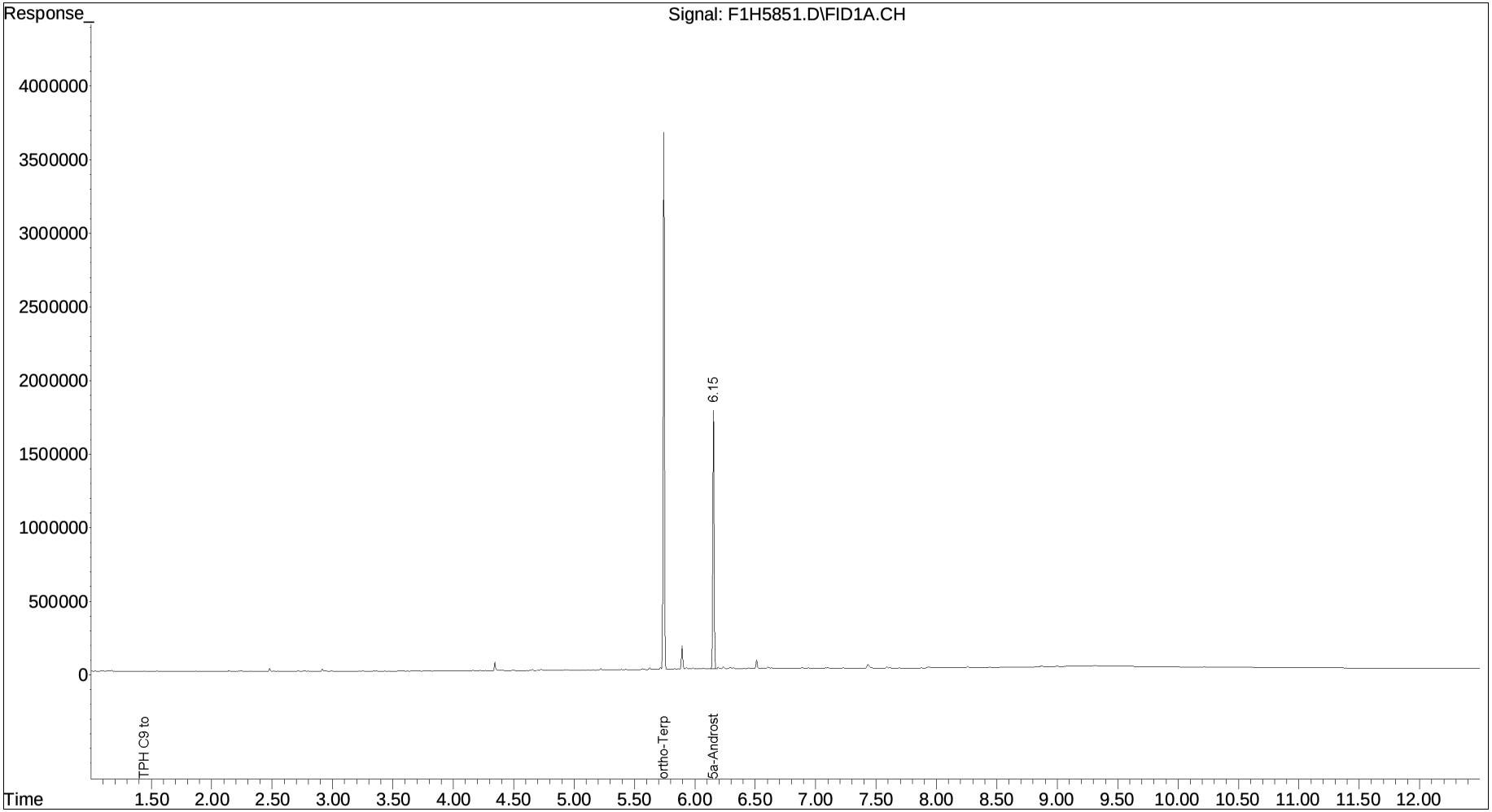
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.15 | 12932434 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 25452003 | 66.503 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 66.50% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 64862055 | 193.838 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 121300207 | |
| Corrected Range Area (IS,SS): | | 82915771 | |
| Instrument Blank Area (F1H5845): | | 18053716 | |

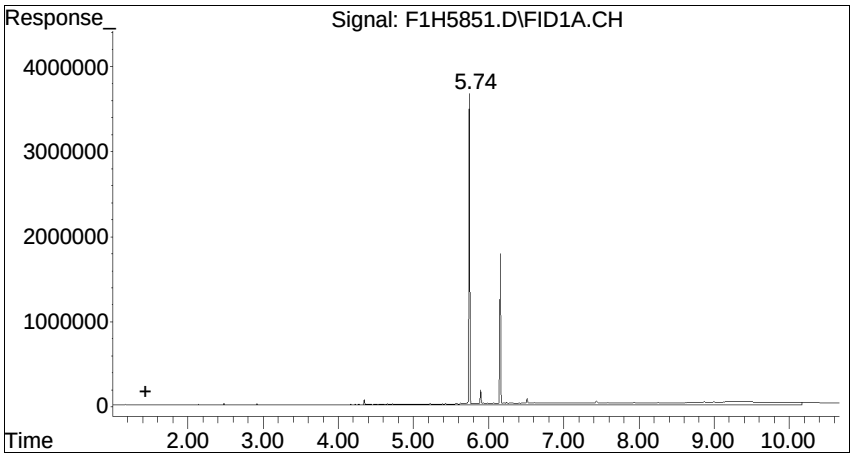
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5851.D
Lab Smp Id: K1283-08B BN: 60579 Client Smp ID: 06MW08-20110719
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 22:09 Operator: TM
ALS Vial : 33 Sample Multiplier: 1

Quant Time: Jul 28 12:11:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 64862055
Conc: 193.84 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW13-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-09 **Collection Date:** 07/19/11 9:25

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.37 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 22:29 | 60579 |
| Surrogate: ortho-Terphenyl | 77.3 | | | 50-150 | %REC | 1 | 07/27/2011 22:29 | 60579 |

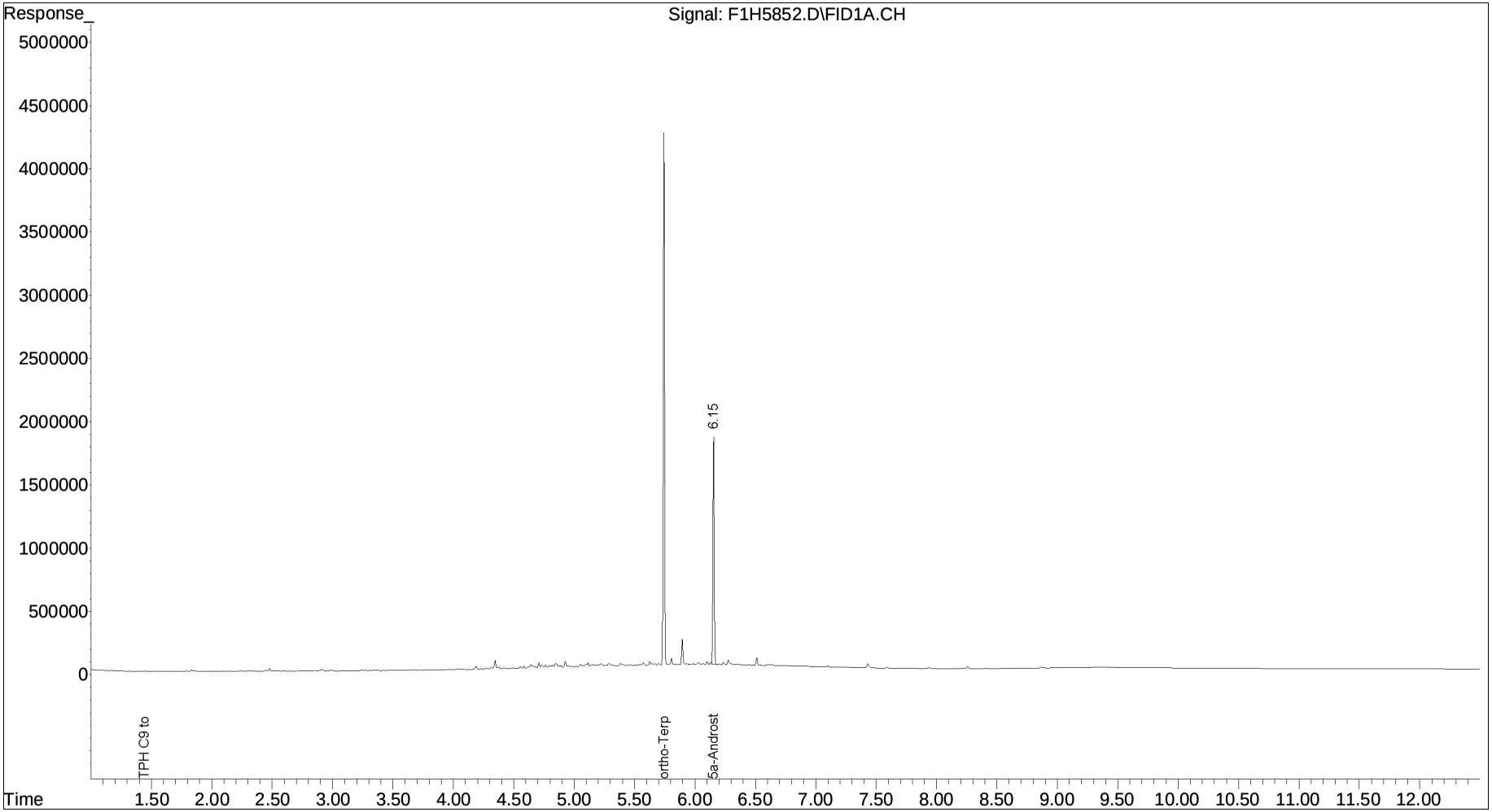
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

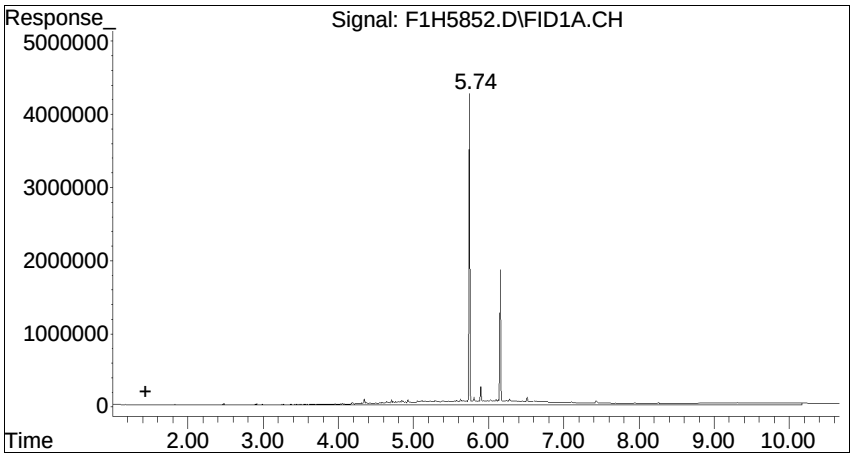
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5852.D
Lab Smp Id: K1283-09B      BN: 60579   Client Smp ID: 06MW13-20110719
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  22:29                      Operator: TM
ALS Vial  : 34   Sample Multiplier: 1

Quant Time: Jul 28 12:11:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       13341787   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       29569776   77.262 ug/mL
Spiked Amount    100.000                       Recovery   =   77.26%

 Target Compounds
 4) H   TPH C9 to C36                 1.44      124331808  371.561 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     185297087
           Corrected Range Area (IS,SS):       142385524
           Instrument Blank Area (F1H5845):     18053716

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5852.D
Lab Smp Id: K1283-09B BN: 60579 Client Smp ID: 06MW13-20110719
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 22:29 Operator: TM
ALS Vial : 34 Sample Multiplier: 1

Quant Time: Jul 28 12:11:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 124331808
Conc: 371.56 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW03-20110720 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-11 **Collection Date:** 07/20/11 13:44

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 3.5 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:04 | 60598 |
| Surrogate: ortho-Terphenyl | 88.8 | | | 50-150 | %REC | 1 | 08/03/2011 10:04 | 60598 |

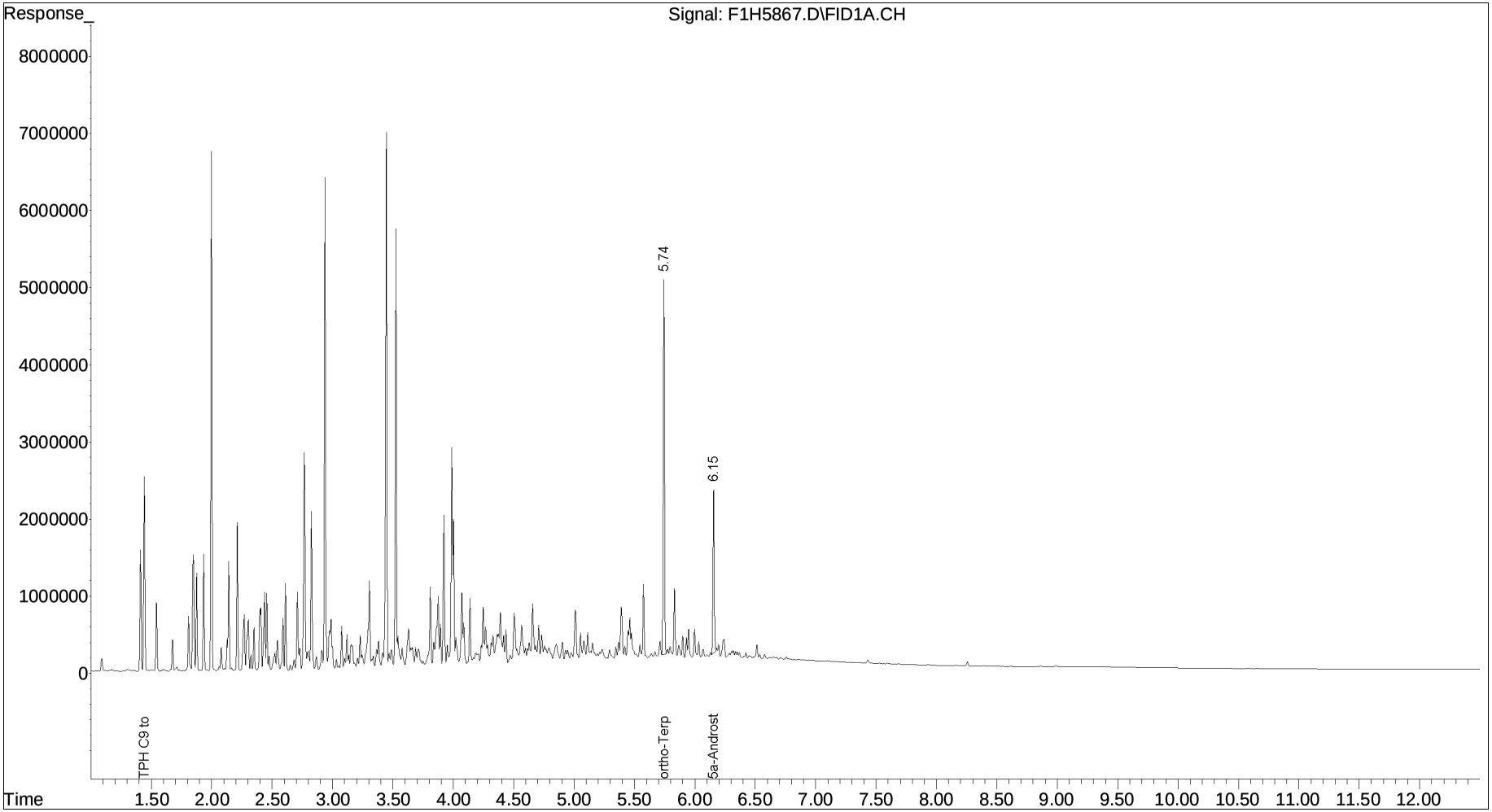
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

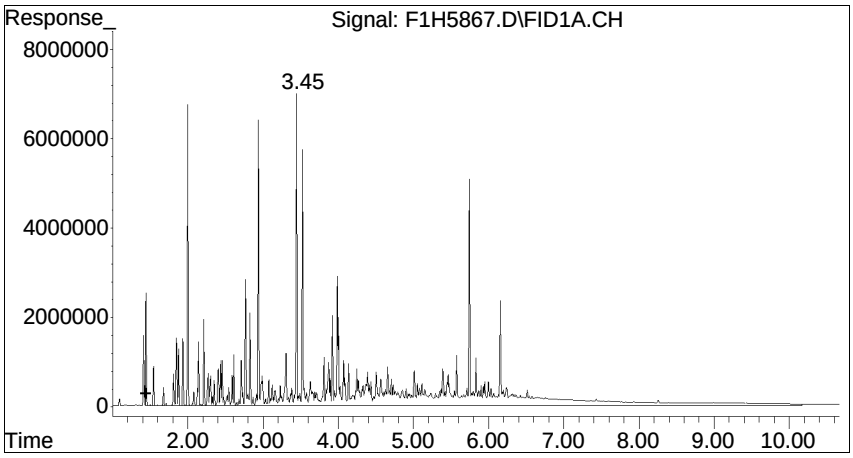
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5867.D
Lab Smp Id: K1283-11B      BN: 60598   Client Smp ID: 06MW03-20110720
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  10:04                      Operator: TM
ALS Vial  : 6   Sample Multiplier: 1

Quant Time: Aug 10 11:44:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.16       15672821   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       33986322   88.802 ug/mL
Spiked Amount    100.000                       Recovery   =   88.80%

 Target Compounds
 4) H   TPH C9 to C36                 1.44     1175102968 3511.747 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     1252355665
           Corrected Range Area (IS,SS):       1202696523
           Instrument Blank Area (F1H5862):      27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5867.D
Lab Smp Id: K1283-11B BN: 60598 Client Smp ID: 06MW03-20110720
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 10:04 Operator: TM
ALS Vial : 6 Sample Multiplier: 1

Quant Time: Aug 10 11:44:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1175102968
Conc: 3511.75 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW10-20110720 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-12 **Collection Date:** 07/20/11 11:16

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 1.4 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:24 | 60598 |
| Surrogate: ortho-Terphenyl | 78.5 | | | 50-150 | %REC | 1 | 08/03/2011 10:24 | 60598 |

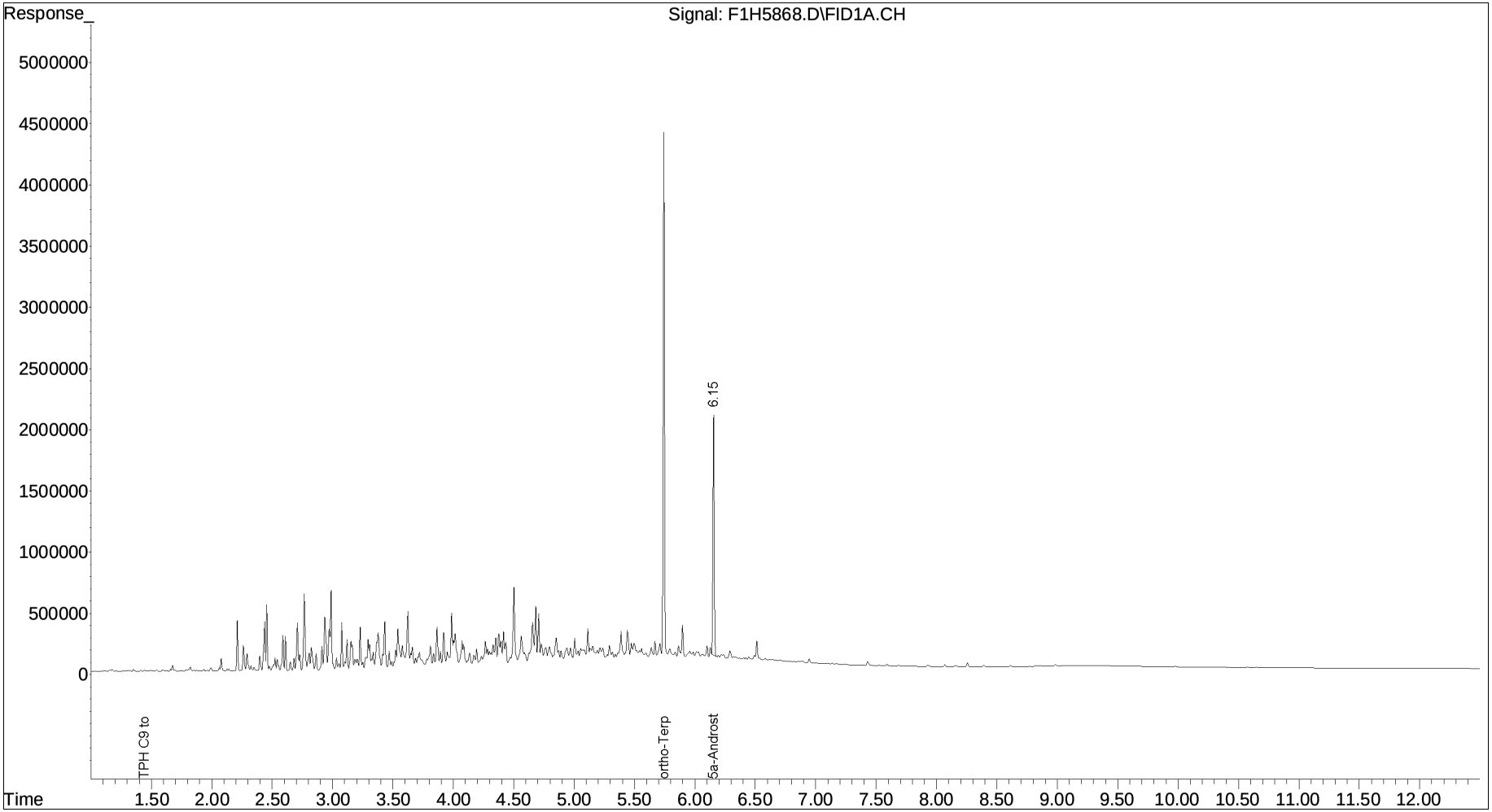
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

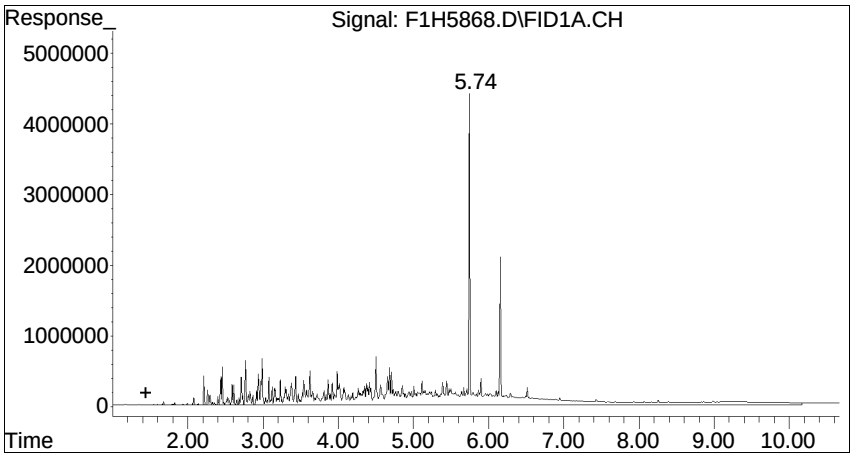
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5868.D
Lab Smp Id: K1283-12B      BN: 60598   Client Smp ID: 06MW10-20110720
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  10:24                      Operator: TM
ALS Vial  : 7   Sample Multiplier: 1

Quant Time: Aug 10 11:44:52 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       14544091   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       30033995   78.475 ug/mL
Spiked Amount    100.000                       Recovery   =   78.47%

 Target Compounds
 4) H   TPH C9 to C36                 1.44      460774585 1377.006 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     532946226
           Corrected Range Area (IS,SS):       488368140
           Instrument Blank Area (F1H5862):     27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5868.D
Lab Smp Id: K1283-12B BN: 60598 Client Smp ID: 06MW10-20110720
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 10:24 Operator: TM
ALS Vial : 7 Sample Multiplier: 1

Quant Time: Aug 10 11:44:52 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 460774585
Conc: 1377.01 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW11-20110720 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-13 **Collection Date:** 07/20/11 10:59

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.26 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:44 | 60598 |
| Surrogate: ortho-Terphenyl | 93.4 | | | 50-150 | %REC | 1 | 08/03/2011 10:44 | 60598 |

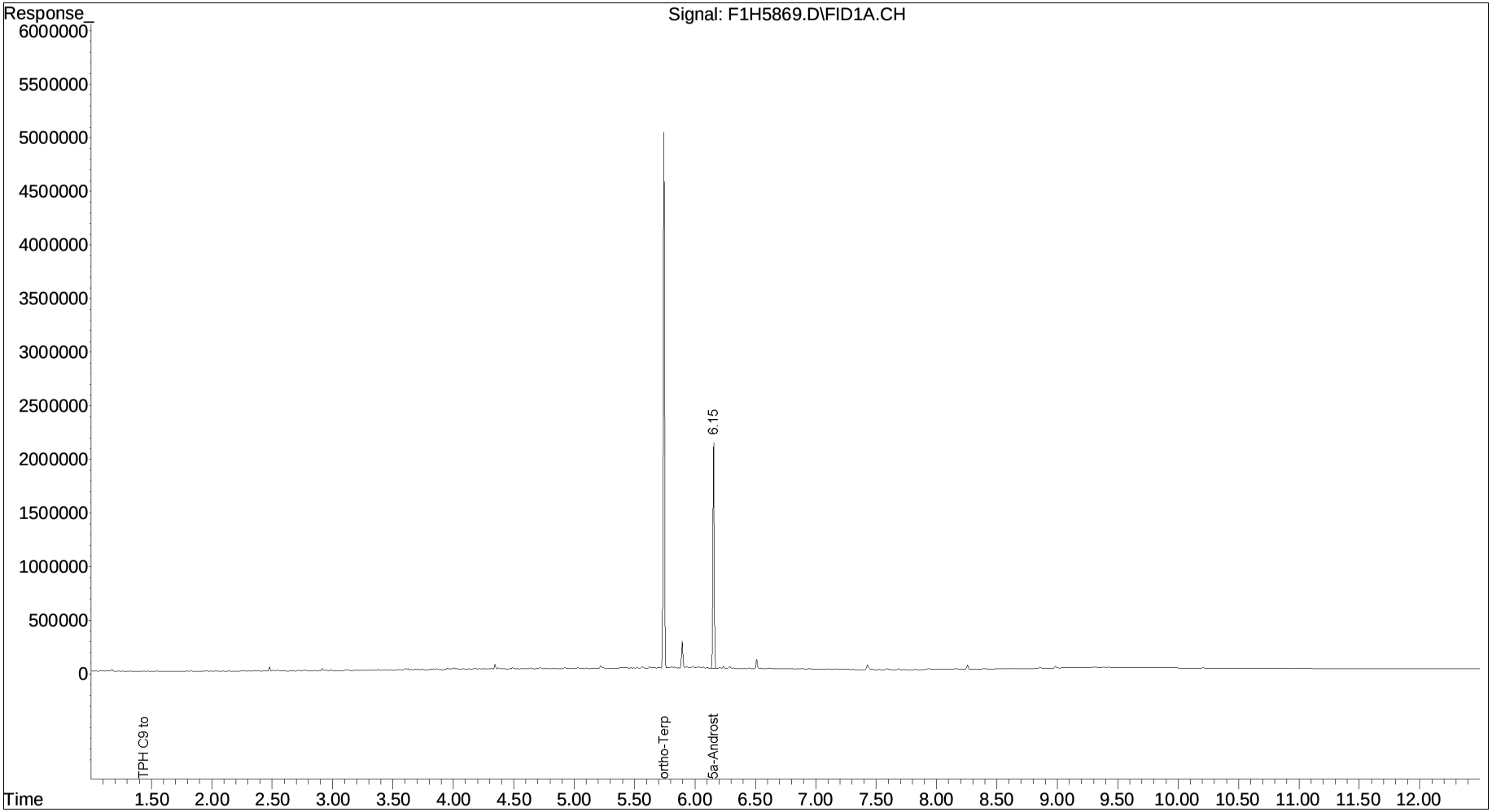
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

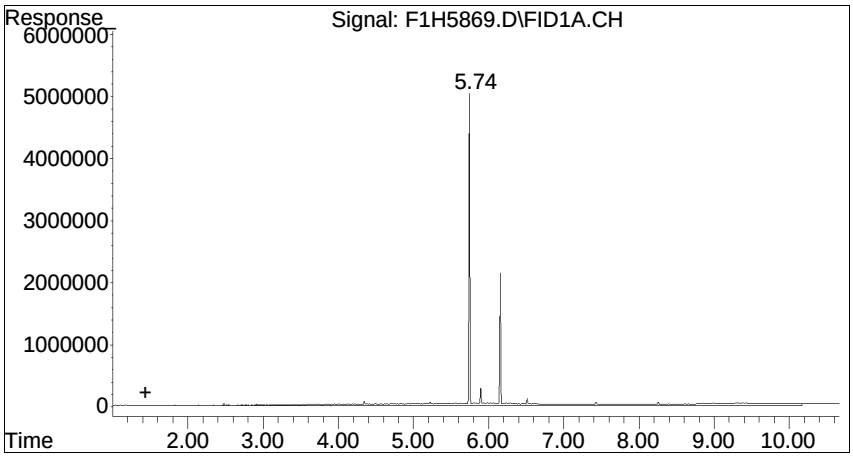
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5869.D
Lab Smp Id: K1283-13B      BN: 60598   Client Smp ID: 06MW11-20110720
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  10:44                      Operator: TM
ALS Vial  : 8   Sample Multiplier: 1

Quant Time: Aug 10 11:44:53 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       15545503   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       35764337   93.448 ug/mL
Spiked Amount    100.000                       Recovery   =   93.45%

 Target Compounds
 4) H   TPH C9 to C36                 1.44       87320180  260.953 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                      166223575
           Corrected Range Area (IS,SS):        114913735
           Instrument Blank Area (F1H5862):      27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5869.D
Lab Smp Id: K1283-13B BN: 60598 Client Smp ID: 06MW11-20110720
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 10:44 Operator: TM
ALS Vial : 8 Sample Multiplier: 1

Quant Time: Aug 10 11:44:53 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 87320180
Conc: 260.95 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW12-20110720 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-14 **Collection Date:** 07/20/11 13:50

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:04 | 60598 |
| Surrogate: ortho-Terphenyl | 92.7 | | | 50-150 | %REC | 1 | 08/03/2011 11:04 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5870.D
Lab Smp Id: K1283-14B BN: 60598 Client Smp ID: 06MW12-20110720
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 11:04 Operator: TM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 10 11:44:54 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.15 | 16036834 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 35487237 | 92.724 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 92.72% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 24924828 | 74.487 ug/mL |

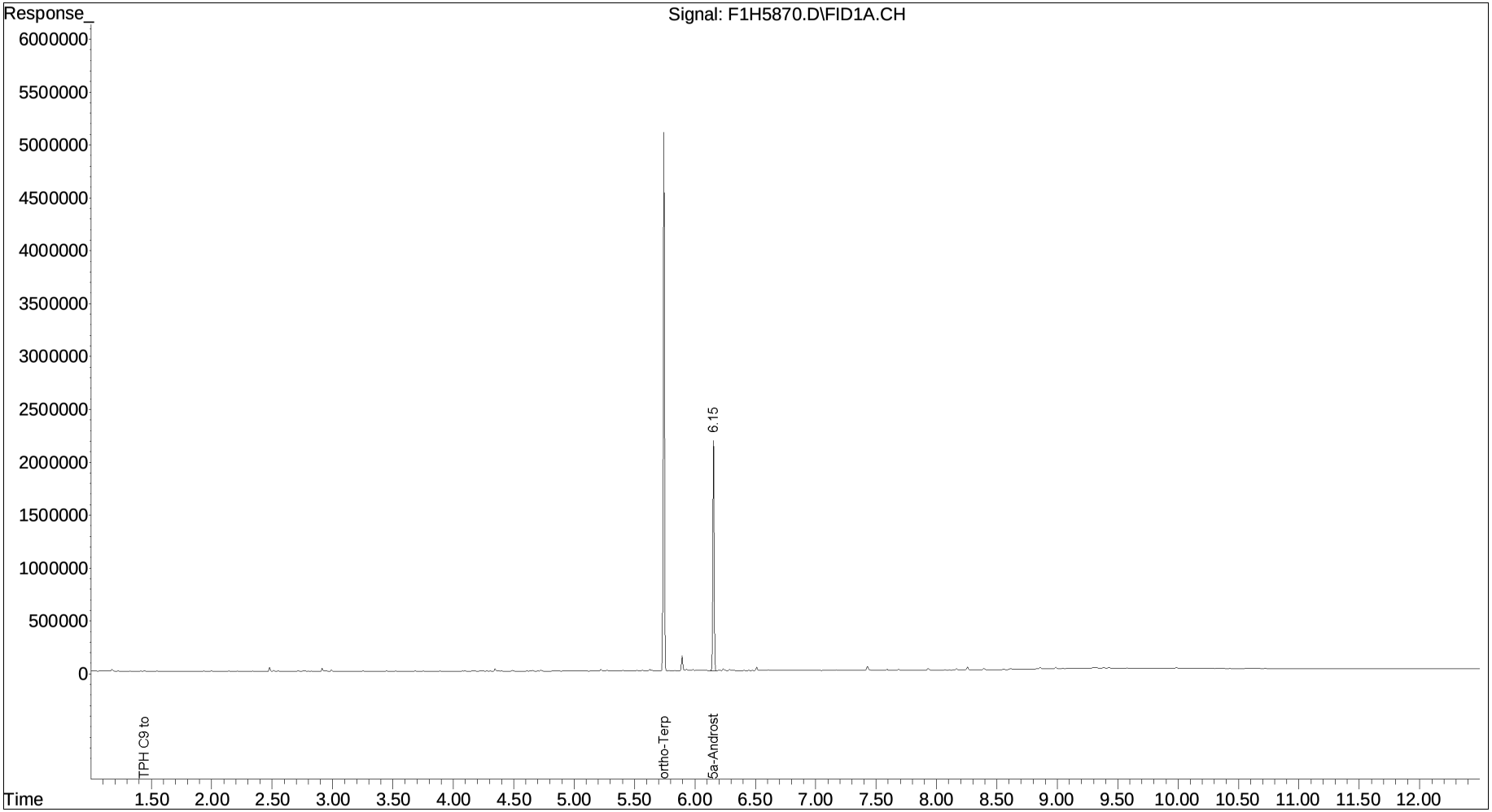
Integration Range: 1.44 to 10.17 minutes
Raw Range Area: 104042453
Corrected Range Area (IS,SS): 52518383
Instrument Blank Area (F1H5862): 27593555

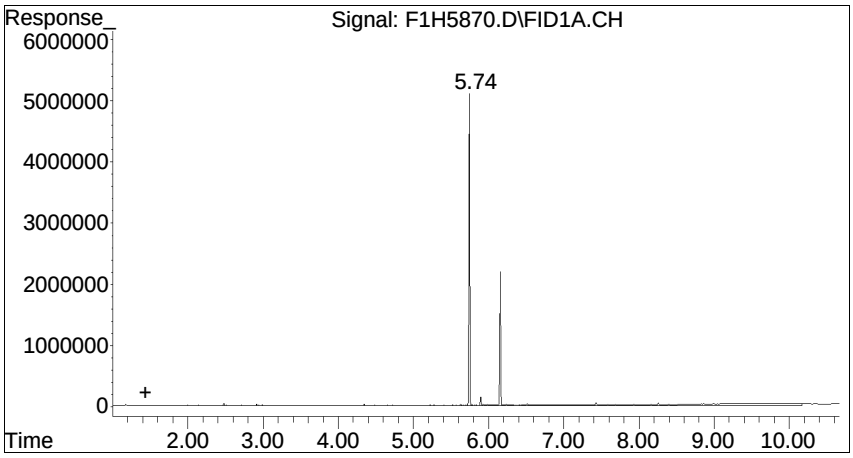
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5870.D
Lab Smp Id: K1283-14B BN: 60598 Client Smp ID: 06MW12-20110720
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 11:04 Operator: TM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: Aug 10 11:44:54 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 24924828
Conc: 74.49 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW04-20110721
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-15
**Collection Date:** 07/21/11 9:07

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | 1.1 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:24 | 60598 |
| Surrogate: ortho-Terphenyl | 83.5 | | | 50-150 | %REC | 1 | 08/03/2011 11:24 | 60598 |

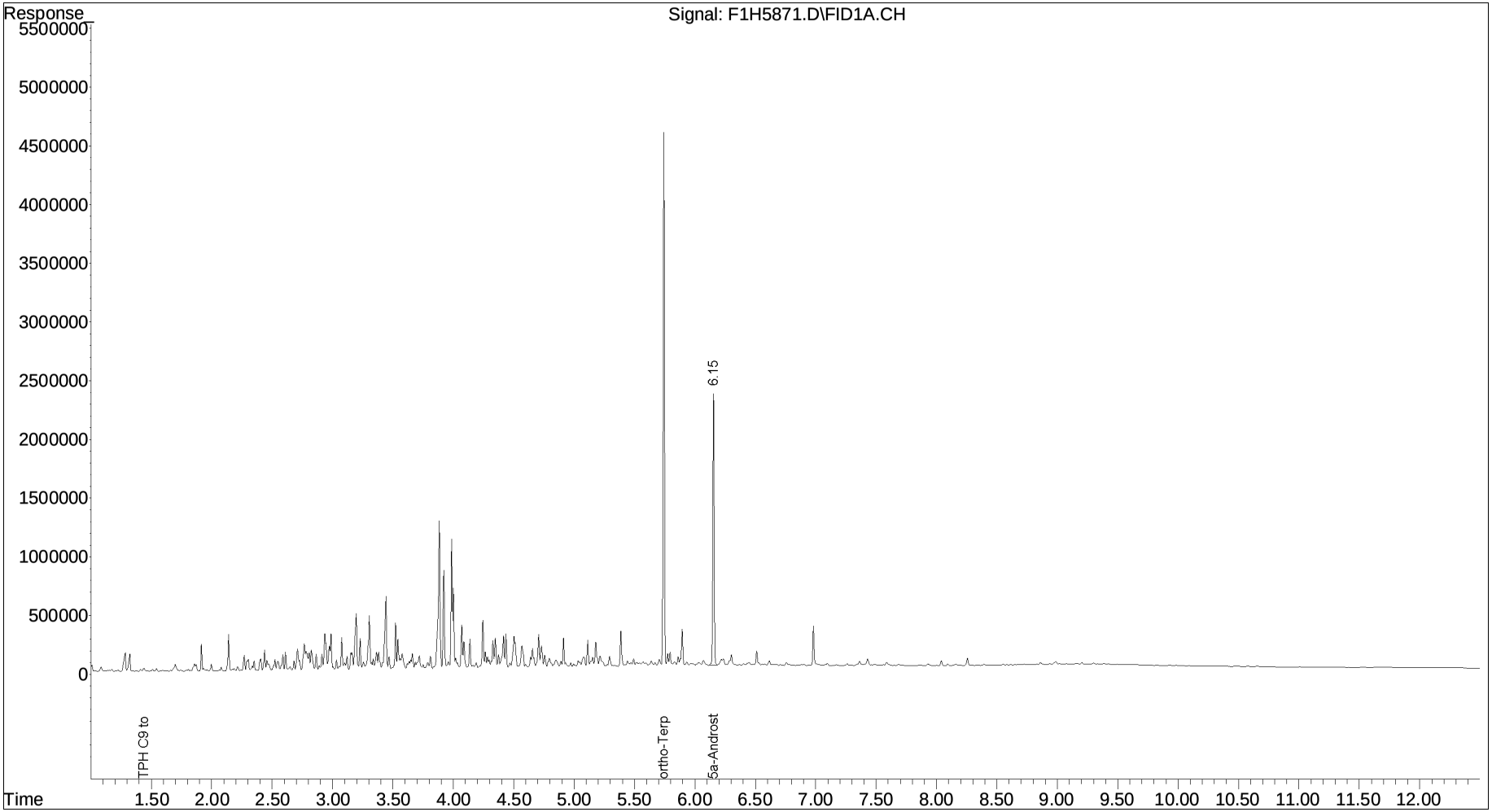
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

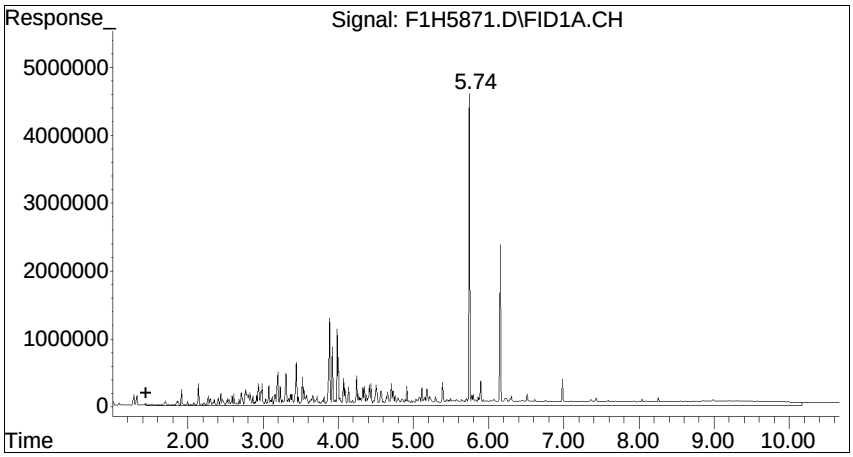
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5871.D
Lab Smp Id: K1283-15B      BN: 60598   Client Smp ID: 06MW04-20110721
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  11:24                      Operator: TM
ALS Vial  : 10   Sample Multiplier: 1

Quant Time: Aug 10 11:44:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       17248618   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       31974713   83.546 ug/mL
Spiked Amount    100.000                       Recovery   =   83.55%

 Target Compounds
 4) H   TPH C9 to C36                 1.44      363930443 1087.591 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     440747329
           Corrected Range Area (IS,SS):       391523998
           Instrument Blank Area (F1H5862):     27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5871.D
Lab Smp Id: K1283-15B BN: 60598 Client Smp ID: 06MW04-20110721
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 11:24 Operator: TM
ALS Vial : 10 Sample Multiplier: 1

Quant Time: Aug 10 11:44:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 363930443
Conc: 1087.59 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW05-20110721 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-16 **Collection Date:** 07/21/11 8:54

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:45 | 60598 |
| Surrogate: ortho-Terphenyl | 74.4 | | | 50-150 | %REC | 1 | 08/03/2011 11:45 | 60598 |

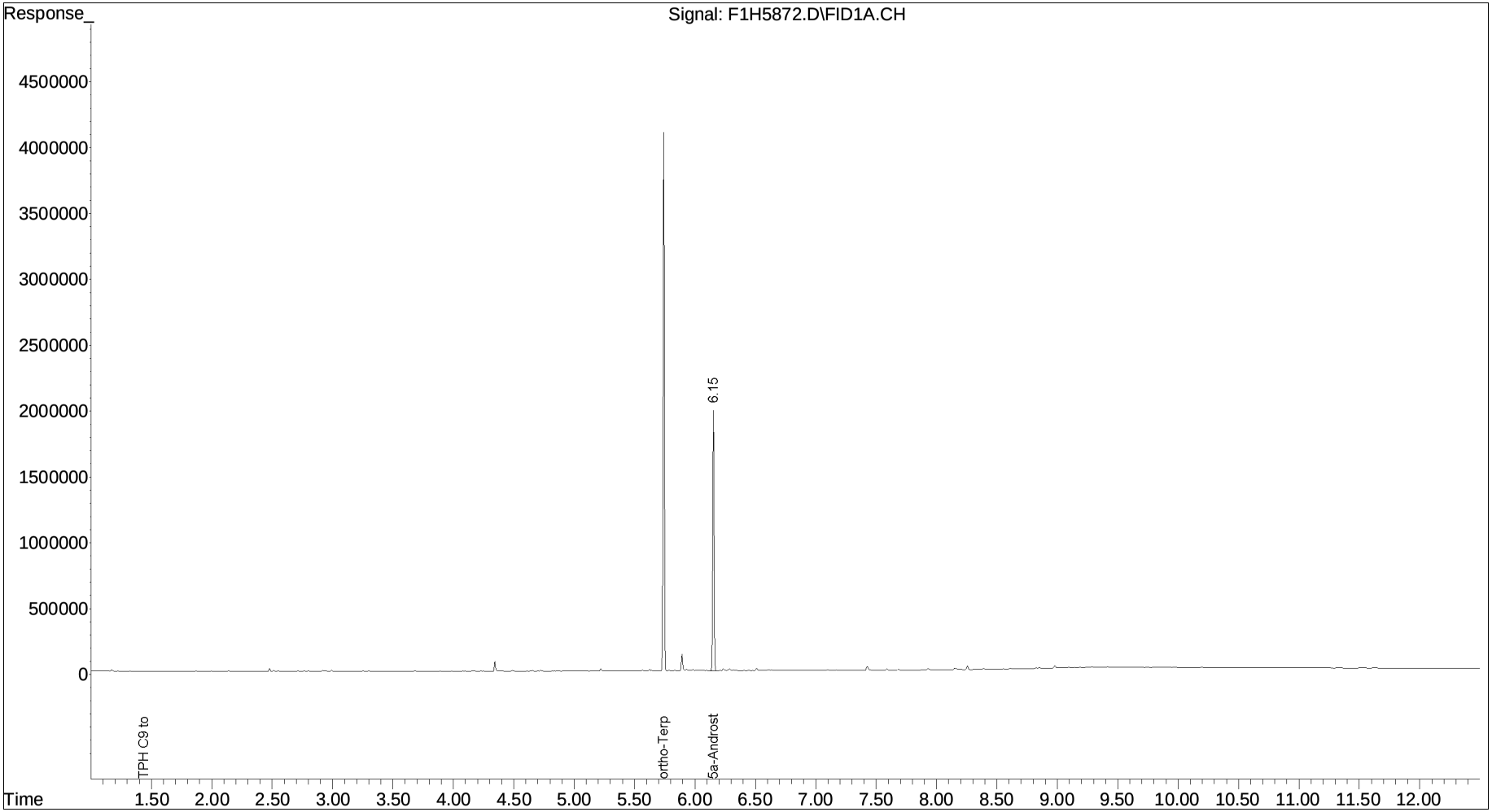
**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

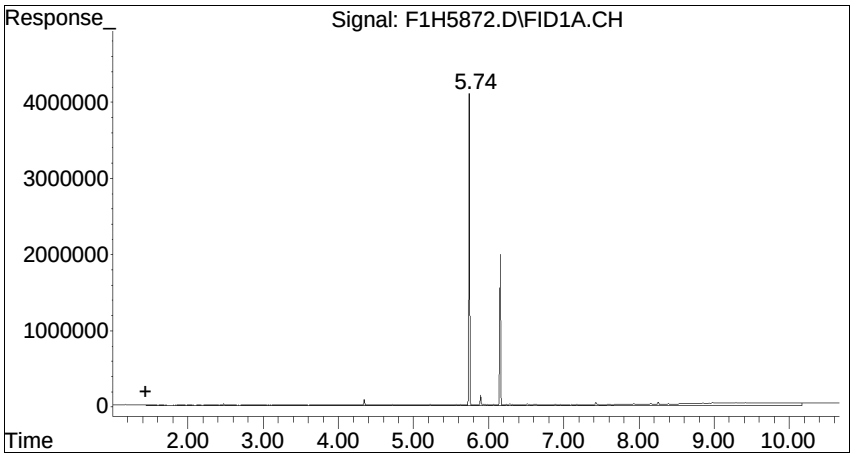
m11.08.05.A

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5872.D
Lab Smp Id: K1283-16B      BN: 60598   Client Smp ID: 06MW05-20110721
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  11:45                      Operator: TM
ALS Vial  : 11   Sample Multiplier: 1

Quant Time: Aug 10 11:44:56 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       14907757   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       28493391   74.450 ug/mL
Spiked Amount    100.000                       Recovery   =   74.45%

 Target Compounds
 4) H   TPH C9 to C36                 1.44       22205940   66.362 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                       93200643
           Corrected Range Area (IS,SS):         49799495
           Instrument Blank Area (F1H5862):      27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5872.D
Lab Smp Id: K1283-16B BN: 60598 Client Smp ID: 06MW05-20110721
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 11:45 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: Aug 10 11:44:56 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 22205940
Conc: 66.36 ug/mL m

# Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files
5 =F1H5057.D 20 =F1H5059.D 50 =F1H5061.D
80 =F1H5062.D 100 =F1H5056.D 120 =F1H5063.D

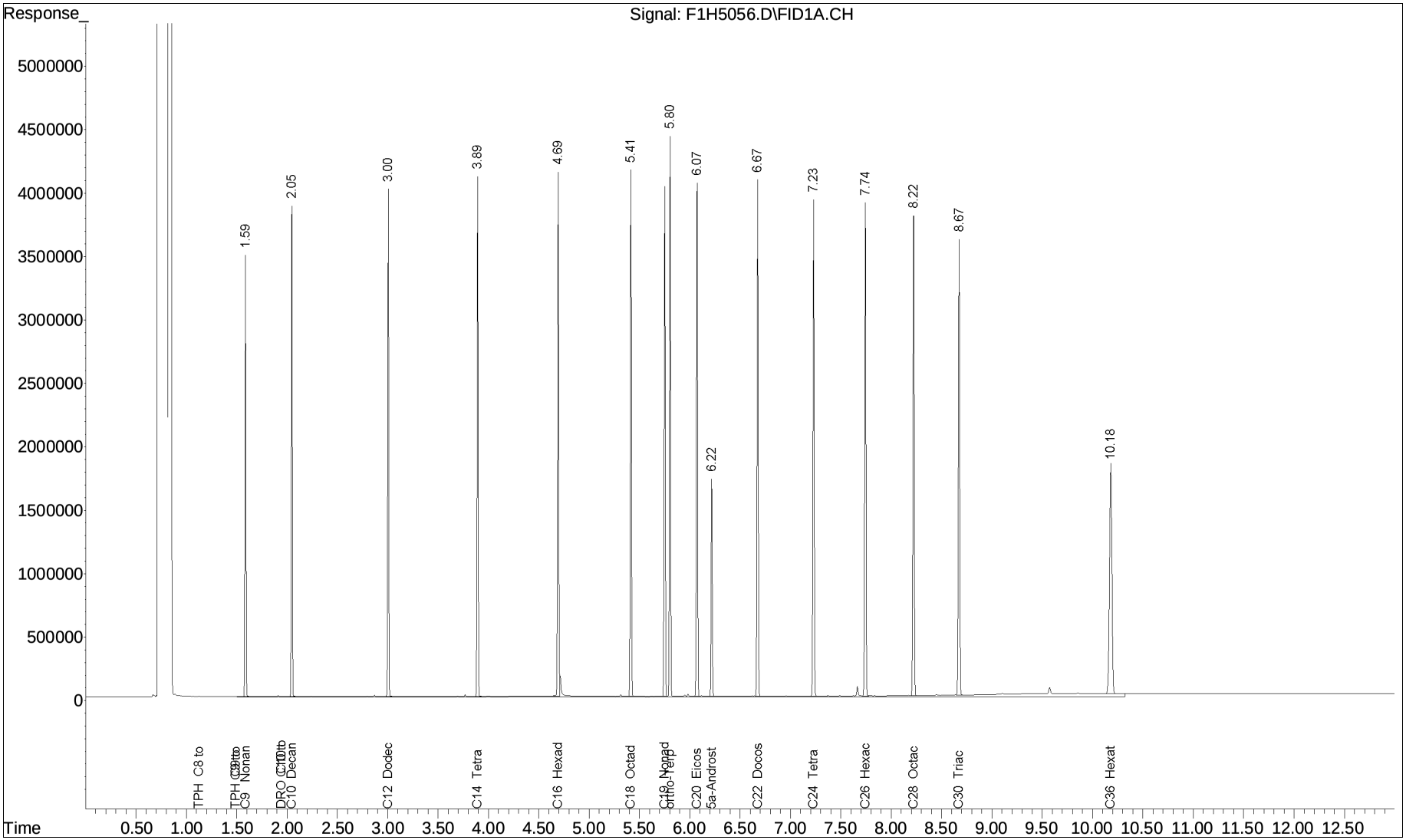
| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

```
Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date  : 20 May 2011  17:29                        Operator: TM
Lab Smp Id: FSTD1001A
Misc      : TPH F ICAL L5 100 PPM
ALS Vial  : 1   Sample Multiplier: 1

Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.22       12879904   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.80       31160170  100.000 ug/mL
Spiked Amount    100.000                       Recovery   =  100.00%
13) S   ortho-Terphenyl ISTD          5.80       31160170  100.000 ug/mL
Spiked Amount    100.000                       Recovery   =  100.00%

 Target Compounds
 3) H   DRO C10 to C28                1.95      291167731 1000.000 ug/mL
           Integration Range:                      1.95 to  8.35 minutes
           Raw Range Area:                     388570246
 4) H   TPH C9 to C36                 1.50      405368266 1400.000 ug/mL
           Integration Range:                      1.50 to 10.32 minutes
           Raw Range Area:                     499855743
14) T   C9   Nonane                   1.59       22421438  100.000 ug/mL
15) TD  C10  Decane                   2.05       23376618  100.000 ug/mL
16) TD  C12  Dodecane                 3.00       25406186  100.000 ug/mL
17) TD  C14  Tetradecane              3.89       27157899  100.000 ug/mL
18) TD  C16  Hexadecane               4.69       29466778  100.000 ug/mL
19) TD  C18  Octadecane               5.41       29700224  100.000 ug/mL
20) T   C19  Nonadecane               5.75       29939007  100.000 ug/mL
21) TD  C20  Eicosane                 6.07       30251072  100.000 ug/mL
22) TD  C22  Docosane                 6.67       31208588  100.000 ug/mL
23) TD  C24  Tetracosane              7.23       31254521  100.000 ug/mL
24) TD  C26  Hexacosane               7.74       31693702  100.000 ug/mL
25) TD  C28  Octacosane               8.22       31652142  100.000 ug/mL
26) T   C30  Triacontane              8.67       31717215  100.000 ug/mL
27) T   C36  Hexatriacontane         10.18       30122876  100.000 ug/mL
28) H   DRO  C10 to C28 ISTD          1.95      291167731 1000.000 ug/mL
           Integration Range:                      1.95 to  8.35 minutes
           Raw Range Area:                     388570246
29) H   TPH  C8 to C40 ISTD           1.12      405368266 1400.000 ug/mL
           Integration Range:                      1.12 to 12.24 minutes
           Raw Range Area:                     529800277
30) H   TPH  C9 to C36 ISTD           1.50      405368266 1400.000 ug/mL
           Integration Range:                      1.50 to 10.32 minutes
           Raw Range Area:                     499855743
 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:29 Operator: TM
Lab Smp Id: FSTD1001A
Misc : TPH F ICAL L5 100 PPM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

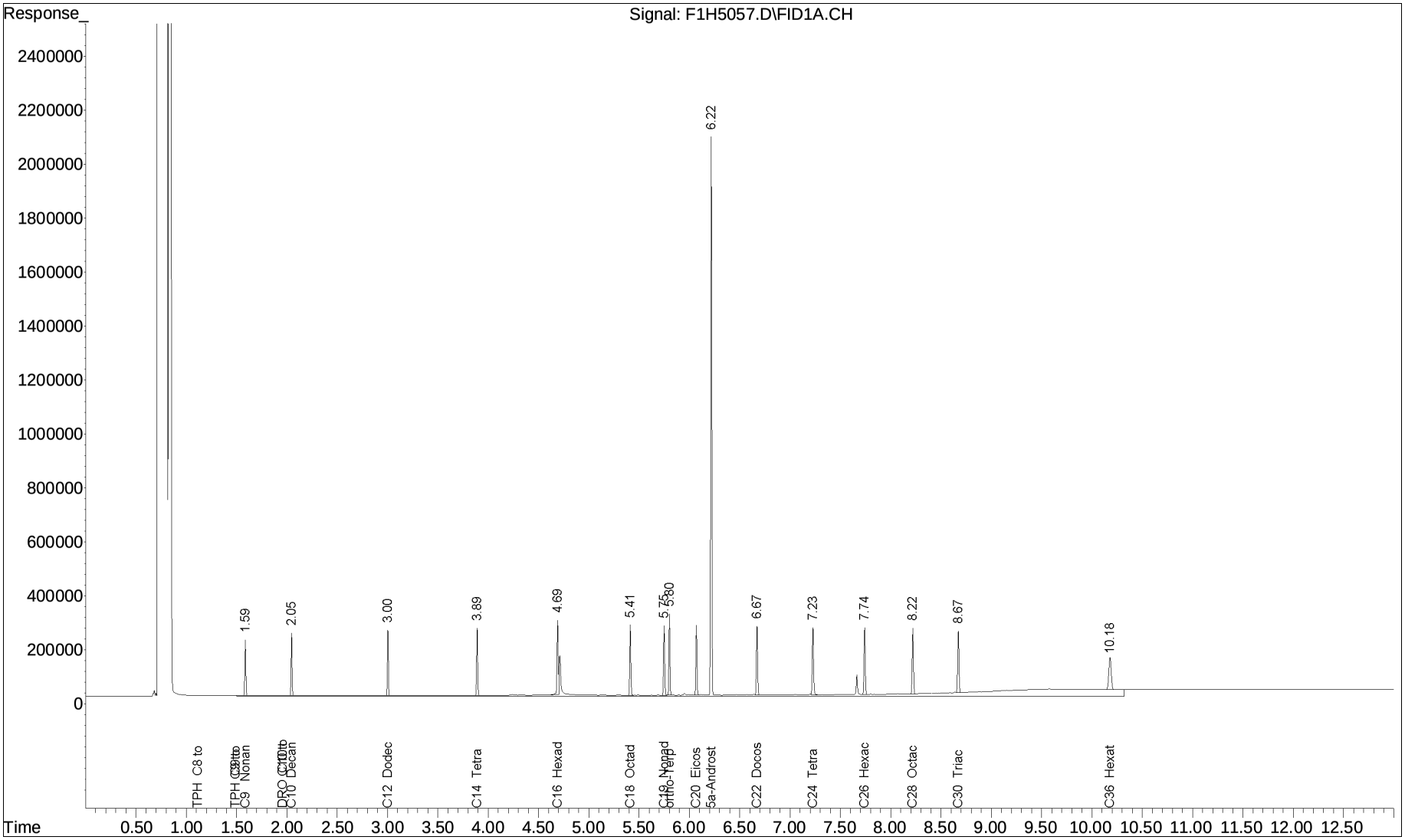
Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| **Internal Standards** | | | |
| 11) I 5a-Androstane | 6.22 | 15503589 | 40.000 ug/mL |
| **System Monitoring Compounds** | | | |
| 2) S ortho-Terphenyl | 5.80 | 2090961 | 6.710 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 6.71% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 2090961 | 5.575 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 5.58% |
| **Target Compounds** | | | |
| 3) H DRO C10 to C28 | 1.95 | 18698109 | 64.218 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 4) H TPH C9 to C36 | 1.50 | 25997358 | 89.786 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |
| 14) T C9 Nonane | 1.59 | 1399638 | 5.186 ug/mL |
| 15) TD C10 Decane | 2.05 | 1441090 | 5.121 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 1534860 | 5.019 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 1662279 | 5.085 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 2162678 | 6.097 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 1877639 | 5.252 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 1895661 | 5.260 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 1924161 | 5.284 ug/mL |
| 22) TD C22 Docosane | 6.67 | 1985758 | 5.286 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 2071922 | 5.507 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 2016132 | 5.285 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 2021589 | 5.306 ug/mL |
| 26) T C30 Triacontane | 8.67 | 2024974 | 5.304 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 1978977 | 5.458 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 18698109 | 53.350 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 119238564 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

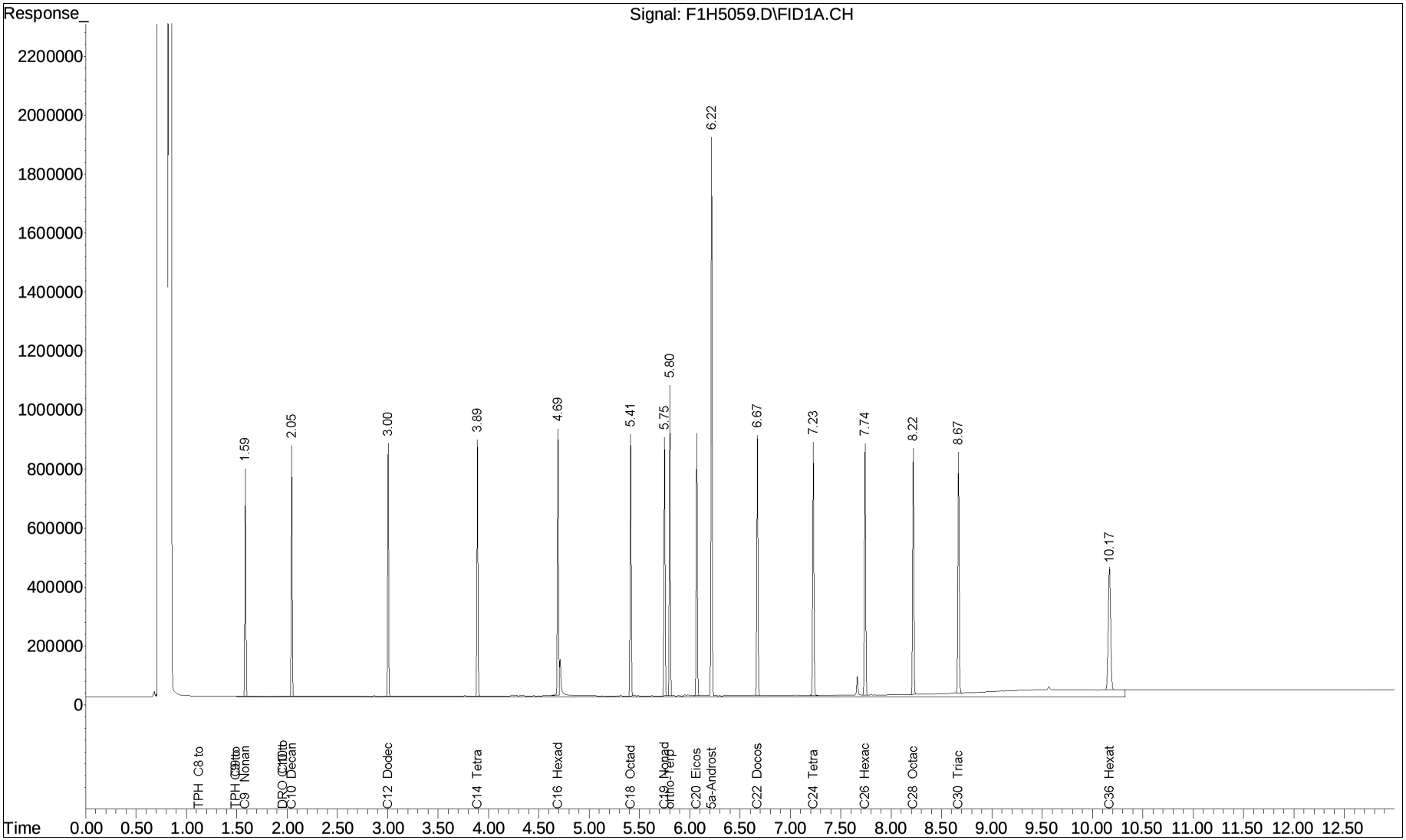
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 13906086 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 7298444 | 23.422 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 23.42% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 7298444 | 21.694 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 21.69% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 63855144 | 219.307 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 4) H TPH C9 to C36 | 1.50 | 89149659 | 307.892 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |
| 14) T C9 Nonane | 1.59 | 4983455 | 20.586 ug/mL |
| 15) TD C10 Decane | 2.05 | 5152139 | 20.413 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 5497093 | 20.040 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 5864184 | 20.000 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 6608052 | 20.771 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 6463647 | 20.157 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 6520032 | 20.171 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 6596335 | 20.196 ug/mL |
| 22) TD C22 Docosane | 6.67 | 6818376 | 20.236 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 6921619 | 20.512 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 6962914 | 20.348 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 6970784 | 20.398 ug/mL |
| 26) T C30 Triacontane | 8.67 | 7008221 | 20.465 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 6782807 | 20.856 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 63855144 | 203.124 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 182160830 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

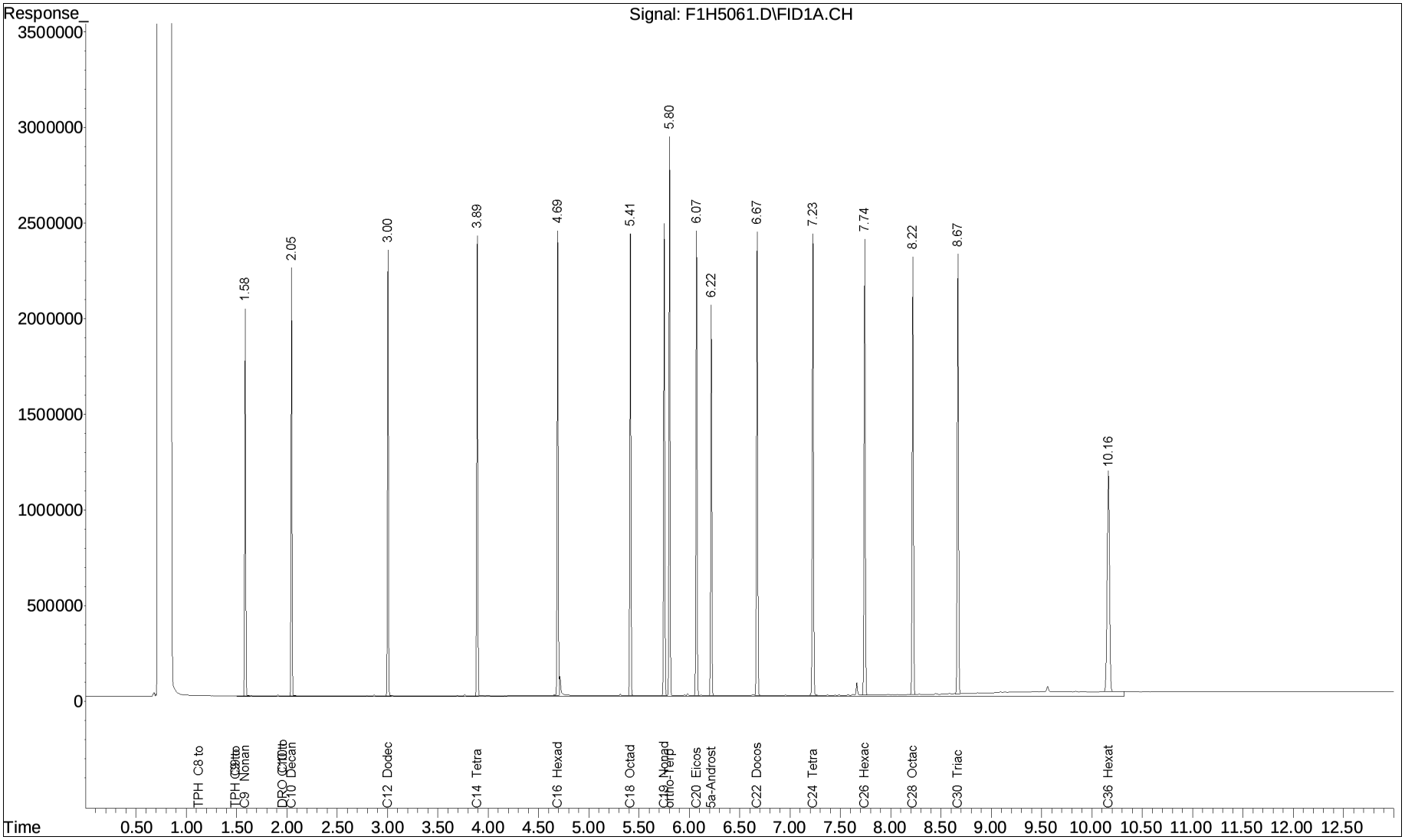
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15053093 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 20182457 | 64.770 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 64.77% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 20182457 | 55.419 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 55.42% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 173750855 | 596.738 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 4) H TPH C9 to C36 | 1.50 | 242968339 | 839.128 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |
| 14) T C9 Nonane | 1.59 | 13257207 | 50.591 ug/mL |
| 15) TD C10 Decane | 2.05 | 13779883 | 50.437 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 14777313 | 49.767 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 15781216 | 49.720 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 17147383 | 49.791 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 17533656 | 50.513 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 17761896 | 50.762 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 18028005 | 50.991 ug/mL |
| 22) TD C22 Docosane | 6.67 | 18786198 | 51.505 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 19014894 | 52.056 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 19402113 | 52.380 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 19500193 | 52.714 ug/mL |
| 26) T C30 Triacontane | 8.67 | 19609585 | 52.901 ug/mL |
| 27) T C36 Hexatriacontane | 10.16 | 18588796 | 52.801 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 173750855 | 510.588 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 348639223 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

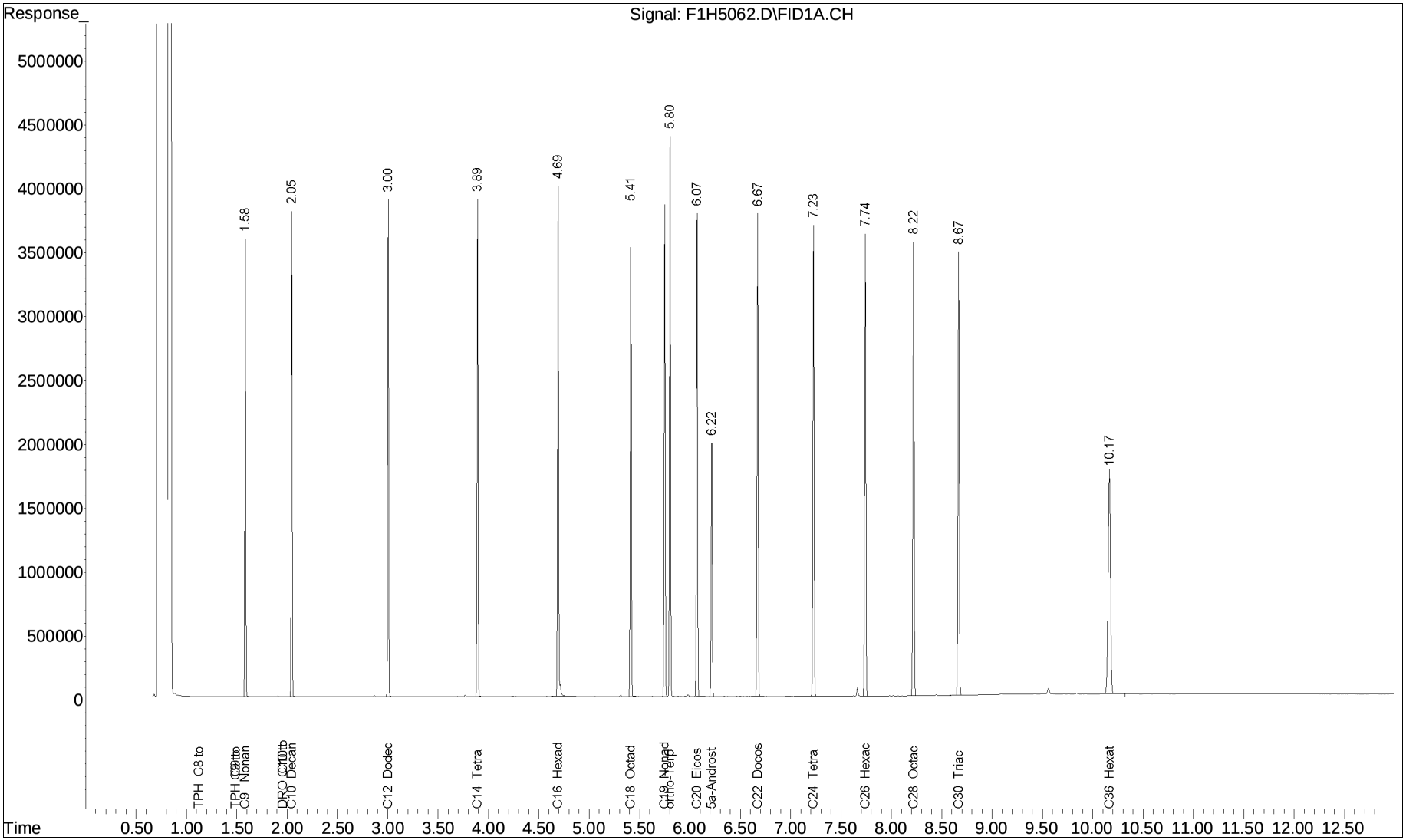
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14536430 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 31352221 | 100.616 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.62% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 31352221 | 89.150 ug/mL |
| Spiked Amount 100.000 | | Recovery = 89.15% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 274825832 | 943.875 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 365334852 | |
| 4) H TPH C9 to C36 | 1.50 | 382959416 | 1322.608 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 470032072 | |
| 14) T C9 Nonane | 1.59 | 21842610 | 86.317 ug/mL |
| 15) TD C10 Decane | 2.05 | 22687679 | 85.993 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 24359575 | 84.954 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 25785396 | 84.126 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 28335914 | 85.204 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 27889846 | 83.203 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 28065799 | 83.061 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 28311223 | 82.923 ug/mL |
| 22) TD C22 Docosane | 6.67 | 29127607 | 82.696 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 29156572 | 82.657 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 29588757 | 82.720 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 29583262 | 82.813 ug/mL |
| 26) T C30 Triacontane | 8.67 | 29723267 | 83.034 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 28501908 | 83.836 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 274825832 | 836.314 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 365334852 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 498002342 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 470032072 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D





TPH0520F.M Tue May 24 09:18:39 2011 Page: 2

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

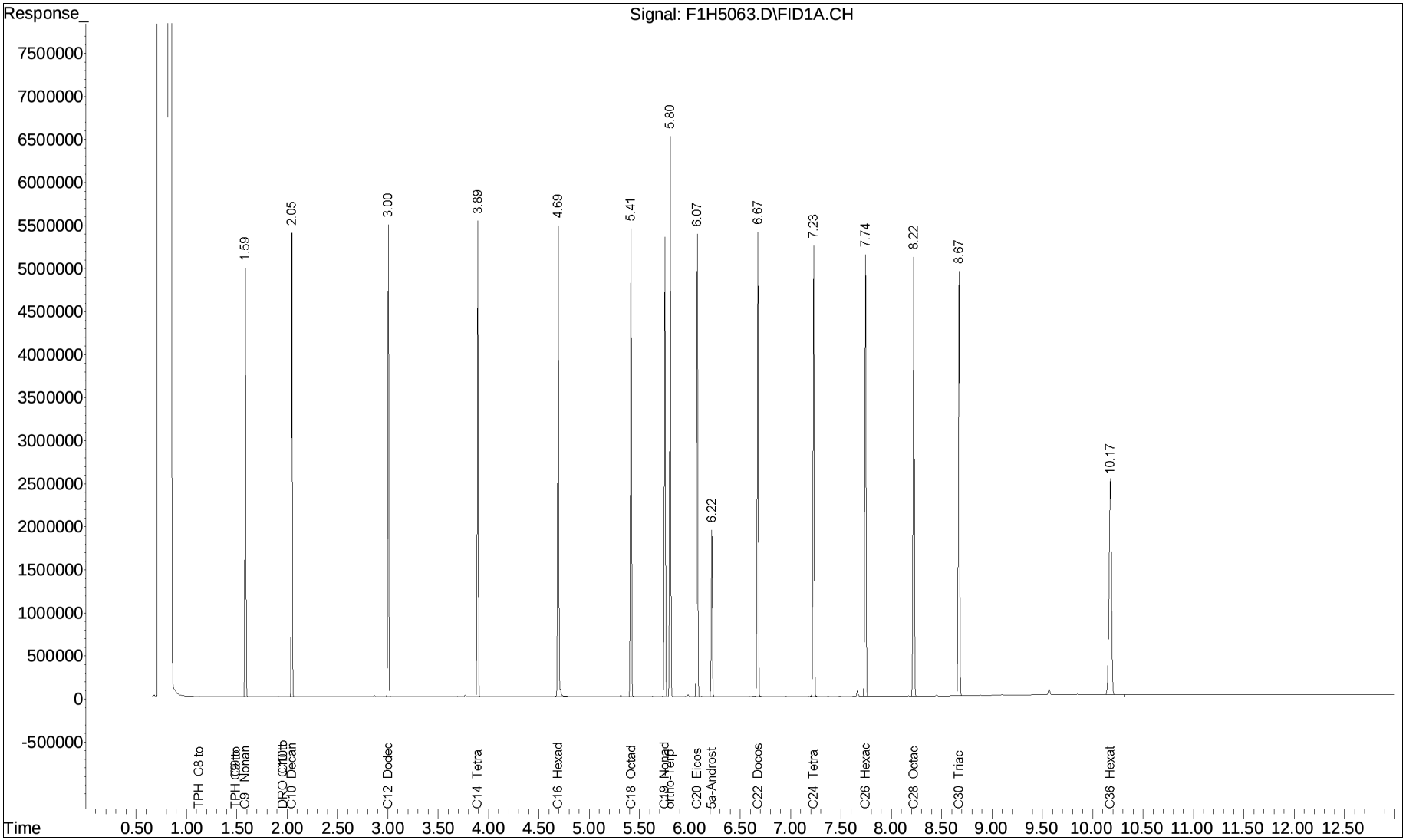
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14100029 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 45746602 | 146.811 ug/mL |
| Spiked Amount 100.000 | | Recovery = 146.81% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 45746602 | 134.107 ug/mL |
| Spiked Amount 100.000 | | Recovery = 134.11% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 395690120 | 1358.977 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 4) H TPH C9 to C36 | 1.50 | 552048300 | 1906.581 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |
| 14) T C9 Nonane | 1.59 | 31667314 | 129.015 ug/mL |
| 15) TD C10 Decane | 2.05 | 32763279 | 128.026 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 34951392 | 125.666 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 36965118 | 124.334 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 40004367 | 124.013 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 40127166 | 123.416 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 40442665 | 123.394 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 40830301 | 123.292 ug/mL |
| 22) TD C22 Docosane | 6.67 | 42060359 | 123.109 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 42170824 | 123.251 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 42892741 | 123.624 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 42924573 | 123.878 ug/mL |
| 26) T C30 Triacontane | 8.67 | 43120936 | 124.190 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 41127265 | 124.717 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 395690120 | 1241.380 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 682482642 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D






TPH0520F.M Tue May 24 09:18:43 2011 Page: 2

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

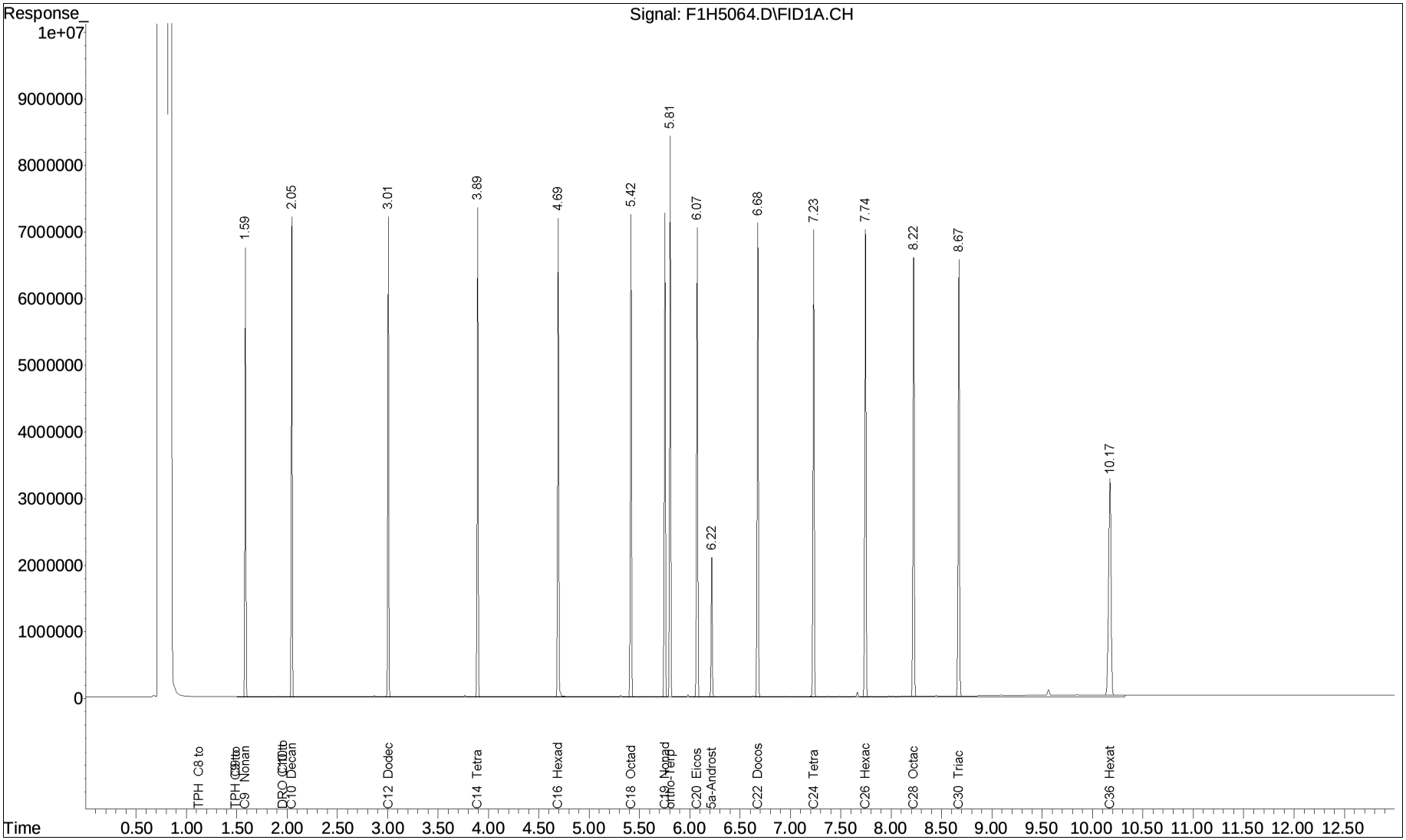
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15380119 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.81 | 61137451 | 196.204 ug/mL |
| Spiked Amount 100.000 | | Recovery = 196.20% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 61137451 | 164.309 ug/mL |
| Spiked Amount 100.000 | | Recovery = 164.31% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 528997686 | 1816.814 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 4) H TPH C9 to C36 | 1.50 | 737982176 | 2548.732 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |
| 14) T C9 Nonane | 1.59 | 42564959 | 158.980 ug/mL |
| 15) TD C10 Decane | 2.05 | 44140472 | 158.128 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 46705175 | 153.950 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 49224939 | 151.790 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 52797715 | 150.050 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 53530164 | 150.936 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 54017181 | 151.094 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 54585598 | 151.109 ug/mL |
| 22) TD C22 Docosane | 6.68 | 56328880 | 151.151 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 56536079 | 151.484 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 57567895 | 152.111 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 57580771 | 152.345 ug/mL |
| 26) T C30 Triacontane | 8.67 | 57728590 | 152.422 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 54673759 | 151.997 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 528997686 | 1521.470 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 885034126 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

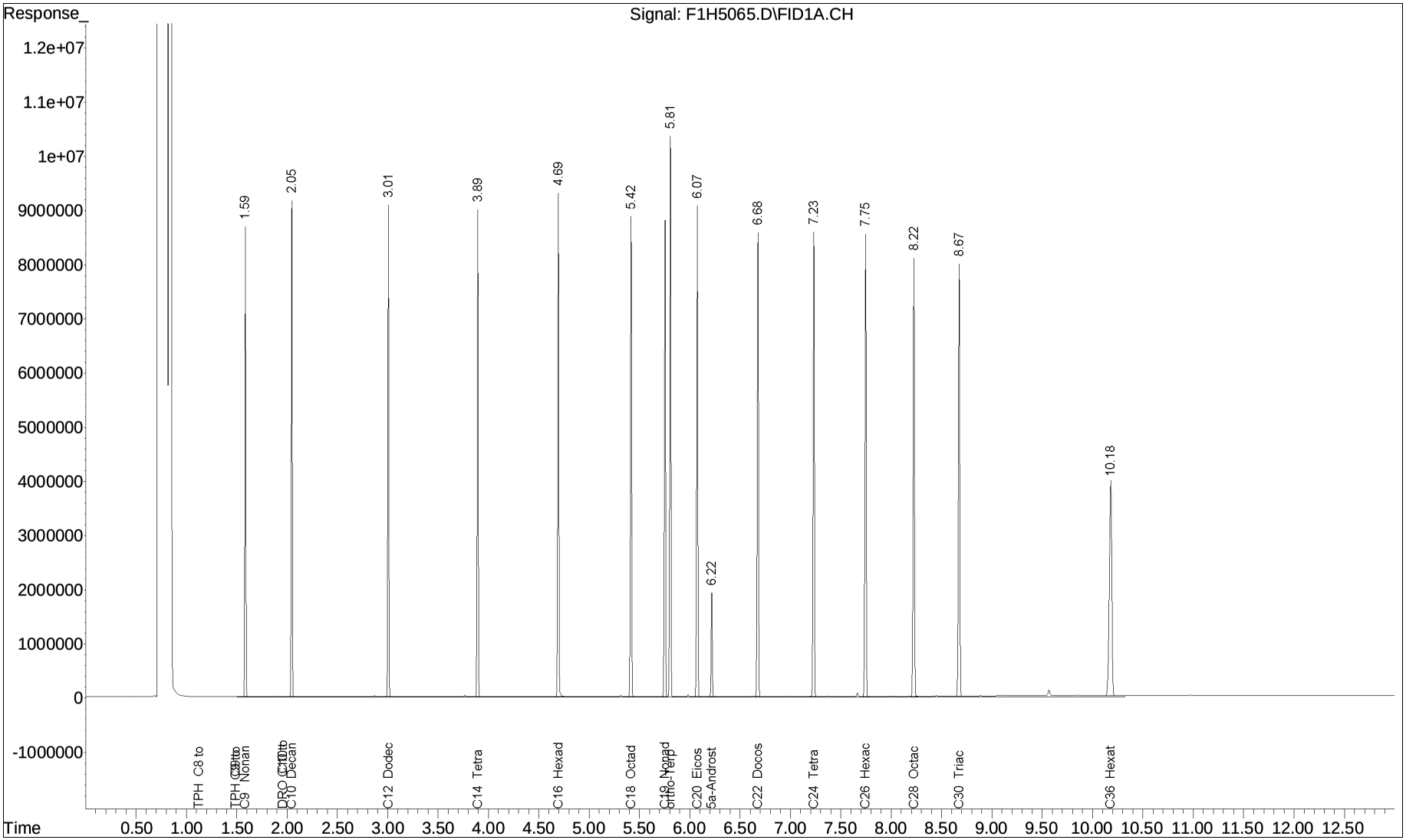
Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14242463 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.81 | 76537919 | 245.627 ug/mL |
| Spiked Amount 100.000 | | Recovery = 245.63% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 76537919 | 222.129 ug/mL |
| Spiked Amount 100.000 | | Recovery = 222.13% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 660496170 | 2268.439 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 4) H TPH C9 to C36 | 1.50 | 920044983 | 3177.513 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |
| 14) T C9 Nonane | 1.59 | 53995894 | 217.783 ug/mL |
| 15) TD C10 Decane | 2.05 | 55714988 | 215.535 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 59169932 | 210.615 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 62307058 | 207.476 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 66177089 | 203.097 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 67106255 | 204.329 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 67536447 | 203.999 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 68088820 | 203.546 ug/mL |
| 22) TD C22 Docosane | 6.68 | 69997641 | 202.832 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 69969405 | 202.452 ug/mL |
| 24) TD C26 Hexacosane | 7.75 | 71069497 | 202.786 ug/mL |
| 25) TD C28 Octacosane | 8.23 | 70895485 | 202.555 ug/mL |
| 26) T C30 Triacontane | 8.68 | 70905826 | 202.169 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 67110646 | 201.476 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 660496170 | 2051.420 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 1082289494 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc  : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 20 May 2011  21:15  Operator: TM
ALS Vial  : 11  Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 3 | H | DRO C10 to C28 | 336.012 | 377.100 E3 | -12.2 | 54 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 372.820 E3 | -11.4 | 54 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.03 |
| 14 | | C9 Nonane | 0.730 | 0.589 | 19.3 | 52 | 0.02 |
| 15 | | C10 Decane | 0.756 | 0.659 | 12.8 | 52 | 0.02 |
| 16 | | C12 Dodecane | 0.808 | 0.728 | 9.9 | 53 | 0.02 |
| 17 | | C14 Tetradecane | 0.859 | 0.782 | 9.0 | 54 | 0.02 |
| 18 | | C16 Hexadecane | 0.957 | 0.835 | 12.7 | 55 | 0.02 |
| 19 | | C18 Octadecane | 0.941 | 0.863 | 8.3 | 54 | 0.02 |
| 20 | | C19 Nonadecane | 0.950 | 0.872 | 8.2 | 55 | 0.02 |
| 21 | | C20 Eicosane | 0.960 | 0.891 | 7.2 | 55 | 0.02 |
| 22 | | C22 Docosane | 0.991 | 0.907 | 8.5 | 55 | 0.02 |
| 23 | | C24 Tetracosane | 1.001 | 0.910 | 9.1 | 55 | 0.02 |
| 24 | | C26 Hexacosane | 1.011 | 0.917 | 9.3 | 55 | 0.02 |
| 25 | | C28 Octacosane | 1.011 | 0.898 | 11.2 | 54 | 0.02 |
| 26 | | C30 Triacontane | 1.015 | 0.901 | 11.2 | 55 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.861 | 11.2 | 57 | 0.04 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.839 | 9.8 | 54 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 2 | S | ortho-Terphenyl | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 13 | S | ortho-Terphenyl ISTD | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc  : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 20 May 2011  21:15  Operator: TM
ALS Vial  : 11  Sample Multiplier: 1

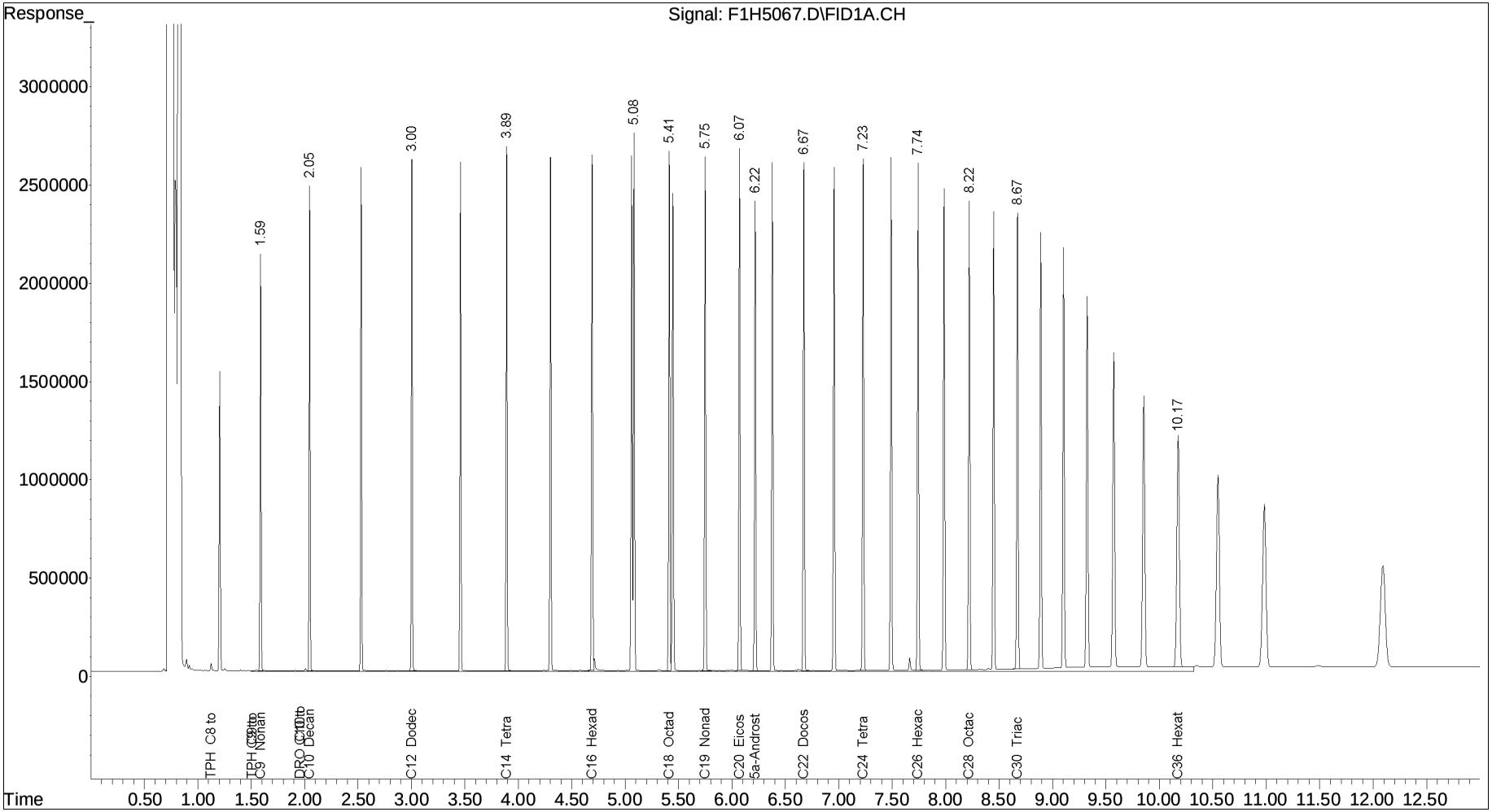
Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.22 | 17977097 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 188549953 | 561.141 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 4) H | TPH C9 to C36 | 1.50 | 260974037 | 779.910 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |
| 14) T | C9 Nonane | 1.59 | 13244545 | 40.397 ug/mL |
| 15) TD | C10 Decane | 2.05 | 14819509 | 43.634 ug/mL |
| 16) TD | C12 Dodecane | 3.00 | 16369493 | 45.093 ug/mL |
| 17) TD | C14 Tetradecane | 3.89 | 17572579 | 45.515 ug/mL |
| 18) TD | C16 Hexadecane | 4.69 | 18757962 | 43.602 ug/mL |
| 19) TD | C18 Octadecane | 5.41 | 19397875 | 45.849 ug/mL |
| 20) T | C19 Nonadecane | 5.75 | 19584711 | 45.894 ug/mL |
| 21) TD | C20 Eicosane | 6.07 | 20013327 | 46.381 ug/mL |
| 22) TD | C22 Docosane | 6.67 | 20387078 | 45.770 ug/mL |
| 23) TD | C24 Tetracosane | 7.23 | 20452636 | 45.460 ug/mL |
| 24) TD | C26 Hexacosane | 7.74 | 20597516 | 45.348 ug/mL |
| 25) TD | C28 Octacosane | 8.22 | 20181978 | 44.399 ug/mL |
| 26) T | C30 Triacontane | 8.67 | 20236921 | 44.371 ug/mL |
| 27) T | C36 Hexatriacontane | 10.18 | 19357909 | 44.387 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 188549953 | 451.335 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 720712646 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV Client Smp ID: FICV
Misc : TPH F ICV Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5830.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  15:05  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 27 15:26:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 377.558 | E3 | 1.3 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 330.628 | E3 | 1.6 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 327.001 | E3 | 2.3 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.077 | | -1.8 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.753 | | -3.2 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.791 | | -4.6 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.861 | | -6.6 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.915 | | -6.5 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.957 | | 0.0 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.978 | | -3.9 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.978 | | -2.9 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.981 | | -2.2 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.997 | | -0.6 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.982 | | 1.9 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.989 | | 2.2 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.979 | | 3.2 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.974 | | 4.0 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.922 | | 4.9 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.943 | | -1.4 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.933 | | -0.8 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.933 | | -0.8 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5830.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  15:05  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

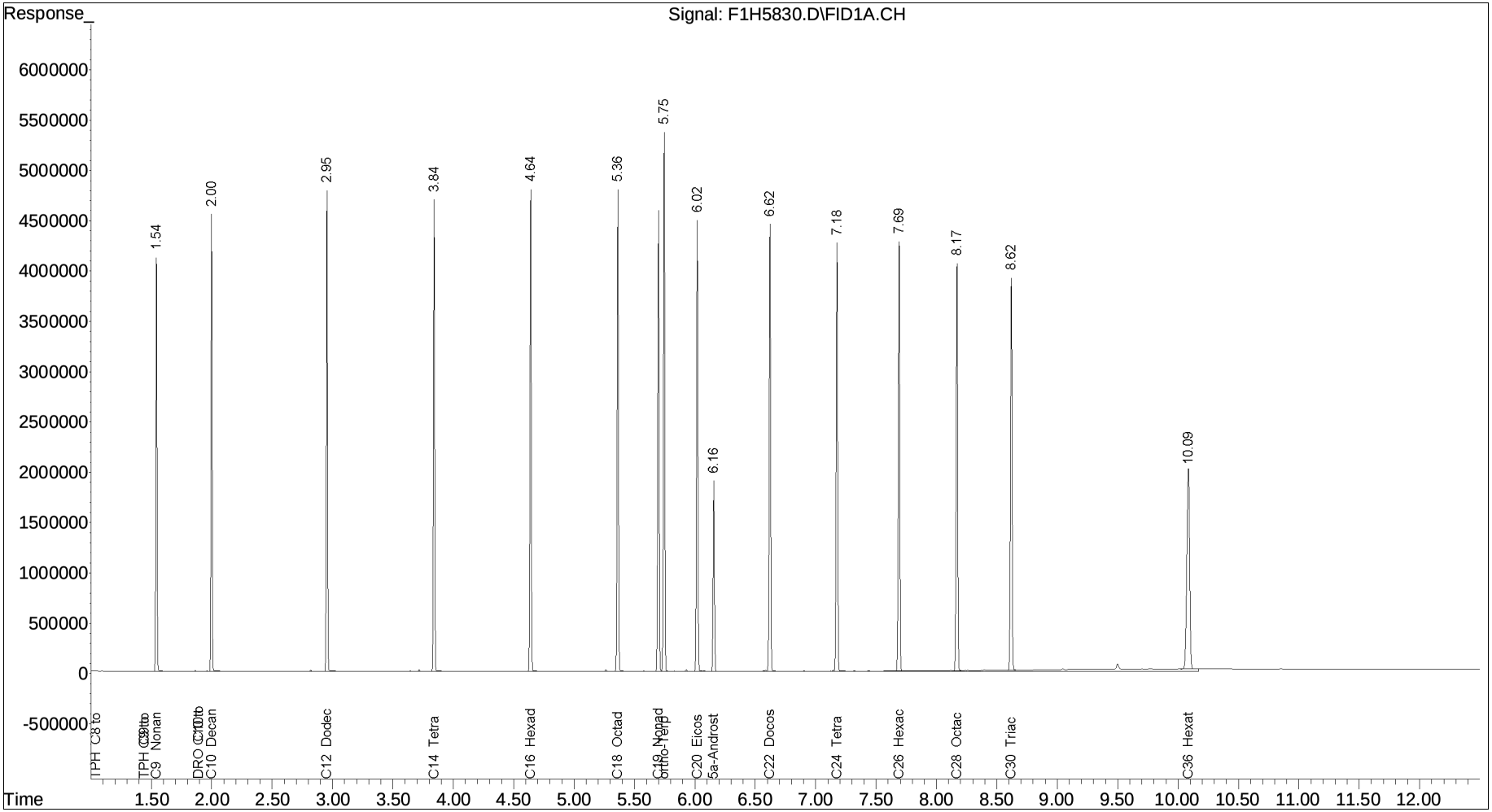
Quant Time: Jul 27 15:26:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 14024289 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.75 | 37755830 | 98.651 ug/mL |
| Spiked Amount 100.000 | | Recovery = 98.65% | |
| 13) S ortho-Terphenyl ISTD | 5.75 | 37755830 | 101.788 ug/mL |
| Spiked Amount 100.000 | | Recovery = 101.79% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 330627541 | 983.976 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 422248131 | |
| 4) H TPH C9 to C36 | 1.44 | 457801756 | 1368.122 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 536263426 | |
| 14) T C9 Nonane | 1.54 | 26388410 | 103.173 ug/mL |
| 15) TD C10 Decane | 2.00 | 27722092 | 104.631 ug/mL |
| 16) TD C12 Dodecane | 2.95 | 30187413 | 106.596 ug/mL |
| 17) TD C14 Tetradecane | 3.84 | 32071245 | 106.481 ug/mL |
| 18) TD C16 Hexadecane | 4.64 | 33549581 | 99.965 ug/mL |
| 19) TD C18 Octadecane | 5.36 | 34288129 | 103.885 ug/mL |
| 20) T C19 Nonadecane | 5.70 | 34298843 | 103.029 ug/mL |
| 21) TD C20 Eicosane | 6.02 | 34407550 | 102.216 ug/mL |
| 22) TD C22 Docosane | 6.62 | 34964095 | 100.621 ug/mL |
| 23) TD C24 Tetracosane | 7.18 | 34439466 | 98.125 ug/mL |
| 24) TD C26 Hexacosane | 7.69 | 34686984 | 97.893 ug/mL |
| 25) TD C28 Octacosane | 8.17 | 34310985 | 96.758 ug/mL |
| 26) T C30 Triacontane | 8.62 | 34151047 | 95.985 ug/mL |
| 27) T C36 Hexatriacontane | 10.09 | 32335914 | 95.043 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 330627541 | 1014.497 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 422248131 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 457801756 | 1410.567 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 563506726 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 457801756 | 1410.567 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 536263426 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5830.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  15:05  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 27 15:26:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5832.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  15:45  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

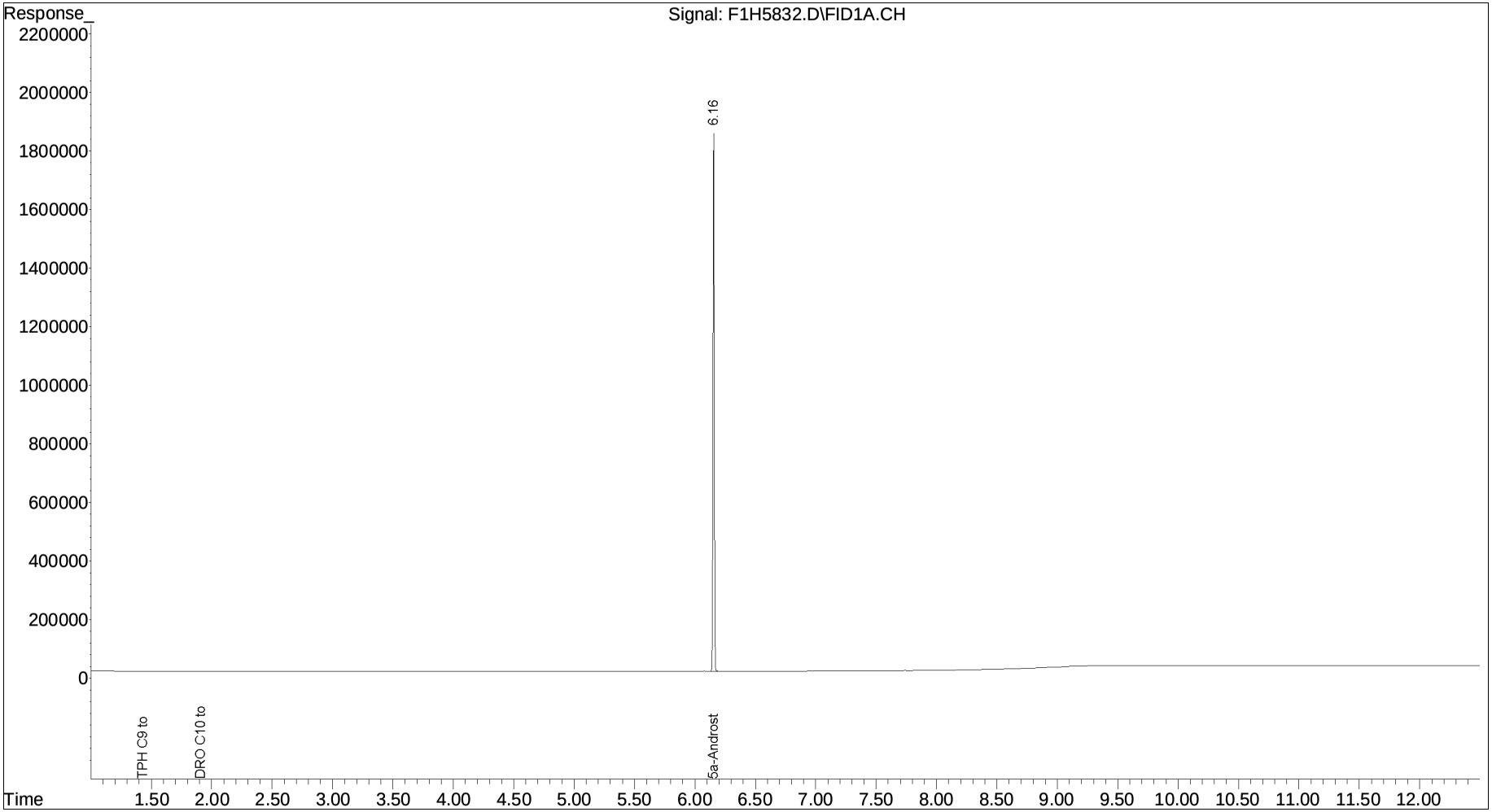
Quant Time: Jul 28 11:35:08 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.16 | 13456854 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.90 | 3423516 | 10.189 ug/mL |
| | Integration Range: | | 1.90 to | 8.27 minutes |
| | Raw Range Area: | | 16880370 | |
| 4) H | TPH C9 to C36 | 1.44 | 21621519 | 64.615 ug/mL |
| | Integration Range: | | 1.44 to | 10.17 minutes |
| | Raw Range Area: | | 35078373 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5832.D
Lab Smp Id: IBLK Client Smp ID: IBLK
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 15:45 Operator: TM
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Jul 28 11:35:08 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5840.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  18:28  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 28 11:35:33 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 361.378 | E3 | 5.6 | 96 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 317.709 | E3 | 5.4 | 96 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 314.976 | E3 | 5.9 | 96 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 96 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.073 | | -1.4 | 96 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.755 | | -3.4 | 96 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.790 | | -4.5 | 96 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.855 | | -5.8 | 95 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.907 | | -5.6 | 95 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.950 | | 0.7 | 95 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.973 | | -3.4 | 96 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.975 | | -2.6 | 96 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.980 | | -2.1 | 96 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.000 | | -0.9 | 96 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.988 | | 1.3 | 97 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.998 | | 1.3 | 97 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.989 | | 2.2 | 97 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.987 | | 2.8 | 97 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.941 | | 3.0 | 98 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.943 | | -1.4 | 96 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.935 | | -1.0 | 96 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.935 | | -1.0 | 96 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5840.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  18:28  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

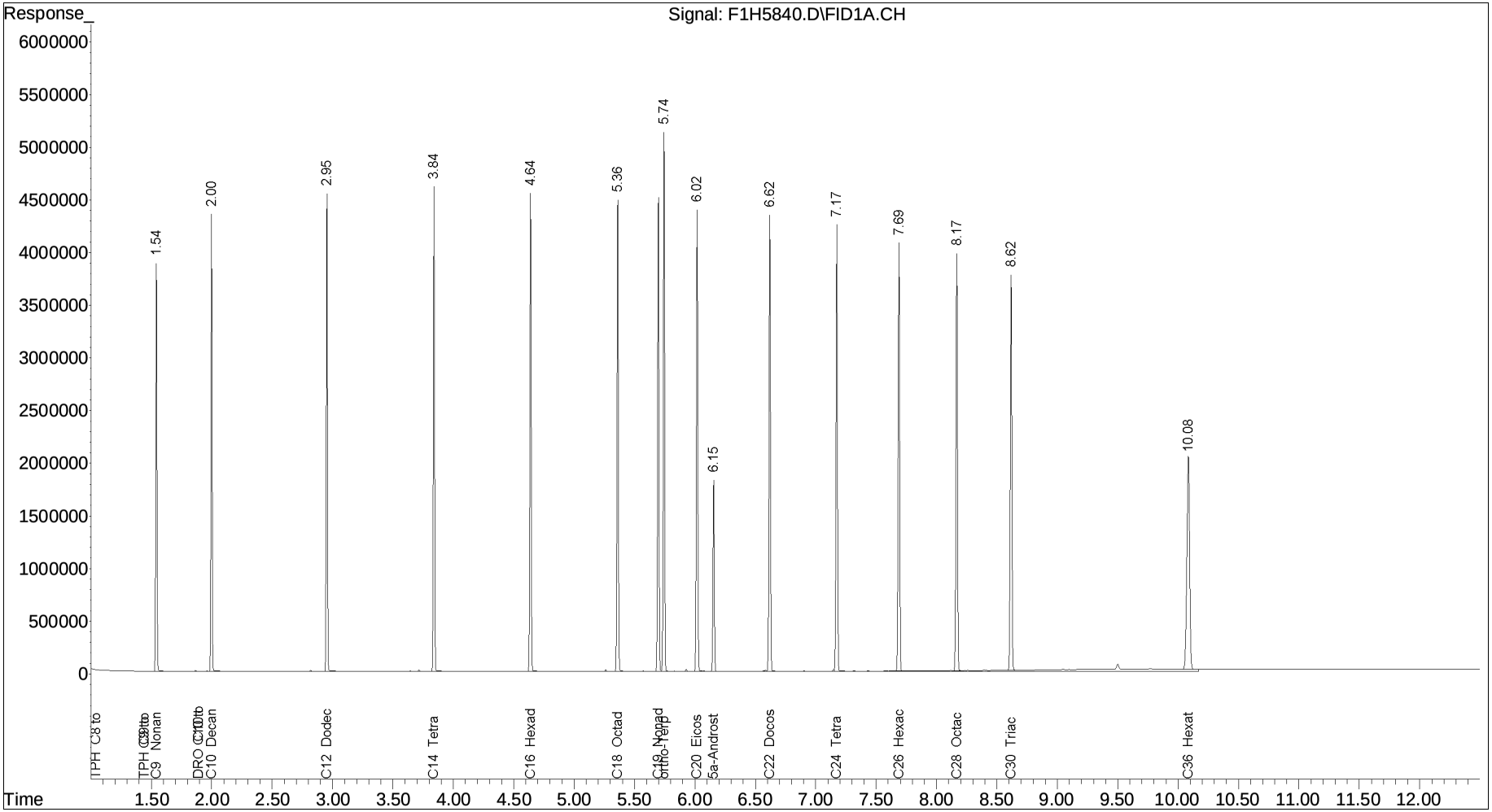
Quant Time: Jul 28 11:35:33 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 13477916 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 36137807 | 94.424 ug/mL |
| Spiked Amount 100.000 | | Recovery = 94.42% | |
| 13) S ortho-Terphenyl ISTD | 5.74 | 36137807 | 101.375 ug/mL |
| Spiked Amount 100.000 | | Recovery = 101.38% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 317709269 | 945.530 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 405913333 | |
| 4) H TPH C9 to C36 | 1.44 | 440966954 | 1317.812 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 515632249 | |
| 14) T C9 Nonane | 1.54 | 25427803 | 103.447 ug/mL |
| 15) TD C10 Decane | 2.00 | 26604089 | 104.482 ug/mL |
| 16) TD C12 Dodecane | 2.95 | 28801822 | 105.826 ug/mL |
| 17) TD C14 Tetradecane | 3.84 | 30553533 | 105.554 ug/mL |
| 18) TD C16 Hexadecane | 4.64 | 32013492 | 99.255 ug/mL |
| 19) TD C18 Octadecane | 5.36 | 32794066 | 103.386 ug/mL |
| 20) T C19 Nonadecane | 5.70 | 32863836 | 102.721 ug/mL |
| 21) TD C20 Eicosane | 6.02 | 33015194 | 102.055 ug/mL |
| 22) TD C22 Docosane | 6.62 | 33680076 | 100.855 ug/mL |
| 23) TD C24 Tetracosane | 7.17 | 33280468 | 98.666 ug/mL |
| 24) TD C26 Hexacosane | 7.69 | 33631191 | 98.761 ug/mL |
| 25) TD C28 Octacosane | 8.17 | 33335339 | 97.817 ug/mL |
| 26) T C30 Triacontane | 8.62 | 33258183 | 97.265 ug/mL |
| 27) T C36 Hexatriacontane | 10.09 | 31707864 | 96.975 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 317709269 | 1014.378 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 405913333 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 440966954 | 1413.775 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 540811110 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 440966954 | 1413.775 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 515632249 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5840.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  18:28  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 28 11:35:33 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5844.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  19:49  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 28 11:40:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 367.321 E3 | 4.0 | 97 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 321.245 E3 | 4.4 | 97 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 317.657 E3 | 5.1 | 97 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 98 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.072 | -1.3 | 97 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.732 | -0.3 | 95 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.769 | -1.7 | 95 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.843 | -4.3 | 96 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.903 | -5.1 | 96 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.951 | 0.6 | 97 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.976 | -3.7 | 97 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.978 | -2.9 | 98 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.982 | -2.3 | 98 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.000 | -0.9 | 98 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.985 | 1.6 | 98 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.991 | 2.0 | 98 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.979 | 3.2 | 98 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.973 | 4.1 | 98 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.922 | 4.9 | 98 | -0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.938 | -0.9 | 97 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.927 | -0.1 | 97 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.927 | -0.1 | 97 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5844.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  19:49  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

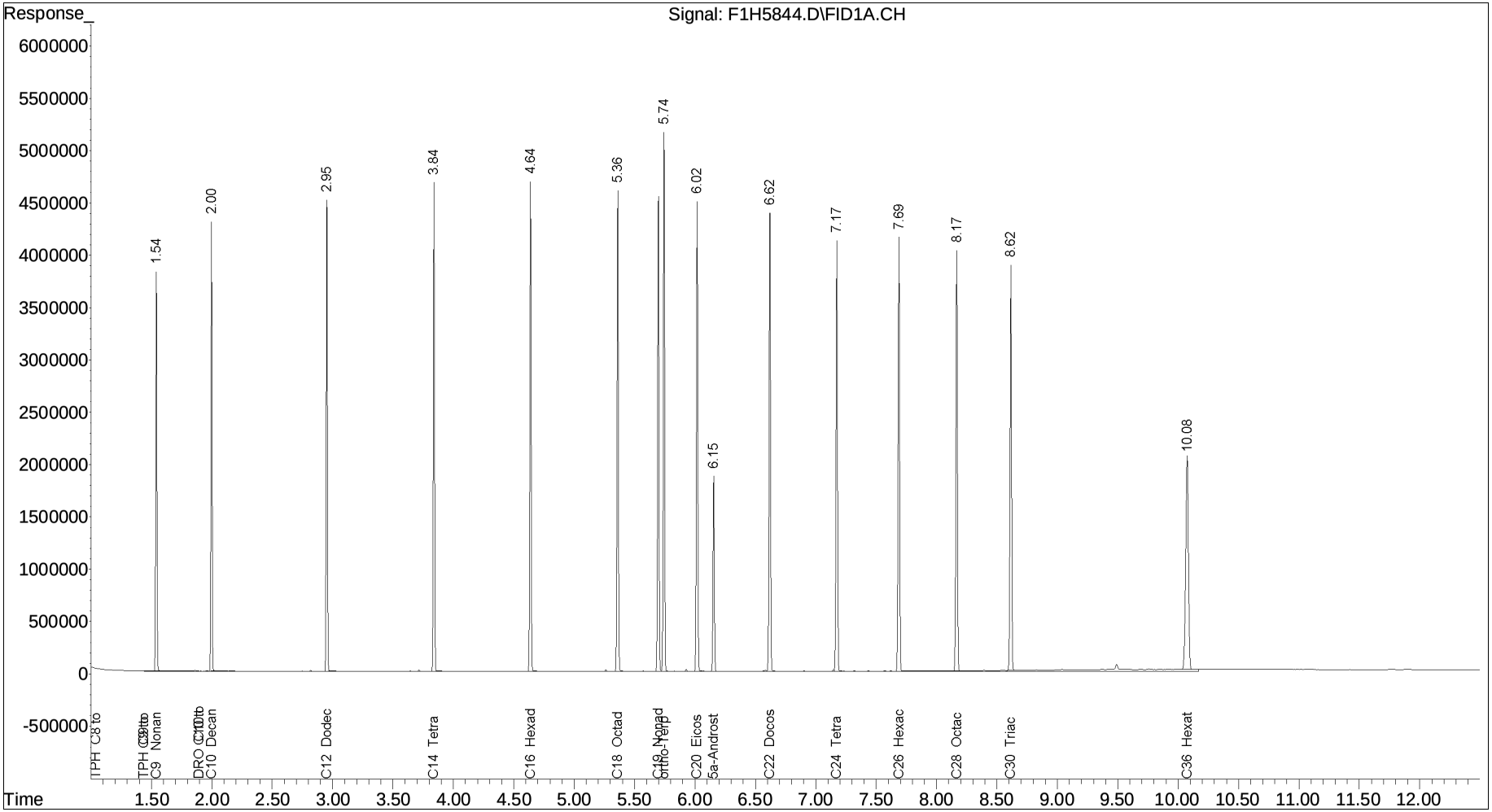
Quant Time: Jul 28 11:40:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 13701180 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 36732104 | 95.976 ug/mL |
| Spiked Amount 100.000 | | Recovery = 95.98% | |
| 13) S ortho-Terphenyl ISTD | 5.74 | 36732104 | 101.363 ug/mL |
| Spiked Amount 100.000 | | Recovery = 101.36% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 321245297 | 956.054 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 410957216 | |
| 4) H TPH C9 to C36 | 1.44 | 444719167 | 1329.025 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 518321866 | |
| 14) T C9 Nonane | 1.54 | 25076457 | 100.355 ug/mL |
| 15) TD C10 Decane | 2.00 | 26355140 | 101.817 ug/mL |
| 16) TD C12 Dodecane | 2.95 | 28884267 | 104.400 ug/mL |
| 17) TD C14 Tetradecane | 3.84 | 30935791 | 105.133 ug/mL |
| 18) TD C16 Hexadecane | 4.64 | 32575840 | 99.353 ug/mL |
| 19) TD C18 Octadecane | 5.36 | 33424255 | 103.656 ug/mL |
| 20) T C19 Nonadecane | 5.70 | 33484521 | 102.955 ug/mL |
| 21) TD C20 Eicosane | 6.02 | 33630563 | 102.263 ug/mL |
| 22) TD C22 Docosane | 6.62 | 34240444 | 100.862 ug/mL |
| 23) TD C24 Tetracosane | 7.17 | 33724035 | 98.352 ug/mL |
| 24) TD C26 Hexacosane | 7.69 | 33950174 | 98.073 ug/mL |
| 25) TD C28 Octacosane | 8.17 | 33524787 | 96.770 ug/mL |
| 26) T C30 Triacontane | 8.62 | 33335880 | 95.903 ug/mL |
| 27) T C36 Hexatriacontane | 10.08 | 31577012 | 95.001 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 321245297 | 1008.954 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 410957216 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 444719167 | 1402.571 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 541687630 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 444719167 | 1402.571 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 518321866 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5844.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  19:49  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 28 11:40:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5845.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  20:09  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

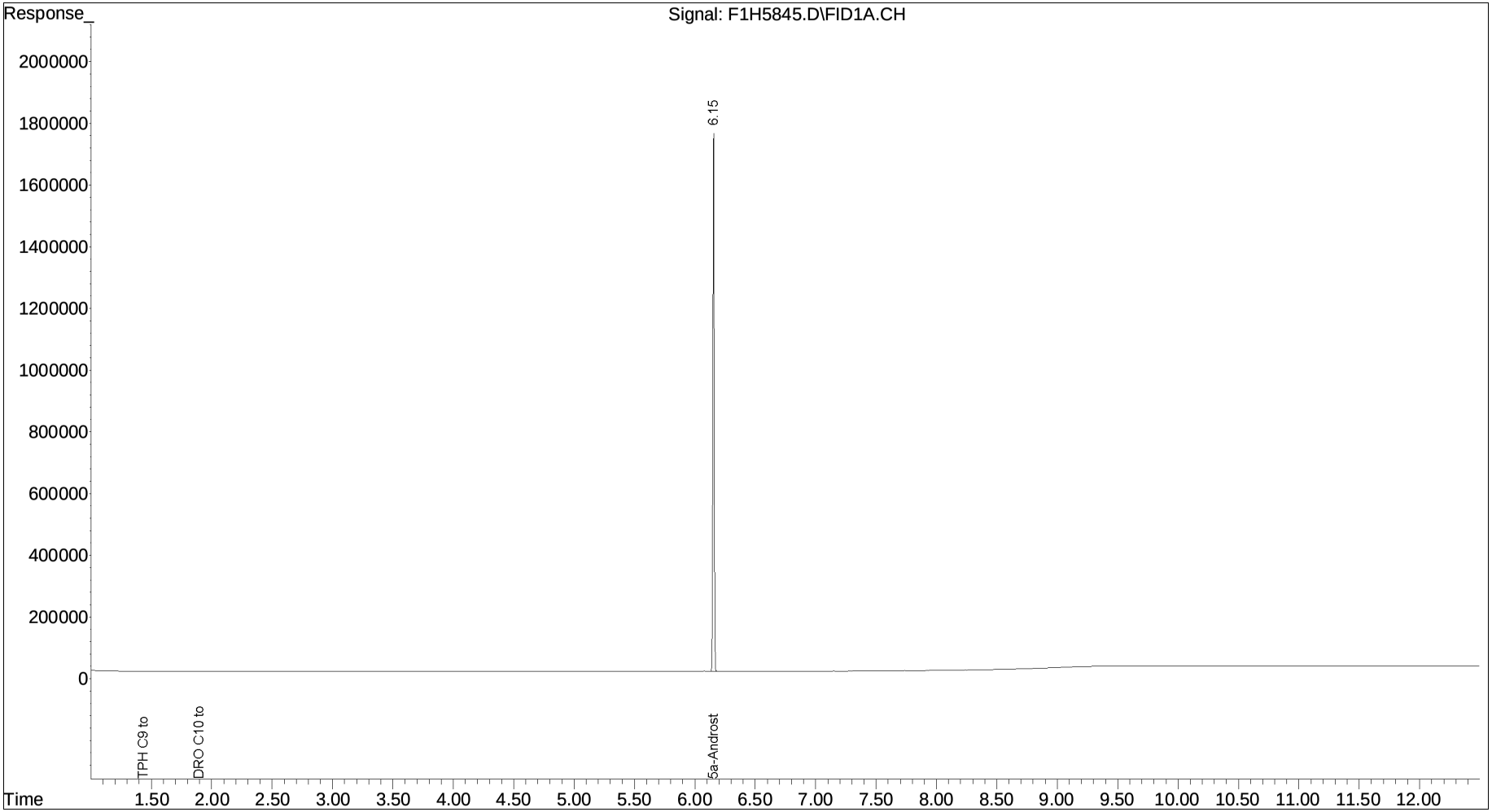
Quant Time: Jul 28 11:40:57 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.15 | 12918867 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.90 | 2545809 | 7.577 ug/mL |
| | Integration Range: | | 1.90 to 8.27 minutes | |
| | Raw Range Area: | | 15464677 | |
| 4) H | TPH C9 to C36 | 1.44 | 18053716 | 53.953 ug/mL |
| | Integration Range: | | 1.44 to 10.17 minutes | |
| | Raw Range Area: | | 30972583 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5845.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  20:09  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

Quant Time: Jul 28 11:40:57 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5855.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  23:29  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 28 11:41:16 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 378.752 E3 | 1.0 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 331.298 E3 | 1.4 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 327.441 E3 | 2.1 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 101 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.073 | -1.4 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.735 | -0.7 | 98 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.773 | -2.2 | 98 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.847 | -4.8 | 99 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.906 | -5.5 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.952 | 0.5 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.976 | -3.7 | 101 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.978 | -2.9 | 101 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.982 | -2.3 | 101 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.999 | -0.8 | 101 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.984 | 1.7 | 101 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.989 | 2.2 | 101 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.976 | 3.5 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.970 | 4.4 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.917 | 5.5 | 100 | 0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.939 | -1.0 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.928 | -0.2 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.928 | -0.2 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5855.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  23:29  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

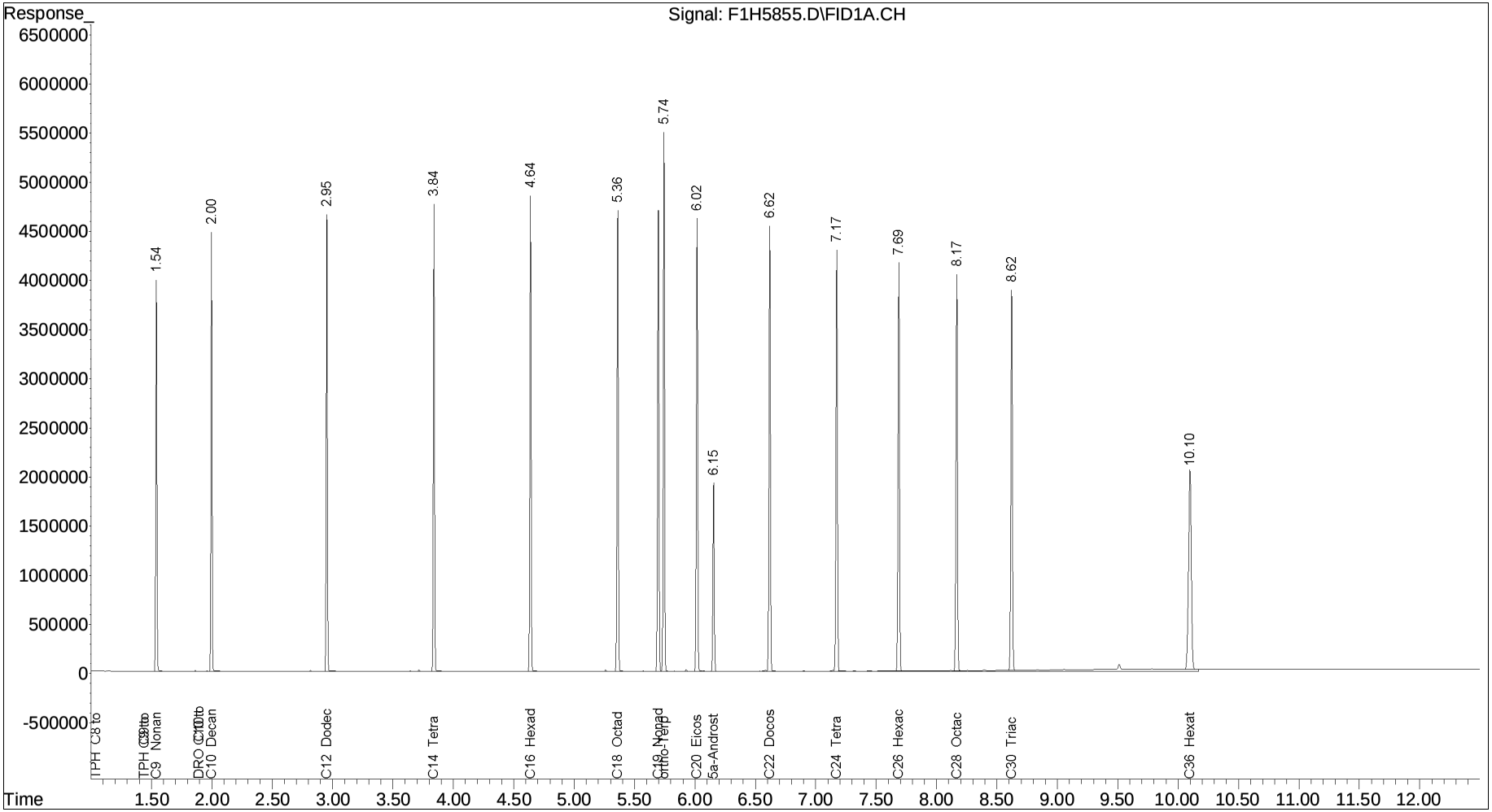
Quant Time: Jul 28 11:41:16 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.15 | 14119946 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 37875236 | 98.963 ug/mL |
| Spiked Amount 100.000 | | Recovery = 98.96% | |
| 13) S ortho-Terphenyl ISTD | 5.74 | 37875236 | 101.418 ug/mL |
| Spiked Amount 100.000 | | Recovery = 101.42% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 331297917 | 985.971 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 424084311 | |
| 4) H TPH C9 to C36 | 1.44 | 458416877 | 1369.960 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 535591207 | |
| 14) T C9 Nonane | 1.54 | 25955441 | 100.793 ug/mL |
| 15) TD C10 Decane | 2.00 | 27293639 | 102.316 ug/mL |
| 16) TD C12 Dodecane | 2.95 | 29899320 | 104.863 ug/mL |
| 17) TD C14 Tetradecane | 3.84 | 31970978 | 105.429 ug/mL |
| 18) TD C16 Hexadecane | 4.64 | 33622750 | 99.504 ug/mL |
| 19) TD C18 Octadecane | 5.36 | 34467107 | 103.720 ug/mL |
| 20) T C19 Nonadecane | 5.70 | 34530150 | 103.021 ug/mL |
| 21) TD C20 Eicosane | 6.02 | 34660163 | 102.268 ug/mL |
| 22) TD C22 Docosane | 6.62 | 35269225 | 100.811 ug/mL |
| 23) TD C24 Tetracosane | 7.17 | 34728200 | 98.277 ug/mL |
| 24) TD C26 Hexacosane | 7.69 | 34924676 | 97.896 ug/mL |
| 25) TD C28 Octacosane | 8.17 | 34461860 | 96.525 ug/mL |
| 26) T C30 Triacontane | 8.62 | 34252439 | 95.618 ug/mL |
| 27) T C36 Hexatriacontane | 10.10 | 32380930 | 94.530 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 331297917 | 1009.667 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 424084311 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 458416877 | 1402.893 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 560127171 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 458416877 | 1402.893 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 535591207 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5855.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  23:29  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Jul 28 11:41:16 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5861.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  7:54  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Aug 03 08:35:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 404.484 | E3 | -5.7 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 357.088 | E3 | -6.3 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 353.514 | E3 | -5.6 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.072 | | -1.3 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.747 | | -2.3 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.786 | | -4.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.857 | | -6.1 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.913 | | -6.3 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.956 | | 0.1 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.978 | | -3.9 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.979 | | -3.1 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.983 | | -2.4 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.004 | | -1.3 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.993 | | 0.8 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.003 | | 0.8 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.994 | | 1.7 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.991 | | 2.4 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.937 | | 3.4 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.947 | | -1.8 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.937 | | -1.2 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.937 | | -1.2 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5861.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  7:54  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

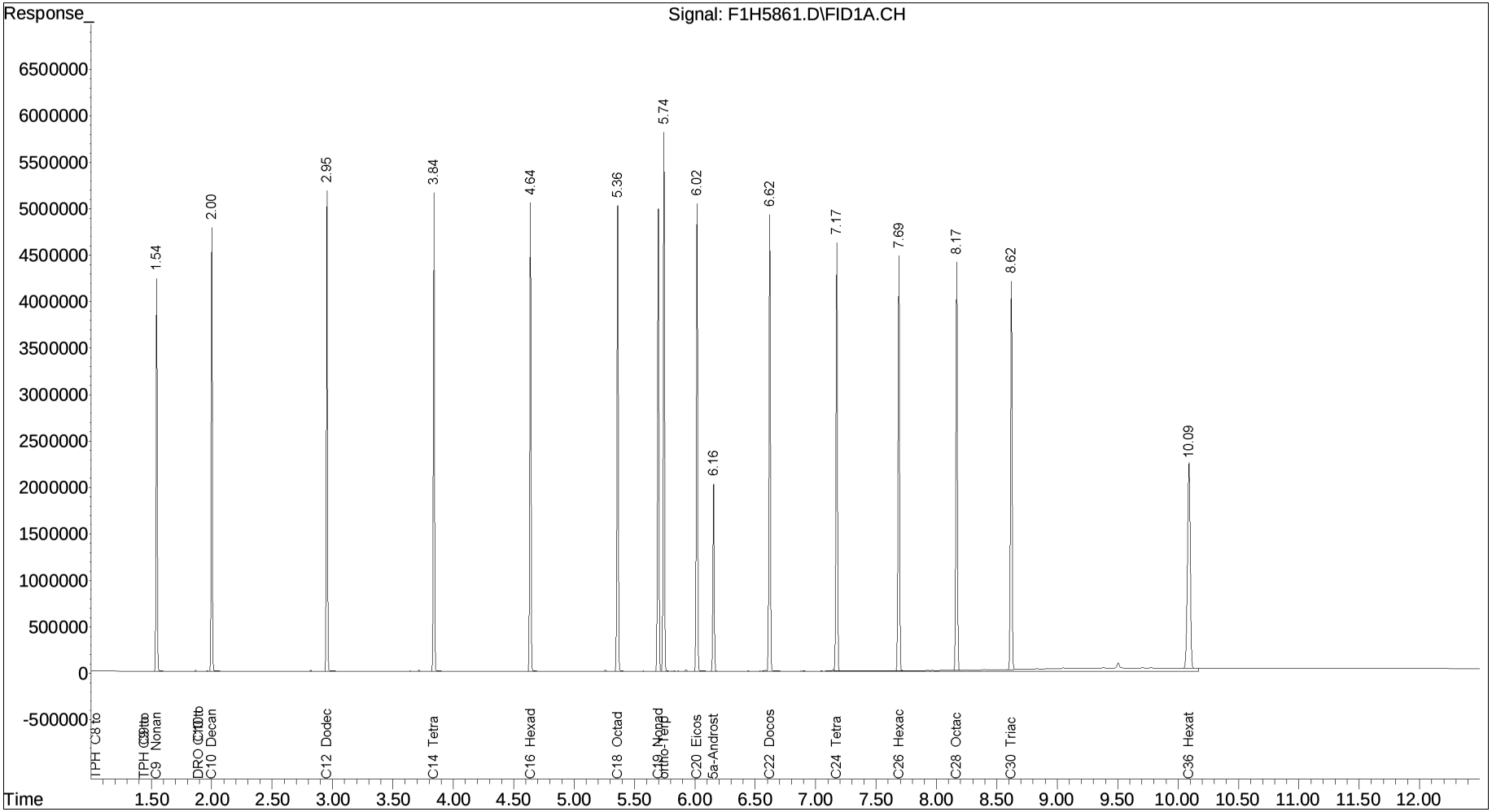
Quant Time: Aug 03 08:35:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 15087679 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 40448363 | 105.686 ug/mL |
| Spiked Amount 100.000 | | Recovery = 105.69% | |
| 13) S ortho-Terphenyl ISTD | 5.74 | 40448363 | 101.361 ug/mL |
| Spiked Amount 100.000 | | Recovery = 101.36% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 357087660 | 1062.723 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 458354713 | |
| 4) H TPH C9 to C36 | 1.44 | 494919196 | 1479.046 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 593527900 | |
| 14) T C9 Nonane | 1.54 | 28181722 | 102.418 ug/mL |
| 15) TD C10 Decane | 2.00 | 29661857 | 104.061 ug/mL |
| 16) TD C12 Dodecane | 2.95 | 32330721 | 106.118 ug/mL |
| 17) TD C14 Tetradecane | 3.84 | 34419313 | 106.222 ug/mL |
| 18) TD C16 Hexadecane | 4.64 | 36059671 | 99.871 ug/mL |
| 19) TD C18 Octadecane | 5.36 | 36874180 | 103.846 ug/mL |
| 20) T C19 Nonadecane | 5.70 | 36926666 | 103.105 ug/mL |
| 21) TD C20 Eicosane | 6.02 | 37092734 | 102.426 ug/mL |
| 22) TD C22 Docosane | 6.62 | 37860663 | 101.277 ug/mL |
| 23) TD C24 Tetracosane | 7.18 | 37446545 | 99.173 ug/mL |
| 24) TD C26 Hexacosane | 7.69 | 37841631 | 99.269 ug/mL |
| 25) TD C28 Octacosane | 8.17 | 37500345 | 98.298 ug/mL |
| 26) T C30 Triacontane | 8.62 | 37365561 | 97.618 ug/mL |
| 27) T C36 Hexatriacontane | 10.09 | 35357587 | 96.600 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 357087660 | 1018.462 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 458354713 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 494919196 | 1417.453 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 634116016 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 494919196 | 1417.453 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 593527900 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5861.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  7:54  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Aug 03 08:35:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5862.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  8:14  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

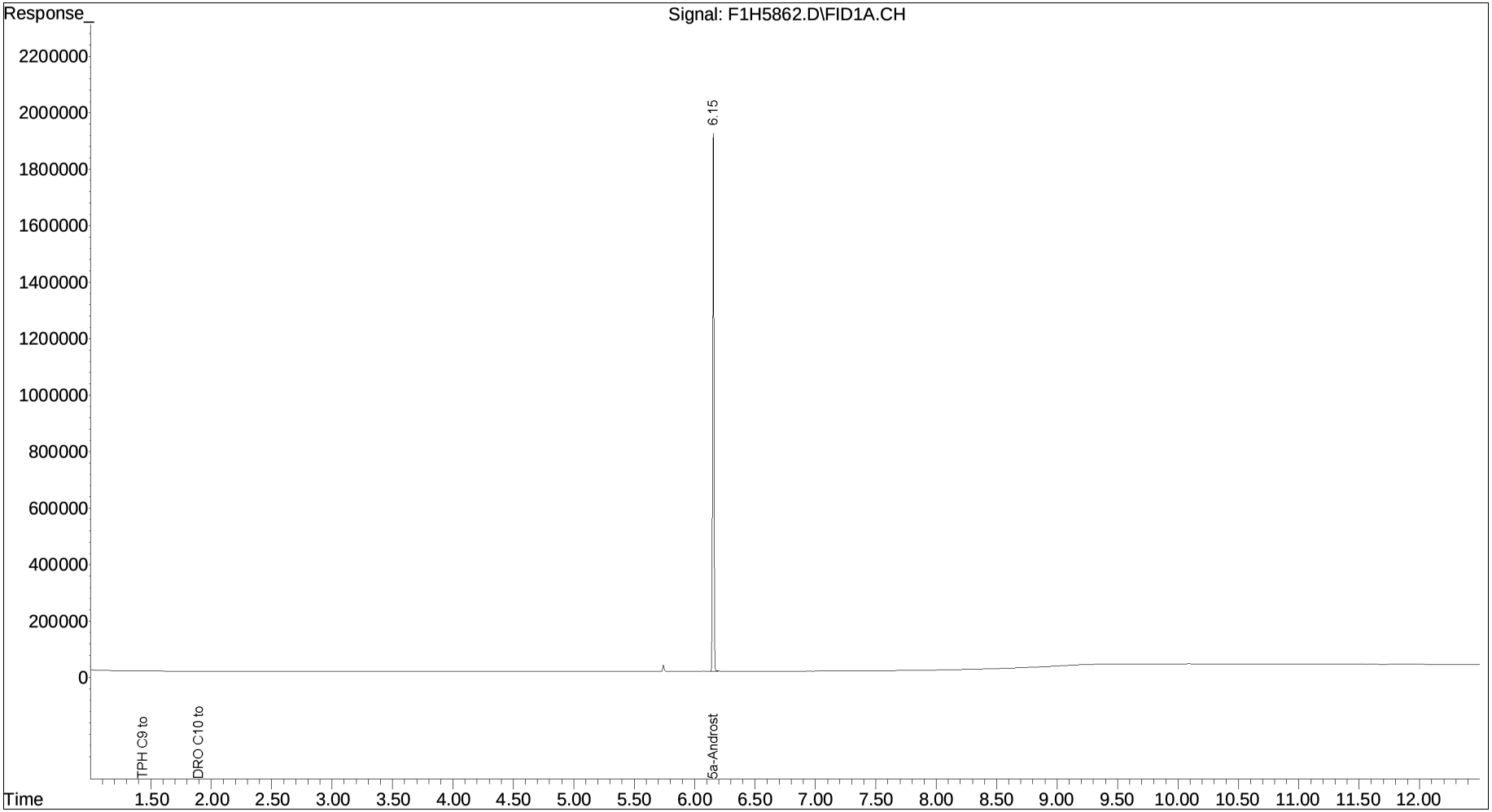
Quant Time: Aug 03 09:06:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.16 | 13896728 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.90 | 3860453 | 11.489 ug/mL |
| | Integration Range: | | 1.90 to | 8.27 minutes |
| | Raw Range Area: | | 17919648 | |
| 4) H | TPH C9 to C36 | 1.44 | 27593555 | 82.462 ug/mL |
| | Integration Range: | | 1.44 to | 10.17 minutes |
| | Raw Range Area: | | 41652749 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5862.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  8:14  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

Quant Time: Aug 03 09:06:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5873.D
Lab Smp Id: FSTD1001W  Client Smp ID: FSTD1001W
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  12:05  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Aug 04 08:51:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

Min. RRF  :  0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 391.670 E3 | -2.3 | 97 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 342.851 E3 | -2.0 | 96 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 339.055 E3 | -1.3 | 96 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.076 | -1.7 | 97 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.751 | -2.9 | 97 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.789 | -4.4 | 97 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.860 | -6.4 | 97 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.915 | -6.5 | 97 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.957 | 0.0 | 97 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.977 | -3.8 | 97 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.977 | -2.8 | 96 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.980 | -2.1 | 96 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.996 | -0.5 | 96 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.980 | 2.1 | 95 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.987 | 2.4 | 95 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.976 | 3.5 | 95 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.972 | 4.2 | 95 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.920 | 5.2 | 95 | -0.02 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.942 | -1.3 | 96 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.931 | -0.5 | 96 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.931 | -0.5 | 96 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5873.D
Lab Smp Id: FSTD1001W  Client Smp ID: FSTD1001W
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  12:05  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

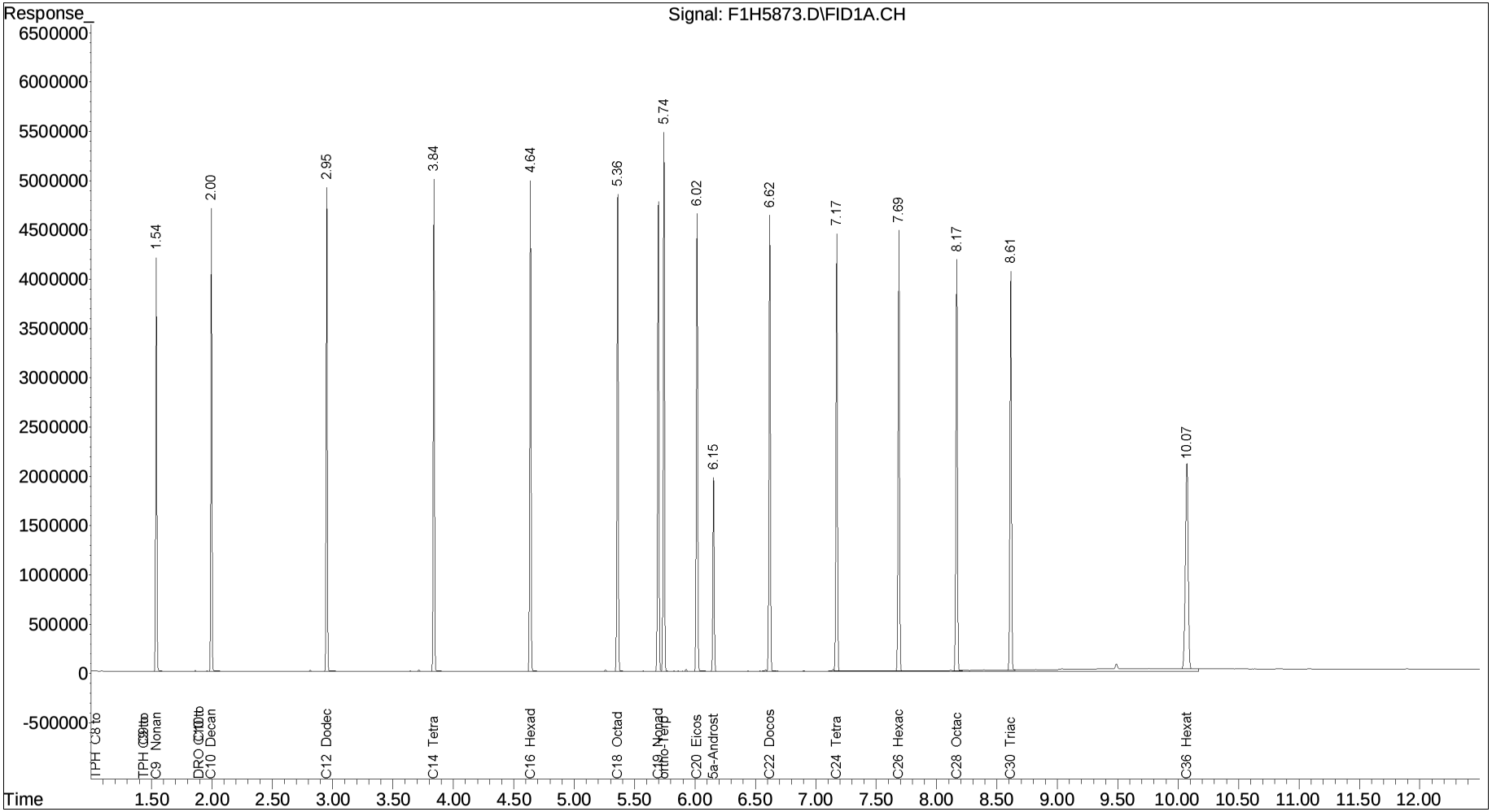
Quant Time: Aug 04 08:51:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.15 | 14564503 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 39167001 | 102.338 ug/mL |
| Spiked Amount 100.000 | | Recovery = 102.34% | |
| 13) S ortho-Terphenyl ISTD | 5.74 | 39167001 | 101.676 ug/mL |
| Spiked Amount 100.000 | | Recovery = 101.68% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 342851200 | 1020.355 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 439150522 | |
| 4) H TPH C9 to C36 | 1.44 | 474677149 | 1418.553 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 558382413 | |
| 14) T C9 Nonane | 1.54 | 27348599 | 102.961 ug/mL |
| 15) TD C10 Decane | 2.00 | 28719653 | 104.375 ug/mL |
| 16) TD C12 Dodecane | 2.95 | 31305443 | 106.444 ug/mL |
| 17) TD C14 Tetradecane | 3.84 | 33306127 | 106.479 ug/mL |
| 18) TD C16 Hexadecane | 4.64 | 34851076 | 99.991 ug/mL |
| 19) TD C18 Octadecane | 5.36 | 35586221 | 103.819 ug/mL |
| 20) T C19 Nonadecane | 5.70 | 35589812 | 102.942 ug/mL |
| 21) TD C20 Eicosane | 6.02 | 35690632 | 102.095 ug/mL |
| 22) TD C22 Docosane | 6.62 | 36250159 | 100.452 ug/mL |
| 23) TD C24 Tetracosane | 7.17 | 35674467 | 97.873 ug/mL |
| 24) TD C26 Hexacosane | 7.69 | 35933707 | 97.650 ug/mL |
| 25) TD C28 Octacosane | 8.17 | 35533714 | 96.489 ug/mL |
| 26) T C30 Triacontane | 8.61 | 35381902 | 95.756 ug/mL |
| 27) T C36 Hexatriacontane | 10.07 | 33505636 | 94.828 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 342851200 | 1012.984 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 439150522 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 474677149 | 1408.314 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 587545694 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 474677149 | 1408.314 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 558382413 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5873.D
Lab Smp Id: FSTD1001W  Client Smp ID: FSTD1001W
Misc  : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011  12:05  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Aug 04 08:51:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1283
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **MB-60579** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **MB-60579** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 16:06** SeqNo: **1578267**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.07407 | | 0.0025 | 0.1000 | 0 | 74.1 | 50 | 150 | 0 | | | |

Sample ID: **MB-60598** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **07/25/11 9:22** Run ID: **F1_110803A**
Client ID: **MB-60598** Batch ID: **60598** Units: **mg/L** Analysis Date: **08/03/11 8:44** SeqNo: **1578361**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.09679 | | 0.0025 | 0.1000 | 0 | 96.8 | 50 | 150 | 0 | | | |

Sample ID: **LCS-60579** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **LCS-60579** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 16:26** SeqNo: **1578268**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.754 | 0.018 | 0.10 | 5.000 | 0 | 75.1 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.09053 | | 0.0025 | 0.1000 | 0 | 90.5 | 50 | 150 | 0 | | | |

Sample ID: **LCS-60598** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **07/25/11 9:22** Run ID: **F1_110803A**
Client ID: **LCS-60598** Batch ID: **60598** Units: **mg/L** Analysis Date: **08/03/11 9:03** SeqNo: **1578363**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 4.130 | 0.018 | 0.10 | 5.000 | 0 | 82.6 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.09054 | | 0.0025 | 0.1000 | 0 | 90.5 | 50 | 150 | 0 | | | |

Sample ID: **LCSD-60598** SampType: **LCSD** TestCode: **CTETPH_W** Prep Date: **07/25/11 9:22** Run ID: **F1_110803A**
Client ID: **LCSD-60598** Batch ID: **60598** Units: **mg/L** Analysis Date: **08/03/11 9:23** SeqNo: **1578364**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 4.472 | 0.018 | 0.10 | 5.000 | 0 | 89.4 | 60 | 140 | 4.130 | 7.96 | 20 | |
| Surrogate: ortho-Terphenyl | 0.09916 | | 0.0025 | 0.1000 | 0 | 99.2 | 50 | 150 | 0 | | | |



**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1283
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **K1283-09BMS** SampType: **MS** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **06MW13-20110719** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 22:49** SeqNo: **1578279**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.529 | 0.018 | 0.10 | 5.000 | 0.3716 | 63.2 | 50 | 150 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.07388 | | 0.0025 | 0.1000 | 0 | 73.9 | 50 | 150 | 0 | | | |

Sample ID: **K1283-09BMSD** SampType: **MSD** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **06MW13-20110719** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 23:09** SeqNo: **1578280**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.762 | 0.018 | 0.10 | 5.000 | 0.3716 | 67.8 | 50 | 150 | 3.529 | 6.39 | 30 | |
| Surrogate: ortho-Terphenyl | 0.07748 | | 0.0025 | 0.1000 | 0 | 77.5 | 50 | 150 | 0 | | | |

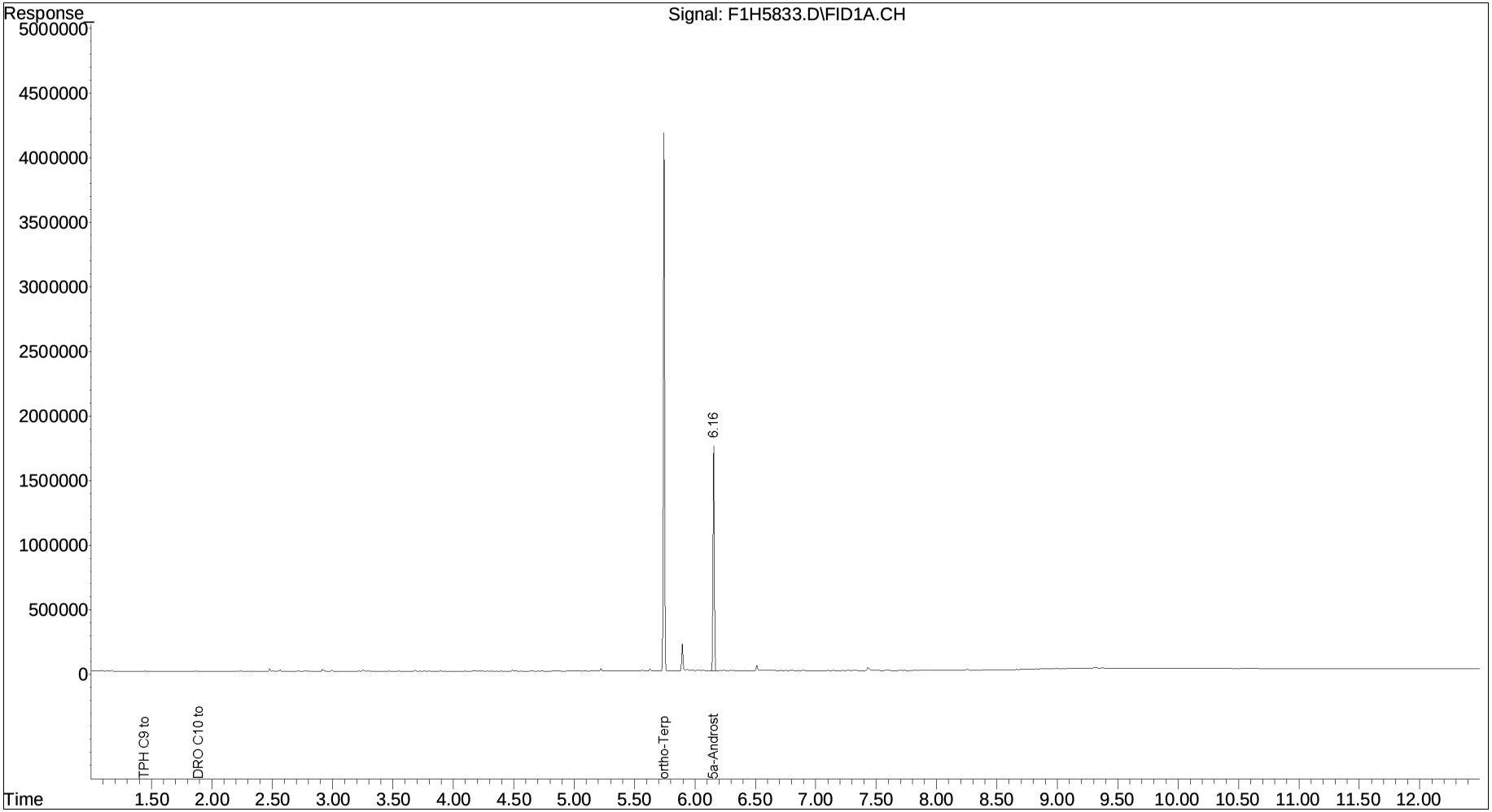


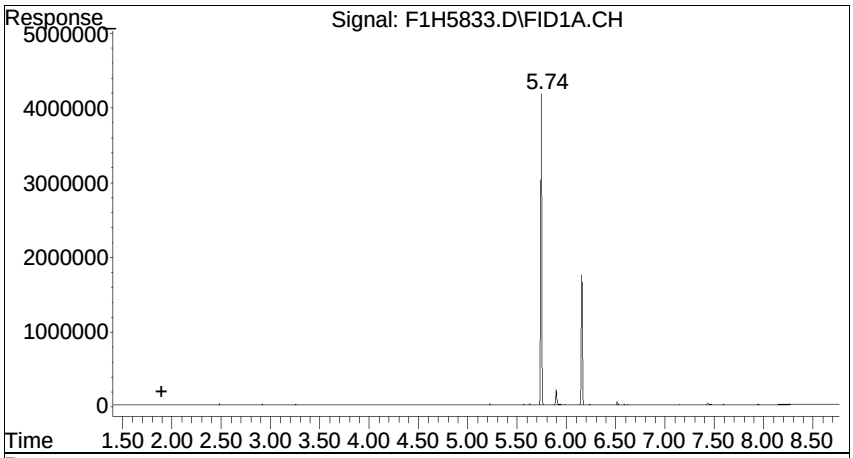
**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5833.D
Lab Smp Id: MB-60579      BN: 60579    Client Smp ID: MB-60579
Misc      : ME DRO / TPH               Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  16:06                      Operator: TM
ALS Vial  : 21   Sample Multiplier: 1

Quant Time: Jul 28 12:10:37 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ------------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.16       13118106   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       28349037   74.072 ug/mL
Spiked Amount    100.000                       Recovery   =   74.07%

 Target Compounds
 3) H   DRO C10 to C28                1.90       13912826   41.406 ug/mL
           Integration Range:                      1.90 to  8.27 minutes
           Raw Range Area:                       58803484
           Corrected Range Area (IS,SS):         17336342
           Instrument Blank Area (F1H5832):       3423516

 4) H   TPH C9 to C36                 1.44       19294781   57.662 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                       82383442
           Corrected Range Area (IS,SS):         40916300
           Instrument Blank Area (F1H5832):      21621519

 ------------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ------------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5833.D
Lab Smp Id: MB-60579 BN: 60579 Client Smp ID: MB-60579
Misc : ME DRO / TPH Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 16:06 Operator: TM
ALS Vial : 21 Sample Multiplier: 1

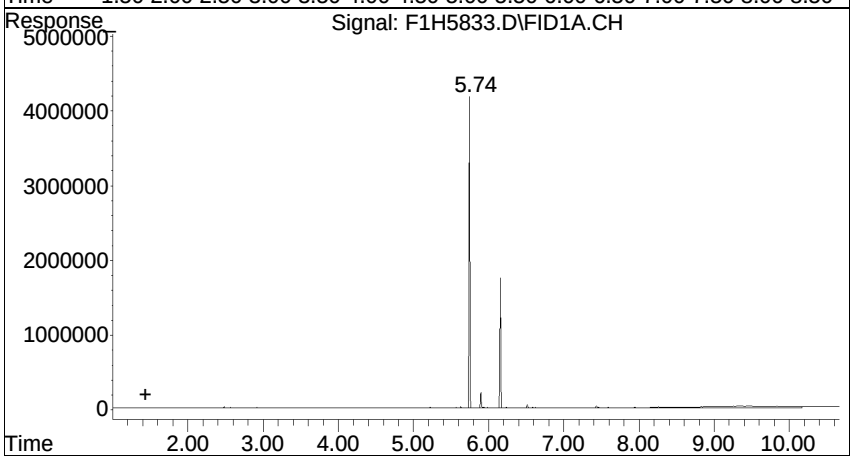
Quant Time: Jul 28 12:10:37 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#3 DRO C10 to C28

R.T.: 1.900 min
Delta R.T.: 0.000 min
Response: 13912826
Conc: 41.41 ug/mL m




#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 19294781
Conc: 57.66 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5863.D
Lab Smp Id: MB-60598 BN: 60598 Client Smp ID: MB-60598
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 8:44 Operator: TM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 10 11:44:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

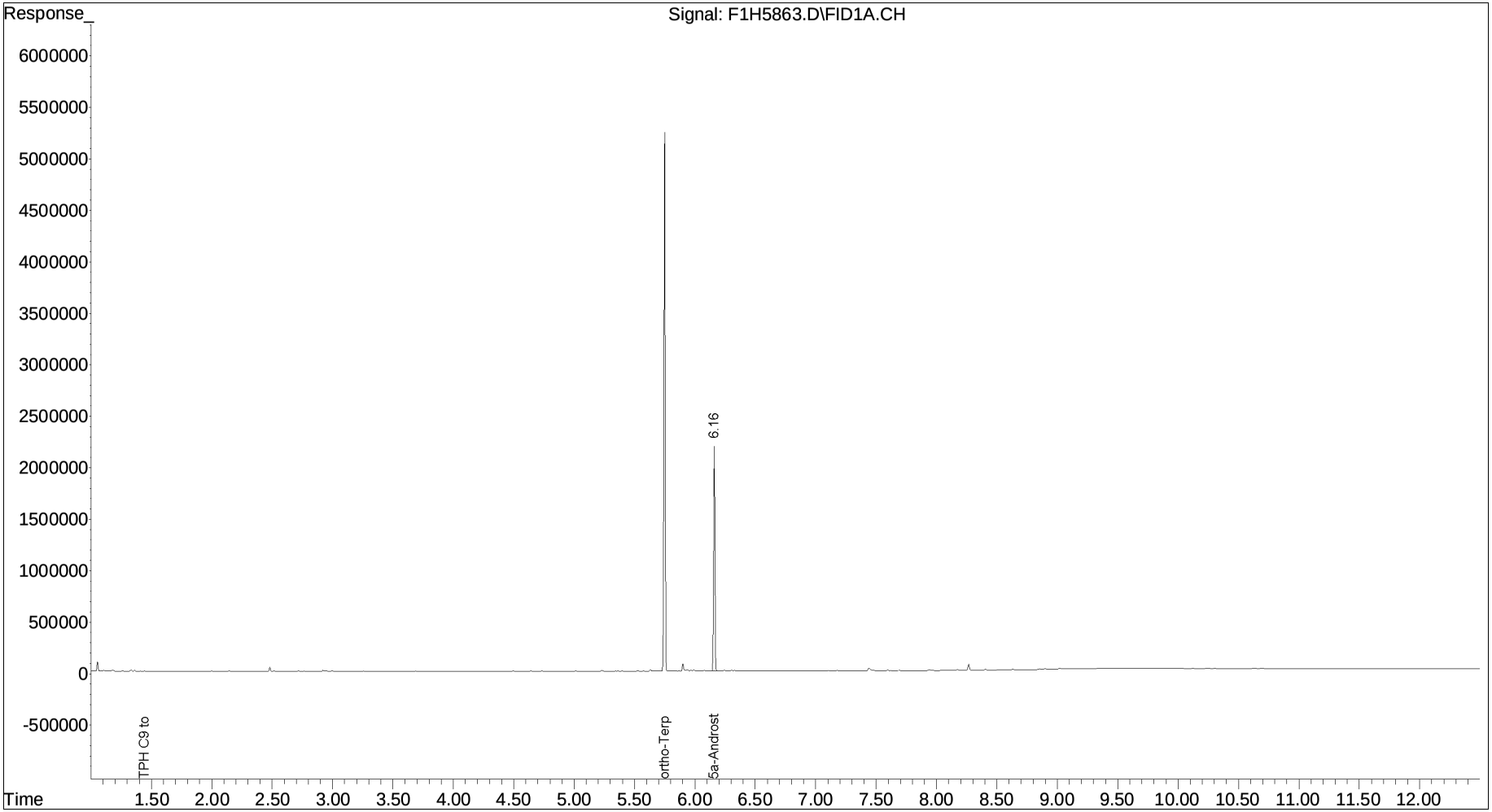
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 15956061 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.75 | 37044088 | 96.792 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 96.79% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 12249136 | 36.606 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 92842840 | |
| Corrected Range Area (IS,SS): | | 39842691 | |
| Instrument Blank Area (F1H5862): | | 27593555 | |

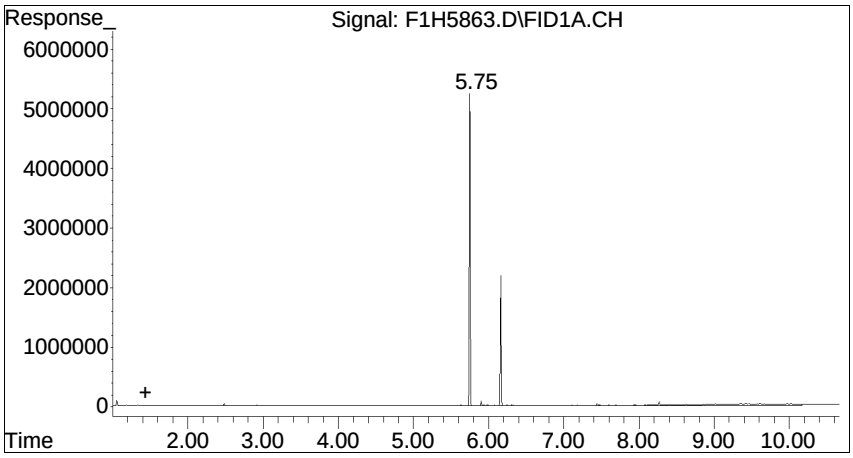
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5863.D
Lab Smp Id: MB-60598 BN: 60598 Client Smp ID: MB-60598
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 8:44 Operator: TM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: Aug 10 11:44:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25





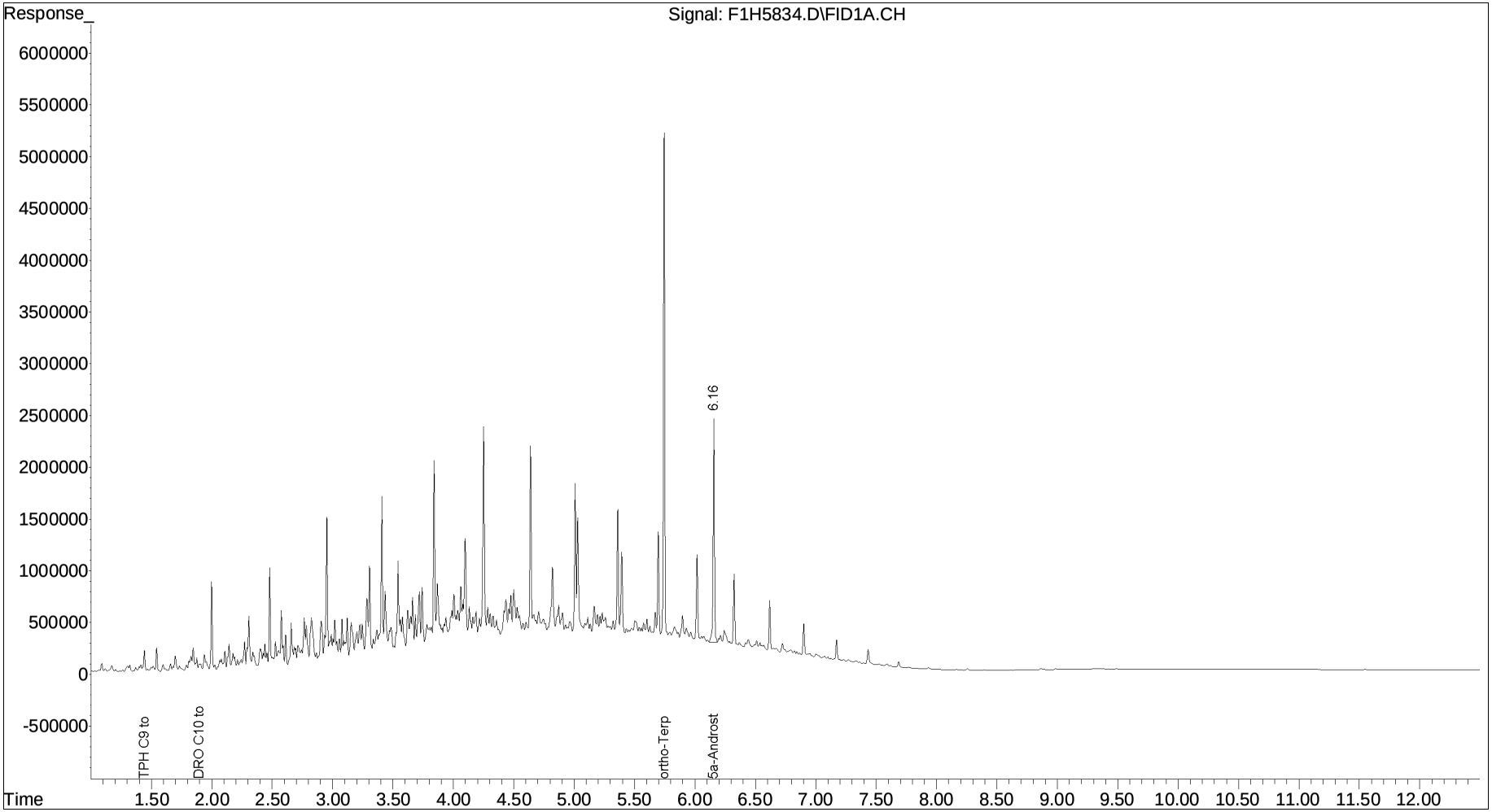

#4 TPH C9 to C36

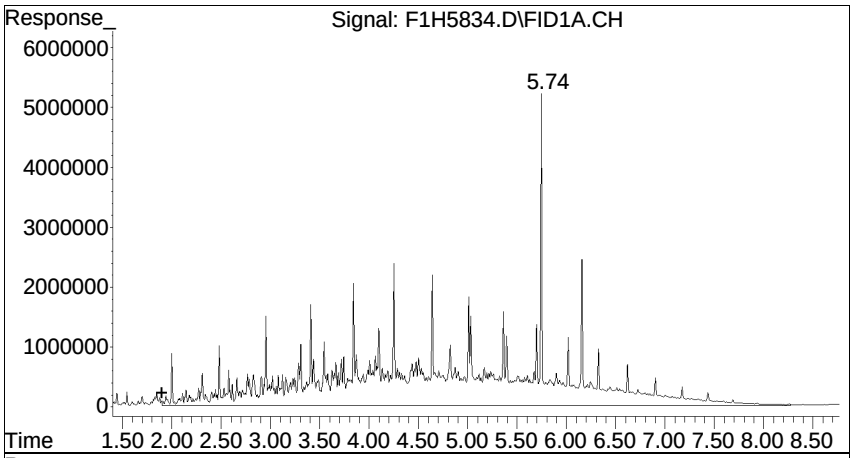
R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 12249136
Conc: 36.61 ug/mL m

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5834.D
Lab Smp Id: LCS-60579      BN: 60579   Client Smp ID: LCS-60579
Misc      : ME DRO / TPH               Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  16:26                      Operator: TM
ALS Vial  : 22   Sample Multiplier: 1

Quant Time: Jul 28 12:10:38 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ------------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.16       17154324   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.75       34648049   90.531 ug/mL
Spiked Amount    100.000                       Recovery   =   90.53%

 Target Compounds
 3) H   DRO C10 to C28                1.90     1238434327 3685.687 ug/mL
           Integration Range:                      1.90 to  8.27 minutes
           Raw Range Area:                     1293660216
           Corrected Range Area (IS,SS):       1241857843
           Instrument Blank Area (F1H5832):       3423516

 4) H   TPH C9 to C36                 1.44     1256100752 3753.806 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     1329524644
           Corrected Range Area (IS,SS):       1277722271
           Instrument Blank Area (F1H5832):     21621519

 ------------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ------------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5834.D
Lab Smp Id: LCS-60579 BN: 60579 Client Smp ID: LCS-60579
Misc : ME DRO / TPH Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 16:26 Operator: TM
ALS Vial : 22 Sample Multiplier: 1

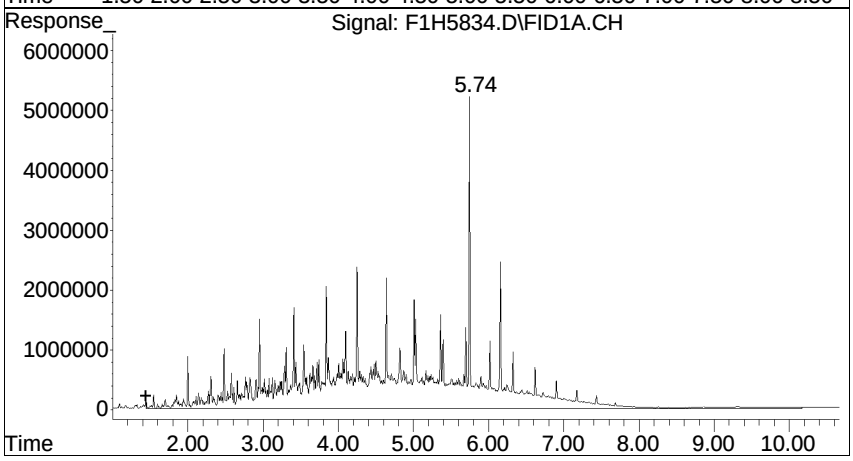
Quant Time: Jul 28 12:10:38 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#3 DRO C10 to C28

R.T.: 1.900 min
Delta R.T.: 0.000 min
Response: 1238434327
Conc: 3685.69 ug/mL m



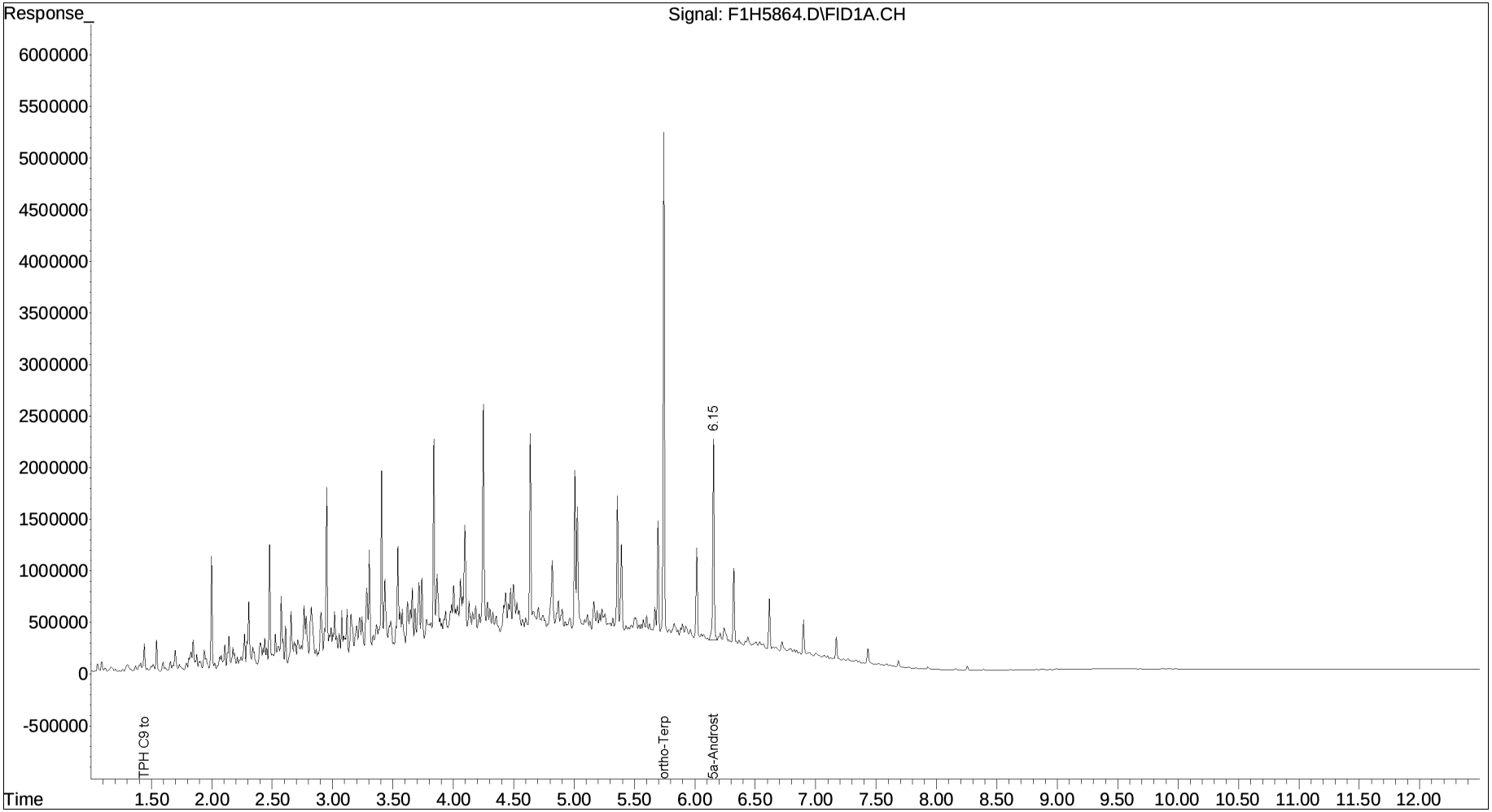

#4 TPH C9 to C36

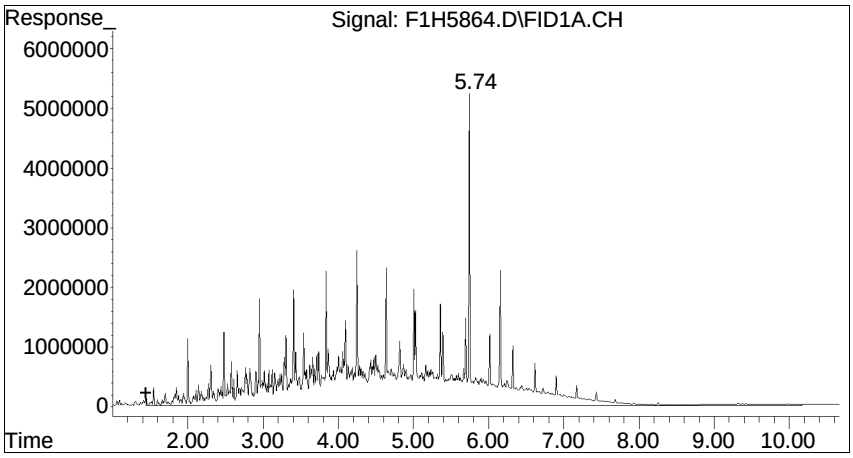
R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1256100752
Conc: 3753.81 ug/mL m

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5864.D
Lab Smp Id: LCS-60598      BN: 60598   Client Smp ID: LCS-60598
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011   9:03                      Operator: TM
ALS Vial  : 3   Sample Multiplier: 1

Quant Time: Aug 10 11:44:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.15       16014551   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       34649638   90.535 ug/mL
Spiked Amount    100.000                       Recovery   =   90.53%

 Target Compounds
 4) H   TPH C9 to C36                 1.44     1382079522 4130.288 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     1460337267
           Corrected Range Area (IS,SS):       1409673077
           Instrument Blank Area (F1H5862):      27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5864.D
Lab Smp Id: LCS-60598 BN: 60598 Client Smp ID: LCS-60598
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 9:03 Operator: TM
ALS Vial : 3 Sample Multiplier: 1

Quant Time: Aug 10 11:44:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25





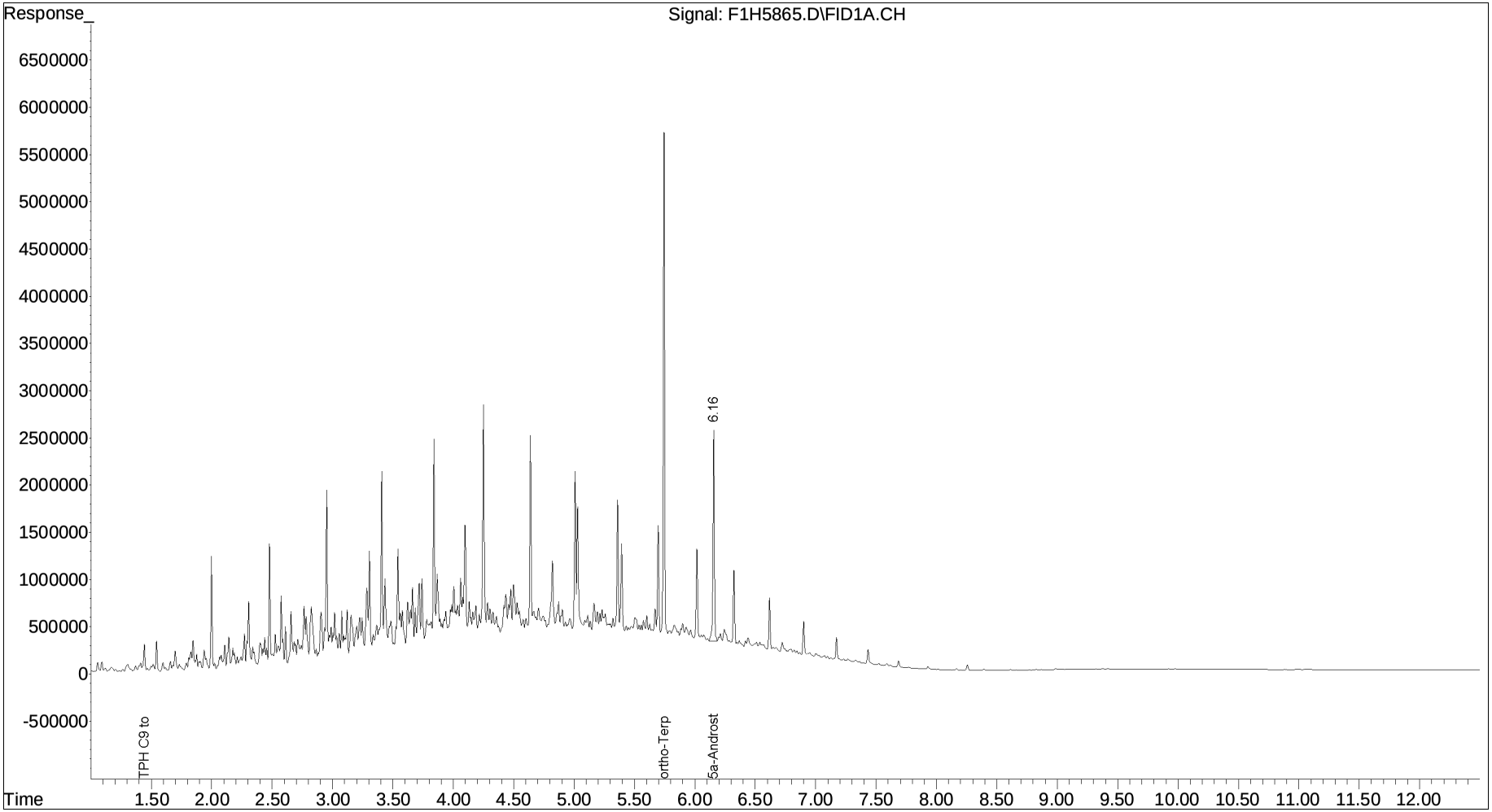

#4 TPH C9 to C36

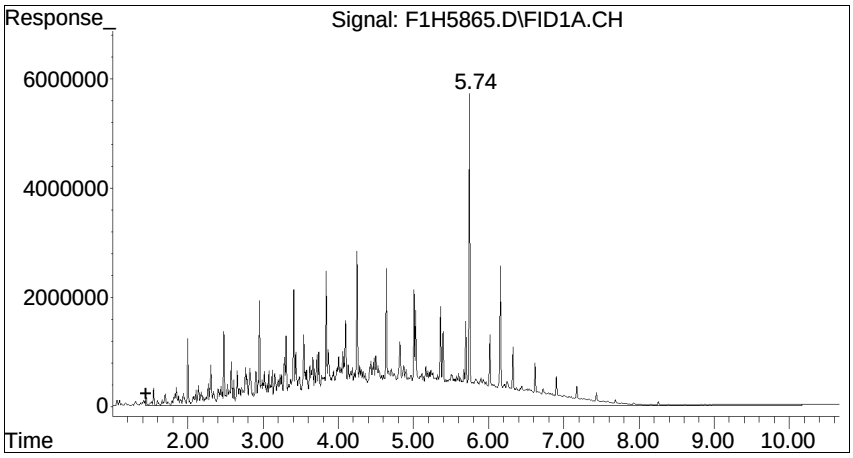
R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1382079522
Conc: 4130.29 ug/mL m

```
Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5865.D
Lab Smp Id: LCSD-60598      BN: 60598  Client Smp ID: LCSD-60598
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 03 Aug 2011   9:23                      Operator: TM
ALS Vial  : 4   Sample Multiplier: 1

Quant Time: Aug 10 11:44:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.16       18019498   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       37950347   99.159 ug/mL
Spiked Amount    100.000                       Recovery   =   99.16%

 Target Compounds
 4) H   TPH C9 to C36                 1.44     1496586775 4472.489 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     1580150174
           Corrected Range Area (IS,SS):       1524180330
           Instrument Blank Area (F1H5862):      27593555

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5865.D
Lab Smp Id: LCSD-60598 BN: 60598 Client Smp ID: LCSD-60598
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 9:23 Operator: TM
ALS Vial : 4 Sample Multiplier: 1

Quant Time: Aug 10 11:44:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1496586775
Conc: 4472.49 ug/mL m

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5853.D
Lab Smp Id: K1283-09BMS BN: 60579 Client Smp ID: 06MW13-20110719MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 22:49 Operator: TM
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jul 28 12:11:32 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

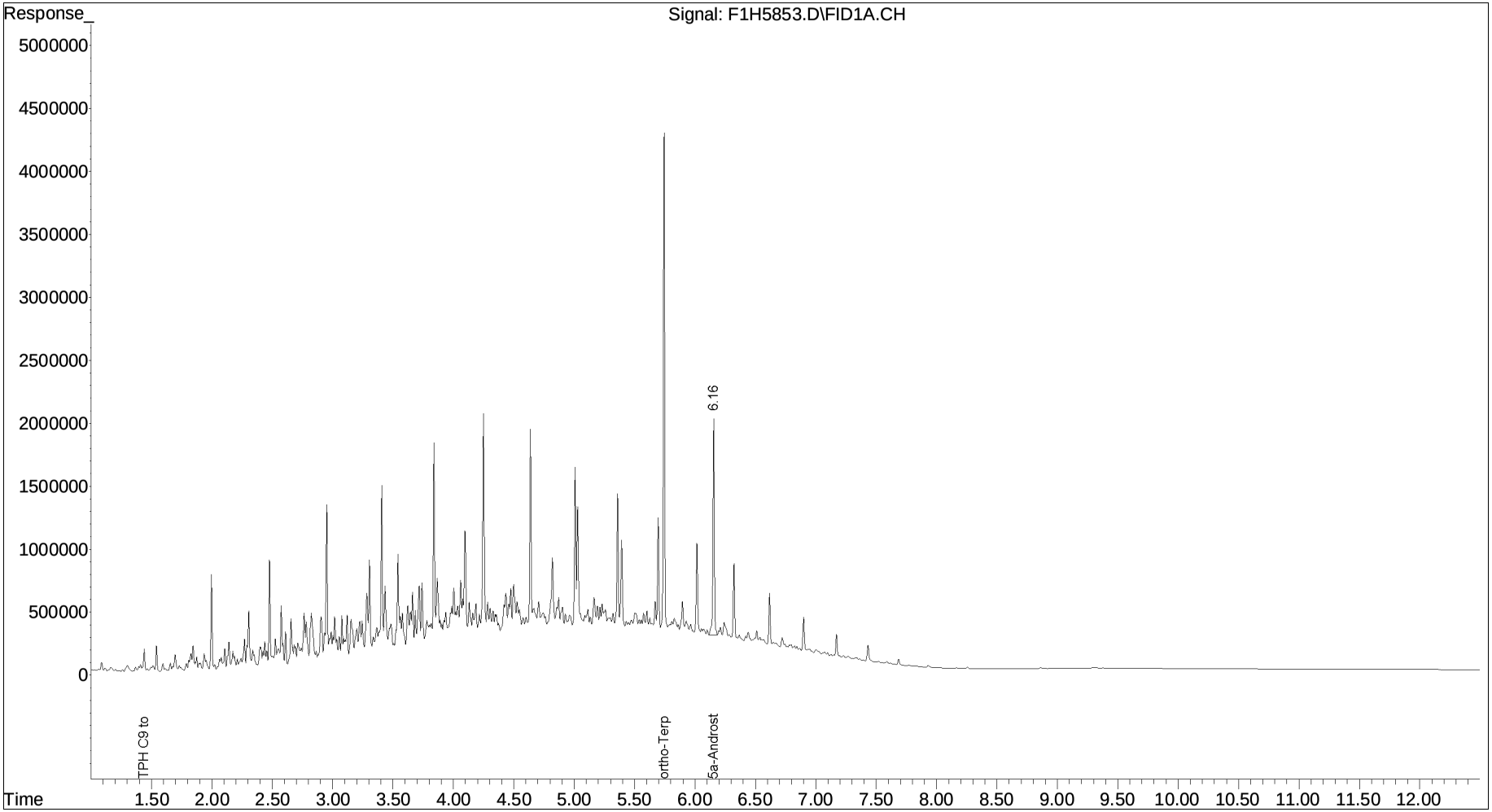
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 14058080 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 28274373 | 73.877 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 73.88% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 1180945655 | 3529.208 ug/mL |
| Integration Range: | | | 1.44 to 10.17 minutes |
| Raw Range Area: | | 1241331825 | |
| Corrected Range Area (IS,SS): | | 1198999371 | |
| Instrument Blank Area (F1H5845): | | 18053716 | |

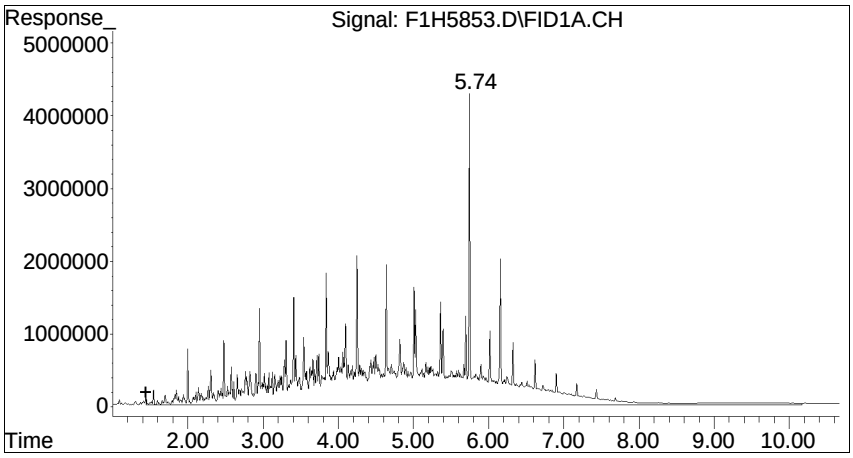
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5853.D
Lab Smp Id: K1283-09BMS BN: 60579 Client Smp ID: 06MW13-20110719MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 22:49 Operator: TM
ALS Vial : 35 Sample Multiplier: 1

Quant Time: Jul 28 12:11:32 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25





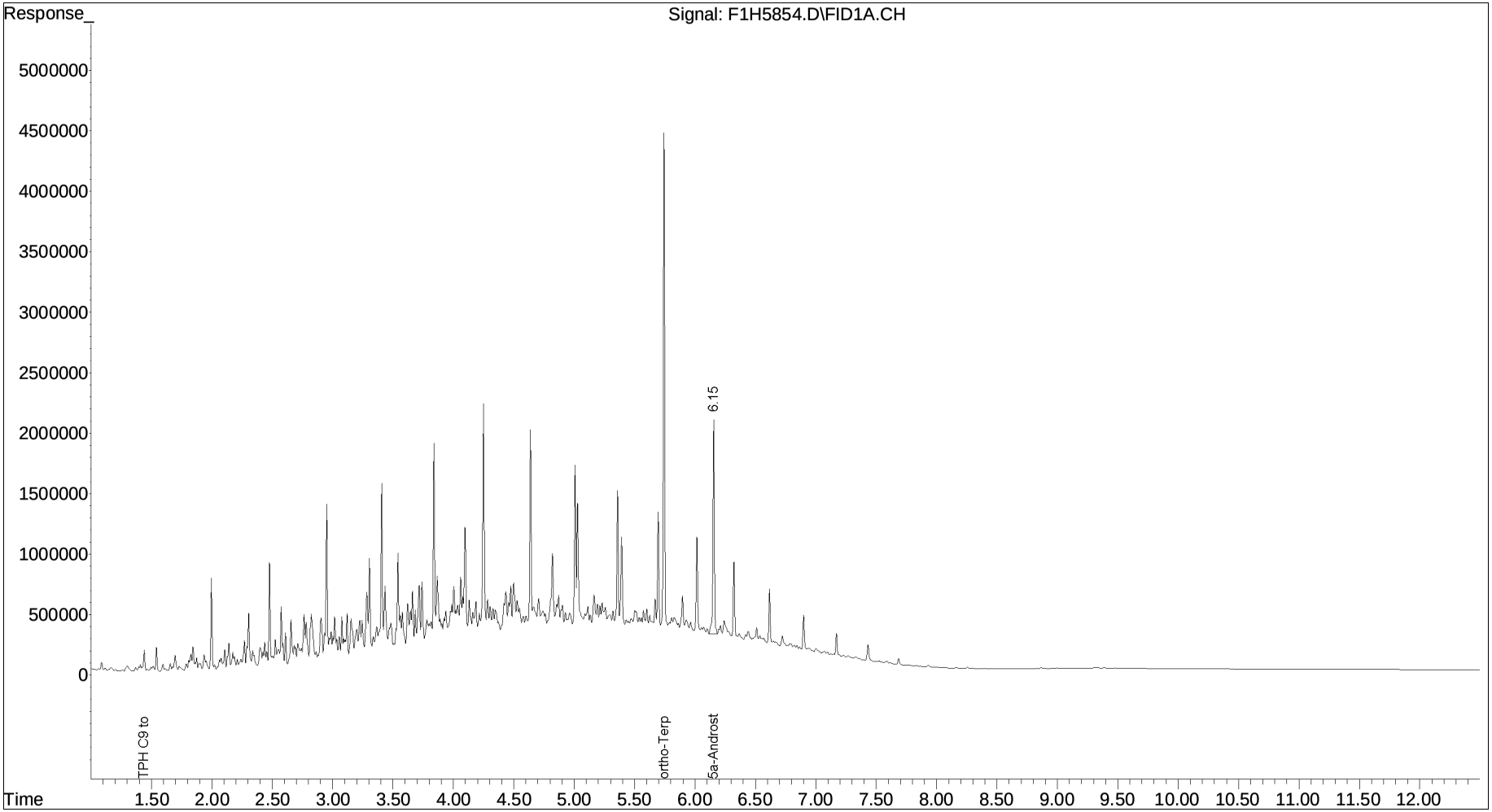

#4 TPH C9 to C36

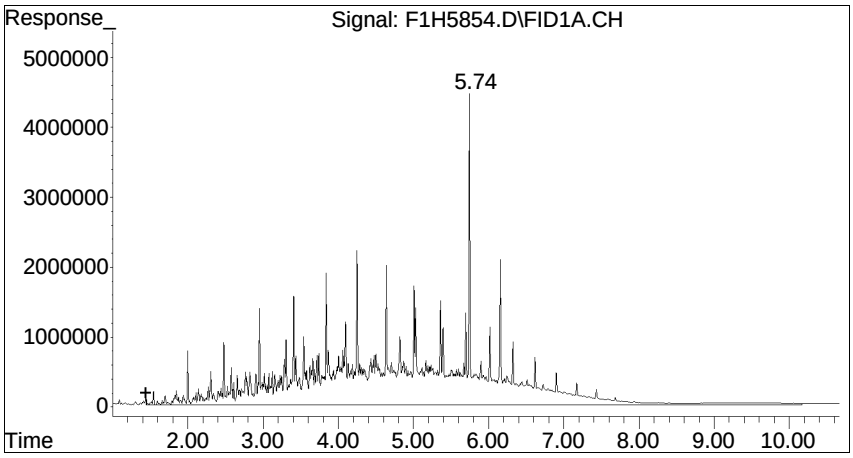
R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1180945655
Conc: 3529.21 ug/mL m

```
Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5854.D
Lab Smp Id: K1283-09BMSD      BN: 60579Client Smp ID: 06MW13-20110719MSD
Misc      : TPH F                      Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 27 Jul 2011  23:09                      Operator: TM
ALS Vial  : 36   Sample Multiplier: 1

Quant Time: Jul 28 12:11:33 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

        Compound                      R.T.       Response    Conc Units
 ---------------------------------------------------------------------------
 Internal Standards
11) I   5a-Androstane                 6.16       14770287   40.000 ug/mL

 System Monitoring Compounds
 2) S   ortho-Terphenyl               5.74       29651356   77.475 ug/mL
Spiked Amount    100.000                       Recovery   =   77.47%

 Target Compounds
 4) H   TPH C9 to C36                 1.44     1258930215 3762.262 ug/mL
           Integration Range:                      1.44 to 10.17 minutes
           Raw Range Area:                     1321405574
           Corrected Range Area (IS,SS):       1276983931
           Instrument Blank Area (F1H5845):      18053716

 ---------------------------------------------------------------------------

   Corrected Range Area  =  Raw Range Area  -  Internal and Surrogate Area
   Reported Area         =  Corrected Range Area  - Instrument Blank Area

 ---------------------------------------------------------------------------

(f)=RT Delta > 1/2 Window                                  (m)=manual int.
```

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5854.D
Lab Smp Id: K1283-09BMSD BN: 60579Client Smp ID: 06MW13-20110719MSD
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 23:09 Operator: TM
ALS Vial : 36 Sample Multiplier: 1

Quant Time: Jul 28 12:11:33 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1258930215
Conc: 3762.26 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/24/2011 3:52:23 P**
Prep End Date: **7/26/2011 2:30:00 P**
Prep Batch ID: **60579**

Prep Code: **TPH_W_PR**
Technician: **Brian L Dihopolsky**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: mL / mL

QC Matrix: **NASO4**
QC Matrix Lot: **106147**

Solvent (1): **MECL2**
Solvent (1) Lot: **DE 155**

Solvent (3): **N/A**
Solvent (3) Lot: **N/A**

Solvent (5): **N/A**
Solvent (5) Lot: **N/A**

Clean Up (1): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (3): **N/A**
Clean Up (1) Lot: **N/A**

Filter?: **FILTER**
Filter Lot: **FC002266**

Solvent (2): **N/A**
Solvent (2) Lot: **N/A**

Solvent (4): **N/A**
Solvent (4) Lot: **N/A**

Solvent (6): **N/A**
Solvent (6) Lot: **N/A**

Clean Up (2): **N/A**
Clean Up (2) Lot: **N/A**

Clean Up (4): **N/A**
Clean Up (4) Lot: **N/A**

Start Time: **N/A**
End Time: **N/A**

Cycles/Hour **0**

Sonicator Tuned? **N/A**

Bath Temp1 (C): **N/A**

Therm ID1: **N/A**

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| LCS-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-02B | MSW9002 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-03B | MSW0619 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04B | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04BMS | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-04BMSD | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-01B | 06MW-DUP01-201107 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-02B | 06MW09-20110718 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-05B | 06MW02-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-06B | 06MW06-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1283-07B | 06MW07-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-08B | 06MW08-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09B | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMS | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMSD | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |

Jill L Cartwright — 07/26/2011
Analyst Reviewed — Date

Timothy McDaniel — 07/26/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

7/26/11 TM

Logbook ID: 50.0147-07/11

Tuesday, August 02, 2011 09:39



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/25/2011 9:22:38 A**
Prep End Date: **8/2/2011 9:38:00 A**
Prep Batch ID: **60598**

Prep Code: **TPH_W_PR**
Technician: **Timothy McDaniel**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: mL / mL

QC Matrix: **NASO4**
QC Matrix Lot: **106147**

Solvent (1): **MECL2**
Solvent (1) Lot: **DE 155**

Solvent (3): **N/A**
Solvent (3) Lot: **N/A**

Solvent (5): **N/A**
Solvent (5) Lot: **N/A**

Clean Up (1): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (3): **N/A**
Clean Up (1) Lot: **N/A**

Filter?: **FILTER**
Filter Lot: **FC002266**

Solvent (2): **N/A**
Solvent (2) Lot: **N/A**

Solvent (4): **N/A**
Solvent (4) Lot: **N/A**

Solvent (6): **N/A**
Solvent (6) Lot: **N/A**

Clean Up (2): **N/A**
Clean Up (2) Lot: **N/A**

Clean Up (4): **N/A**
Clean Up (4) Lot: **N/A**

Start Time: **N/A**
End Time: **N/A**

Cycles/Hour **0**

Sonicator Tuned? **N/A**

Bath Temp1 (C): **N/A**

Therm ID1: **N/A**

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-04B | 06MW01-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-11B | 06MW03-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-12B | 06MW10-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-13B | 06MW11-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-14B | 06MW12-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-15B | 06MW04-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-16B | 06MW05-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |

Antonio AP Cardoso — 08/02/2011
Analyst Reviewed — Date

Timothy McDaniel — 08/02/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

8/2/11

Logbook ID: 50.0147-07/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | KM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700L | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

KM 5/24/11

# Injection Log

AQ: TPH_ACQF
QT: TPH 0520F

Directory: O:\F1.I\110727.B

INLET MAINT = YES

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5830.d | 1. | FSTD1001R | TPH F ICAL L5 100... | 27 Jul 2011 15:05 |
| 2 | 96 | F1h5831.d | 1. | QC | TPH F | 27 Jul 2011 15:25 |
| 3 | 100 | F1h5832.d | 1. | IBLK | TPH F | 27 Jul 2011 15:45 |
| 4 | 21 | F1h5833.d | 1. | MB-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:06 |
| 5 | 22 | F1h5834.d | 1. | LCS-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:26 |
| 6 | 23 | F1h5835.d | 1. | K1270-02B,,60579 | ME DRO | 27 Jul 2011 16:46 |
| 7 | 24 | F1h5836.d | 1. | K1270-03B,,60579 | ME DRO | 27 Jul 2011 17:07 |
| 8 | 25 | F1h5837.d | 1. | K1270-04B,,60579 | ME DRO | 27 Jul 2011 17:27 |
| 9 | 26 | F1h5838.d | 1. | K1270-04BMS,,60579 | ME DRO | 27 Jul 2011 17:47 |
| 10 | 27 | F1h5839.d | 1. | K1270-04BMSD,,60579 | ME DRO | 27 Jul 2011 18:08 |
| 11 | 1 | F1h5840.d | 1. | FSTD1001S | TPH F CCAL L5 100... | 27 Jul 2011 18:28 |
| 12 | 96 | F1h5841.d | 1. | QC | TPH F | 27 Jul 2011 18:48 |
| 13 | 100 | F1h5842.d | 1. | IBLK | TPH F | 27 Jul 2011 19:08 |
| 14 | 95 | F1h5843.d | 1. | QC | TPH F | 27 Jul 2011 19:29 |
| 15 | 1 | F1h5844.d | 1. | FSTD1001T | TPH F CCAL L5 100... | 27 Jul 2011 19:49 |
| 16 | 100 | F1h5845.d | 1. | IBLK | TPH F | 27 Jul 2011 20:09 |
| 17 | 28 | F1h5846.d | 1. | K1283-01B,,60579 | TPH F | 27 Jul 2011 20:29 |
| 18 | 29 | F1h5847.d | 1. | K1283-02B,,60579 | TPH F | 27 Jul 2011 20:49 |
| 19 | 30 | F1h5848.d | 1. | K1283-05B,,60579 | TPH F | 27 Jul 2011 21:09 |
| 20 | 31 | F1h5849.d | 1. | K1283-06B,,60579 | TPH F | 27 Jul 2011 21:29 |
| 21 | 32 | F1h5850.d | 1. | K1283-07B,,60579 | TPH F | 27 Jul 2011 21:49 |
| 22 | 33 | F1h5851.d | 1. | K1283-08B,,60579 | TPH F | 27 Jul 2011 22:09 |
| 23 | 34 | F1h5852.d | 1. | K1283-09B,,60579 | TPH F | 27 Jul 2011 22:29 |
| 24 | 35 | F1h5853.d | 1. | K1283-09BMS,,60579 | TPH F | 27 Jul 2011 22:49 |
| 25 | 36 | F1h5854.d | 1. | K1283-09BMSD,,60579 | TPH F | 27 Jul 2011 23:09 |
| 26 | 1 | F1h5855.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 27 Jul 2011 23:29 |
| 27 | 100 | F1h5856.d | 1. | IBLK | TPH F | 27 Jul 2011 23:49 |
| 28 | 98 | F1h5857.d | 1. | QC | TPH F | 28 Jul 2011 11:39 |

MC 7/28/11

# Injection Log

AQ : TPH-AGF
QT: TPH0520F

Directory: O:\F1.I\110803.B

INLET MAINT: NONE

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5860.d | 1. | QC | TPH F | 03 Aug 2011 07:35 |
| 2 | 1 | F1h5861.d | 1. | FSTD1001V | TPH F ICAL L5 100... | 03 Aug 2011 07:54 |
| 3 | 100 | F1h5862.d | 1. | IBLK | TPH F | 03 Aug 2011 08:14 |
| 4 | 2 | F1h5863.d | 1. | MB-60598,,60598 | TPH F | 03 Aug 2011 08:44 |
| 5 | 3 | F1h5864.d | 1. | LCS-60598,,60598 | TPH F | 03 Aug 2011 09:03 |
| 6 | 4 | F1h5865.d | 1. | LCSD-60598,,60598 | TPH F | 03 Aug 2011 09:23 |
| 7 | 5 | F1h5866.d | 1. | K1283-04B,,60598 | TPH F | 03 Aug 2011 09:43 |
| 8 | 6 | F1h5867.d | 1. | K1283-11B,,60598 | TPH F | 03 Aug 2011 10:04 |
| 9 | 7 | F1h5868.d | 1. | K1283-12B,,60598 | TPH F | 03 Aug 2011 10:24 |
| 10 | 8 | F1h5869.d | 1. | K1283-13B,,60598 | TPH F | 03 Aug 2011 10:44 |
| 11 | 9 | F1h5870.d | 1. | K1283-14B,,60598 | TPH F | 03 Aug 2011 11:04 |
| 12 | 10 | F1h5871.d | 1. | K1283-15B,,60598 | TPH F | 03 Aug 2011 11:24 |
| 13 | 11 | F1h5872.d | 1. | K1283-16B,,60598 | TPH F | 03 Aug 2011 11:45 |
| 14 | 1 | F1h5873.d | 1. | FSTD1001W | TPH F ICAL L5 100... | 03 Aug 2011 12:05 |
| 15 | 100 | F1h5874.d | 1. | IBLK | TPH F | 03 Aug 2011 12:25 |

8/10/11

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/24/2011 3:52:23 P**
Prep End Date: **7/26/2011 2:30:00 P**
Prep Batch ID: **60579**

Prep Code: **TPH_W_PR**
Technician: **Brian L Dlhopolsky**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: mL / mL

QC Matrix: **NASO4**
QC Matrix Lot: **106147**

Solvent (1): **MECL2**
Solvent (1) Lot: **DE 155**

Solvent (3): **N/A**
Solvent (3) Lot: **N/A**

Solvent (5): **N/A**
Solvent (5) Lot: **N/A**

Clean Up (1): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (3): **N/A**
Clean Up (1) Lot: **N/A**

Filter?: **FILTER**
Filter Lot: **FC002266**

Solvent (2): **N/A**
Solvent (2) Lot: **N/A**

Solvent (4): **N/A**
Solvent (4) Lot: **N/A**

Solvent (6): **N/A**
Solvent (6) Lot: **N/A**

Clean Up (2): **N/A**
Clean Up (2) Lot: **N/A**

Clean Up (4): **N/A**
Clean Up (4) Lot: **N/A**

Start Time: **N/A**
End Time: **N/A**

Cycles/Hour **0**

Sonicator Tuned? **N/A**

Bath Temp1 (C): **N/A**

Therm ID1: **N/A**

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| LCS-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-02B | MSW9002 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-03B | MSW0619 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04B | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04BMS | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-04BMSD | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-01B | 06MW-DUP01-201107 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-02B | 06MW09-20110718 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-05B | 06MW02-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-06B | 06MW06-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1283-07B | 06MW07-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-08B | 06MW08-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09B | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMS | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMSD | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |

Jill L Cartwright — 07/26/2011
Analyst Reviewed — Date

Timothy McDaniel — 07/26/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

7/26/11 TM

144

Logbook ID: 50.0147-07/11

Tuesday, August 02, 2011 09:39



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/25/2011 9:22:38 A**

Prep End Date: **8/2/2011 9:38:00 A**

Prep Code: **TPH_W_PR**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: mL / mL

Prep Batch ID: **60598**

Technician: **Timothy McDaniel**

QC Matrix: NASO4
QC Matrix Lot: 106147

Solvent (1): MECL2
Solvent (1) Lot: DE 155

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Filter?: FILTER
Filter Lot: FC002266

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-04B | 06MW01-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-11B | 06MW03-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-12B | 06MW10-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-13B | 06MW11-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-14B | 06MW12-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-15B | 06MW04-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-16B | 06MW05-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |

Antonio AP Cardoso — 08/02/2011
Analyst Reviewed — Date

Timothy McDaniel — 08/02/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | GM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ecv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 => 500/700 | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

GM 5/24/11

# Injection Log

AQ: TPH_AQF
QT: TPH 0520F

Directory: O:\F1.I\110727.B

INLET MAINT: YES

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5830.d | 1. | FSTD1001R | TPH F ICAL L5 100... | 27 Jul 2011 15:05 |
| 2 | 96 | F1h5831.d | 1. | QC | TPH F | 27 Jul 2011 15:25 |
| 3 | 100 | F1h5832.d | 1. | IBLK | TPH F | 27 Jul 2011 15:45 |
| 4 | 21 | F1h5833.d | 1. | MB-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:06 |
| 5 | 22 | F1h5834.d | 1. | LCS-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:26 |
| 6 | 23 | F1h5835.d | 1. | K1270-02B,,60579 | ME DRO | 27 Jul 2011 16:46 |
| 7 | 24 | F1h5836.d | 1. | K1270-03B,,60579 | ME DRO | 27 Jul 2011 17:07 |
| 8 | 25 | F1h5837.d | 1. | K1270-04B,,60579 | ME DRO | 27 Jul 2011 17:27 |
| 9 | 26 | F1h5838.d | 1. | K1270-04BMS,,60579 | ME DRO | 27 Jul 2011 17:47 |
| 10 | 27 | F1h5839.d | 1. | K1270-04BMSD,,60579 | ME DRO | 27 Jul 2011 18:08 |
| 11 | 1 | F1h5840.d | 1. | FSTD1001S | TPH F CCAL L5 100... | 27 Jul 2011 18:28 |
| 12 | 96 | F1h5841.d | 1. | QC | TPH F | 27 Jul 2011 18:48 |
| 13 | 100 | F1h5842.d | 1. | IBLK | TPH F | 27 Jul 2011 19:08 |
| 14 | 95 | F1h5843.d | 1. | QC | TPH F | 27 Jul 2011 19:29 |
| 15 | 1 | F1h5844.d | 1. | FSTD1001T | TPH F CCAL L5 100... | 27 Jul 2011 19:49 |
| 16 | 100 | F1h5845.d | 1. | IBLK | TPH F | 27 Jul 2011 20:09 |
| 17 | 28 | F1h5846.d | 1. | K1283-01B,,60579 | TPH F | 27 Jul 2011 20:29 |
| 18 | 29 | F1h5847.d | 1. | K1283-02B,,60579 | TPH F | 27 Jul 2011 20:49 |
| 19 | 30 | F1h5848.d | 1. | K1283-05B,,60579 | TPH F | 27 Jul 2011 21:09 |
| 20 | 31 | F1h5849.d | 1. | K1283-06B,,60579 | TPH F | 27 Jul 2011 21:29 |
| 21 | 32 | F1h5850.d | 1. | K1283-07B,,60579 | TPH F | 27 Jul 2011 21:49 |
| 22 | 33 | F1h5851.d | 1. | K1283-08B,,60579 | TPH F | 27 Jul 2011 22:09 |
| 23 | 34 | F1h5852.d | 1. | K1283-09B,,60579 | TPH F | 27 Jul 2011 22:29 |
| 24 | 35 | F1h5853.d | 1. | K1283-09BMS,,60579 | TPH F | 27 Jul 2011 22:49 |
| 25 | 36 | F1h5854.d | 1. | K1283-09BMSD,,60579 | TPH F | 27 Jul 2011 23:09 |
| 26 | 1 | F1h5855.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 27 Jul 2011 23:29 |
| 27 | 100 | F1h5856.d | 1. | IBLK | TPH F | 27 Jul 2011 23:49 |
| 28 | 98 | F1h5857.d | 1. | QC | TPH F | 28 Jul 2011 11:39 |

M 7/28/11

# Injection Log

AQ : TPH-AGF
QT: TPH05201F

Directory: O:\F1.I\110803.B

Inlet Maint: None

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5860.d | 1. | QC | TPH F | 03 Aug 2011 07:35 |
| 2 | 1 | F1h5861.d | 1. | FSTD1001V | TPH F ICAL L5 100... | 03 Aug 2011 07:54 |
| 3 | 100 | F1h5862.d | 1. | IBLK | TPH F | 03 Aug 2011 08:14 |
| 4 | 2 | F1h5863.d | 1. | MB-60598,,60598 | TPH F | 03 Aug 2011 08:44 |
| 5 | 3 | F1h5864.d | 1. | LCS-60598,,60598 | TPH F | 03 Aug 2011 09:03 |
| 6 | 4 | F1h5865.d | 1. | LCSD-60598,,60598 | TPH F | 03 Aug 2011 09:23 |
| 7 | 5 | F1h5866.d | 1. | K1283-04B,,60598 | TPH F | 03 Aug 2011 09:43 |
| 8 | 6 | F1h5867.d | 1. | K1283-11B,,60598 | TPH F | 03 Aug 2011 10:04 |
| 9 | 7 | F1h5868.d | 1. | K1283-12B,,60598 | TPH F | 03 Aug 2011 10:24 |
| 10 | 8 | F1h5869.d | 1. | K1283-13B,,60598 | TPH F | 03 Aug 2011 10:44 |
| 11 | 9 | F1h5870.d | 1. | K1283-14B,,60598 | TPH F | 03 Aug 2011 11:04 |
| 12 | 10 | F1h5871.d | 1. | K1283-15B,,60598 | TPH F | 03 Aug 2011 11:24 |
| 13 | 11 | F1h5872.d | 1. | K1283-16B,,60598 | TPH F | 03 Aug 2011 11:45 |
| 14 | 1 | F1h5873.d | 1. | FSTD1001W | TPH F ICAL L5 100... | 03 Aug 2011 12:05 |
| 15 | 100 | F1h5874.d | 1. | IBLK | TPH F | 03 Aug 2011 12:25 |

8/10/11

**Client:** TETRA_NAVY

**Work Order:** K1283 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Aqueous**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 01A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 01A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 01B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 01B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 01B | 002 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 02A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 02A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 02B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 02B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 02B | 002 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 03A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 03A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 04A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 04A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 04B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 04B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 04B | 002 | CTETPH_W | Consumed | Timothy McDaniel | 7/25/2011 9:12:00 AM |
| 05A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 05A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 05B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 05B | 001 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 05B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 06A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 06A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 06B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 06B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 06B | 002 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 07A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 07A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 07B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 07B | 001 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 07B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |

**Client:** TETRA_NAVY

**Work Order:** K1283 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Aqueous**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 08A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 08A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 08B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 08B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 08B | 002 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 09A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09A | 003 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09A | 004 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09A | 005 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09A | 006 | MAVPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09B | 001 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 09B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09B | 002 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 09B | 003 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09B | 004 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09B | 005 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 09B | 005 | CTETPH_W | Consumed | Brian L Dlhopolsky | 7/24/2011 3:58:00 PM |
| 09B | 006 | CTETPH_W | In | LOGIN: sng | 7/21/2011 1:52:00 PM |
| 10A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 10A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 11A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 11A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 11B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 11B | 001 | CTETPH_W | Consumed | Timothy McDaniel | 7/25/2011 9:12:00 AM |
| 11B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 12A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 12A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 12B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 12B | 001 | CTETPH_W | Consumed | Timothy McDaniel | 7/25/2011 9:12:00 AM |
| 12B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |

## Client: TETRA_NAVY

**Work Order:** K1283 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Aqueous**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 13A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 13A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 13B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 13B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 13B | 002 | CTETPH_W | Consumed | Timothy McDaniel | 7/25/2011 9:12:00 AM |
| 14A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 14A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 14B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 14B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 14B | 002 | CTETPH_W | Consumed | Timothy McDaniel | 7/25/2011 9:12:00 AM |
| 15A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 15A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 15B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 15B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 15B | 002 | CTETPH_W | Consumed | Timothy McDaniel | 7/25/2011 9:12:00 AM |
| 16A | 001 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 16A | 002 | MAVPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 16B | 001 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 16B | 002 | CTETPH_W | In | LOGIN: sng | 7/21/2011 4:05:00 PM |
| 16B | 002 | CTETPH_W | Consumed | Timothy McDaniel | 7/25/2011 9:12:00 AM |

**Last Page of Data Report**

NY Lab #11393/11840
FL Lab #E87600/E87936

# SPECTRUM ANALYTICAL, INC.

**Featuring**

**Hanibal Technology**

## Quality Assurance/Quality Control Data Deliverable

**Prepared for**

**Mitkem Laboratories**
**Project Name: K1283**

**Work Order SB32209**
**SDG#32209**
**Submitted July 22nd, 2011**

## Table of Contents

**Laboratory Name:** Spectrum Analytical, Inc. featuring Hanibal Technology
**City/State:** Agawam, MA
**Client Name:** Mitkem Laboratories
**Project Name/Number:** K1283
**SDG#:** 32209
**Associated Work Orders:** SB32209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# *SPECTRUM ANALYTICAL, INC.*

Featuring

***HANIBAL TECHNOLOGY***

Report of Laboratory Analyses for Mitkem Laboratories

Client Project: K1283
Aqueous samples collected between 7/20/11 and 7/21/11

Project Number: K1283

Spectrum Analytical, Inc. Project ID: SDG32209

August 10th, 2011

| | |
|---|---|
| Prepared For: | Mitkem Laboratories<br>175 Metro Center Boulevard<br>Warwick, RI 02886<br>Ed Lawler |
| Prepared By: | Spectrum Analytical, Inc.<br>11 Almgren Drive<br>Agawam, MA 01001<br>(800) 789-9115 |

# SDG32209
# SB32209 General Narrative

Spectrum Analytical, Inc. submits the enclosed data for the site characterization of subcontracted samples. Samples submitted for analysis by Mitkem Laboratories. This deliverable contains data for sixteen aqueous samples submitted on July 22nd, 2011.

In addition to USEPA SW846 method analytical guidelines, the analysis was performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and within the guidelines established by the New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) requirements.

The following observations and/or deviations are observed for the following analyses:

1. **Overall Observations:**

   All of the attached submittals are original other than logbook pages and copies of quality assurance data, which may be shared by other cases. For these, the originals are archived within the laboratory. Standard Operating Procedures follow the corresponding methods without modification.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.

Nicole Leja

Date: 8/10/11

Nicole Leja
Laboratory Director

***SPECTRUM ANALYTICAL, INC.***

**Featuring**

***HANIBAL TECHNOLOGY***

# Sample Transmittal Documentation

SB 32209

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

WorkOrder : K1283
Report Type : LEVEL 4
Due Date : 8/11/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K1283
EDD Type : ADAPT_TTNUS

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06MW-DUP01-20110718 | 7/18/2011 | Aqueous | | K1283-01A | X | | | | | | | | | | 32209-01 |
| 06MW09-20110718 | 7/18/2011 4:20:00 PM | Aqueous | | K1283-02A | X | | | | | | | | | | 02 |
| TB06-071811 | 7/18/2011 10:00:00 AM | Aqueous | | K1283-03A | X | | | | | | | | | | 03 |
| 06MW01-20110719 | 7/19/2011 12:27:00 PM | Aqueous | | K1283-04A | X | | | | | | | | | | 04 |
| 06MW02-20110719 | 7/19/2011 2:07:00 PM | Aqueous | | K1283-05A | X | | | | | | | | | | 05 |
| 06MW06-20110719 | 7/19/2011 9:17:00 AM | Aqueous | | K1283-06A | X | | | | | | | | | | 06 |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package, with all results in same reporting units if possible.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | Edward A Lawler | 07/22/11 9:04 | **Received by:** | | 7/22/11 1055 |
| **Relinquished by:** | | | **Received by:** | | 7/22/11 1635 |

07/22/2011
Page 1 of 3

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www.spectrum-analytical.com

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32209

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# CHAIN-OF-CUSTODY RECORD

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : K1283
Report Type : LEVEL 4
Due Date : 8/11/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K1283
EDD Type : ADAPT_TTNUS

Requested Test

| Client Sample ID | Collection Date | Matrix | ~~DUP~~/MS/MSD | Mitkem Sample ID | MAVPH_W | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06MW07-20110719 | 7/19/2011 12:48:00 PM | Aqueous | | K1283-07A | X | | | | | | | | | | 32209-07 |
| 06MW08-20110719 | 7/19/2011 2:56:00 PM | Aqueous | | K1283-08A | X | | | | | | | | | | -08 |
| 06MW13-20110719 | 7/19/2011 9:25:00 AM | Aqueous | X | K1283-09A | X | | | | | | | | | | -09 |
| TB06-20110719 | 7/19/2011 9:00:00 AM | Aqueous | | K1283-10A | X | | | | | | | | | | -10 |
| 06MW03-20110720 | 7/20/2011 1:44:00 PM | Aqueous | | K1283-11A | X | | | | | | | | | | -11 |
| 06MW10-20110720 | 7/20/2011 11:16:00 AM | Aqueous | | K1283-12A | X | | | | | | | | | | -12 |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package, with all results in same reporting units if possible.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | Edward A Lawler | 07/22/11 9:04 | **Received by:** | Bill Johnson | 7/22/11 1055 |
| **Relinquished by:** | | | **Received by:** | | 7/22/11 1635 |

07/22/2011


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32209

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# CHAIN-OF-CUSTODY RECORD

WorkOrder : K1283
Report Type : LEVEL 4
Due Date : 8/11/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K1283
EDD Type : ADAPT_TTNUS

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06MW11-20110720 | 7/20/2011 10:59:00 AM | Aqueous | | K1283-13A | X | | | | | | | | | | 32209 | 13 |
| 06MW12-20110720 | 7/20/2011 1:50:00 PM | Aqueous | | K1283-14A | X | | | | | | | | | | | 14 |
| 06MW04-20110721 | 7/21/2011 9:07:00 AM | Aqueous | | K1283-15A | X | | | | | | | | | | | 15 |
| 06MW05-20110721 | 7/21/2011 8:54:00 AM | Aqueous | | K1283-16A | X | | | | | | | | | | | 16 |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package, with all results in same reporting units if possible.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | Edward A Lawler | 07/22/11 9:04 | **Received by:** | [illegible] | 7/22/11 1055 |
| **Relinquished by:** | | | **Received by:** | [illegible] | 7/22/11 1635 |

07/22/2011
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*HANIBAL TECHNOLOGY*

# SAMPLE INTEGRITY FORM

| Sample ID | | | Preservative Added | | | | | Notes: |
|---|---|---|---|---|---|---|---|---|
| | Initial pH | Sample split | 50% HCl – Element # | 50% $H_2SO_4$– Element # | 50% NaOH– Element # | 50% $HNO_3$– Element # | Final pH | Work Order No. NB 32209 |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |

Solid samples for VOC analyses: Submitted in SA provided $CH_3OH/DI/NaHSO_4$ vials _____
Submitted in $CH_3OH/DI/NaHSO_4$, not SA vials _____
Not submitted in $CH_3OH/DI/NaHSO_4$ _____

***Notes***:

Login Analyst Initials: DRC Date: 7/26/11


*Headquarters:* 11 Almgren Drive & 830 Silver Street • Agawam, MA 01001 • 1-800-789-9115 • 413-789-9018 • FAX 413-789-4076

***SPECTRUM ANALYTICAL, INC.***

**Featuring**

***HANIBAL TECHNOLOGY***

# Form 1 Summary Pack

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW-DUP01-20110718**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-01 | File ID: | 32209-01.D |
| Sampled: | 07/18/11 00:00 | Prepared: | 07/30/11 08:36 | Analyzed: | 07/31/11 23:50 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115046 Sequence: S106699 Calibration: 1106002 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0457 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0716 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0297 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0457 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.101 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0067 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW09-20110718**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-02 | File ID: | 32209-02.D |
| Sampled: | 07/18/11 16:20 | Prepared: | 07/30/11 08:36 | Analyzed: | 08/01/11 00:20 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115046 Sequence: S106699 Calibration: 1106002 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0467 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0721 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0280 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0467 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.100 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0062 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**TB06-071811**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-03 | File ID: | 32209-03.D |
| Sampled: | 07/18/11 10:00 | Prepared: | 07/30/11 08:31 | Analyzed: | 07/30/11 20:08 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115032 Sequence: S106694 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0109 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.00422 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00124 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0109 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.00468 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW01-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-04 | File ID: | 32209-04.D |
| Sampled: | 07/19/11 12:27 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 12:23 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0598 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 1.02 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.539 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.200 mg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1.55 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0367 mg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.123 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0181 mg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 0.0468 mg/l | |
| 95-47-6 | o-Xylene | 5 | 0.0383 mg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW02-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-05 | File ID: | 32209-05.D |
| Sampled: | 07/19/11 14:07 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 12:50 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0469 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0447 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0255 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0469 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0703 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0016 mg/l | J |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW06-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-06 | File ID: | 32209-06.D |
| Sampled: | 07/19/11 09:17 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 13:17 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0518 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0423 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0218 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0518 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0642 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0027 mg/l | J |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW07-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-07 | File ID: | 32209-07.D |
| Sampled: | 07/19/11 12:48 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 13:44 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0468 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0138 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00602 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0468 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0198 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW08-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-08 | File ID: | 32209-08.D |
| Sampled: | 07/19/11 14:56 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 14:11 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0420 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0127 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00597 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0420 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0187 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW13-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-09 | File ID: | 32209-09.D |
| Sampled: | 07/19/11 09:25 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 14:38 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0499 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0111 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00754 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0499 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0187 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**TB06-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-10 | File ID: | 32209-10.D |
| Sampled: | 07/19/11 09:00 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 15:05 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.00932 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.00422 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00120 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.00932 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.00468 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW03-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-11 | File ID: | 32209-11.D |
| Sampled: | 07/20/11 13:44 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/02/11 23:27 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 10 | 0.215 mg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 10 | 0.829 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 10 | 0.396 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 10 | 0.421 mg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 10 | 1.22 mg/l | |
| 71-43-2 | Benzene | 10 | 0.0243 mg/l | |
| 100-41-4 | Ethylbenzene | 10 | 0.0526 mg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 10 | 0.0031 mg/l | U |
| 91-20-3 | Naphthalene | 10 | 0.131 mg/l | |
| 108-88-3 | Toluene | 10 | 0.0194 mg/l | |
| 179601-23-1 | m,p-Xylene | 10 | 0.0846 mg/l | |
| 95-47-6 | o-Xylene | 10 | 0.0251 mg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW10-20110720**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 | | |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody | | |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 | | |
| Matrix: | Aqueous | Laboratory ID: | SB32209-12 | | File ID: | 32209-12.D | |
| Sampled: | 07/20/11 11:16 | Prepared: | 08/02/11 09:09 | | Analyzed: | 08/02/11 23:53 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 | Instrument: | FID1 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0568 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.194 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0861 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0568 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.280 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0176 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW11-20110720**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 | | |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody | | |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 | | |
| Matrix: | Aqueous | Laboratory ID: | SB32209-13 | | File ID: | 32209-13.D | |
| Sampled: | 07/20/11 10:59 | Prepared: | 08/02/11 09:09 | | Analyzed: | 08/03/11 00:20 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 | Instrument: | FID1 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0537 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0340 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0248 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0537 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0588 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW12-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-14 | File ID: | 32209-14.D |
| Sampled: | 07/20/11 13:50 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 00:47 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0526 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0132 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00855 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0526 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0217 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW04-20110721**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-15 | File ID: | 32209-15r.D |
| Sampled: | 07/21/11 09:07 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 08:04 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0567 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.102 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0590 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0596 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.161 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0130 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0029 mg/l | J |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW05-20110721**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-16 | File ID: | 32209-16.D |
| Sampled: | 07/21/11 08:54 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 01:40 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0512 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0141 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00650 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0512 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0206 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

*SPECTRUM ANALYTICAL, INC.*

**Featuring**

***HANIBAL TECHNOLOGY***

# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

# CROSS REFERENCE TABLE

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Project Number: | K1283 | | |

| Client Sample ID: | Lab Sample ID: |
|---|---|
| 06MW-DUP01-20110718 | SB32209-01 |
| 06MW09-20110718 | SB32209-02 |
| TB06-071811 | SB32209-03 |
| 06MW01-20110719 | SB32209-04 |
| 06MW02-20110719 | SB32209-05 |
| 06MW06-20110719 | SB32209-06 |
| 06MW07-20110719 | SB32209-07 |
| 06MW08-20110719 | SB32209-08 |
| 06MW13-20110719 | SB32209-09 |
| TB06-20110719 | SB32209-10 |
| 06MW03-20110720 | SB32209-11 |
| 06MW10-20110720 | SB32209-12 |
| 06MW11-20110720 | SB32209-13 |
| 06MW12-20110720 | SB32209-14 |
| 06MW04-20110721 | SB32209-15 |
| 06MW05-20110721 | SB32209-16 |

**CASE NARRATIVE**

**Spectrum Analytical, Inc. Lab Reference No. SB32209**

**Client: Mitkem Laboratories**

**Project: See Chain of Custody / K1283**

**SDG #: 32209**

## I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

## II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

## III. METHODS

Analyses were performed according to +MADEP VPH 5/2004 Rev. 1.1.

## IV. PREPARATION

Aqueous samples were prepared according to VPH - EPA 5030B.

## V. INSTRUMENTATION

The following equipment was used to analyze +MADEP VPH 5/2004 Rev. 1.1:

FID1 details: GC/FID/PID Tekmar ALS 2016 and ALS 2032 purge and trap autosamplers Tekmar 3100 sample concentrator Supelco vocarb 3000 (K) trap and conditions used Hewlett Packard 6890N series gas chromatograph OI analytical Photo ionization detector and flame ionization detector Column – DB-MTBE, 30 meters, 0.45mm diameter 2.55um film

FID2 details: GC/FID/PID Tekmar Solatek 72 Multi-matrix vial autosampler Tekmar Velocity sample concentrator Supelco vocarb 3000 (K) trap and conditions used Hewlett Packard 6890N series gas chromatograph OI analytical Photo ionization detector and flame ionization detector Column – DB-MTBE, 30 meters, 0.45mm diameter 2.55um film

## VI. ANALYSIS

### A. Calibration:

All quality control samples were within the acceptance criteria.

### B. Blanks:

All blanks were within the acceptance criteria.

### C. Surrogates:

All method criteria were met.

**D. Spikes:**

**1. Laboratory Control Samples (LCS):**

All method criteria were met.

**2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):**

A matrix spike was analyzed:

In batch 1115056 from source sample 06MW13-20110719 (SB32209-09).

All method criteria were met with the following exceptions:

n-Pentane in batch 1115056, lab sample 1115056-MS1 from source sample 06MW13-20110719 (SB32209-09): The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

**E. Duplicates:**

A duplicate was analyzed.

In batch 1115056 from source sample 06MW13-20110719 (SB32209-09).

All method criteria were met.

**F. Internal Standards:**

Internal standards were within the acceptance criteria.

**G. Samples:**

All method criteria were met with the following exceptions:

In batch 1115180, sample 06MW03-20110720 (SB32209-11): Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## QC Summary

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115032-BLK1)** | 85 | 80 | | | | | 0 |
| **LCS (1115032-BS1)** | 84 | 75 | | | | | 0 |
| **LCS Dup (1115032-BSD1)** | 96 | 84 | | | | | 0 |
| **Calibration Check (S106694-CCV1)** | 108 | 100 | | | | | 0 |
| **TB06-071811 (SB32209-03)** | 80 | 74 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values
* Values outside of QC limits

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115046-BLK1)** | 100 | 92 | | | | | 0 |
| **LCS (1115046-BS1)** | 101 | 91 | | | | | 0 |
| **LCS Dup (1115046-BSD1)** | 99 | 88 | | | | | 0 |
| **Calibration Check (S106699-CCV1)** | 95 | 88 | | | | | 0 |
| **06MW-DUP01-20110718 (SB32209-01)** | 108 | 101 | | | | | 0 |
| **06MW09-20110718 (SB32209-02)** | 102 | 97 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values
* Values outside of QC limits

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115056-BLK1)** | 86 | 81 | | | | | 0 |
| **LCS (1115056-BS1)** | 93 | 81 | | | | | 0 |
| **LCS Dup (1115056-BSD1)** | 86 | 77 | | | | | 0 |
| **Duplicate (1115056-DUP1)** | 107 | 99 | | | | | 0 |
| **Matrix Spike (1115056-MS1)** | 83 | 73 | | | | | 0 |
| **Calibration Check (S106728-CCV1)** | 96 | 88 | | | | | 0 |
| **06MW01-20110719 (SB32209-04)** | 78 | 73 | | | | | 0 |
| **06MW02-20110719 (SB32209-05)** | 89 | 86 | | | | | 0 |
| **06MW06-20110719 (SB32209-06)** | 92 | 90 | | | | | 0 |
| **06MW07-20110719 (SB32209-07)** | 102 | 93 | | | | | 0 |
| **06MW08-20110719 (SB32209-08)** | 101 | 91 | | | | | 0 |
| **06MW13-20110719 (SB32209-09)** | 99 | 90 | | | | | 0 |
| **TB06-20110719 (SB32209-10)** | 93 | 83 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values
* Values outside of QC limits

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115180-BLK1)** | 100 | 88 | | | | | 0 |
| **LCS (1115180-BS1)** | 94 | 78 | | | | | 0 |
| **LCS Dup (1115180-BSD1)** | 93 | 81 | | | | | 0 |
| **Calibration Check (S106786-CCV1)** | 111 | 98 | | | | | 0 |
| **06MW03-20110720 (SB32209-11)** | 73 | 73 | | | | | 0 |
| **06MW10-20110720 (SB32209-12)** | 80 | 77 | | | | | 0 |
| **06MW11-20110720 (SB32209-13)** | 78 | 76 | | | | | 0 |
| **06MW12-20110720 (SB32209-14)** | 83 | 76 | | | | | 0 |
| **06MW04-20110721 (SB32209-15)** | 86 | 81 | | | | | 0 |
| **06MW05-20110721 (SB32209-16)** | 77 | 71 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values
* Values outside of QC limits

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115032 | Laboratory ID: | 1115032-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 09:56 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 69.5 µg/l | 116 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 62.4 µg/l | 104 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.6 µg/l | 83 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 187 µg/l | 94 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 79.0 µg/l | 99 | 70 - 130 |
| Benzene | 20.0 µg/l | 18.8 µg/l | 94 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 15.5 µg/l | 78 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 20.1 µg/l | 100 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 15.1 µg/l | 76 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.7 µg/l | 84 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 31.0 µg/l | 77 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 15.7 µg/l | 78 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 16.7 µg/l | 84 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 22.8 µg/l | 114 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 14.9 µg/l | 75 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 20.0 µg/l | 100 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.9 µg/l | 84 | 70 - 130 |
| n-Decane | 20.0 µg/l | 19.3 µg/l | 97 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 59.8 µg/l | 100 | 15 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 64.4 µg/l | 107 | 3 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.2 µg/l | 81 | 2 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 183 µg/l | 91 | 3 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 80.6 µg/l | 101 | 2 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 18.2 µg/l | 91 | 3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 17.0 µg/l | 85 | 9 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115032 | Laboratory ID: | 1115032-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 10:23 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 18.6 µg/l | 93 | 7 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 16.3 µg/l | 81 | 7 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.5 µg/l | 88 | 5 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 34.1 µg/l | 85 | 10 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 17.3 µg/l | 86 | 10 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 19.8 µg/l | 99 | 7 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 17.1 µg/l | 86 | 3 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 21.4 µg/l | 107 | 7 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 16.4 µg/l | 82 | 9 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.3 µg/l | 96 | 4 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 17.7 µg/l | 89 | 5 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 20.1 µg/l | 100 | 4 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1115046 | Laboratory ID: | 1115046-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 18:22 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 53.7 µg/l | 90 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 62.9 µg/l | 105 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 17.1 µg/l | 85 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 175 µg/l | 87 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 79.9 µg/l | 100 | 70 - 130 |
| Benzene | 20.0 µg/l | 16.1 µg/l | 81 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 18.2 µg/l | 91 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 14.1 µg/l | 70 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 20.2 µg/l | 101 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.2 µg/l | 86 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 36.5 µg/l | 91 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 19.0 µg/l | 95 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 14.7 µg/l | 73 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 18.3 µg/l | 92 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 17.9 µg/l | 90 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 19.1 µg/l | 95 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 17.2 µg/l | 86 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 20.0 µg/l | 100 | 70 - 130 |
| n-Decane | 20.0 µg/l | 22.3 µg/l | 112 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 55.6 µg/l | 93 | 3 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 60.4 µg/l | 101 | 4 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.4 µg/l | 82 | 4 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 174 µg/l | 87 | 0.7 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 76.9 µg/l | 96 | 4 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 15.6 µg/l | 78 | 3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 17.7 µg/l | 88 | 3 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1115046 | Laboratory ID: | 1115046-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 18:51 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 14.3 µg/l | 71 | 1 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 19.4 µg/l | 97 | 4 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.7 µg/l | 84 | 3 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 35.5 µg/l | 89 | 3 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 18.4 µg/l | 92 | 3 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 15.4 µg/l | 77 | 5 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 18.0 µg/l | 90 | 2 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 18.1 µg/l | 90 | 0.9 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 18.5 µg/l | 92 | 3 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 16.4 µg/l | 82 | 5 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 18.9 µg/l | 95 | 6 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 20.7 µg/l | 104 | 7 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115056 | Laboratory ID: | 1115056-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 11:30 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 72.0 µg/l | 120 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 63.6 µg/l | 106 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 15.3 µg/l | 77 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 188 µg/l | 94 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 78.9 µg/l | 99 | 70 - 130 |
| Benzene | 20.0 µg/l | 17.4 µg/l | 87 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 16.2 µg/l | 81 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 17.0 µg/l | 85 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 15.2 µg/l | 76 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.9 µg/l | 84 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 32.2 µg/l | 81 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 16.2 µg/l | 81 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 21.7 µg/l | 109 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 17.3 µg/l | 86 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.7 µg/l | 128 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 15.2 µg/l | 76 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.3 µg/l | 97 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.8 µg/l | 84 | 70 - 130 |
| n-Decane | 20.0 µg/l | 17.2 µg/l | 86 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 64.5 µg/l | 107 | 11 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 64.8 µg/l | 108 | 2 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.9 µg/l | 85 | 10 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 183 µg/l | 92 | 3 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 81.7 µg/l | 102 | 4 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 17.5 µg/l | 87 | 0.3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 16.6 µg/l | 83 | 3 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115056 | Laboratory ID: | 1115056-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 15:32 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 17.4 µg/l | 87 | 2 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 15.6 µg/l | 78 | 2 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.1 µg/l | 86 | 2 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 33.1 µg/l | 83 | 3 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 16.8 µg/l | 84 | 4 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 20.0 µg/l | 100 | 8 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 16.3 µg/l | 82 | 6 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.0 µg/l | 125 | 2 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 15.8 µg/l | 79 | 4 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 18.1 µg/l | 91 | 7 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.0 µg/l | 80 | 5 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 17.0 µg/l | 85 | 1 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115180 | Laboratory ID: | 1115180-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 15:51 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 77.9 µg/l | 130 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 61.5 µg/l | 103 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 15.1 µg/l | 76 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 190 µg/l | 95 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 76.6 µg/l | 96 | 70 - 130 |
| Benzene | 20.0 µg/l | 18.4 µg/l | 92 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 14.7 µg/l | 74 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 19.0 µg/l | 95 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 14.2 µg/l | 71 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.3 µg/l | 81 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 29.1 µg/l | 73 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 14.5 µg/l | 72 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 23.1 µg/l | 116 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 17.5 µg/l | 87 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.9 µg/l | 130 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 14.2 µg/l | 71 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 20.6 µg/l | 103 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.8 µg/l | 84 | 70 - 130 |
| n-Decane | 20.0 µg/l | 20.3 µg/l | 101 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 72.9 µg/l | 122 | 7 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 67.9 µg/l | 113 | 10 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 17.0 µg/l | 85 | 11 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 192 µg/l | 96 | 1 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 84.9 µg/l | 106 | 10 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 17.8 µg/l | 89 | 3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 16.4 µg/l | 82 | 11 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115180 | Laboratory ID: | 1115180-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 16:18 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 18.2 µg/l | 91 | 4 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 16.2 µg/l | 81 | 13 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.2 µg/l | 86 | 5 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 32.7 µg/l | 82 | 12 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 16.6 µg/l | 83 | 13 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 21.7 µg/l | 109 | 6 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 18.2 µg/l | 91 | 4 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.4 µg/l | 127 | 2 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 15.6 µg/l | 78 | 9 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.9 µg/l | 100 | 3 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 18.3 µg/l | 91 | 9 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 22.3 µg/l | 112 | 10 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIb (Organic) / FORM V (Inorganic)
# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

**06MW13-20110719**

**+MADEP VPH 5/2004 Rev. 1.1**

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115056 | Laboratory ID: | 1115056-MS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Source Sample Name: | 06MW13-20110719 | % Solids: | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | MS CONCENTRATION | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Benzene | 20.0 µg/l | BRL µg/l | 17.6 | 88 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | BRL µg/l | 17.2 | 86 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | BRL µg/l | 17.3 | 87 | 70 - 130 |
| Naphthalene | 20.0 µg/l | BRL µg/l | 15.7 | 79 | 70 - 130 |
| Toluene | 20.0 µg/l | BRL µg/l | 17.5 | 88 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | BRL µg/l | 34.1 | 85 | 70 - 130 |
| o-Xylene | 20.0 µg/l | BRL µg/l | 17.1 | 86 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | BRL µg/l | 24.0 | 120 | 70 - 130 |
| n-Nonane | 20.0 µg/l | BRL µg/l | 18.6 | 93 | 70 - 130 |
| n-Pentane | 20.0 µg/l | BRL µg/l | 29.5 | 148 * | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | BRL µg/l | 16.2 | 81 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | BRL µg/l | 21.7 | 109 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | BRL µg/l | 17.5 | 88 | 70 - 130 |
| n-Decane | 20.0 µg/l | BRL µg/l | 19.3 | 97 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

# FORM IIIc - DUPLICATES

**06MW13-20110719**

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA
Client: Mitkem Laboratories
Matrix: Aqueous
Batch: 1115056
Preparation: VPH - EPA 5030B
Source Sample Name: 06MW13-20110719

SDG: 32209
Project: See Chain of Custody
Laboratory ID: 1115056-DUP1
Lab Source ID: SB32209-09
Initial/Final: 5 ml / 5 ml
% Solids:
File ID: 32209-09r.D

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION | C | DUPLICATE CONCENTRATION | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 50 | 0.0499 mg/l | | 0.0466 mg/l | | 7 | | +MADEP VPH 5/2004 Rev. 1.1 |
| C9-C12 Aliphatic Hydrocarbons | 50 | 0.0111 mg/l | | 0.0104 mg/l | | 6 | | +MADEP VPH 5/2004 Rev. 1.1 |
| C9-C10 Aromatic Hydrocarbons | 50 | 0.00754 mg/l | | 0.00731 mg/l | | 3 | | +MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C5-C8 Aliphatic Hydrocarl | 50 | 0.0499 mg/l | | 0.0466 mg/l | | 7 | | +MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C9-C12 Aliphatic Hydroca | 50 | 0.0187 mg/l | | 0.0177 mg/l | | 5 | | +MADEP VPH 5/2004 Rev. 1.1 |
| Benzene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Ethylbenzene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Methyl tert-butyl ether | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Naphthalene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Toluene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| m,p-Xylene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| o-Xylene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IV - METHOD BLANK SUMMARY

**1115032-BLK1**

**+MADEP VPH 5/2004 Rev. 1.1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115032-BLK1 | File ID: | blk0730a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 08:21 | Instrument: | FID1 | | |
| Batch: | 1115032 | Sequence: | S106694 | Calibration: | 1106005 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115032-BLK1 | blk0730a.D | 07/30/11 | 8:21 |
| LCS | 1115032-BS1 | lcs0730a.D | 07/30/11 | 9:56 |
| LCS Dup | 1115032-BSD1 | lcs0730b.D | 07/30/11 | 10:23 |
| TB06-071811 | SB32209-03 | 32209-03.D | 07/30/11 | 20:08 |

# FORM IV - METHOD BLANK SUMMARY

**1115046-BLK1**

**+MADEP VPH 5/2004 Rev. 1.1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115046-BLK1 | File ID: | blk0731b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 17:24 | Instrument: | FID2 | | |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115046-BLK1 | blk0731b.D | 07/31/11 | 17:24 |
| LCS | 1115046-BS1 | lcs0731a.D | 07/31/11 | 18:22 |
| LCS Dup | 1115046-BSD1 | lcs0731b.D | 07/31/11 | 18:51 |
| 06MW-DUP01-20110718 | SB32209-01 | 32209-01.D | 07/31/11 | 23:50 |
| 06MW09-20110718 | SB32209-02 | 32209-02.D | 08/01/11 | 0:20 |

# FORM IV - METHOD BLANK SUMMARY

**1115056-BLK1**

**+MADEP VPH 5/2004 Rev. 1.1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115056-BLK1 | File ID: | blk0801a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 10:11 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115056-BLK1 | blk0801a.D | 08/01/11 | 10:11 |
| LCS | 1115056-BS1 | lcs0801a.D | 08/01/11 | 11:30 |
| 06MW01-20110719 | SB32209-04 | 32209-04.D | 08/01/11 | 12:23 |
| 06MW02-20110719 | SB32209-05 | 32209-05.D | 08/01/11 | 12:50 |
| 06MW06-20110719 | SB32209-06 | 32209-06.D | 08/01/11 | 13:17 |
| 06MW07-20110719 | SB32209-07 | 32209-07.D | 08/01/11 | 13:44 |
| 06MW08-20110719 | SB32209-08 | 32209-08.D | 08/01/11 | 14:11 |
| 06MW13-20110719 | SB32209-09 | 32209-09.D | 08/01/11 | 14:38 |
| TB06-20110719 | SB32209-10 | 32209-10.D | 08/01/11 | 15:05 |
| LCS Dup | 1115056-BSD1 | lcs0801c.D | 08/01/11 | 15:32 |
| Matrix Spike | 1115056-MS1 | 32209-09m.D | 08/01/11 | 16:53 |
| Duplicate | 1115056-DUP1 | 32209-09r.D | 08/02/11 | 9:08 |

# FORM IV - METHOD BLANK SUMMARY

**1115180-BLK1**

**+MADEP VPH 5/2004 Rev. 1.1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115180-BLK1 | File ID: | blk0802b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 14:58 | Instrument: | FID1 | | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115180-BLK1 | blk0802b.D | 08/02/11 | 14:58 |
| LCS | 1115180-BS1 | lcs0802c.D | 08/02/11 | 15:51 |
| LCS Dup | 1115180-BSD1 | lcs0802d.D | 08/02/11 | 16:18 |
| 06MW03-20110720 | SB32209-11 | 32209-11.D | 08/02/11 | 23:27 |
| 06MW10-20110720 | SB32209-12 | 32209-12.D | 08/02/11 | 23:53 |
| 06MW11-20110720 | SB32209-13 | 32209-13.D | 08/03/11 | 0:20 |
| 06MW12-20110720 | SB32209-14 | 32209-14.D | 08/03/11 | 0:47 |
| 06MW05-20110721 | SB32209-16 | 32209-16.D | 08/03/11 | 1:40 |
| 06MW04-20110721 | SB32209-15 | 32209-15r.D | 08/03/11 | 8:04 |

# Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

## +MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA **SDG:** 32209

**Client:** Mitkem Laboratories **Project:** See Chain of Custody

**Matrix:** Aqueous

| Analyte | MDL | MRL | Units |
|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 0.00111 | 0.0150 | mg/l |
| C9-C12 Aliphatic Hydrocarbons | 0.000844 | 0.00500 | mg/l |
| C9-C10 Aromatic Hydrocarbons | 0.000224 | 0.00500 | mg/l |
| Unadjusted C5-C8 Aliphatic Hydrocarbo | 0.00142 | 0.0150 | mg/l |
| Unadjusted C9-C12 Aliphatic Hydrocarb | 0.000936 | 0.00500 | mg/l |
| Benzene | 0.0003 | 0.001 | mg/l |
| Ethylbenzene | 0.0003 | 0.001 | mg/l |
| Methyl tert-butyl ether | 0.0003 | 0.001 | mg/l |
| Naphthalene | 0.0002 | 0.001 | mg/l |
| Toluene | 0.0003 | 0.001 | mg/l |
| m,p-Xylene | 0.0006 | 0.002 | mg/l |
| o-Xylene | 0.0002 | 0.001 | mg/l |
| 2-Methylpentane | 0.0005 | 0.001 | mg/l |
| n-Nonane | 0.0004 | 0.002 | mg/l |
| n-Pentane | 0.0002 | 0.002 | mg/l |
| 1,2,4-Trimethylbenzene | 0.0002 | 0.001 | mg/l |
| 2,2,4-Trimethylpentane | 0.0003 | 0.001 | mg/l |
| n-Butylcyclohexane | 0.0003 | 0.001 | mg/l |
| n-Decane | 0.0005 | 0.001 | mg/l |

# Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

## +MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA **SDG:** 32209

**Client:** Mitkem Laboratories **Project:** See Chain of Custody

**Matrix:** Aqueous

| Analyte | MDL | MRL | Units |
|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 0.00111 | 0.0150 | mg/l |
| C9-C12 Aliphatic Hydrocarbons | 0.000844 | 0.00500 | mg/l |
| C9-C10 Aromatic Hydrocarbons | 0.000224 | 0.00500 | mg/l |
| Unadjusted C5-C8 Aliphatic Hydrocarbo | 0.00142 | 0.0150 | mg/l |
| Unadjusted C9-C12 Aliphatic Hydrocarb | 0.000936 | 0.00500 | mg/l |
| Benzene | 0.0003 | 0.001 | mg/l |
| Ethylbenzene | 0.0003 | 0.001 | mg/l |
| Methyl tert-butyl ether | 0.0003 | 0.001 | mg/l |
| Naphthalene | 0.0002 | 0.001 | mg/l |
| Toluene | 0.0003 | 0.001 | mg/l |
| m,p-Xylene | 0.0006 | 0.002 | mg/l |
| o-Xylene | 0.0002 | 0.001 | mg/l |
| 2-Methylpentane | 0.0005 | 0.001 | mg/l |
| n-Nonane | 0.0004 | 0.002 | mg/l |
| n-Pentane | 0.0002 | 0.002 | mg/l |
| 1,2,4-Trimethylbenzene | 0.0002 | 0.001 | mg/l |
| 2,2,4-Trimethylpentane | 0.0003 | 0.001 | mg/l |
| n-Butylcyclohexane | 0.0003 | 0.001 | mg/l |
| n-Decane | 0.0005 | 0.001 | mg/l |

# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Sample Data

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW-DUP01-20110718**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 | | |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody | | |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 | | |
| Matrix: | Aqueous | Laboratory ID: | SB32209-01 | | File ID: | 32209-01.D | |
| Sampled: | 07/18/11 00:00 | Prepared: | 07/30/11 08:36 | | Analyzed: | 07/31/11 23:50 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0457 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0716 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0297 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0457 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.101 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0067 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\32209-01.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 11:50 pm Operator: mp
Sample : sb32209-01 @ 06mw-dup01 1:5 vphw Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:17:44 2011
Quant Results File: F2060611.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Dup of -02

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 8) S | 2,5-Dibromotolue | 16.50 | 16.50 | 849643 | 5095084 | 53.822 | 50.324 |
| Spiked Amount | 50.000 | | | Recovery | = | 107.64% | 100.65% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.82 | 454379 | 154 | 9.144m | NoCal # |
| 2) | C9-C10 Aromatic | 12.50 | 14.47f | 7652 | 1426882 | NoCal | 5.949m |
| 3) | Unadjusted C9-C1 | 14.47f | 12.50 | 771391 | 21996 | 20.260m | NoCal # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 7) | Benzene | 4.75 | 4.43 | 1688 | 20282 | NoCal | <MDL |
| 8) | 2,2,4-Trimethylp | 5.48 | 5.81 | 1777 | 47 | <MDL | NoCal # |
| 9) | Toluene | 7.53 | 7.24 | 2005 | 10228 | NoCal | <MDL |
| .0) | Ethylbenzene | 0.00 | 9.26 | 0 | 3321 | N.D. | <MDL |
| .1) | m,p-Xylene | 0.00 | 9.51 | 0 | 5268 | N.D. | <MDL |
| .2) | o-Xylene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| .3) | n-Nonane | 0.00 | 10.44 | 0 | 11360 | N.D. | NoCal |
| .4) | n-Decane | 0.00 | 12.29 | 0 | 6418 | N.D. d | NoCal |
| .5) | n-Butylcyclohexa | 12.63 | 12.82 | 11433 | 45786 | 0.360m | NoCal # |
| .6) | 1,2,4-Trimethylb | 12.28 | 11.81 | 3571 | 17146 | NoCal | <MDL |
| .7) | Naphthalene | 15.26 | 15.02 | 13844 | 177235 | NoCal | 1.337 |

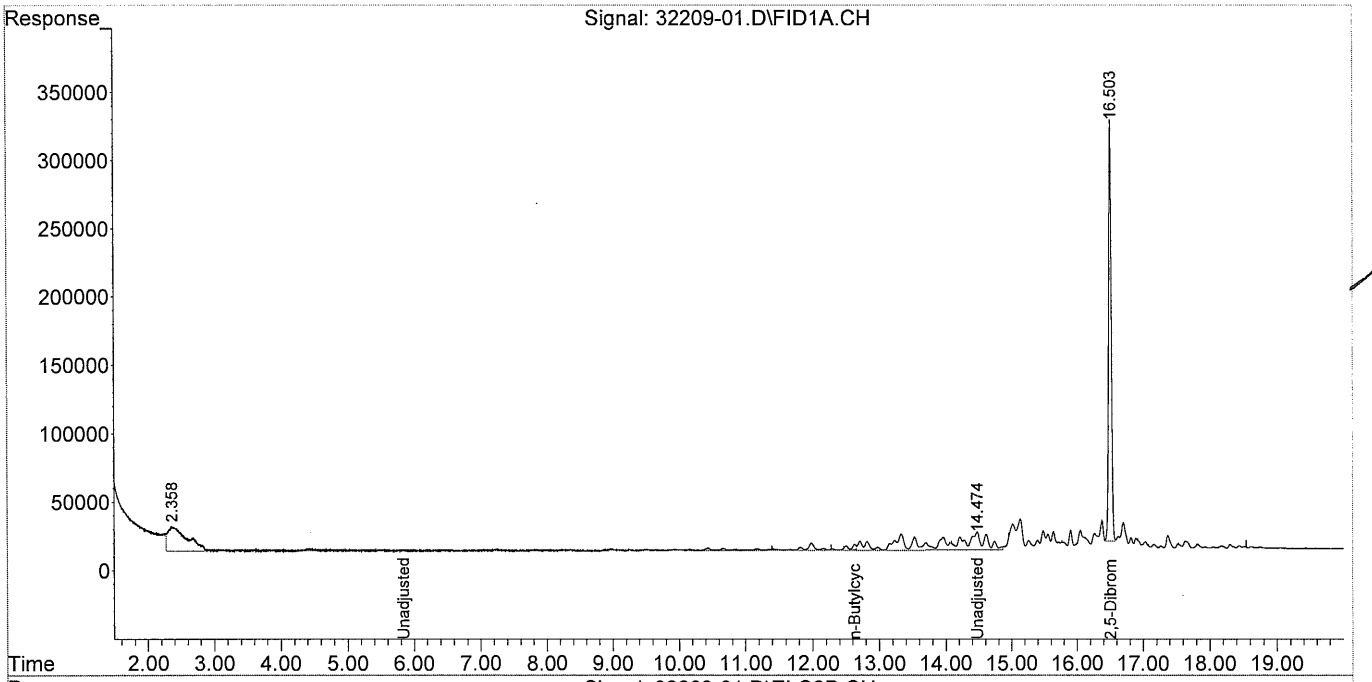
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

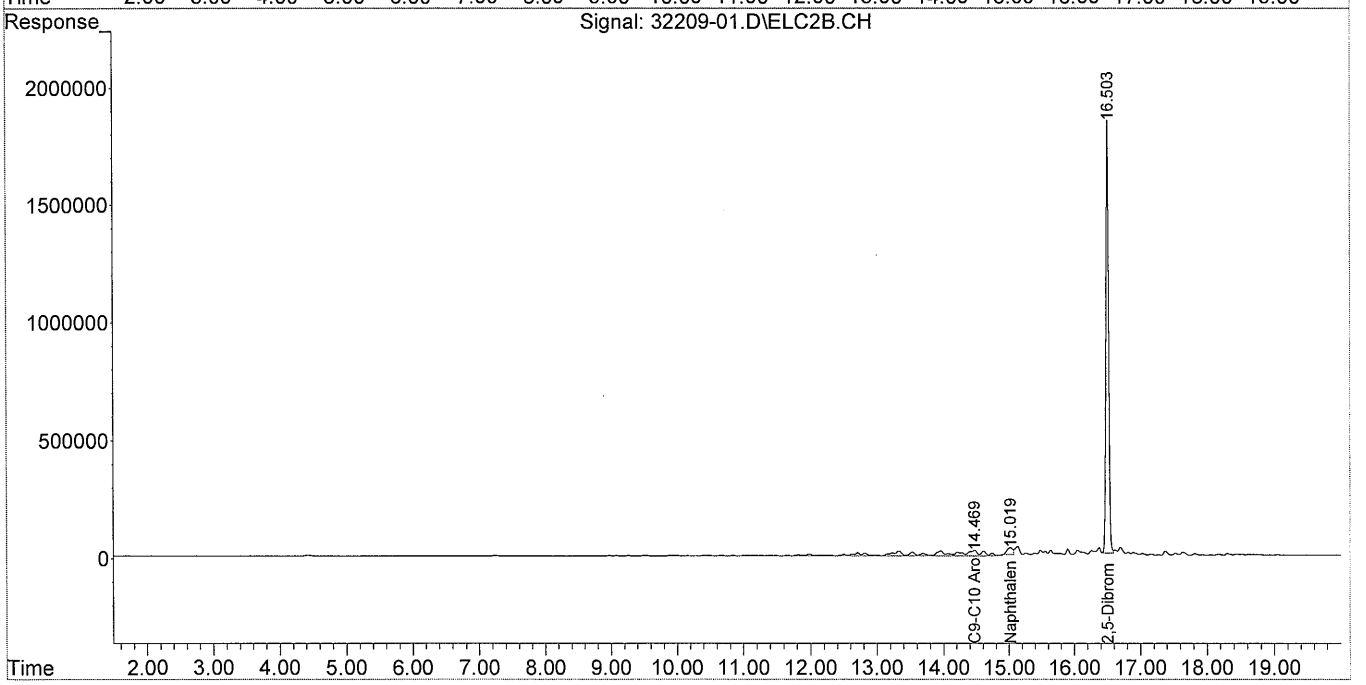
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\32209-01.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 11:50 pm Operator: mp
Sample : sb32209-01 @ 06mw-dup01 1:5 vphw Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:17:44 2011
Quant Results File: F2060611.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW09-20110718**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-02 | File ID: | 32209-02.D |
| Sampled: | 07/18/11 16:20 | Prepared: | 07/30/11 08:36 | Analyzed: | 08/01/11 00:20 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115046 Sequence: S106699 Calibration: 1106002 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0467 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0721 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0280 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0467 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.100 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0062 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\32209-02.D Vial: 13
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 12:20 am Operator: mp
Sample : sb32209-02 @ 06mw09 1:5 vphw Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:18:23 2011
Quant Results File: F2060611.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 8) S | 2,5-Dibromotolue | 16.50 | 16.50 | 807200 | 4890446 | 51.133 | 48.302 |
| | Spiked Amount 50.000 | | | Recovery | = | 102.27% | 96.60% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.82 | 463826 | 579 | 9.335m | NoCal # |
| 2) | C9-C10 Aromatic | 0.00 | 14.47f | 0 | 1342750 | N.D. | 5.598m |
| 3) | Unadjusted C9-C1 | 14.47f | 12.50 | 761900 | 18741 | 20.010m | NoCal # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 7) | Benzene | 4.80 | 4.41 | 1247 | 8994 | NoCal | <MDL |
| 8) | 2,2,4-Trimethylp | 5.51 | 5.82 | 860 | 579 | <MDL | NoCal # |
| 9) | Toluene | 7.49 | 7.23 | 794 | 8889 | NoCal | <MDL |
| .0) | Ethylbenzene | 9.61f | 9.25 | 650 | 1425 | NoCal | <MDL |
| .1) | m,p-Xylene | 9.61 | 9.51 | 650 | 5880 | NoCal | <MDL m |
| .2) | o-Xylene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| .3) | n-Nonane | 0.00 | 10.44 | 0 | 9412 | N.D. | NoCal |
| .4) | n-Decane | 0.00 | 12.29 | 0 | 6087 | N.D. | NoCal |
| .5) | n-Butylcyclohexa | 12.64 | 12.82 | 10271 | 43396 | 0.324m | NoCal # |
| .6) | 1,2,4-Trimethylb | 0.00 | 11.82 | 0 | 10660 | N.D. | <MDL |
| .7) | Naphthalene | 0.00 | 15.02 | 0 | 165006 | N.D. | 1.245 |

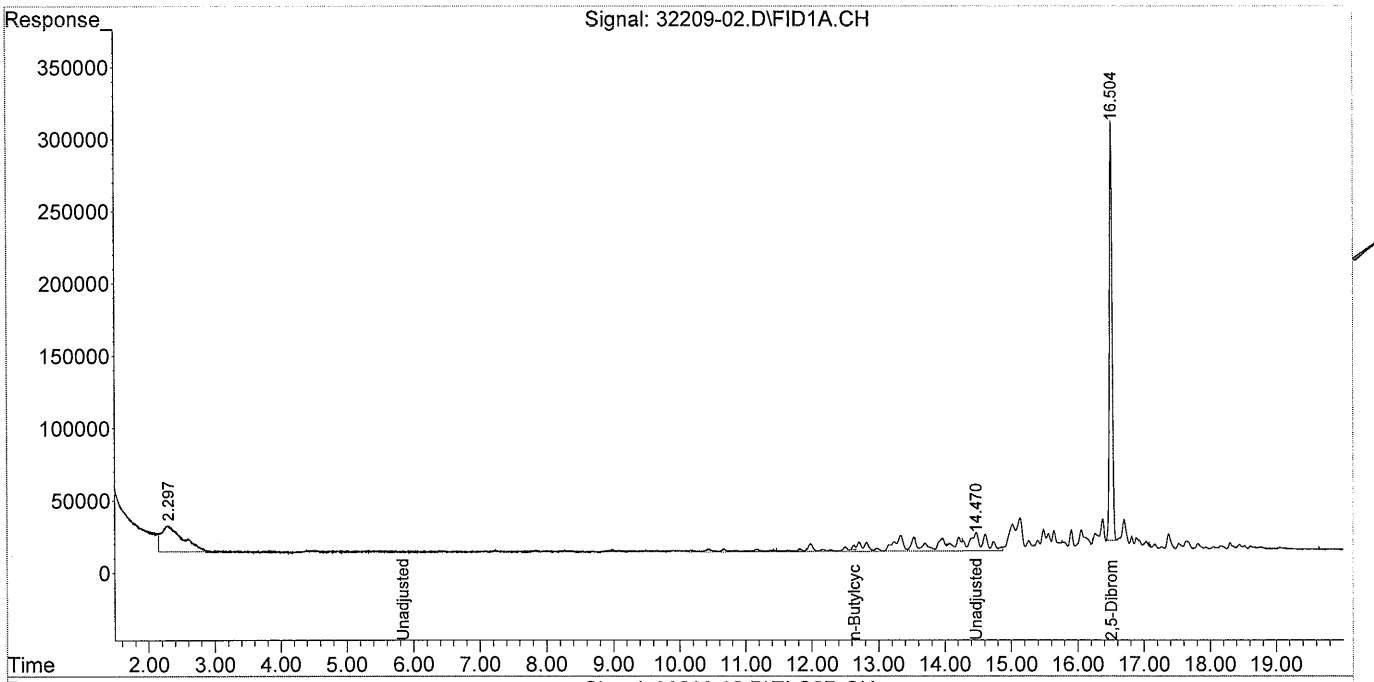
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

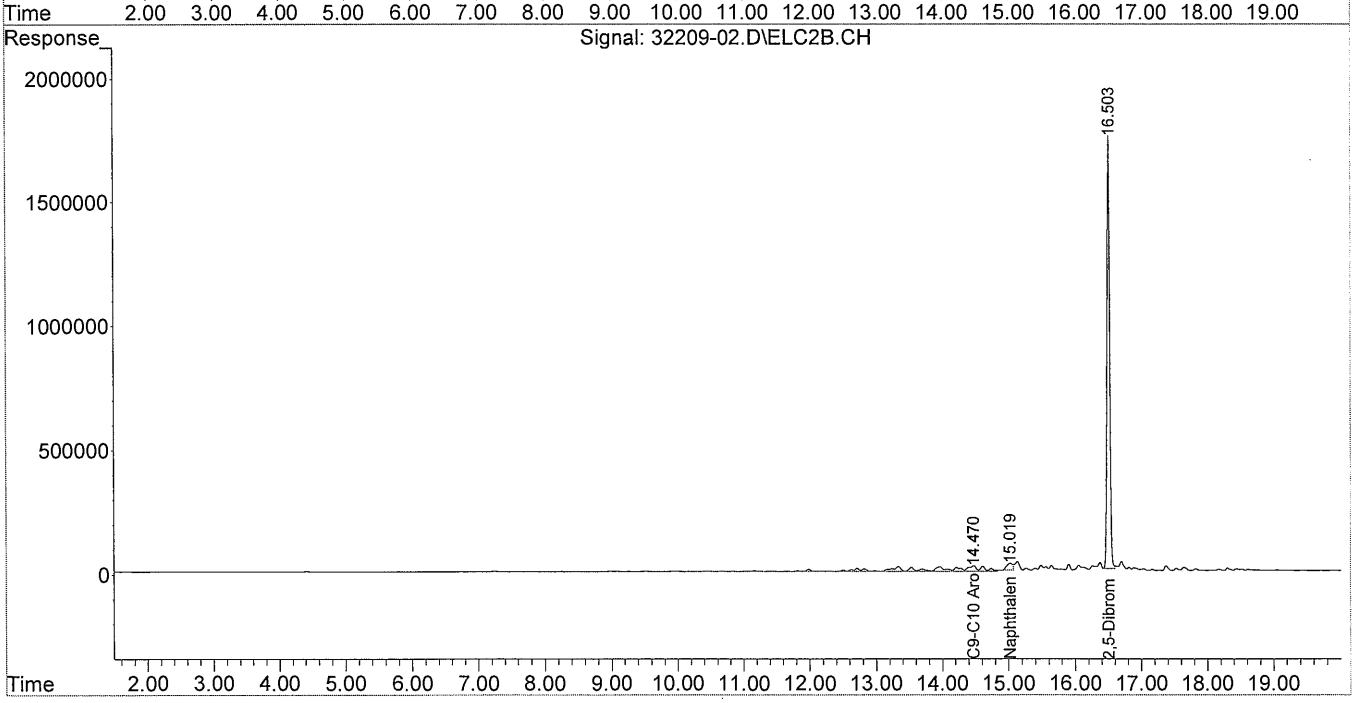
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\32209-02.D Vial: 13
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 12:20 am Operator: mp
Sample : sb32209-02 @ 06mw09 1:5 vphw Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:18:23 2011
Quant Results File: F2060611.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**TB06-071811**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-03 | File ID: | 32209-03.D |
| Sampled: | 07/18/11 10:00 | Prepared: | 07/30/11 08:31 | Analyzed: | 07/30/11 20:08 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115032 Sequence: S106694 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0109 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.00422 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00124 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0109 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.00468 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\32209-03.D Vial: 26
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 8:08 pm Operator: mp
Sample : sb32209-03 @ tb06 r-- vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 10:04:04 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 496785 | 3038844 | 40.028 | 37.191 | |
| | Spiked Amount 50.000 | | | Recovery | = | 80.06% | 74.38% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 1.72f | 6.16 | 475165 | 786 | 10.919m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.15 | 14.30 | 917 | 216549 | NoCal | 1.238m | |
| 3) | Unadjusted C9-C1 | 14.29 | 13.14 | 128087 | 1281 | 4.415m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.80 | 0 | 836 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.88 | 0.00 | 1393 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 6.14f | 5.90f | 628 | 580 | <MDL | NoCal | # |
| 9) | Toluene | 0.00 | 7.78 | 0 | 5057 | N.D. | <MDL | |
| 10) | Ethylbenzene | 9.88 | 9.88 | 796 | 552 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.08 | 10.12 | 1047 | 634 | NoCal | <MDL | |
| 12) | o-Xylene | 10.60 | 10.58 | 2326 | 739 | NoCal | <MDL | |
| 13) | n-Nonane | 10.79 | 10.88 | 843 | 576 | <MDL | NoCal | # |
| 14) | n-Decane | 12.67 | 12.45 | 864 | 729 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.39 | 13.55 | 1060 | 554 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.52 | 12.45 | 949 | 729 | NoCal | <MDL | |
| 17) | Naphthalene | 15.64 | 0.00 | 847 | 0 | NoCal | N.D. | |

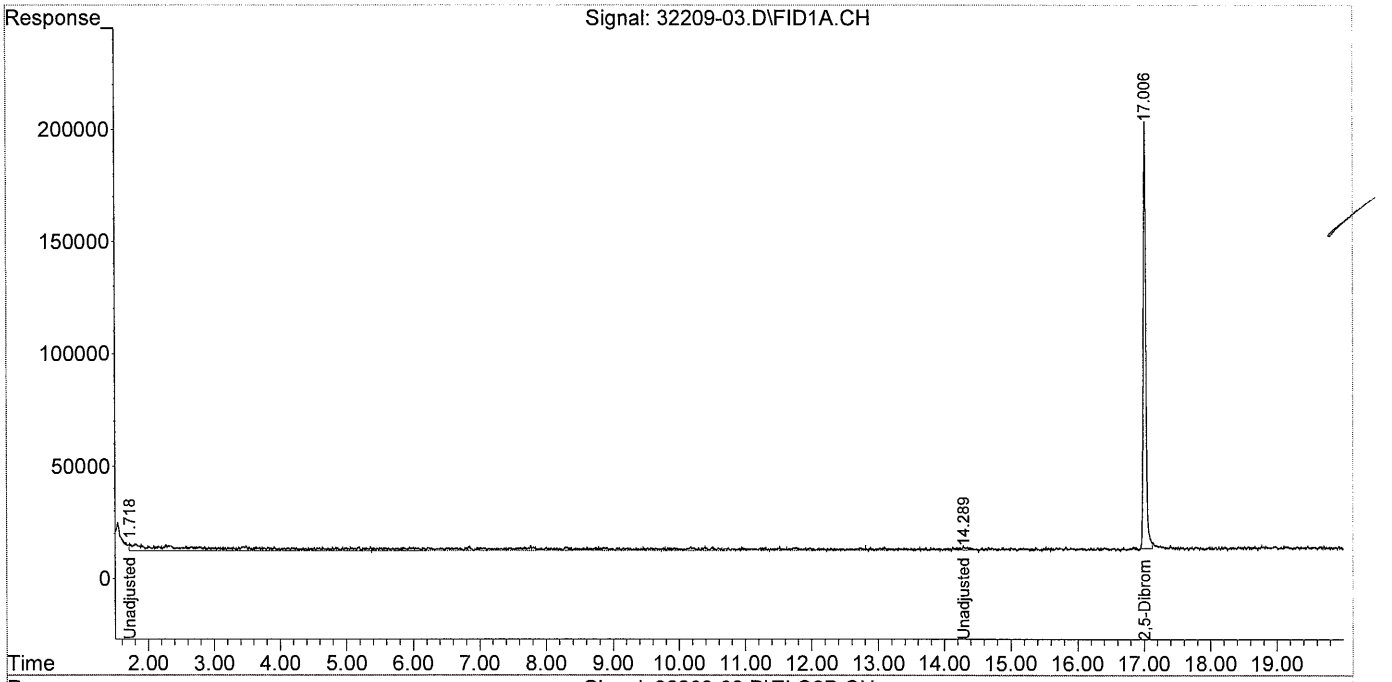
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

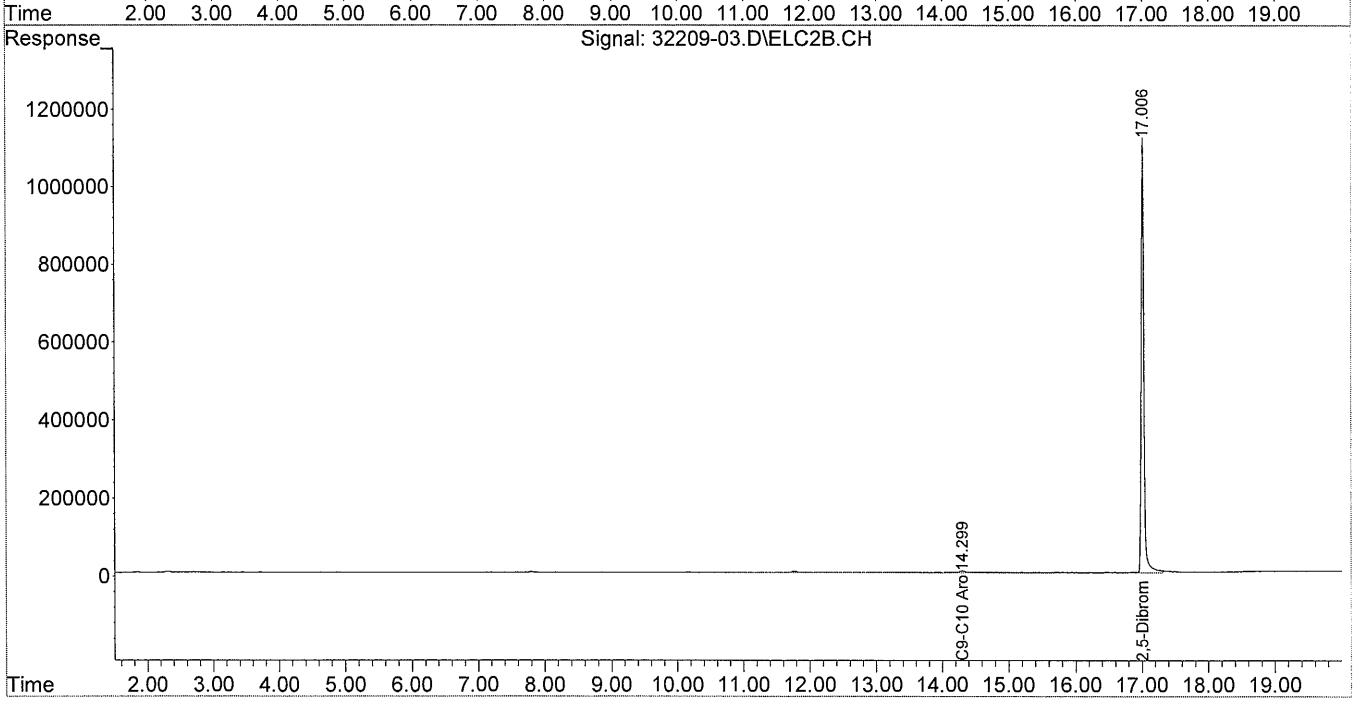
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\32209-03.D Vial: 26
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 8:08 pm Operator: mp
Sample : sb32209-03 @ tb06 r-- vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 10:04:04 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW01-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-04 | File ID: | 32209-04.D |
| Sampled: | 07/19/11 12:27 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 12:23 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0598 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 1.02 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.539 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.200 mg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1.55 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0367 mg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.123 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0181 mg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 0.0468 mg/l | |
| 95-47-6 | o-Xylene | 5 | 0.0383 mg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-04.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 12:23 pm Operator: mp
Sample : sb32209-04 @ 06mw01-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:57:23 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.00 | 484098 | 2988237 | 39.006 | 36.572 |
| | Spiked Amount 50.000 | | | Recovery | = | 78.01% | 73.14% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 0.00 | 1738771 | 0 | 39.957m | N.D. # |
| 2) | C9-C10 Aromatic | 13.24 | 12.53 | 320499 | 18842062 | NoCal | 107.755m |
| 3) | Unadjusted C9-C1 | 13.15 | 13.24 | 9016856 | 716316 | 310.772m | NoCal # |
| 4) | n-Pentane | 0.00 | 1.79 | 0 | 1089 | N.D. | NoCal |
| 5) | Methyl tert-buty | 0.00 | 2.62 | 0 | 789 | N.D. | <MDL |
| 6) | 2-Methylpentane | 0.00 | 2.97 | 0 | 628 | N.D. | NoCal |
| 7) | Benzene | 4.86 | 4.86 | 669 | 2189 | NoCal | <MDL |
| 8) | 2,2,4-Trimethylp | 5.93 | 5.98 | 2997 | 424 | <MDL | NoCal # |
| 9) | Toluene | 7.76 | 7.76 | 175969 | 448920 | NoCal | 3.620 |
| 10) | Ethylbenzene | 9.86 | 9.86 | 307188 | 686728 | NoCal | 7.337 |
| 11) | m,p-Xylene | 10.13 | 10.13 | 377423 | 979324 | NoCal | 9.368 |
| 12) | o-Xylene | 10.57 | 10.57 | 311277 | 675594 | NoCal | 7.667 |
| 13) | n-Nonane | 10.87 | 0.00 | 849 | 0 | <MDL | N.D. # |
| 14) | n-Decane | 0.00 | 12.53 | 0 | 2992156 | N.D. d | NoCal |
| 15) | n-Butylcyclohexa | 13.34 | 13.34 | 55424 | 113412 | 1.805m | NoCal # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 1302084 | 2992156 | NoCal | 33.108 |
| 17) | Naphthalene | 15.66 | 15.65 | 889425 | 2330030 | NoCal | 24.684 |

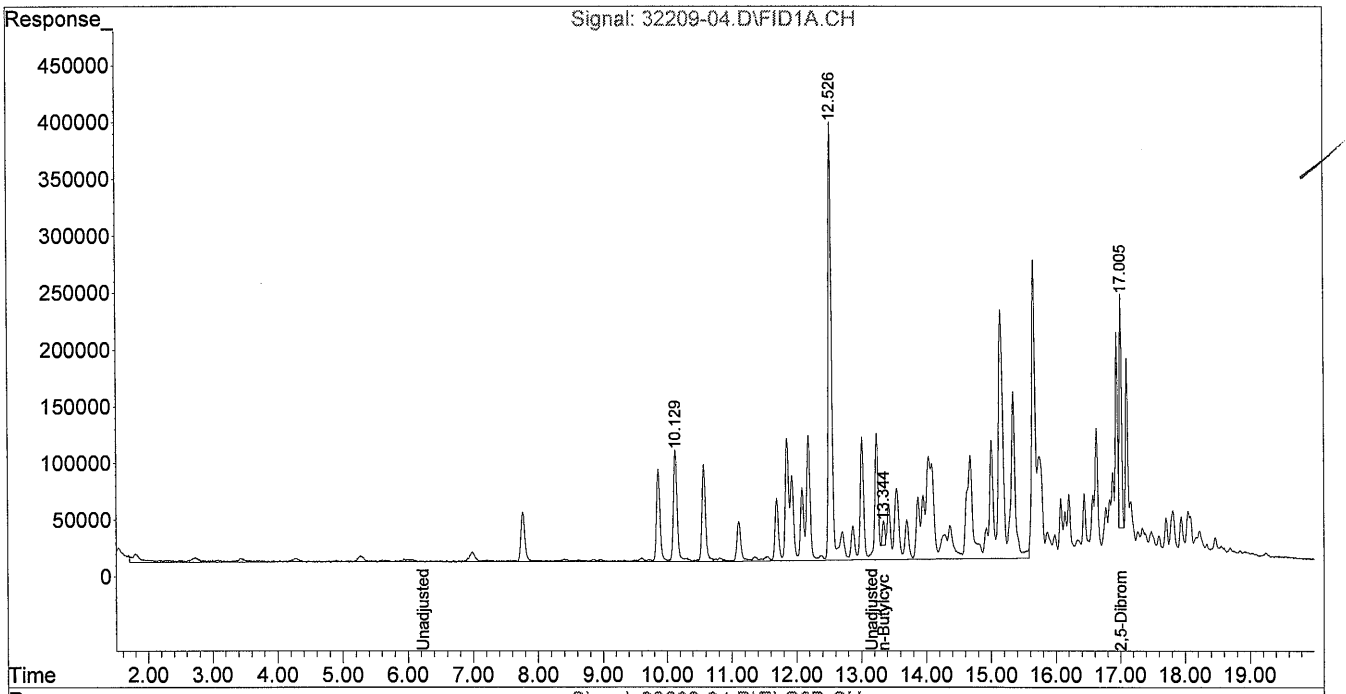
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

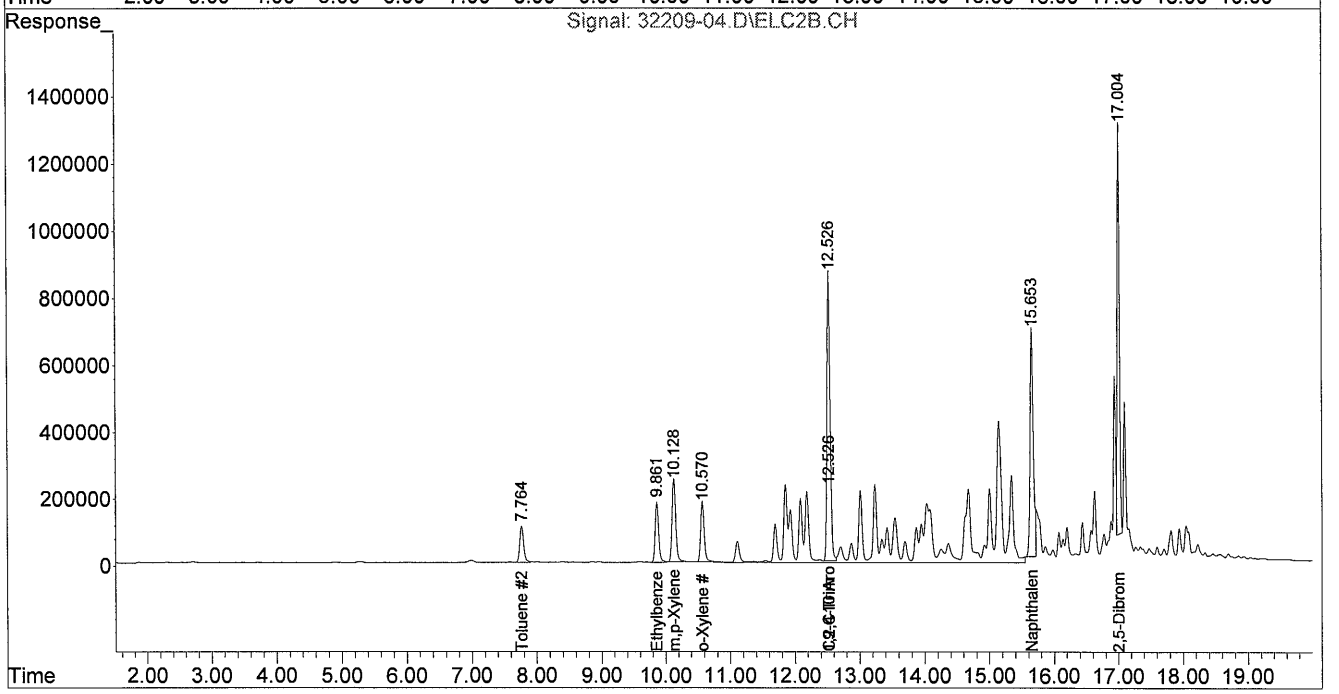
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-04.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 12:23 pm Operator: mp
Sample : sb32209-04 @ 06mw01-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:57:23 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW02-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-05 | File ID: | 32209-05.D |
| Sampled: | 07/19/11 14:07 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 12:50 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0469 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0447 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0255 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0469 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0703 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0016 mg/l | J |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-05.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 12:50 pm Operator: mp
Sample : sb32209-05 @ 06mw02-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:57:53 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 549983 | 3508621 | 44.315 | 42.940 | |
| | Spiked Amount 50.000 | | | Recovery | = | 88.63% | 85.88% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.33 | 408173 | 576 | 9.380m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.03 | 12.54 | 11652 | 893325 | NoCal | 5.109m | |
| 3) | Unadjusted C9-C1 | 12.54 | 13.16 | 407755 | 479 | 14.054m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.79 | 0 | 4336 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 2.80 | 2.53 | 3592 | 781 | NoCal | <MDL | |
| 6) | 2-Methylpentane | 2.80 | 2.98 | 3592 | 909 | <MDL | NoCal | # |
| 7) | Benzene | 0.00 | 4.86 | 0 | 808 | N.D. | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.06 | 0.00 | 1416 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.77 | 7.77 | 3050 | 1179 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.85 | 9.89 | 926 | 7578 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.13 | 10.15 | 1801 | 20066 | NoCal | <MDL | |
| 12) | o-Xylene | 10.56 | 10.57 | 2501 | 2677 | NoCal | <MDL | |
| 13) | n-Nonane | 10.82 | 10.75 | 2688 | 1036 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.54 | 0 | 50365 | N.D. d | NoCal | |
| 15) | n-Butylcyclohexa | 13.43 | 13.42 | 1334 | 2291 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.54 | 12.54 | 24009 | 50365 | NoCal | 0.557 | |
| 17) | Naphthalene | 15.68 | 15.68 | 11337 | 29773 | NoCal | 0.315m | |

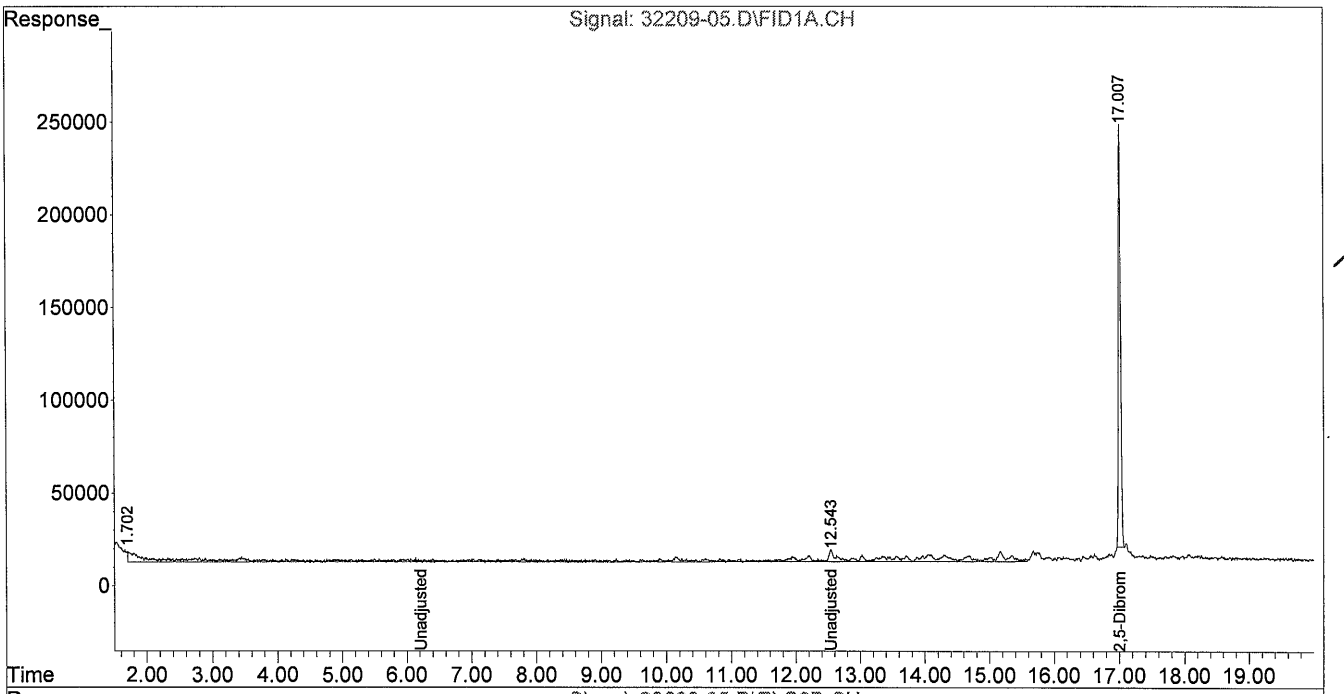
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

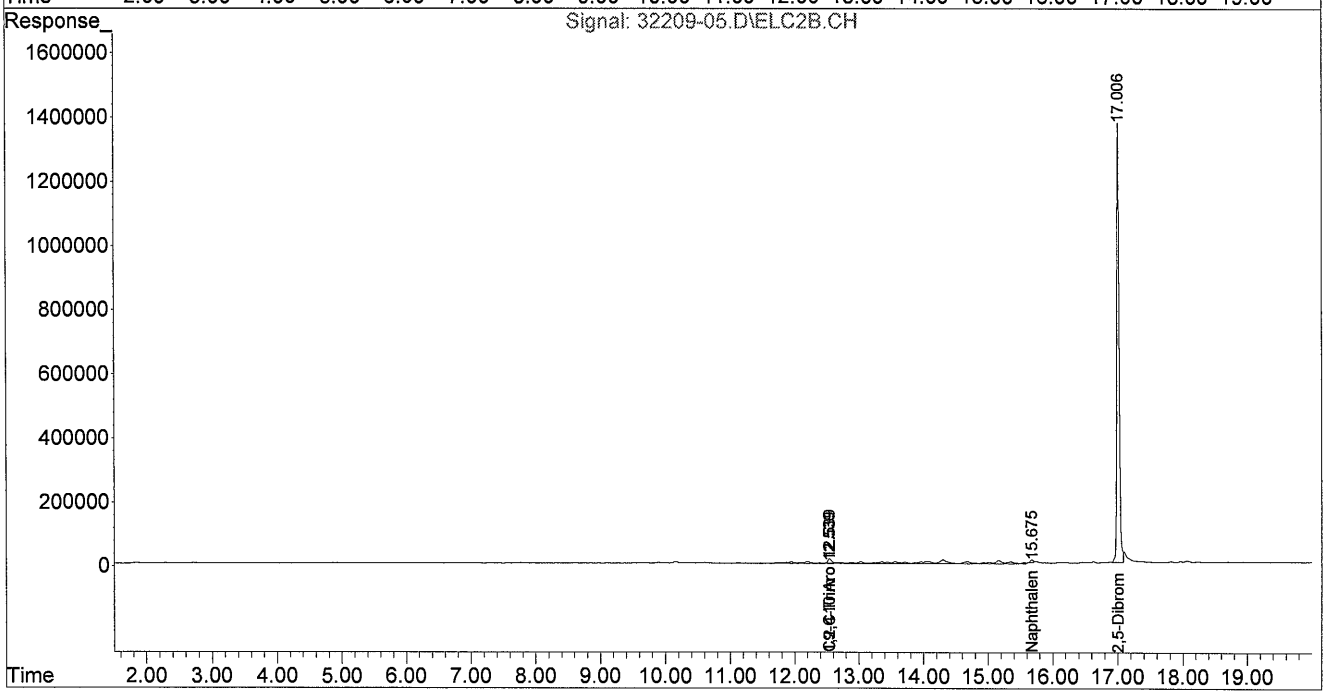
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-05.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 12:50 pm Operator: mp
Sample : sb32209-05 @ 06mw02-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:57:53 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW06-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-06 | File ID: | 32209-06.D |
| Sampled: | 07/19/11 09:17 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 13:17 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0518 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0423 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0218 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0518 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0642 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0027 mg/l | J |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-06.D Vial: 8
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 1:17 pm Operator: mp
Sample : sb32209-06 @ 06mw06-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:58:24 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 571996 | 3690398 | 46.088 | 45.165 |
| | Spiked Amount 50.000 | | | Recovery | = | 92.18% | 90.33% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 1.81f | 6.20 | 450428 | 591 | 10.351m | NoCal # |
| 2) | C9-C10 Aromatic | 0.00 | 14.30 | 0 | 762703 | N.D. | 4.362m |
| 3) | Unadjusted C9-C1 | 14.30 | 13.02 | 372250 | 3558 | 12.830m | NoCal # |
| 4) | n-Pentane | 0.00 | 1.80 | 0 | 1645 | N.D. | NoCal |
| 5) | Methyl tert-buty | 2.70 | 2.54 | 894 | 580 | NoCal | <MDL |
| 6) | 2-Methylpentane | 2.70 | 2.95 | 894 | 792 | <MDL | NoCal # |
| 7) | Benzene | 4.89 | 4.87 | 1088 | 1690 | NoCal | <MDL |
| 8) | 2,2,4-Trimethylp | 5.90 | 5.97 | 853 | 1943 | <MDL | NoCal # |
| 9) | Toluene | 7.77 | 7.77 | 2039 | 3461 | NoCal | <MDL |
| 10) | Ethylbenzene | 9.88 | 9.87 | 803 | 532 | NoCal | <MDL |
| 11) | m,p-Xylene | 10.14 | 10.14 | 3451 | 15161 | NoCal | <MDL |
| 12) | o-Xylene | 10.47f | 10.57 | 1412 | 1114 | NoCal | <MDL |
| 13) | n-Nonane | 10.77 | 10.81 | 836 | 1316 | <MDL | NoCal # |
| 14) | n-Decane | 0.00 | 12.54 | 0 | 23028 | N.D. d | NoCal |
| 15) | n-Butylcyclohexa | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 16) | 1,2,4-Trimethylb | 12.54 | 12.54 | 4754 | 23028 | NoCal | <MDL |
| 17) | Naphthalene | 15.59 | 15.67 | 1972 | 51780 | NoCal | 0.549m |

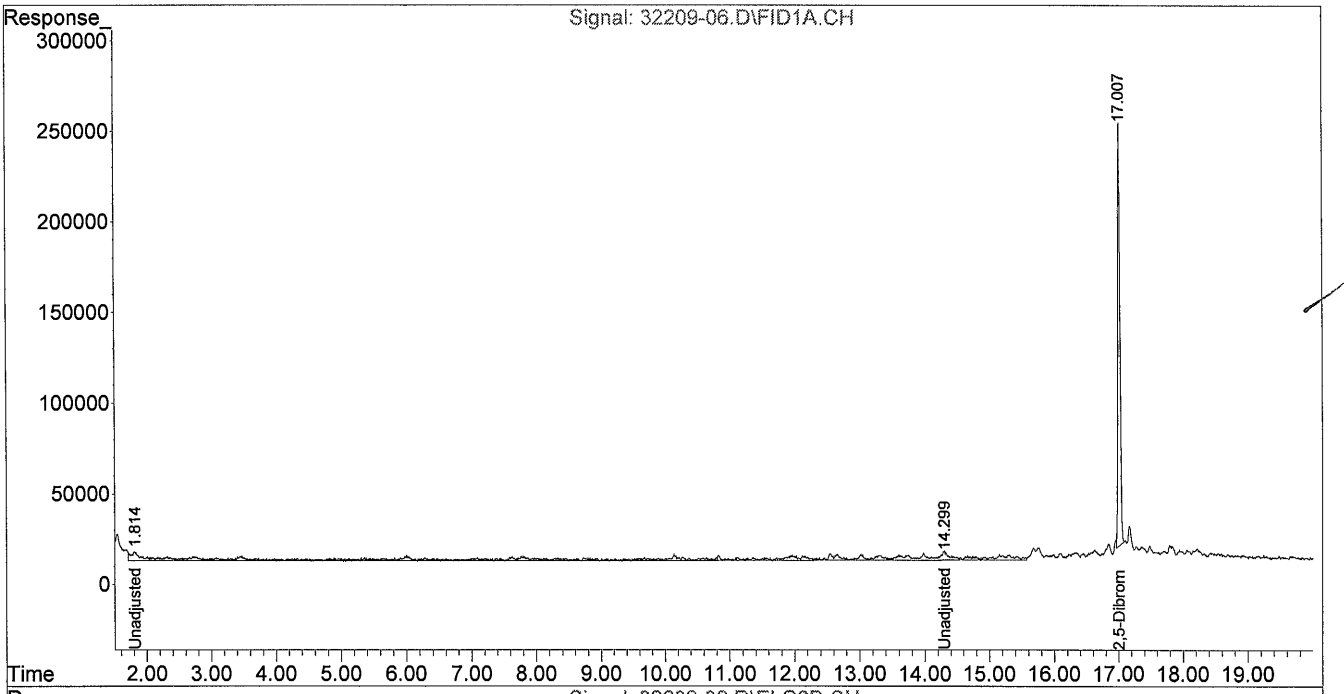
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

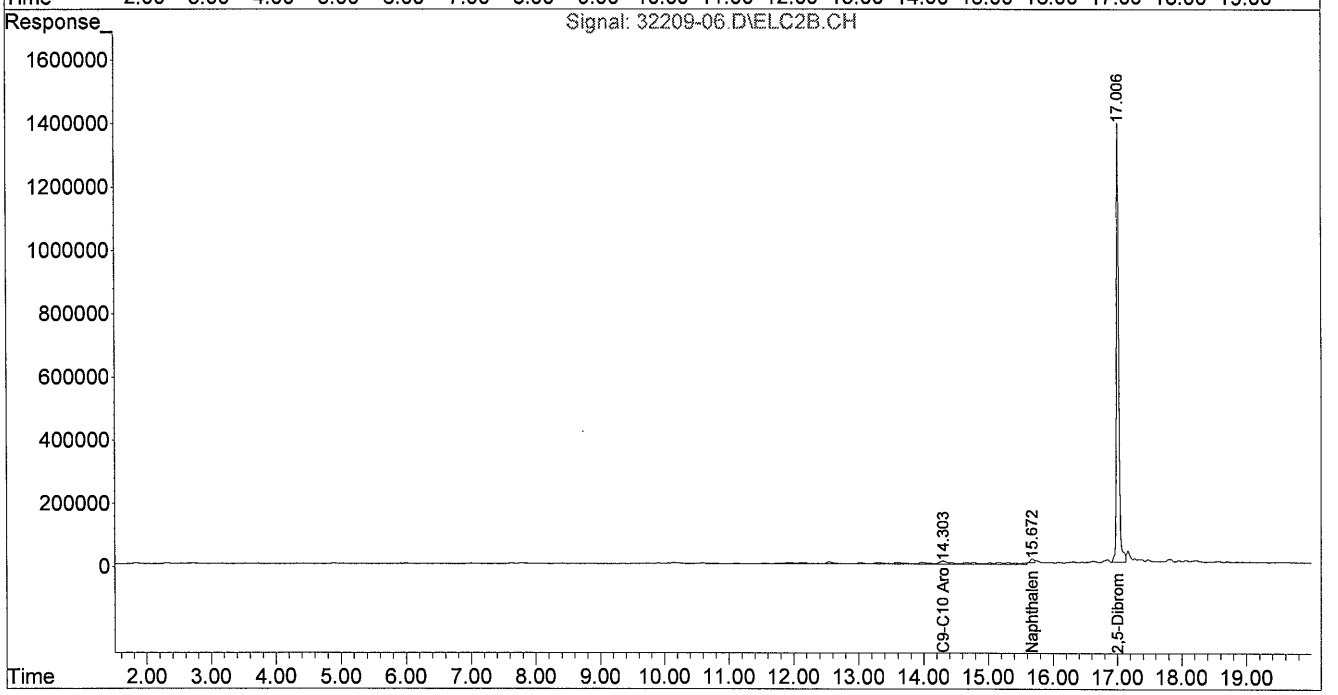
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-06.D Vial: 8
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 1:17 pm Operator: mp
Sample : sb32209-06 @ 06mw06-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:58:24 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW07-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-07 | File ID: | 32209-07.D |
| Sampled: | 07/19/11 12:48 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 13:44 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0468 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0138 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00602 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0468 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0198 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-07.D Vial: 9
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 1:44 pm Operator: mp
Sample : sb32209-07 @ 06mw07-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:58:49 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) | S 2,5-Dibromotolue | 17.01 | 17.01 | 635385 | 3799200 | 51.196 | 46.497 | |
| | Spiked Amount 50.000 | | | Recovery | = | 102.39% | 92.99% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 1.80f | 6.24 | 407204 | 917 | 9.357m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.17 | 14.30 | 1570 | 210280 | NoCal | 1.203m | |
| 3) | Unadjusted C9-C1 | 14.30 | 13.18 | 115190 | 1095 | 3.970m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.80 | 0 | 905 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 2.53 | 0 | 962 | N.D. | <MDL | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.86 | 4.83 | 570 | 512 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.07 | 5.93 | 1244 | 750 | <MDL | NoCal | # |
| 9) | Toluene | 7.79 | 7.76 | 1817 | 838 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.84 | 9.83 | 1073 | 284 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.28f | 10.28f | 1003 | 498 | NoCal | <MDL | |
| 12) | o-Xylene | 10.65 | 10.55 | 1776 | 410 | NoCal | <MDL | |
| 13) | n-Nonane | 10.85 | 10.85 | 595 | 1217 | <MDL | NoCal | # |
| 14) | n-Decane | 12.73 | 12.61 | 1744 | 865 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.42 | 13.34 | 972 | 1343 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.54 | 12.61 | 1345 | 865 | NoCal | <MDL | |
| 17) | Naphthalene | 15.55f | 0.00 | 897 | 0 | NoCal | N.D. | |

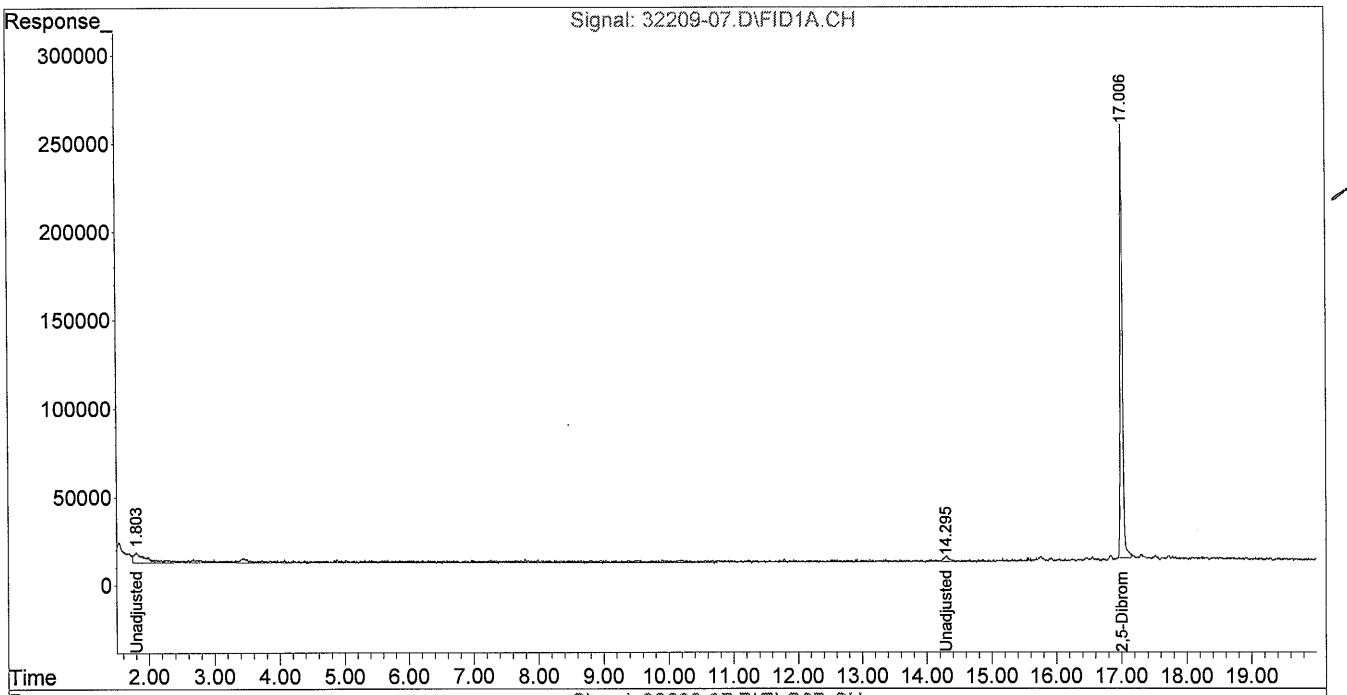
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

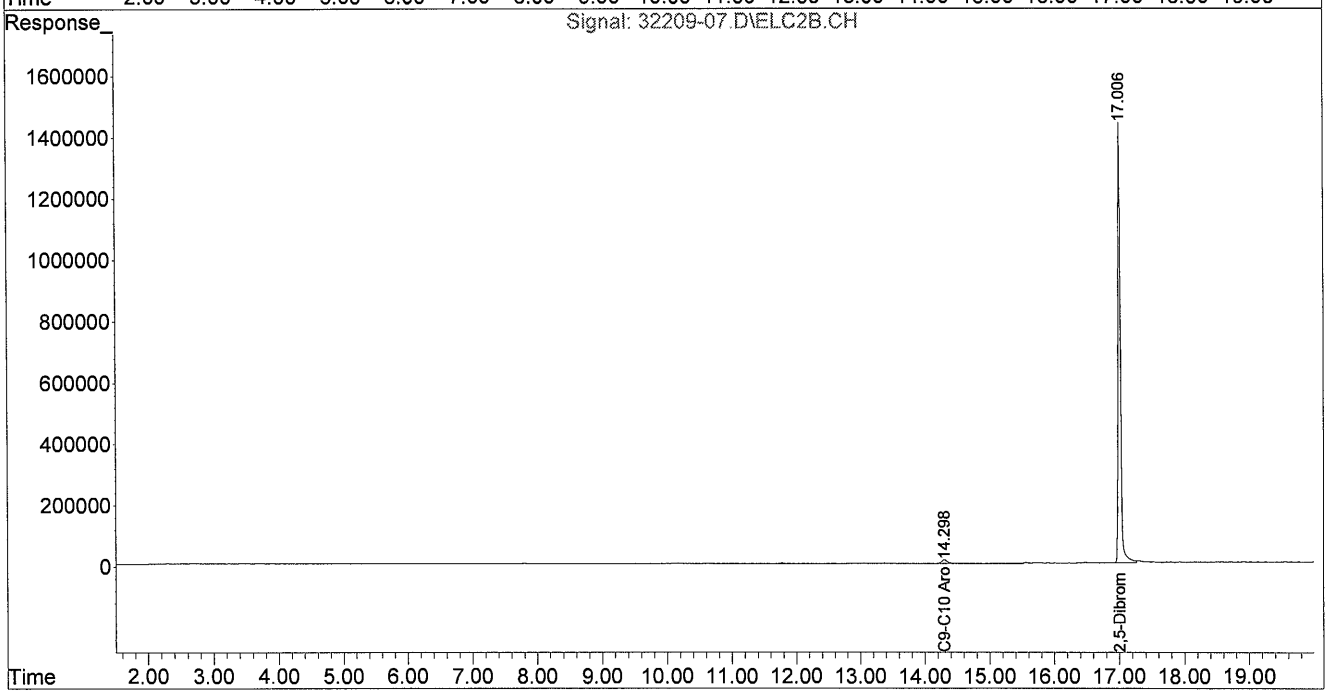
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-07.D Vial: 9
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 1:44 pm Operator: mp
Sample : sb32209-07 @ 06mw07-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:58:49 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW08-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-08 | File ID: | 32209-08.D |
| Sampled: | 07/19/11 14:56 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 14:11 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0420 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0127 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00597 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0420 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0187 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-08.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 2:11 pm Operator: mp
Sample : sb32209-08 @ 06mw08-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:59:12 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) | S 2,5-Dibromotolue | 17.01 | 17.01 | 628600 | 3730342 | 50.649 | 45.654 | |
| | Spiked Amount 50.000 | | | | Recovery = | 101.30% | 91.31% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 1.80f | 6.20 | 365577 | 1225 | 8.401m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.02 | 14.30 | 1021 | 208839 | NoCal | 1.194m | |
| 3) | Unadjusted C9-C1 | 13.15 | 0.00 | 108361 | 0 | 3.735m | N.D. | # |
| 4) | n-Pentane | 0.00 | 1.78 | 0 | 796 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 2.60 | 0 | 547 | N.D. | <MDL | |
| 6) | 2-Methylpentane | 0.00 | 2.95 | 0 | 430 | N.D. | NoCal | |
| 7) | Benzene | 0.00 | 4.93 | 0 | 770 | N.D. | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.97 | 6.01 | 1112 | 782 | <MDL | NoCal | # |
| 9) | Toluene | 7.79 | 7.77 | 835 | 1372 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.85 | 9.88 | 1409 | 575 | NoCal | <MDL | |
| 11) | m,p-Xylene | 0.00 | 10.13 | 0 | 1284 | N.D. | <MDL | |
| 12) | o-Xylene | 10.60 | 10.59 | 1598 | 474 | NoCal | <MDL | |
| 13) | n-Nonane | 10.83 | 10.70f | 1113 | 1522 | <MDL | NoCal | # |
| 14) | n-Decane | 12.65 | 0.00 | 1553 | 0 | <MDL | N.D. | # |
| 15) | n-Butylcyclohexa | 13.47 | 0.00 | 1940 | 0 | <MDL | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.65f | 0.00 | 1553 | 0 | NoCal | N.D. | |
| 17) | Naphthalene | 15.70 | 15.66 | 1317 | 807 | NoCal | <MDL | |

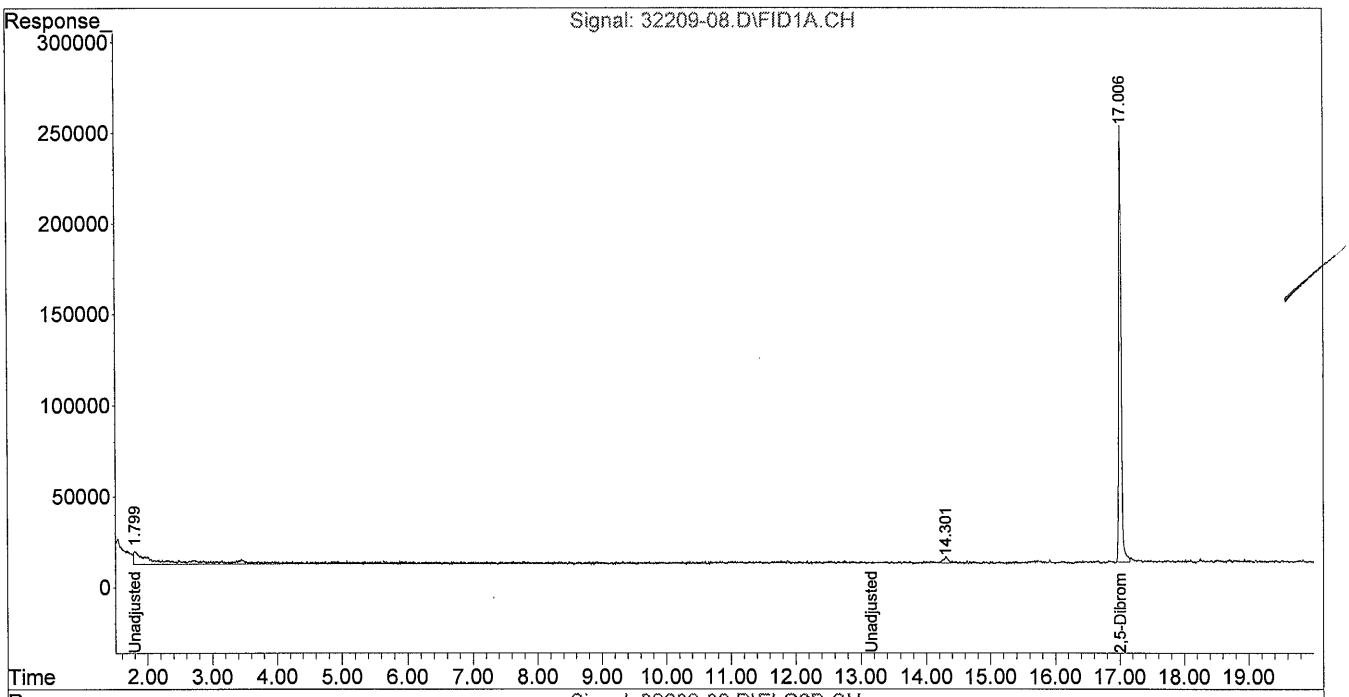
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

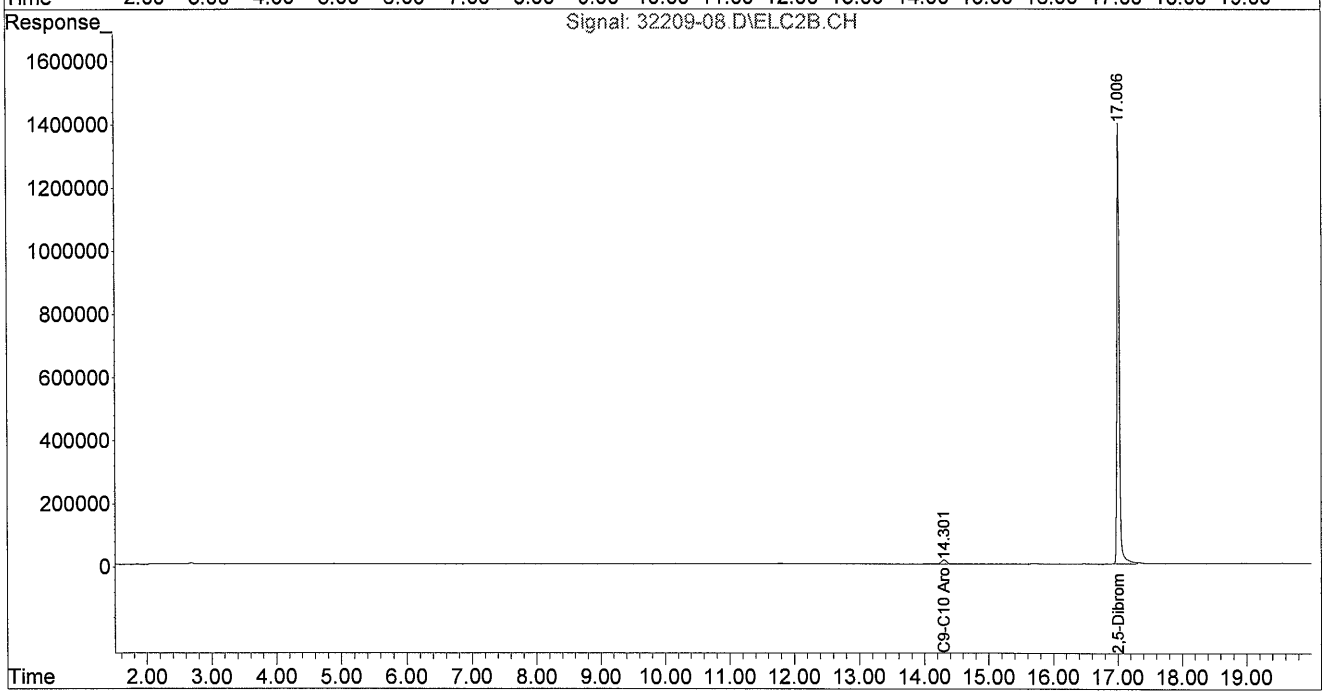
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-08.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 2:11 pm Operator: mp
Sample : sb32209-08 @ 06mw08-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:59:12 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW13-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-09 | File ID: | 32209-09.D |
| Sampled: | 07/19/11 09:25 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 14:38 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0499 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0111 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00754 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0499 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0187 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-09.D Vial: 11
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 2:38 pm Operator: mp
Sample : sb32209-09 @ 06mw13-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:59:47 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) | S 2,5-Dibromotolue | 17.00 | 17.00 | 616584 | 3659166 | 49.681 | 44.783 |
| | Spiked Amount 50.000 | | | Recovery | = | 99.36% | 89.57% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 1.83f | 6.25 | 434666 | 876 | 9.989m | NoCal # |
| 2) | C9-C10 Aromatic | 13.09 | 14.30 | 1385 | 263567 | NoCal | 1.507m |
| 3) | Unadjusted C9-C1 | 13.15 | 13.01 | 108265 | 518 | 3.731m | NoCal # |
| 4) | n-Pentane | 0.00 | 1.79 | 0 | 377 | N.D. | NoCal |
| 5) | Methyl tert-buty | 0.00 | 2.56 | 0 | 26345 | N.D. | <MDL m |
| 6) | 2-Methylpentane | 0.00 | 3.03 | 0 | 631 | N.D. | NoCal |
| 7) | Benzene | 4.79 | 4.97 | 1358 | 526 | NoCal | <MDL |
| 8) | 2,2,4-Trimethylp | 5.97 | 5.95 | 1338 | 437 | <MDL | NoCal # |
| 9) | Toluene | 7.87f | 7.65f | 930 | 1205 | NoCal | <MDL |
| 10) | Ethylbenzene | 9.89 | 9.84 | 995 | 616 | NoCal | <MDL |
| 11) | m,p-Xylene | 10.11 | 10.14 | 856 | 2804 | NoCal | <MDL |
| 12) | o-Xylene | 10.66 | 10.58 | 1438 | 1841 | NoCal | <MDL |
| 13) | n-Nonane | 10.68f | 10.80 | 1086 | 372 | <MDL | NoCal # |
| 14) | n-Decane | 12.65 | 12.72 | 1711 | 11164 | <MDL | NoCal # |
| 15) | n-Butylcyclohexa | 13.44 | 0.00 | 869 | 0 | <MDL | N.D. # |
| 16) | 1,2,4-Trimethylb | 12.51 | 12.72f | 649 | 11164 | NoCal | <MDL |
| 17) | Naphthalene | 15.62 | 0.00 | 9028 | 0 | NoCal | N.D. d |

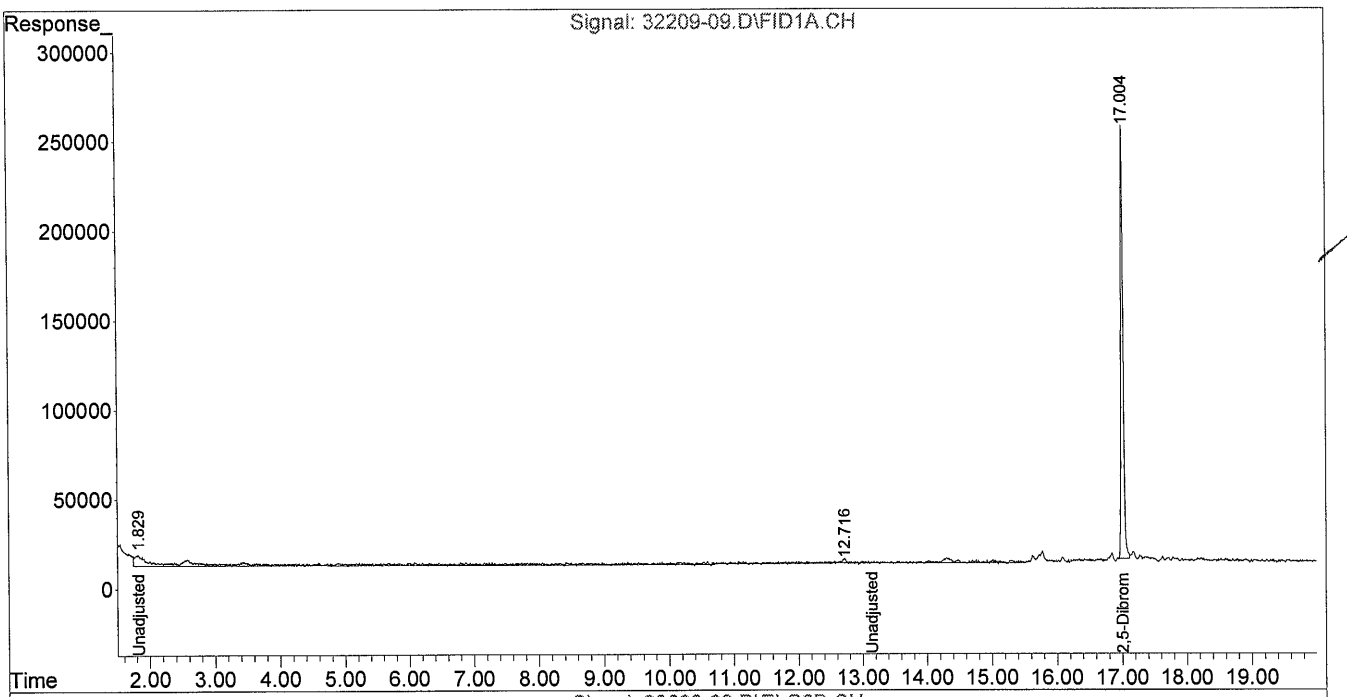
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

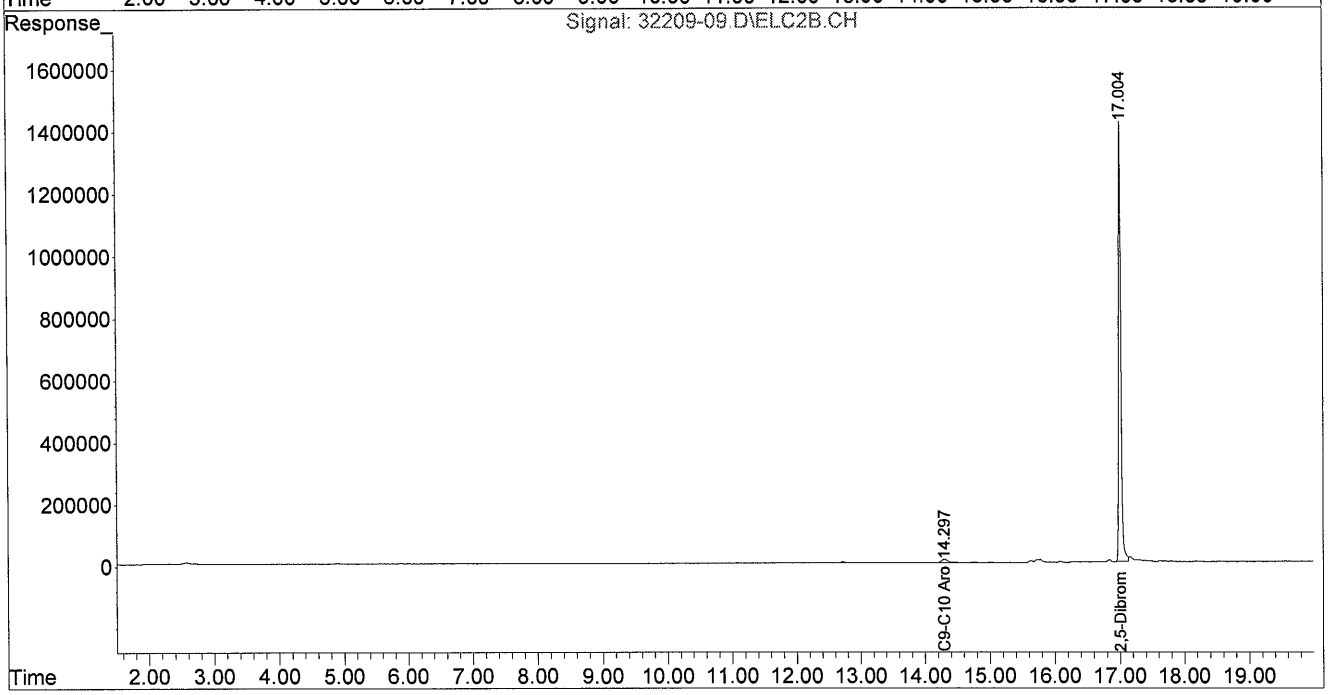
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-09.D Vial: 11
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 2:38 pm Operator: mp
Sample : sb32209-09 @ 06mw13-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 09:59:47 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**TB06-20110719**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 | | |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody | | |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 | | |
| Matrix: | Aqueous | Laboratory ID: | SB32209-10 | | File ID: | 32209-10.D | |
| Sampled: | 07/19/11 09:00 | Prepared: | 08/01/11 08:14 | | Analyzed: | 08/01/11 15:05 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 | Instrument: | FID1 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.00932 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.00422 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00120 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.00932 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.00468 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-10.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 3:05 pm Operator: mp
Sample : sb32209-10 @ tb06-20110719 r-- vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 10:01:44 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 576664 | 3394363 | 46.465 | 41.542 | |
| | Spiked Amount 50.000 | | | | Recovery = | 92.93% | 83.08% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.21 | 405584 | 993 | 9.320m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.12 | 14.30 | 1604 | 210570 | NoCal | 1.204m | |
| 3) | Unadjusted C9-C1 | 13.15 | 0.00 | 118153 | 0 | 4.072m | N.D. | # |
| 4) | n-Pentane | 0.00 | 1.82 | 0 | 500 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 2.97 | 0 | 645 | N.D. | NoCal | |
| 7) | Benzene | 4.96 | 4.90 | 2237 | 706 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.02 | 6.15f | 2348 | 508 | <MDL | NoCal | # |
| 9) | Toluene | 7.72 | 7.78 | 968 | 2527 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.75f | 9.87 | 1085 | 988 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.11 | 10.13 | 931 | 393 | NoCal | <MDL | |
| 12) | o-Xylene | 10.56 | 10.60 | 2244 | 824 | NoCal | <MDL | |
| 13) | n-Nonane | 10.81 | 10.81 | 1539 | 233 | <MDL | NoCal | # |
| 14) | n-Decane | 12.85 | 0.00 | 1237 | 0 | <MDL | N.D. | # |
| 15) | n-Butylcyclohexa | 13.22 | 13.53 | 1574 | 405 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.48 | 0.00 | 1846 | 0 | NoCal | N.D. | |
| 17) | Naphthalene | 15.47f | 0.00 | 1743 | 0 | NoCal | N.D. | |

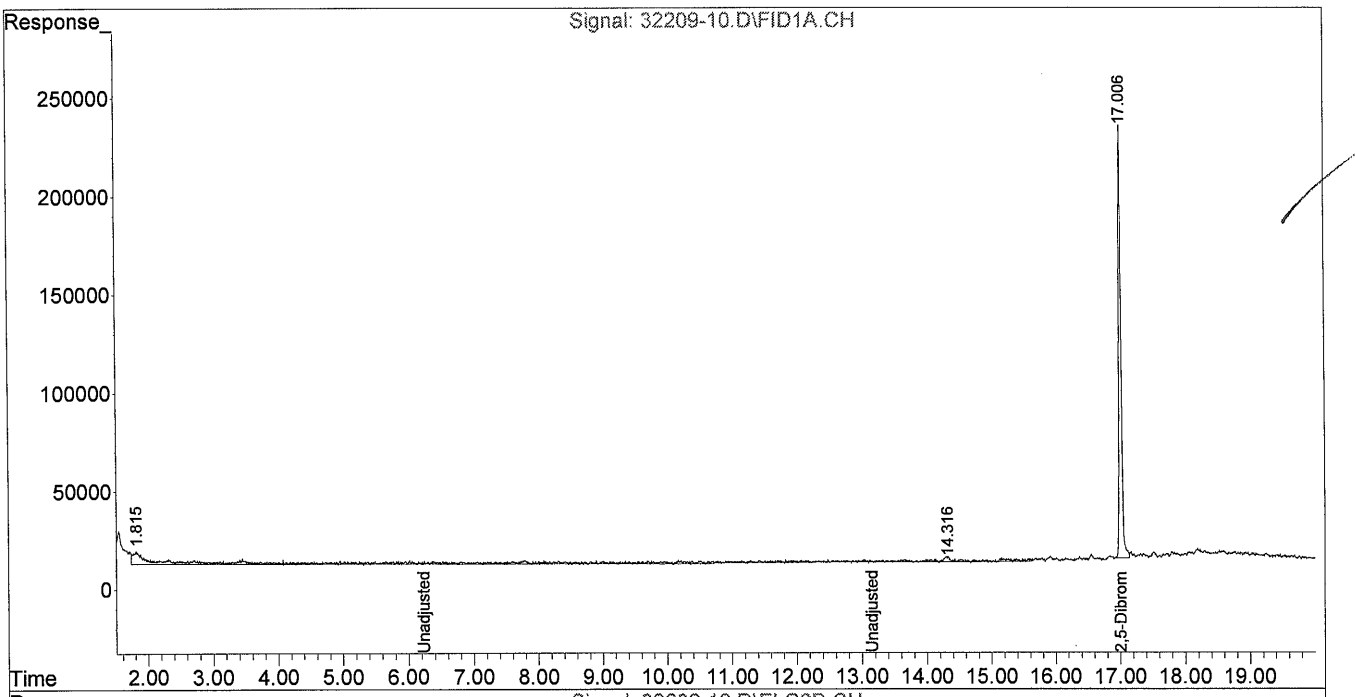
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

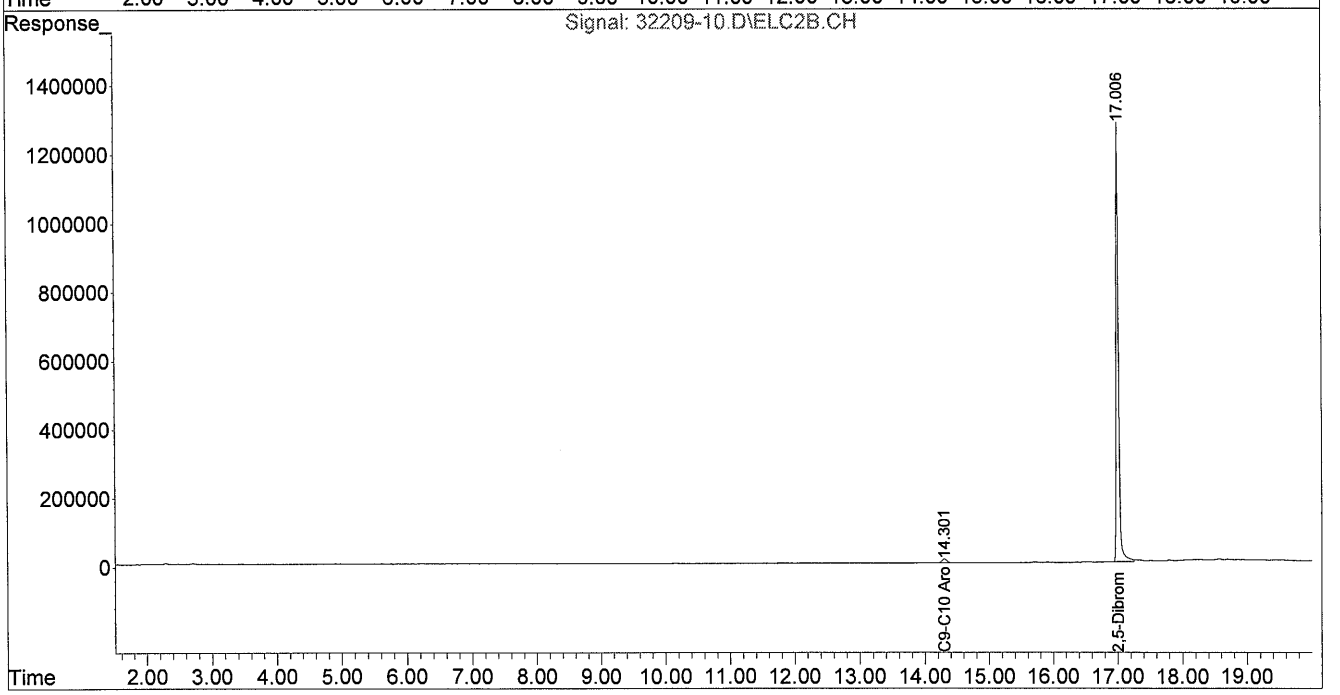
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-10.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 3:05 pm Operator: mp
Sample : sb32209-10 @ tb06-20110719 r-- vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 10:01:44 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW03-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-11 | File ID: | 32209-11.D |
| Sampled: | 07/20/11 13:44 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/02/11 23:27 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 10 | 0.215 mg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 10 | 0.829 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 10 | 0.396 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 10 | 0.421 mg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 10 | 1.22 mg/l | |
| 71-43-2 | Benzene | 10 | 0.0243 mg/l | |
| 100-41-4 | Ethylbenzene | 10 | 0.0526 mg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 10 | 0.0031 mg/l | U |
| 91-20-3 | Naphthalene | 10 | 0.131 mg/l | |
| 108-88-3 | Toluene | 10 | 0.0194 mg/l | |
| 179601-23-1 | m,p-Xylene | 10 | 0.0846 mg/l | |
| 95-47-6 | o-Xylene | 10 | 0.0251 mg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-11.D Vial: 20
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 11:27 pm Operator: mp
Sample : sb32209-11 @ 06mw03-20110720 1:10 vph Inst : HP G1530A
Misc : 10 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:28:28 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 8) S | 2,5-Dibromotolue | 17.01 | 17.01 | 451193 | 2970599 | 36.355 | 36.356 |
| | Spiked Amount 50.000 | | | Recovery | = | 72.71% | 72.71% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.25 | 1831359 | 1084 | 42.084m | NoCal # |
| 2) | C9-C10 Aromatic | 13.24 | 12.53 | 143619 | 6916607 | NoCal | 39.555m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.24 | 3553746 | 333666 | 122.482m | NoCal # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 5) | Methyl tert-buty | 0.00 | 2.59 | 0 | 605 | N.D. | <MDL |
| 6) | 2-Methylpentane | 0.00 | 2.96 | 0 | 708 | N.D. | NoCal |
| 7) | Benzene | 4.89 | 4.89 | 156886 | 435863 | NoCal | 2.432 |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 917 | 715 | <MDL | NoCal # |
| 9) | Toluene | 7.77 | 7.77 | 97463 | 240478 | NoCal | 1.939 |
| 10) | Ethylbenzene | 9.87 | 9.86 | 217004 | 492070 | NoCal | 5.257 |
| 11) | m,p-Xylene | 10.13 | 10.13 | 344069 | 884471 | NoCal | 8.460 |
| 12) | o-Xylene | 10.57 | 10.57 | 101097 | 221453 | NoCal | 2.513 |
| 13) | n-Nonane | 10.79 | 0.00 | 861 | 0 | <MDL | N.D. # |
| 14) | n-Decane | 0.00 | 12.53 | 0 | 1410660 | N.D. d | NoCal |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 20239 | 43419 | 0.659m | NoCal # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 621229 | 1410660 | NoCal | 15.609 |
| 17) | Naphthalene | 15.66 | 15.66 | 430675 | 1234028 | NoCal | 13.073 |

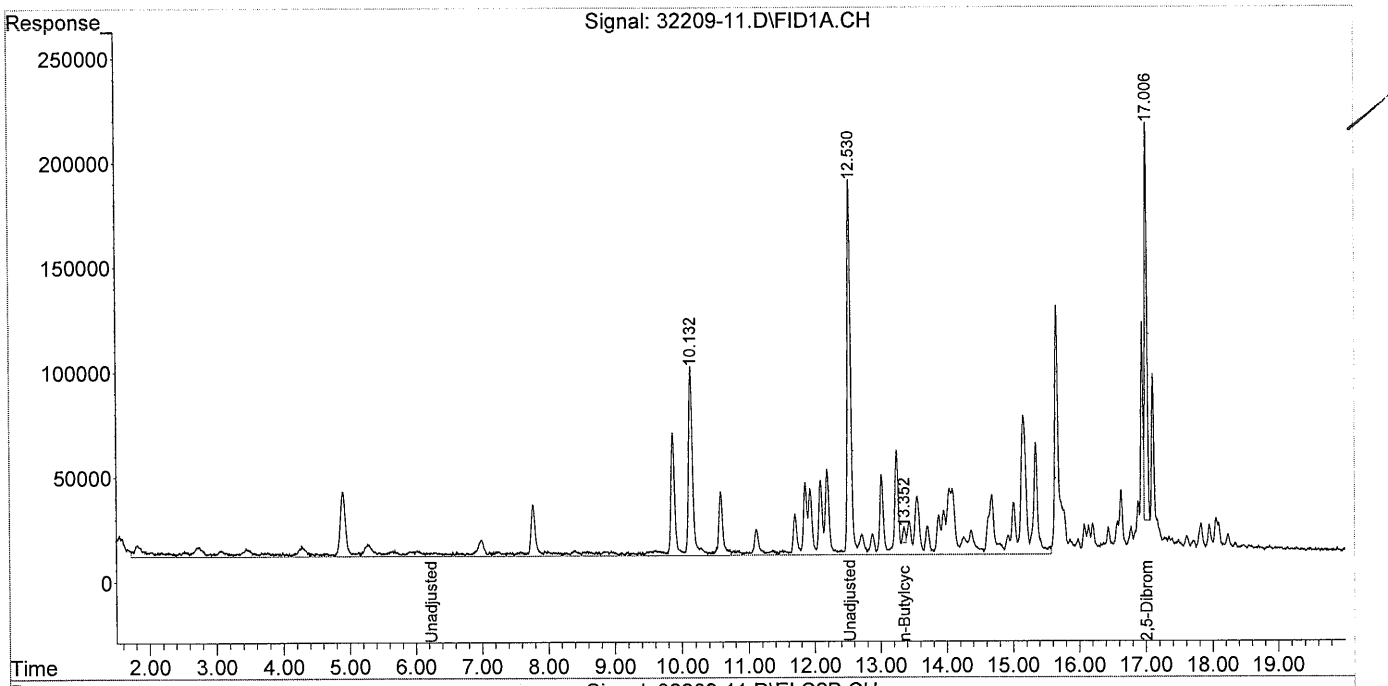
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

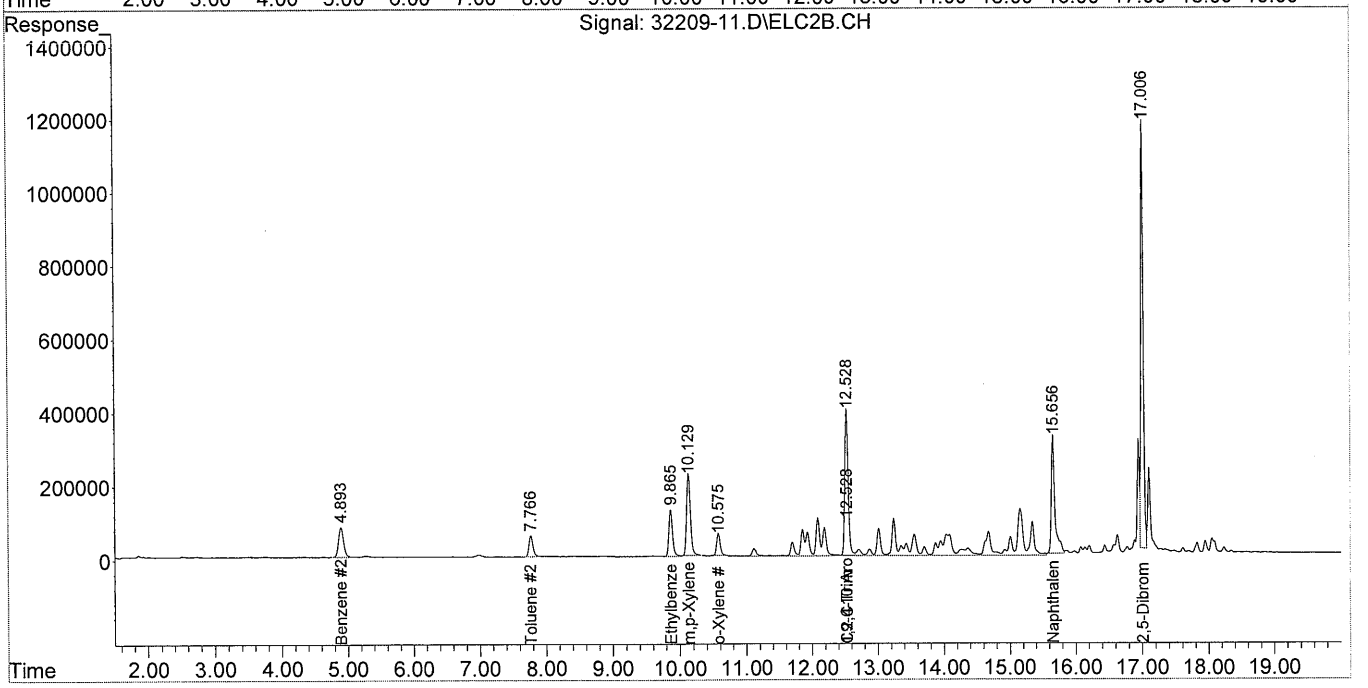
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-11.D Vial: 20
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 11:27 pm Operator: mp
Sample : sb32209-11 @ 06mw03-20110720 1:10 vph Inst : HP G1530A
Misc : 10 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:28:28 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW10-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-12 | File ID: | 32209-12.D |
| Sampled: | 07/20/11 11:16 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/02/11 23:53 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0568 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.194 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0861 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0568 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.280 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0176 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-12.D Vial: 21
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 11:53 pm Operator: mp
Sample : sb32209-12 @ 06mw10-20110720 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:29:07 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 17.01 | 17.01 | 494838 | 3139686 | 39.871 | 38.425 | |
| | Spiked Amount 50.000 | | | Recovery | = | 79.74% | 76.85% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 7.79 | 6.16 | 493898 | 1384 | 11.350m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.17 | 15.16f | 5770 | 3011305 | NoCal | 17.221m | |
| 3) | Unadjusted C9-C1 | 15.16f | 13.12 | 1625551 | 625 | 56.026m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.81 | 0 | 980 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.89 | 4.89 | 1234 | 2386 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.89f | 6.08 | 1337 | 918 | <MDL | NoCal | # |
| 9) | Toluene | 7.78 | 7.78 | 10848 | 28944 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.98f | 9.89 | 1041 | 6002 | NoCal | <MDL | |
| 11) | m,p-Xylene | 9.98f | 10.15 | 1041 | 3739 | NoCal | <MDL | |
| 12) | o-Xylene | 10.76f | 10.52 | 1010 | 2350 | NoCal | <MDL | |
| 13) | n-Nonane | 10.80 | 10.80 | 760 | 1108 | <MDL | NoCal | # |
| 14) | n-Decane | 12.60 | 12.54 | 698 | 10928 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 24299 | 50613 | 0.791m | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.55 | 12.54 | 6975 | 10928 | NoCal | <MDL | |
| 17) | Naphthalene | 15.67 | 15.67 | 166313 | 332740 | NoCal | 3.525 | |

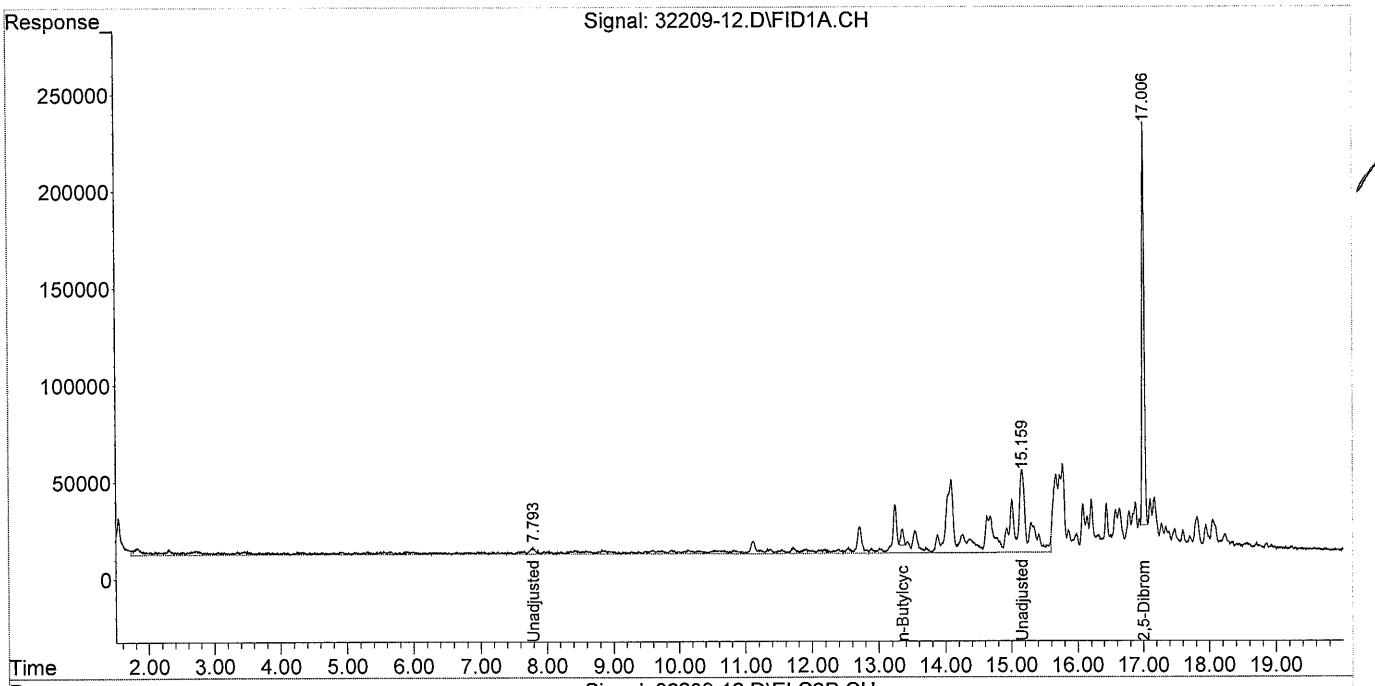
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

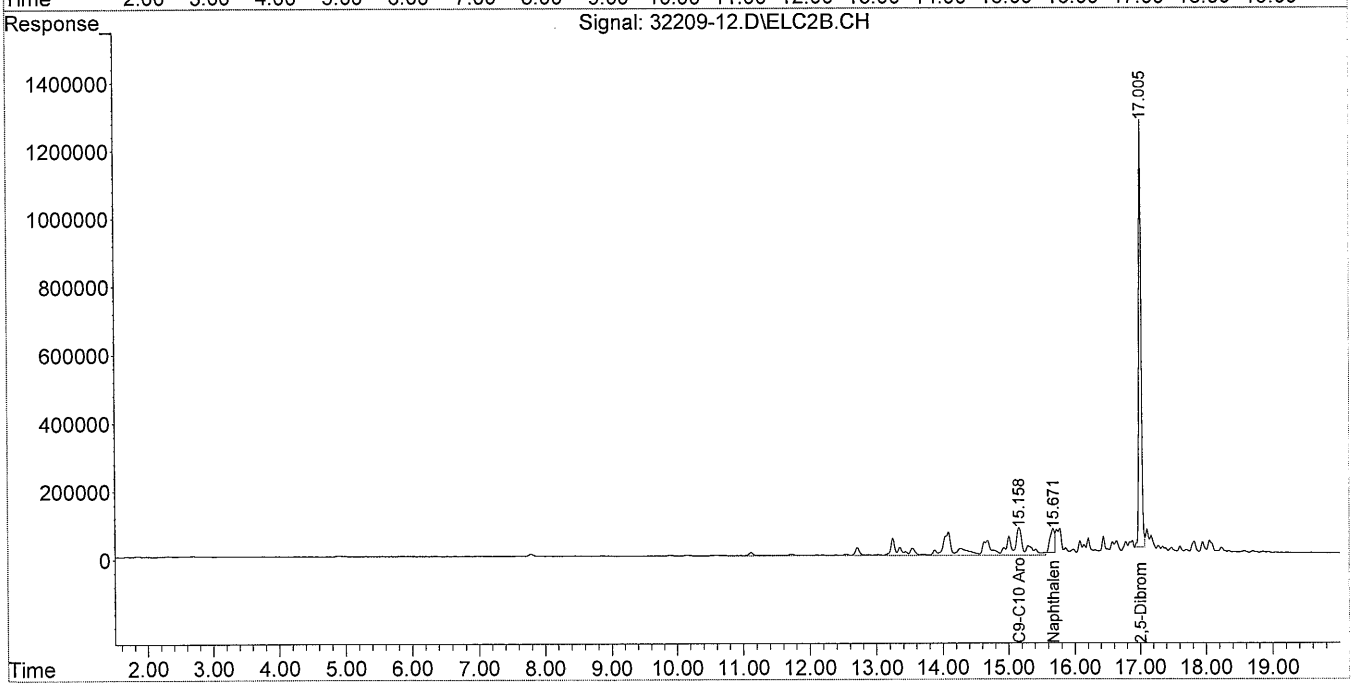
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-12.D Vial: 21
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 11:53 pm Operator: mp
Sample : sb32209-12 @ 06mw10-20110720 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:29:07 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW11-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-13 | File ID: | 32209-13.D |
| Sampled: | 07/20/11 10:59 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 00:20 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0537 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0340 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0248 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0537 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0588 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-13.D Vial: 22
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 12:20 am Operator: mp
Sample : sb32209-13 @ 06mw11-20110720 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:30:17 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 17.01 | 17.01 | 485552 | 3105102 | 39.123 | 38.002 | |
| Spiked Amount | 50.000 | | | Recovery | = | 78.25% | 76.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 1.64f | 6.19 | 466982 | 505 | 10.731m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.17 | 14.30 | 2276 | 867729 | NoCal | 4.962m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.20 | 341317 | 3118 | 11.764m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.85 | 0 | 3863 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 2.56 | 0 | 726 | N.D. | <MDL | |
| 6) | 2-Methylpentane | 0.00 | 3.03 | 0 | 1276 | N.D. | NoCal | |
| 7) | Benzene | 0.00 | 4.91 | 0 | 619 | N.D. | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.98 | 0.00 | 873 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.74 | 7.78 | 1063 | 3004 | NoCal | <MDL | |
| .0) | Ethylbenzene | 10.01f | 9.86 | 1308 | 964 | NoCal | <MDL | |
| .1) | m,p-Xylene | 10.01f | 10.12 | 1308 | 1137 | NoCal | <MDL | |
| .2) | o-Xylene | 10.66 | 10.65 | 2137 | 1060 | NoCal | <MDL | |
| .3) | n-Nonane | 10.74 | 10.80 | 1004 | 656 | <MDL | NoCal | # |
| .4) | n-Decane | 0.00 | 12.54 | 0 | 19583 | N.D. d | NoCal | |
| .5) | n-Butylcyclohexa | 13.34 | 13.35 | 1759 | 2676 | <MDL | NoCal | # |
| .6) | 1,2,4-Trimethylb | 12.55 | 12.54 | 9082 | 19583 | NoCal | <MDL | |
| .7) | Naphthalene | 15.52f | 0.00 | 723 | 0 | NoCal | N.D. | |

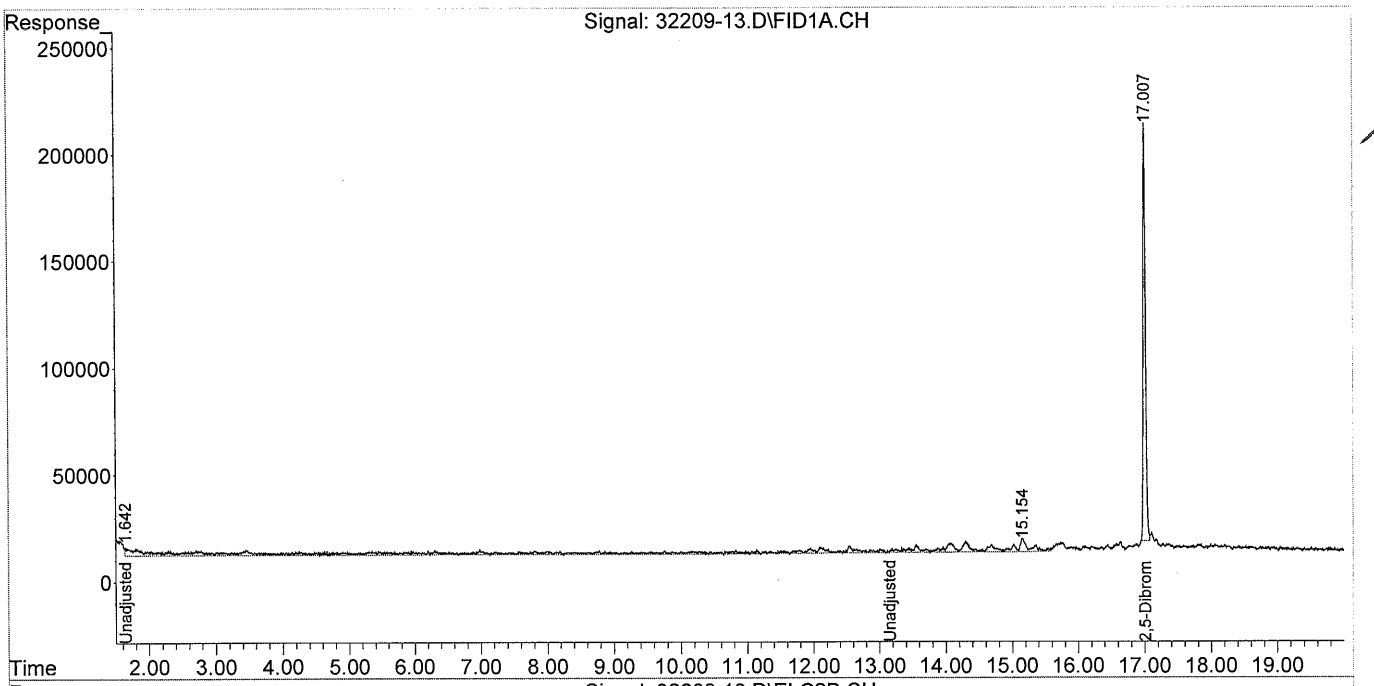
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

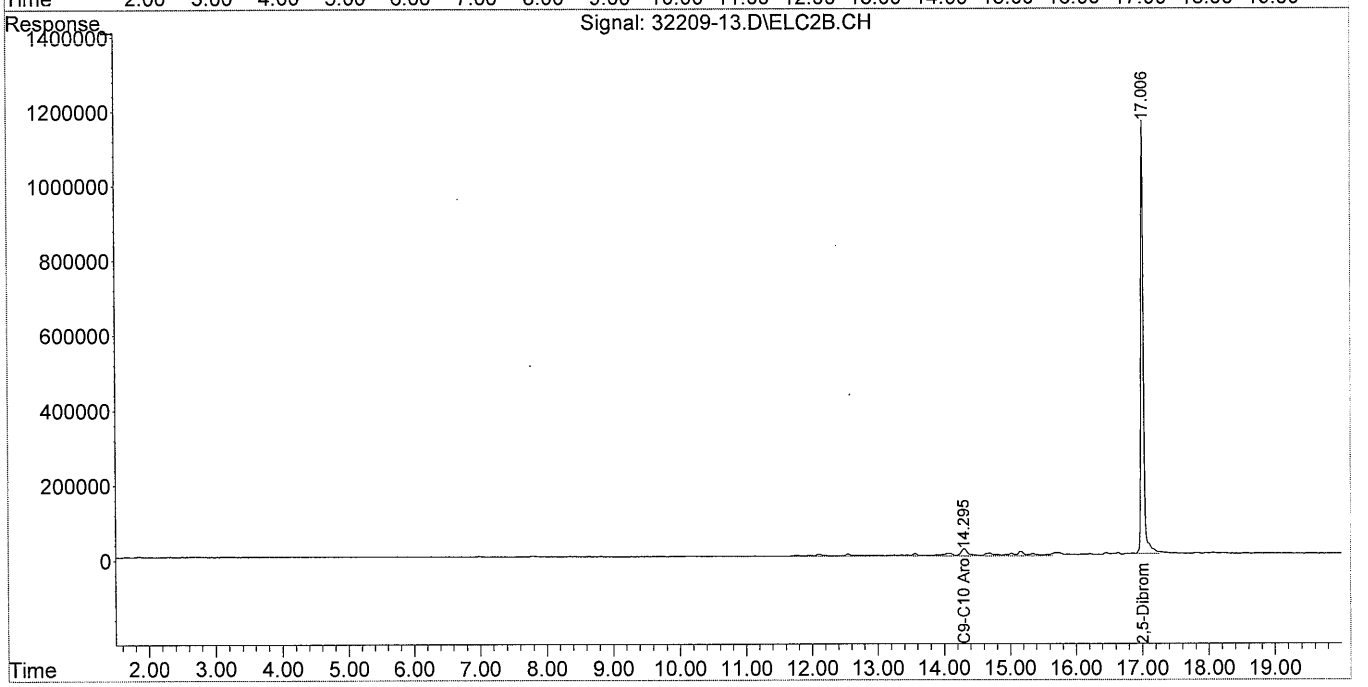
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-13.D Vial: 22
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 12:20 am Operator: mp
Sample : sb32209-13 @ 06mw11-20110720 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:30:17 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW12-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-14 | File ID: | 32209-14.D |
| Sampled: | 07/20/11 13:50 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 00:47 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0526 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0132 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00855 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0526 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0217 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-14.D Vial: 23
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 12:47 am Operator: mp
Sample : sb32209-14 @ 06mw12-20110720 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:30:46 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| .8) S | 2,5-Dibromotolue | 17.01 | 17.01 | 518128 | 3094887 | 41.748 | 37.877 | |
| | Spiked Amount 50.000 | | | Recovery | = | 83.50% | 75.75% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 1.79f | 6.27 | 457642 | 521 | 10.517m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.14 | 14.30 | 1165 | 299042 | NoCal | 1.710m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.20 | 126110 | 3115 | 4.346m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.85 | 0 | 8039 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 2.96 | 0 | 541 | N.D. | NoCal | |
| 7) | Benzene | 5.00f | 4.87 | 1022 | 1866 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 0.00 | 6.08 | 0 | 559 | N.D. | NoCal | |
| 9) | Toluene | 7.74 | 7.79 | 1175 | 24317 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.86 | 9.90 | 1198 | 3072 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.11 | 10.15 | 1526 | 15124 | NoCal | <MDL | |
| 12) | o-Xylene | 10.57 | 10.59 | 1342 | 749 | NoCal | <MDL | |
| 13) | n-Nonane | 10.82 | 0.00 | 1088 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.77 | 12.53 | 1058 | 521 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.33 | 13.50 | 1331 | 721 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.49 | 12.53 | 1070 | 521 | NoCal | <MDL | |
| 17) | Naphthalene | 15.77f | 0.00 | 1431 | 0 | NoCal | N.D. | |

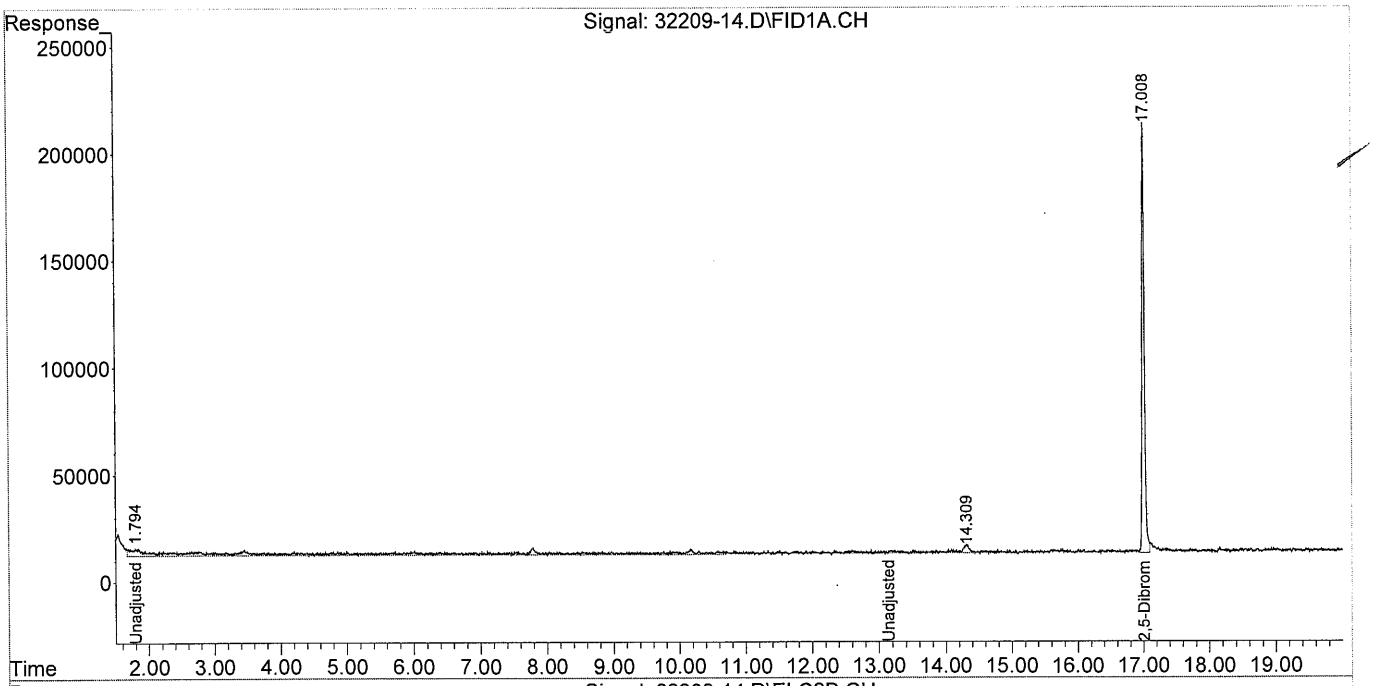
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

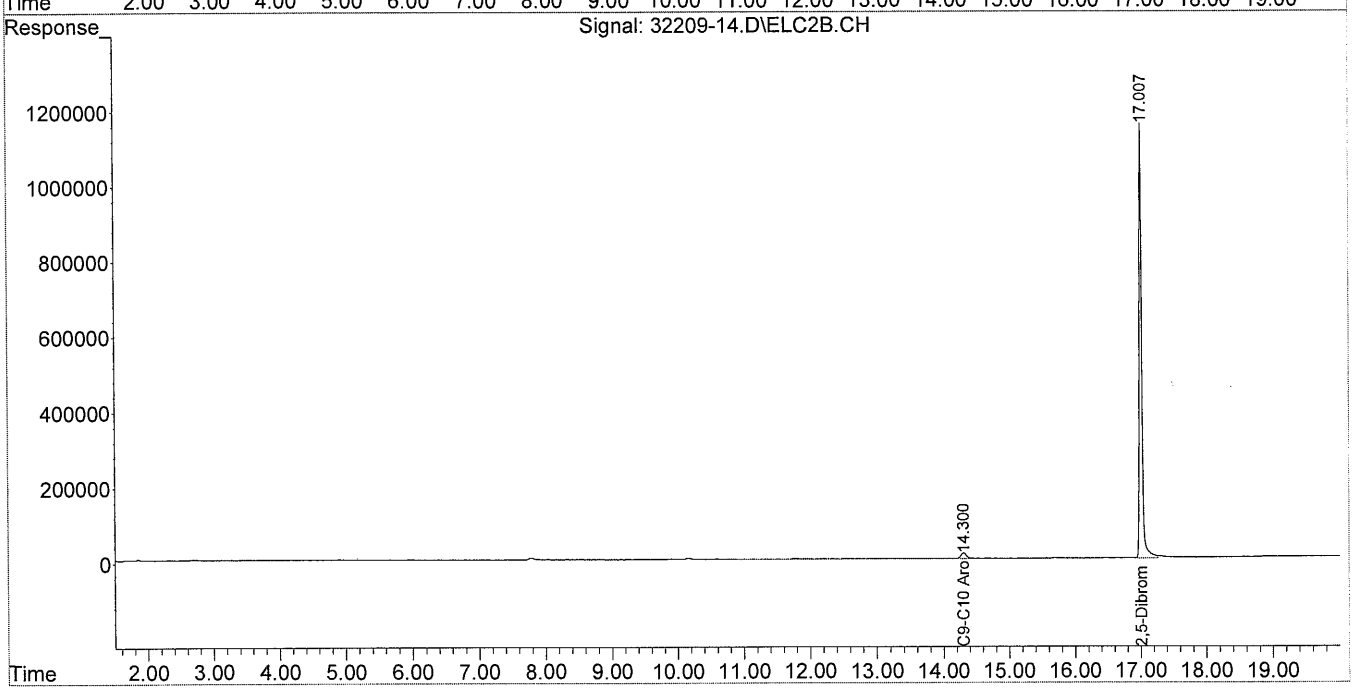
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-14.D Vial: 23
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 12:47 am Operator: mp
Sample : sb32209-14 @ 06mw12-20110720 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:30:46 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW04-20110721**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-15 | File ID: | 32209-15r.D |
| Sampled: | 07/21/11 09:07 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 08:04 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0567 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.102 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0590 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0596 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.161 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0130 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0029 mg/l | J |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-15r.D Vial: 27
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 8:04 am Operator: mp
Sample : sb32209-15 @ 06mw04-20110721 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:31:56 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| .8) | S 2,5-Dibromotolue | 17.00 | 17.00 | 533032 | 3311575 | 42.949 | 40.529 | |
| | Spiked Amount 50.000 | | | Recovery | = | 85.90% | 81.06% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 10.13f | 6.22 | 519150 | 1420 | 11.930m | NoCal | # |
| 2) | C9-C10 Aromatic | 0.00 | 15.17f | 0 | 2063536 | N.D. | 11.801m | |
| 3) | Unadjusted C9-C1 | 15.17f | 13.24 | 934381 | 5526 | 32.204m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 2.53 | 0 | 1489 | N.D. | <MDL | |
| 6) | 2-Methylpentane | 0.00 | 2.98 | 0 | 1346 | N.D. | NoCal | |
| 7) | Benzene | 4.77f | 4.90 | 1578 | 6530 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.93 | 5.95 | 552 | 1287 | <MDL | NoCal | # |
| 9) | Toluene | 7.72 | 7.78 | 412 | 25756 | NoCal | <MDL | |
| .0) | Ethylbenzene | 9.86 | 9.87 | 755 | 13620 | NoCal | <MDL | |
| .1) | m,p-Xylene | 10.13 | 10.13 | 19596 | 61074 | NoCal | 0.584 | |
| .2) | o-Xylene | 0.00 | 10.58 | 0 | 12567 | N.D. | <MDL | |
| .3) | n-Nonane | 10.81 | 10.81 | 2119 | 834 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.54 | 0 | 44619 | N.D. | NoCal | |
| 15) | n-Butylcyclohexa | 0.00 | 13.34 | 0 | 20951 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.54 | 0 | 44619 | N.D. | 0.494 | |
| 17) | Naphthalene | 15.66 | 15.66 | 108272 | 245351 | NoCal | 2.599 | |

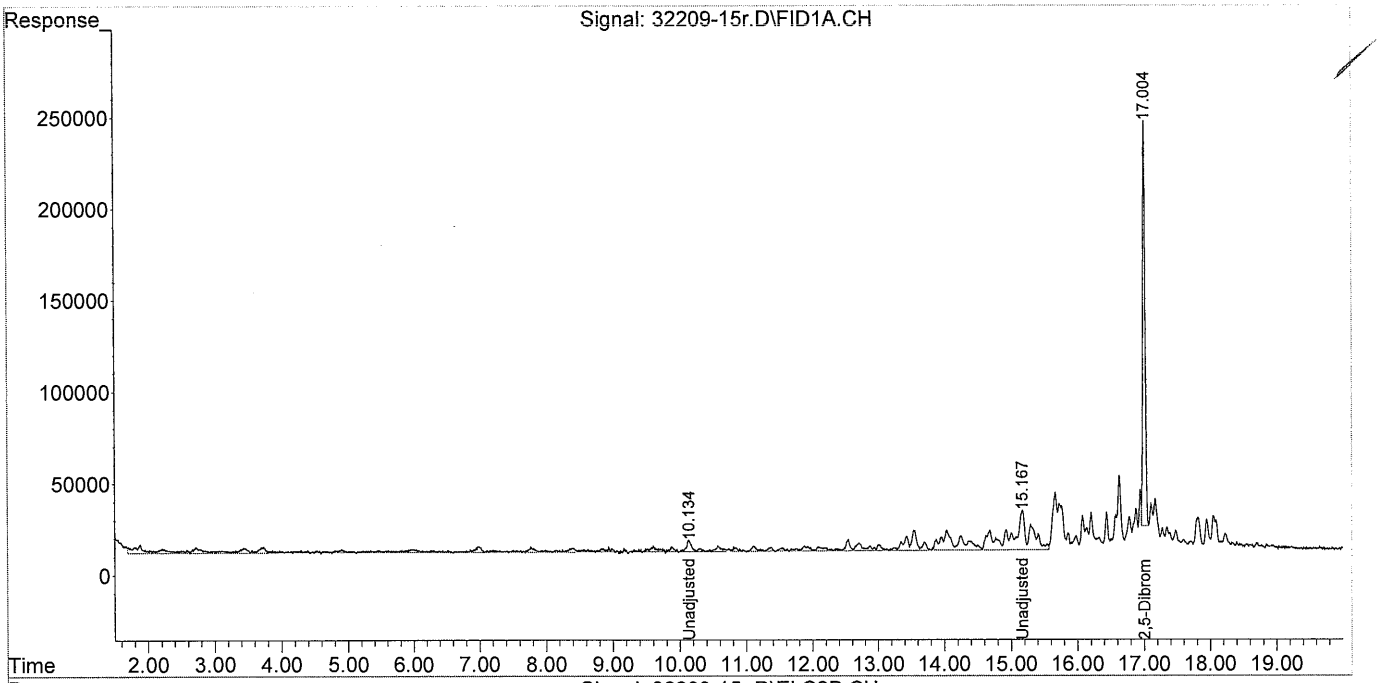
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

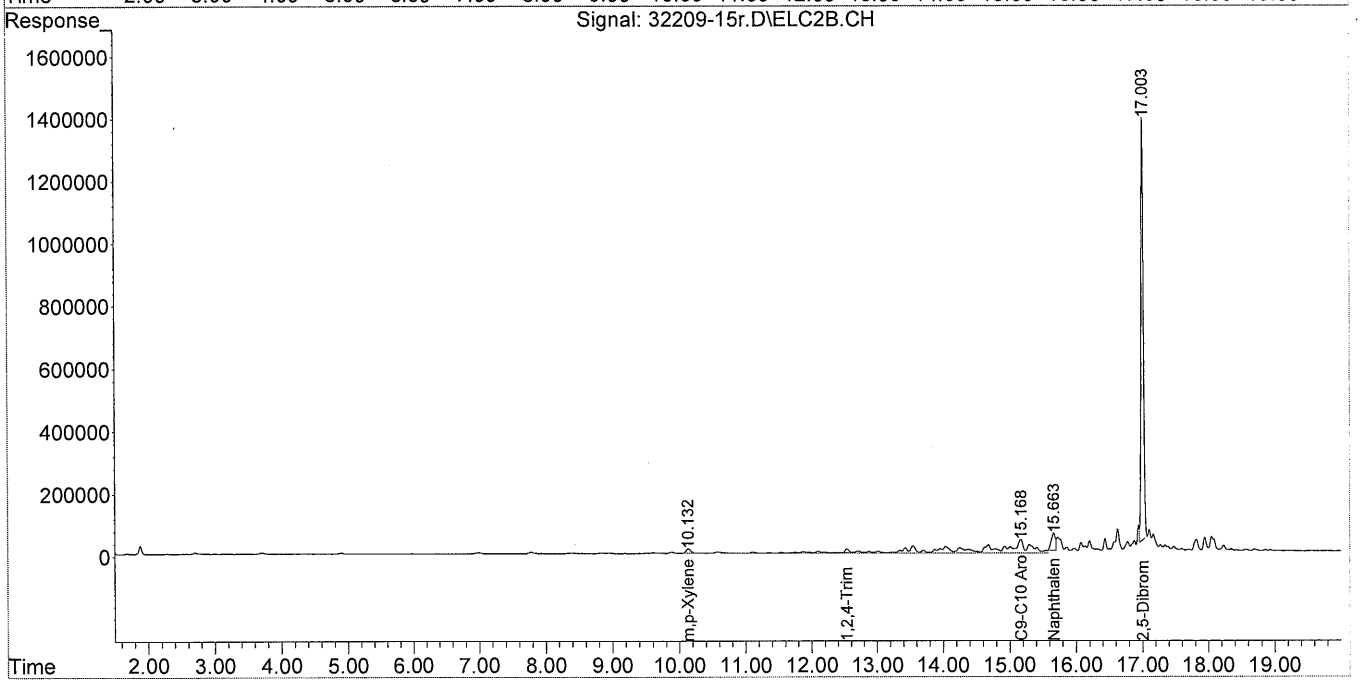
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-15r.D Vial: 27
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 8:04 am Operator: mp
Sample : sb32209-15 @ 06mw04-20110721 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:31:56 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW05-20110721**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-16 | File ID: | 32209-16.D |
| Sampled: | 07/21/11 08:54 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 01:40 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0512 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0141 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00650 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0512 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0206 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-16.D Vial: 25
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 1:40 am Operator: mp
Sample : sb32209-16 @ 06mw05-20110721 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:32:31 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 17.01 | 17.01 | 476665 | 2901646 | 38.407 | 35.512m | |
| Spiked Amount | 50.000 | | | Recovery | = | 76.81% | 71.02% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 1.85f | 6.27 | 445334 | 821 | 10.234m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.12 | 14.30 | 1532 | 227214 | NoCal | 1.299m | |
| 3) | Unadjusted C9-C1 | 14.32 | 13.19 | 119310 | 1222 | 4.112m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.82 | 0 | 974 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 2.57 | 0 | 1338 | N.D. | <MDL | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.84 | 4.84 | 1425 | 701 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.92 | 6.12f | 808 | 2175 | <MDL | NoCal | # |
| 9) | Toluene | 7.79 | 7.80 | 1776 | 9924 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.99f | 9.71f | 1373 | 558 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.13 | 10.12 | 1821 | 1438 | NoCal | <MDL | |
| 12) | o-Xylene | 10.57 | 10.58 | 1094 | 1166 | NoCal | <MDL | |
| 13) | n-Nonane | 10.82 | 10.82 | 2538 | 964 | <MDL | NoCal | # |
| 14) | n-Decane | 12.68 | 12.54 | 1069 | 2412 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.31 | 13.49 | 1796 | 605 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.41f | 12.54 | 1579 | 2412 | NoCal | <MDL | |
| 17) | Naphthalene | 15.47f | 15.55f | 1454 | 1742 | NoCal | <MDL | |

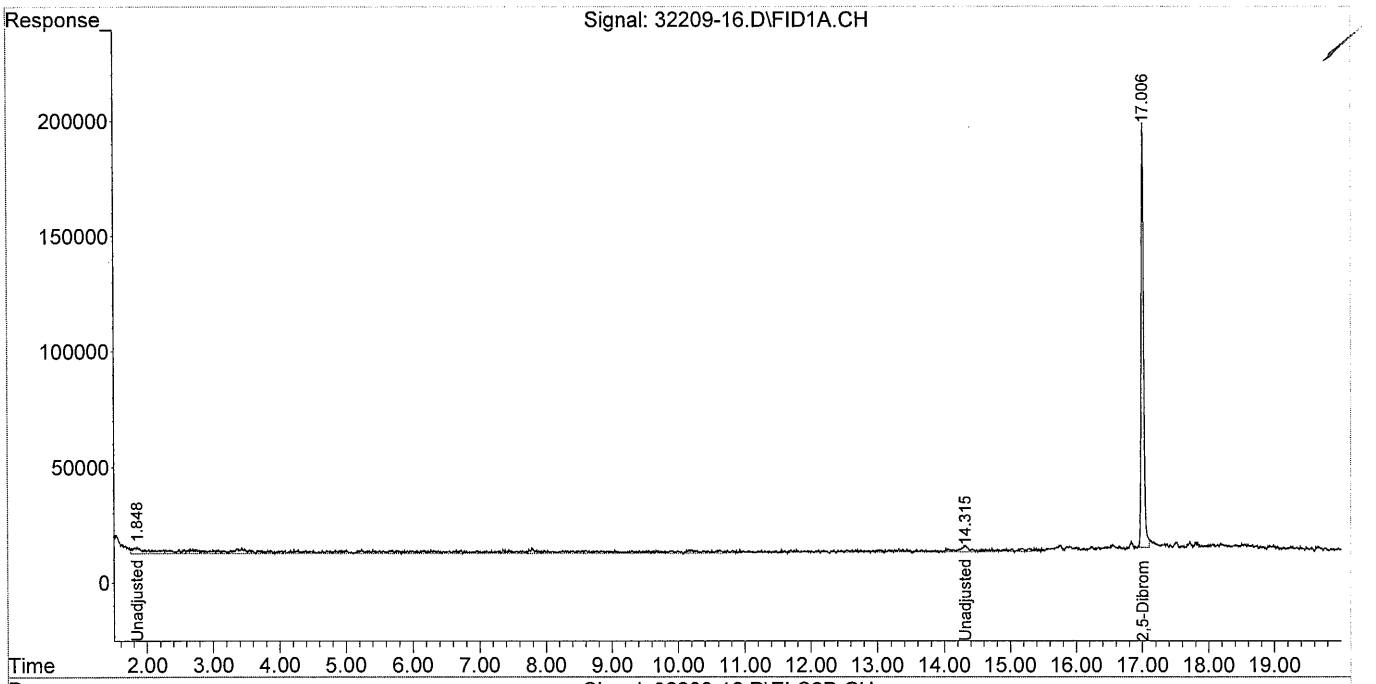
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

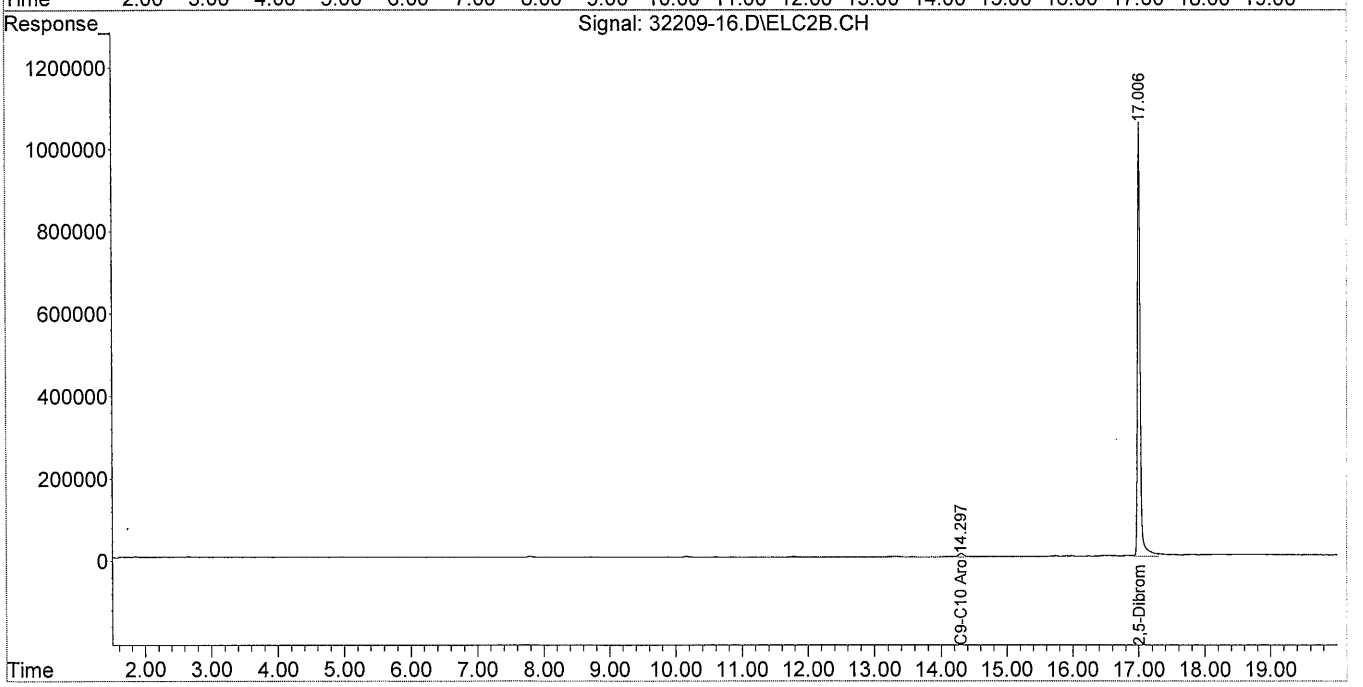
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\32209-16.D Vial: 25
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Aug 2011 1:40 am Operator: mp
Sample : sb32209-16 @ 06mw05-20110721 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:32:31 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Standards Data

# FORM VI - INITIAL CALIBRATION DATA

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106002 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 06/06/11 13:37 |
| File ID: | f2060611 | | |

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF |
| C9-C10 Aromatic Hydrocarbons | 1 | 331182 | 5 | 247316.8 | 10 | 229202.9 | 20 | 215588.3 | 50 | 205327.8 | 100 | 216558 |
| Unadjusted C5-C8 Aliphatic Hydro | 10 | 51579.2 | 50 | 46652 | 100 | 48677.47 | 200 | 48381.4 | 500 | 50189.94 | 1000 | 51646.17 |
| Unadjusted C9-C12 Aliphatic Hydr | 4 | 44234.25 | 20 | 31487.05 | 40 | 34994.48 | 80 | 35275.32 | 200 | 33706.07 | 400 | 39707.95 |
| Benzene | 1 | 201342 | 5 | 212599.2 | 10 | 223431.7 | 20 | 216343.7 | 50 | 214457.6 | 100 | 210933.4 |
| Ethylbenzene | 1 | 131208 | 5 | 145197.8 | 10 | 152254.1 | 20 | 147632.3 | 50 | 145561.5 | 100 | 145829 |
| Methyl tert-butyl ether | 1 | 33025 | 5 | 30089.6 | 10 | 35485.8 | 20 | 29923.8 | 50 | 39991.78 | 100 | 38994 |
| Naphthalene | 1 | 123428 | 5 | 133505.8 | 10 | 138295.3 | 20 | 132832.1 | 50 | 133624.6 | 100 | 132006.7 |
| Toluene | 1 | 164019 | 5 | 179627.4 | 10 | 187956.4 | 20 | 181805.4 | 50 | 179501.2 | 100 | 177868.1 |
| m,p-Xylene | 2 | 151929.5 | 10 | 166254.2 | 20 | 174989 | 40 | 168690.2 | 100 | 167526.2 | 200 | 168114.6 |
| o-Xylene | 1 | 135542 | 5 | 147621.8 | 10 | 153121.8 | 20 | 148886.4 | 50 | 147158.3 | 100 | 146388.1 |
| 2-Methylpentane | 1 | 27362 | 5 | 30901.8 | 10 | 39052.5 | 20 | 41653.95 | 50 | 37135.48 | 100 | 44172.58 |
| n-Nonane | 1 | 29089 | 5 | 29951.6 | 10 | 27008.9 | 20 | 26568.5 | 50 | 25110.72 | 100 | 29138.39 |
| n-Pentane | 1 | 19704 | 5 | 31618 | 10 | 32917.7 | 20 | 35231.05 | 50 | 30770.04 | 100 | 32939.32 |
| 1,2,4-Trimethylbenzene | 1 | 125676 | 5 | 141217.6 | 10 | 146116.4 | 20 | 141882.8 | 50 | 139971 | 100 | 140481.4 |
| 2,2,4-Trimethylpentane | 1 | 36905 | 5 | 39945.6 | 10 | 41756.6 | 20 | 37873.9 | 50 | 35115.12 | 100 | 36956.79 |
| n-Butylcyclohexane | 1 | 31188 | 5 | 32095.4 | 10 | 29908.8 | 20 | 29670 | 50 | 27548.4 | 100 | 31585.55 |
| n-Decane | 1 | 17640 | 5 | 24780 | 10 | 21503.7 | 20 | 22051.6 | 50 | 21528.22 | 100 | ~~36212.41~~ |
| 2,5-Dibromotoluene (FID) | 51 | 16490.2 | 55 | 16479.49 | 60 | 16248.88 | 70 | 16018.54 | 100 | 15603.89 | 150 | 14868.23 |
| 2,5-Dibromotoluene (PID) | 51 | 104494.4 | 55 | 107770.8 | 60 | 104066.7 | 70 | 102213.8 | 100 | 99867.1 | 150 | 95413.8 |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106002 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 06/06/11 13:37 |
| File ID: | f2060611 | | |

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF |
| C9-C10 Aromatic Hydrocarbons | 200 | 233926.7 | | | | | | | | | | |
| Unadjusted C5-C8 Aliphatic Hydro | 2000 | 50700 | | | | | | | | | | |
| Unadjusted C9-C12 Aliphatic Hydr | 800 | 47121.13 | | | | | | | | | | |
| Benzene | 200 | 207185.7 | | | | | | | | | | |
| Ethylbenzene | 200 | 144229.2 | | | | | | | | | | |
| Methyl tert-butyl ether | 200 | 48118.89 | | | | | | | | | | |
| Naphthalene | 200 | 134321.7 | | | | | | | | | | |
| Toluene | 200 | 175394.8 | | | | | | | | | | |
| m,p-Xylene | 400 | 166395.8 | | | | | | | | | | |
| o-Xylene | 200 | 145870.6 | | | | | | | | | | |
| 2-Methylpentane | 200 | 39698.86 | | | | | | | | | | |
| n-Nonane | 200 | ~~39624.16~~ | | | | | | | | | | |
| n-Pentane | 200 | 31136.86 | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | 200 | 140329.8 | | | | | | | | | | |
| 2,2,4-Trimethylpentane | 200 | 37777.55 | | | | | | | | | | |
| n-Butylcyclohexane | 200 | 40023.09 | | | | | | | | | | |
| n-Decane | 200 | ~~48914.96~~ | | | | | | | | | | |
| 2,5-Dibromotoluene (FID) | 250 | 14793.88 | | | | | | | | | | |
| 2,5-Dibromotoluene (PID) | 250 | 94897.16 | | | | | | | | | | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106002 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 06/06/11 13:37 |
| File ID: | f2060611 | | |

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 239871.8 | 17.74325 | 11.80143 | 3.217237E-02 | | | 25 | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 49689.45 | 3.73198 | 6.36 | 21.63193 | | | 25 | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 38075.18 | 15.24855 | 12.09143 | 3.006021 | | | 25 | |
| Benzene | 212327.6 | 3.29178 | 4.402857 | 0.1107532 | | | 25 | |
| Ethylbenzene | 144558.8 | 4.465685 | 9.23 | 1.825055E-02 | | | 25 | |
| Methyl tert-butyl ether | 36518.41 | 17.70606 | 2.305714 | 0.2318922 | | | 25 | |
| Naphthalene | 132573.5 | 3.398496 | 14.97143 | 0.0244361 | | | 25 | |
| Toluene | 178024.6 | 4.107232 | 7.204286 | 7.326321E-02 | | | 25 | |
| m,p-Xylene | 166271.3 | 4.199404 | 9.482857 | 5.231349E-02 | | | 25 | |
| o-Xylene | 146369.9 | 3.653716 | 9.905714 | 5.638476E-02 | | | 25 | |
| 2-Methylpentane | 37139.6 | 16.10143 | 2.471429 | 0.5442216 | | | 25 | |
| n-Nonane | 27811.19 | 6.718449 | 10.16667 | 4.960274E-02 | | | 25 | |
| n-Pentane | 30616.71 | 16.45919 | 1.641429 | 0.2304703 | | | 25 | |
| 1,2,4-Trimethylbenzene | 139382.1 | 4.587245 | 11.80143 | 3.217237E-02 | | | 25 | |
| 2,2,4-Trimethylpentane | 38047.22 | 5.734003 | 5.504286 | 0.1421522 | | | 25 | |
| n-Butylcyclohexane | 31717.04 | 12.49727 | 12.62 | 2.294238E-02 | | | 25 | |
| n-Decane | 21500.7 | 11.84938 | 11.94 | 2.406603E-02 | | | 25 | |
| 2,5-Dibromotoluene (FID) | 15786.16 | 4.556944 | 16.5 | 0 | | | 25 | |
| 2,5-Dibromotoluene (PID) | 101246.3 | 4.740942 | 16.5 | 0 | | | 25 | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

Response Factor Report HP G1530A

Method Path : C:\msdchem\1\METHODS\
Method File : F2060611.M
Title :
Last Update : Mon Jun 06 09:09:47 2011
Response Via : Initial Calibration

Calibration Files
10 =vph010.D 5 =vph005.D 20 =vph020.D
1 =vph001.D 50 =vph050.D 100 =vph100.D

| | | Compound | 10 | 5 | 20 | 1 | 50 | 100 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | H | Unadjusted C5... | 4.868 | 4.665 | 4.838 | 5.158 | 5.019 | 5.165 | 4.969 | E4 | 3.73 |
| 2) | | C9-C10 Aromat... | | | | | | | 0.000 | | -1.00 |
| 3) | H | Unadjusted C9... | 3.499 | 3.149 | 3.528 | 4.423 | 3.371 | 3.971 | 3.808 | E4 | 15.25 |
| 4) | | n-Pentane | 3.292 | 3.162 | 3.523 | 1.970 | 3.077 | 3.294 | 3.062 | E4 | 16.46 |
| 5) | | Methyl tert-b... | | | | | | | 0.000 | | -1.00 |
| 6) | | 2-Methylpentane | 3.905 | 3.090 | 4.165 | 2.736 | 3.714 | 4.417 | 3.714 | E4 | 16.10 |
| 7) | | Benzene | | | | | | | 0.000 | | -1.00 |
| 8) | | 2,2,4-Trimeth... | 4.176 | 3.995 | 3.787 | 3.691 | 3.512 | 3.696 | 3.805 | E4 | 5.73 |
| 9) | | Toluene | | | | | | | 0.000 | | -1.00 |
| 10) | | Ethylbenzene | | | | | | | 0.000 | | -1.00 |
| 11) | | m,p-Xylene | | | | | | | 0.000 | | -1.00 |
| 12) | | o-Xylene | | | | | | | 0.000 | | -1.00 |
| 13) | | n-Nonane | 2.701 | 2.995 | 2.657 | 2.909 | 2.511 | 2.914 | 2.781 | E4 | 6.72 |
| 14) | | n-Decane | 2.150 | 2.478 | 2.205 | 1.764 | 2.153 | | 2.150 | E4 | 11.85 |
| 15) | | n-Butylcycloh... | 2.991 | 3.210 | 2.967 | 3.119 | 2.755 | 3.159 | 3.172 | E4 | 12.50 |
| 16) | | 1,2,4-Trimeth... | | | | | | | 0.000 | | -1.00 |
| 17) | | Naphthalene | | | | | | | 0.000 | | -1.00 |
| 18) | S | 2,5-Dibromoto... | 1.625 | 1.648 | 1.602 | 1.649 | 1.560 | 1.487 | 1.579 | E4 | 4.56 |

Signal #2 Calibration Files
10 =vph010.D 5 =vph005.D 20 =vph020.D
1 =vph001.D 50 =vph050.D 100 =vph100.D

| | | Compound | 10 | 5 | 20 | 1 | 50 | 100 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | | Unadjusted C5... | | | | | | | 0.000 | | -1.00 |
| 2) | | C9-C10 Aromat... | 2.292 | 2.473 | 2.156 | 3.312 | 2.053 | 2.166 | 2.399 | E5 | 17.74 |
| 3) | | Unadjusted C9... | | | | | | | 0.000 | | -1.00 |
| 4) | | n-Pentane | | | | | | | 0.000 | | -1.00 |
| 5) | | Methyl tert-b... | 3.549 | 3.009 | 2.992 | 3.303 | 3.999 | 3.899 | 3.652 | E4 | 17.71 |
| 6) | | 2-Methylpentane | | | | | | | 0.000 | | -1.00 |
| 7) | | Benzene | 2.234 | 2.126 | 2.163 | 2.013 | 2.145 | 2.109 | 2.123 | E5 | 3.29 |
| 8) | | 2,2,4-Trimeth... | | | | | | | 0.000 | | -1.00 |
| 9) | | Toluene | 1.880 | 1.796 | 1.818 | 1.640 | 1.795 | 1.779 | 1.780 | E5 | 4.11 |
| 10) | | Ethylbenzene | 1.523 | 1.452 | 1.476 | 1.312 | 1.456 | 1.458 | 1.446 | E5 | 4.47 |
| 11) | | m,p-Xylene | 1.750 | 1.663 | 1.687 | 1.519 | 1.675 | 1.681 | 1.663 | E5 | 4.20 |
| 12) | | o-Xylene | 1.531 | 1.476 | 1.489 | 1.355 | 1.472 | 1.464 | 1.464 | E5 | 3.65 |
| 13) | | n-Nonane | | | | | | | 0.000 | | -1.00 |
| 14) | | n-Decane | | | | | | | 0.000 | | -1.00 |
| 15) | | n-Butylcycloh... | | | | | | | 0.000 | | -1.00 |
| 16) | | 1,2,4-Trimeth... | 1.461 | 1.412 | 1.419 | 1.257 | 1.400 | 1.405 | 1.394 | E5 | 4.59 |
| 17) | | Naphthalene | 1.383 | 1.335 | 1.328 | 1.234 | 1.336 | 1.320 | 1.326 | E5 | 3.40 |
| 18) | S | 2,5-Dibromoto... | 1.041 | 1.078 | 1.022 | 1.045 | 0.999 | 0.954 | 1.012 | E5 | 4.74 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph001.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 5:24 pm Operator: MP
Sample : seq-cal1 @ 1 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 09:01:05 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) | S 2,5-Dibromotolue | 16.50 | 16.50 | 841000 | 5329212 | 76.736 | 69.296 |
| | Spiked Amount 50.000 | | | Recovery | = | 153.47% | 138.59% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.83 | 515792 | 29 | 9.431m | NoCal # |
| 2) | C9-C10 Aromatic | 12.38 | 11.81 | 968 | 331182 | NoCal | 1.433m |
| 3) | Unadjusted C9-C1 | 12.48 | 12.62 | 176937 | 40571 | 4.953m | NoCal # |
| 4) | n-Pentane | 1.64 | 0.00 | 19704 | 0 | 0.555m | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.30 | 0 | 33025 | N.D. | 0.873m |
| 6) | 2-Methylpentane | 2.50 | 0.00 | 27362 | 0 | 0.715m | N.D. d# |
| 7) | Benzene | 0.00 | 4.41 | 0 | 201342 | N.D. d | 0.902 |
| 8) | 2,2,4-Trimethylp | 5.49 | 0.00 | 36905 | 0 | 0.988m | N.D. d# |
| 9) | Toluene | 0.00 | 7.21 | 0 | 164019 | N.D. d | 0.878 |
| 10) | Ethylbenzene | 0.00 | 9.23 | 0 | 131208 | N.D. d | 0.870 |
| 11) | m,p-Xylene | 0.00 | 9.49 | 0 | 303859 | N.D. d | 1.728 |
| 12) | o-Xylene | 0.00 | 9.91 | 0 | 135542 | N.D. d | 0.892 |
| 13) | n-Nonane | 10.17 | 0.00 | 29089 | 0 | 1.031 | N.D. d# |
| 14) | n-Decane | 11.94 | 0.00 | 17640 | 0 | 0.776 | N.D. d# |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 31188 | 0 | 1.008 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 11.81 | 0 | 125676 | N.D. d | 0.890 |
| 17) | Naphthalene | 0.00 | 14.98 | 0 | 123428 | N.D. d | 1.050 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

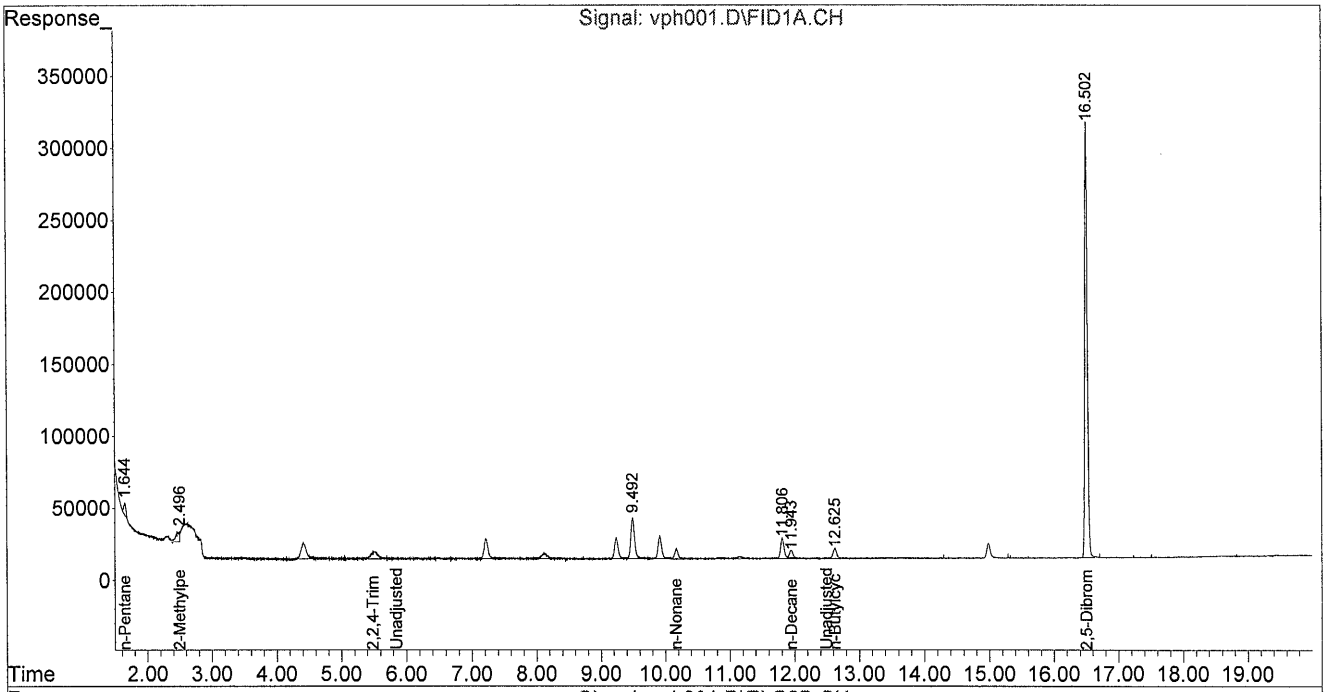
EO
692729

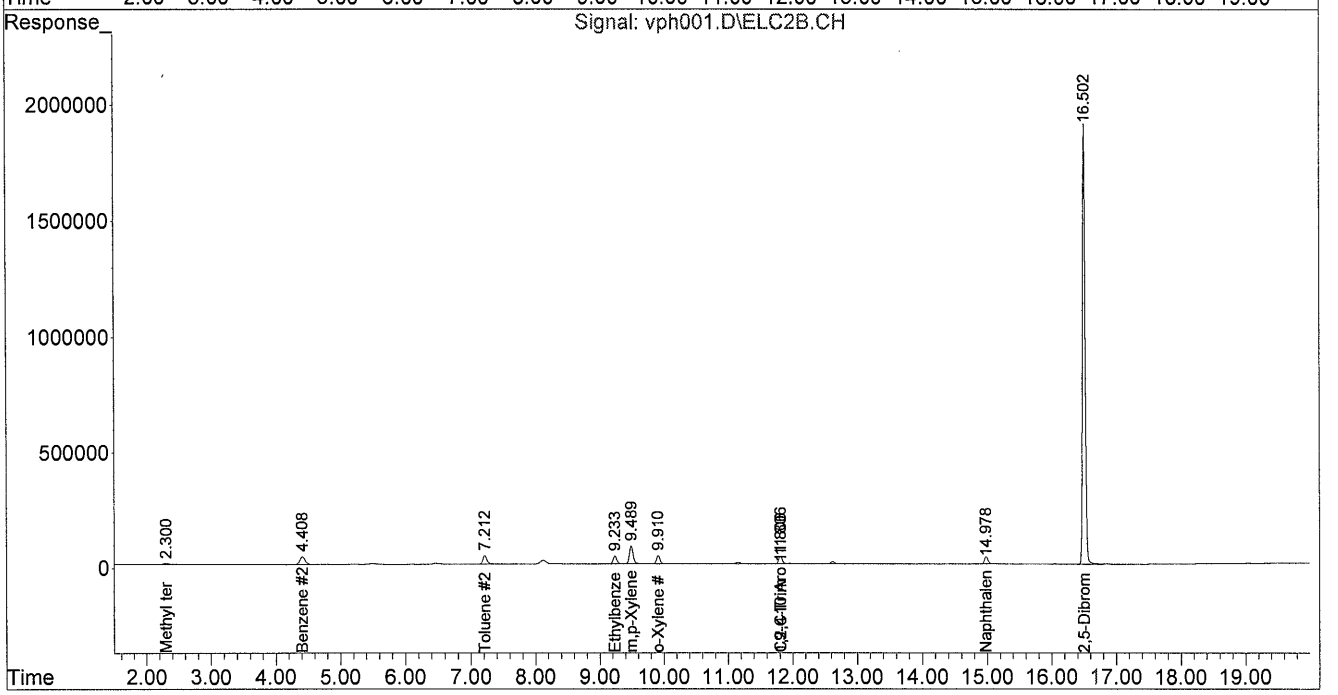
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph001.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 5:24 pm Operator: MP
Sample : seq-cal1 @ 1 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 09:01:05 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph005.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 6:22 pm Operator: MP
Sample : seq-cal2 @ 5 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 09:01:32 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) | S 2,5-Dibromotolue | 16.50 | 16.50 | 906372 | 5927394 | 82.701 | 77.074 |
| | Spiked Amount 50.000 | | | | Recovery = | 165.40% | 154.15% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 2332600 | 0 | 42.649m | N.D. # |
| 2) | C9-C10 Aromatic | 12.49 | 11.80 | 1289 | 1236584 | NoCal | 5.351m |
| 3) | Unadjusted C9-C1 | 12.48 | 12.62 | 629741 | 227101 | 17.627m | NoCal # |
| 4) | n-Pentane | 1.64 | 0.00 | 158090 | 0 | 4.450m | N.D. # |
| 5) | Methyl tert-buty | 0.00 | 2.31 | 0 | 150448 | N.D. | 3.979m |
| 6) | 2-Methylpentane | 2.46 | 0.00 | 154509 | 0 | 4.039m | N.D. # |
| 7) | Benzene | 0.00 | 4.41 | 0 | 1062996 | N.D. d | 4.764 |
| 8) | 2,2,4-Trimethylp | 5.51 | 0.00 | 199728 | 0 | 5.347 | N.D. d# |
| 9) | Toluene | 0.00 | 7.21 | 0 | 898137 | N.D. d | 4.809 |
| 10) | Ethylbenzene | 0.00 | 9.23 | 0 | 725989 | N.D. d | 4.816 |
| 11) | m,p-Xylene | 0.00 | 9.49 | 0 | 1662542 | N.D. d | 9.456 |
| 12) | o-Xylene | 0.00 | 9.91 | 0 | 738109 | N.D. d | 4.857 |
| 13) | n-Nonane | 10.17 | 0.00 | 149758 | 0 | 5.308 | N.D. d# |
| 14) | n-Decane | 11.94 | 0.00 | 123900 | 0 | 5.447 | N.D. d# |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 160477 | 0 | 5.186 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 11.80 | 0 | 706088 | N.D. d | 5.001 |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 667529 | N.D. d | 5.680 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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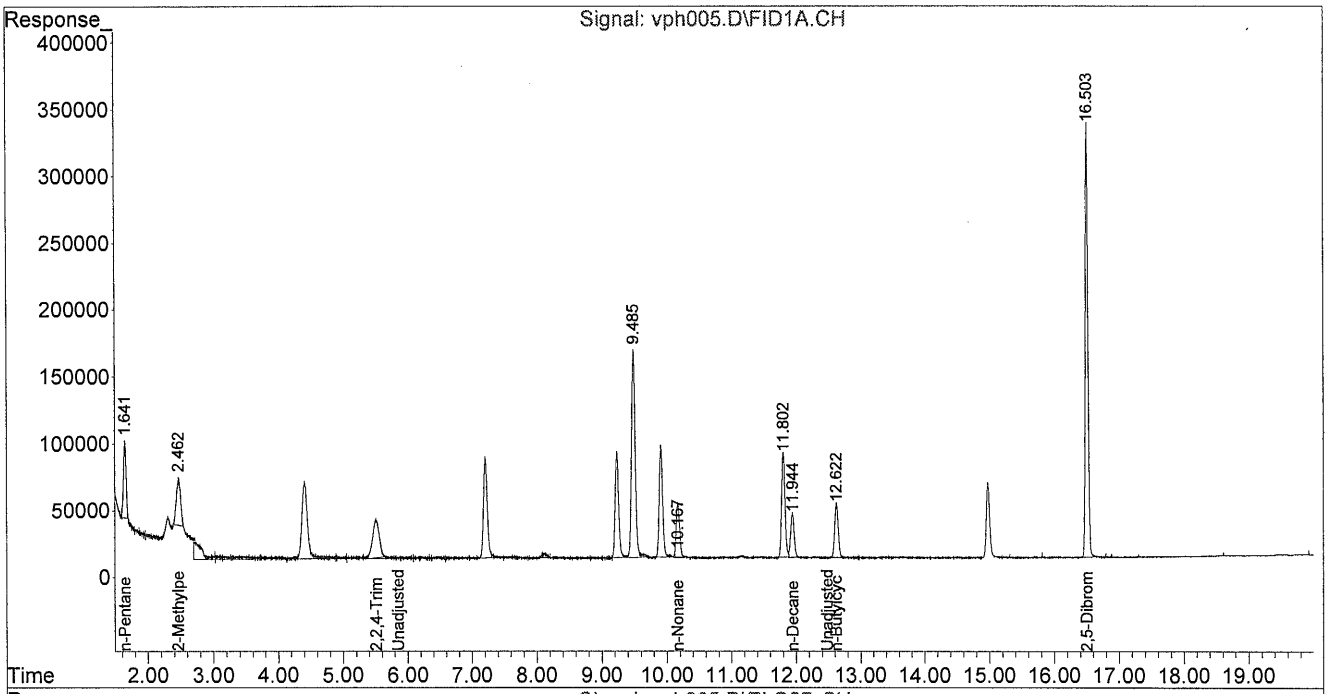
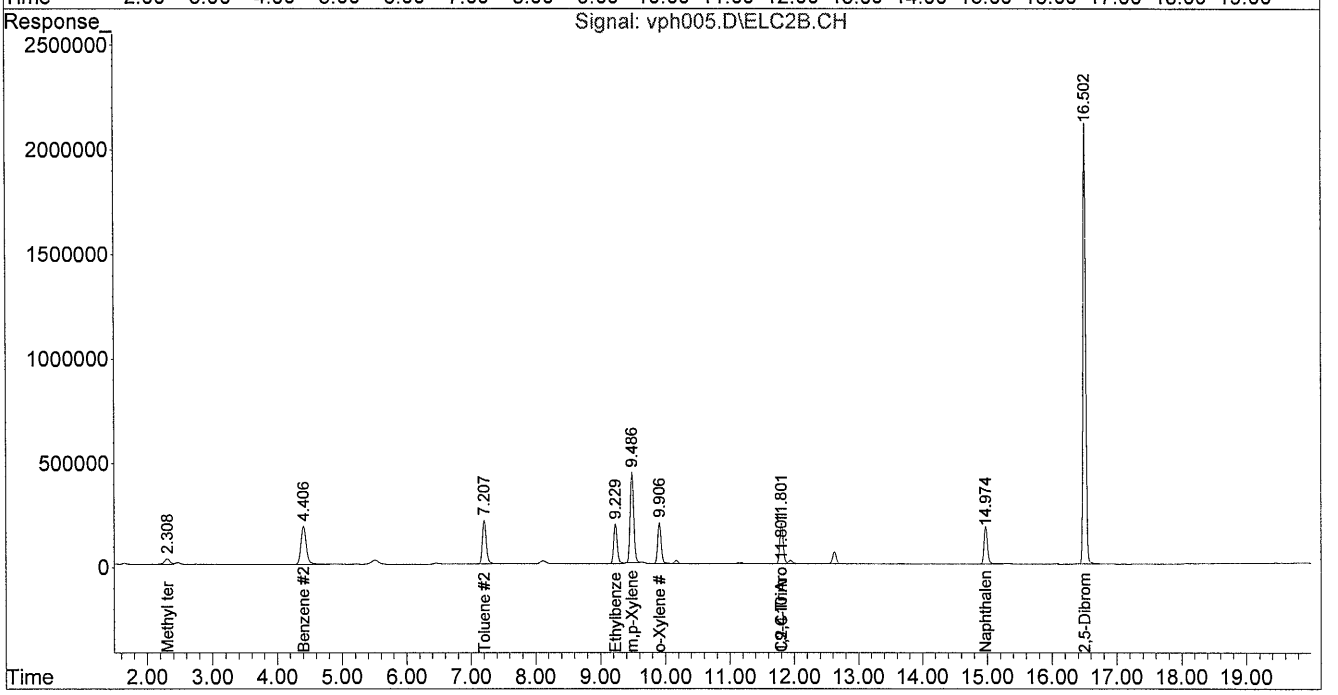
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph005.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 6:22 pm Operator: MP
Sample : seq-cal2 @ 5 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 09:01:32 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph010.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 6:52 pm Operator: MP
Sample : seq-cal3 @ 10 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:54:51 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) | S 2,5-Dibromotolue | 16.50 | 16.50 | 974933 | 6244003 | 88.956 | 81.191 |
| | Spiked Amount 50.000 | | | Recovery | = | 177.91% | 162.38% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.85 | 4867747 | 34 | 89.002m | NoCal # |
| 2) | C9-C10 Aromatic | 12.51 | 11.80 | 1897 | 2292029 | NoCal | 9.918m |
| 3) | Unadjusted C9-C1 | 12.48 | 12.62 | 1399779 | 404715 | 39.181m | NoCal # |
| 4) | n-Pentane | 1.64 | 0.00 | 329177 | 0 | 9.265m | N.D. # |
| 5) | Methyl tert-buty | 0.00 | 2.31 | 0 | 354858 | N.D. d | 9.385 |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 390525 | 0 | 10.208 | N.D. d# |
| 7) | Benzene | 0.00 | 4.40 | 0 | 2234317 | N.D. d | 10.013 |
| 8) | 2,2,4-Trimethylp | 5.51 | 0.00 | 417566 | 0 | 11.179 | N.D. d# |
| 9) | Toluene | 0.00 | 7.21 | 0 | 1879564 | N.D. d | 10.064 |
| 10) | Ethylbenzene | 0.00 | 9.23 | 0 | 1522541 | N.D. d | 10.099 |
| 11) | m,p-Xylene | 0.00 | 9.48 | 0 | 3499779 | N.D. d | 19.907 |
| 12) | o-Xylene | 0.00 | 9.91 | 0 | 1531218 | N.D. d | 10.076 |
| 13) | n-Nonane | 10.17 | 0.00 | 270089 | 0 | 9.573 | N.D. d# |
| 14) | n-Decane | 11.94 | 0.00 | 215037 | 0 | 9.454 | N.D. d# |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 299088 | 0 | 9.665 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 11.80 | 0 | 1461164 | N.D. d | 10.348 |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 1382953 | N.D. | 11.767 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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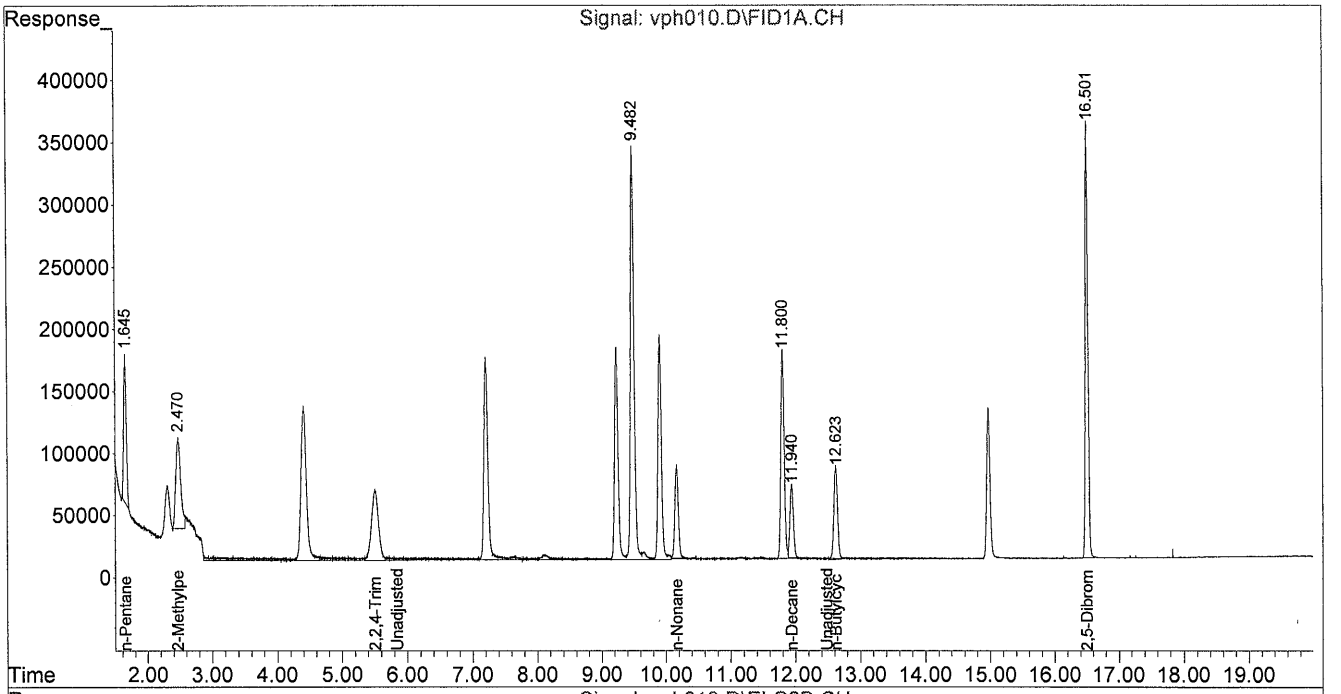
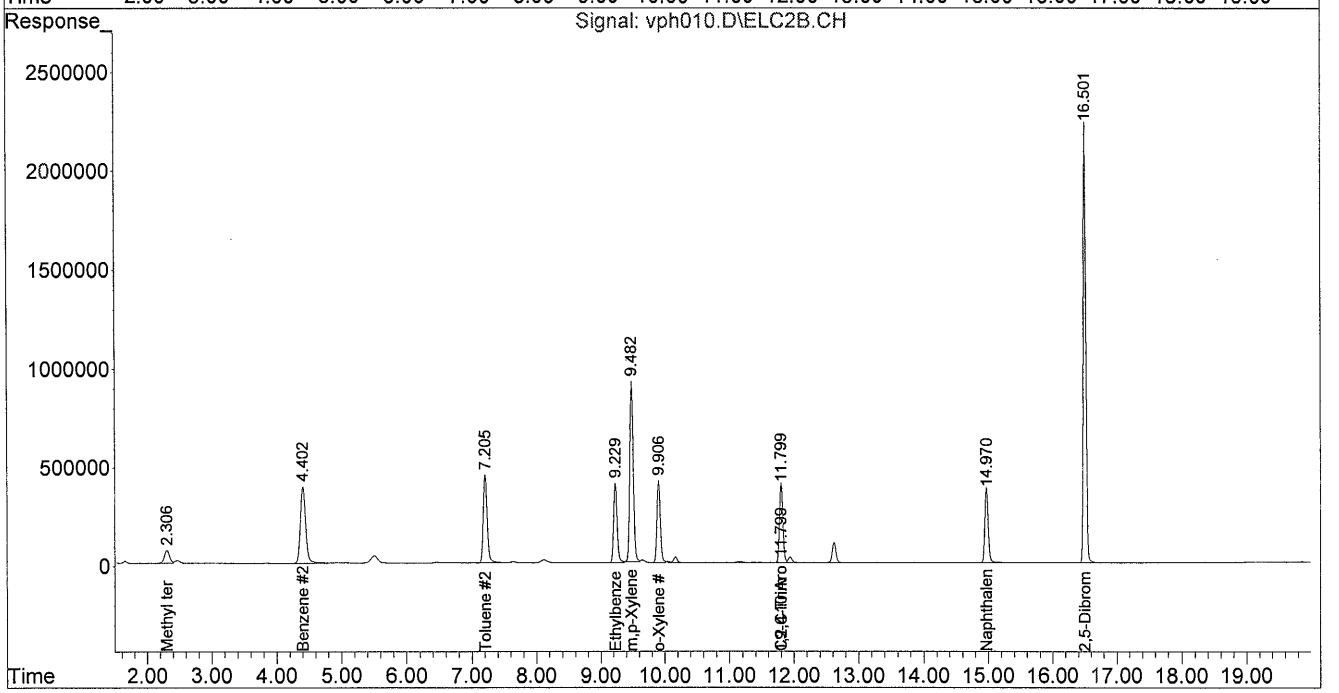
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph010.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 6:52 pm Operator: MP
Sample : seq-cal3 @ 10 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:54:51 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph020.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 7:21 pm Operator: MP
Sample : seq-cal4 @ 20 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:55:38 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.50 | 16.50 | 1121298 | 7154968 | 102.311 | 93.036 |
| | Spiked Amount 50.000 | | | | Recovery = | 204.62% | 186.07% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.84 | 9676280 | 43 | 176.922m | NoCal # |
| 2) | C9-C10 Aromatic | 12.45 | 11.80 | 1666 | 4311765 | NoCal | 18.658m |
| 3) | Unadjusted C9-C1 | 11.80 | 12.62 | 2822026 | 810506 | 78.991m | NoCal # |
| 4) | n-Pentane | 1.65 | 0.00 | 704621 | 0 | 19.832m | N.D. # |
| 5) | Methyl tert-buty | 0.00 | 2.31 | 0 | 598476 | N.D. d | 15.828 |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 833079 | 0 | 21.776 | N.D. # |
| 7) | Benzene | 0.00 | 4.40 | 0 | 4326873 | N.D. d | 19.391 |
| 8) | 2,2,4-Trimethylp | 5.51 | 0.00 | 757478 | 0 | 20.280 | N.D. d# |
| 9) | Toluene | 0.00 | 7.20 | 0 | 3636108 | N.D. d | 19.470 |
| 10) | Ethylbenzene | 0.00 | 9.23 | 0 | 2952647 | N.D. d | 19.585 |
| 11) | m,p-Xylene | 0.00 | 9.48 | 0 | 6747606 | N.D. d | 38.380 |
| 12) | o-Xylene | 0.00 | 9.91 | 0 | 2977728 | N.D. d | 19.596 |
| 13) | n-Nonane | 10.17 | 0.00 | 531370 | 0 | 18.834 | N.D. d# |
| 14) | n-Decane | 11.94 | 0.00 | 441032 | 0 | 19.390 | N.D. d# |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 593400 | 0 | 19.175 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 11.80 | 0 | 2837656 | N.D. d | 20.097 |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 2656642 | N.D. d | 22.604 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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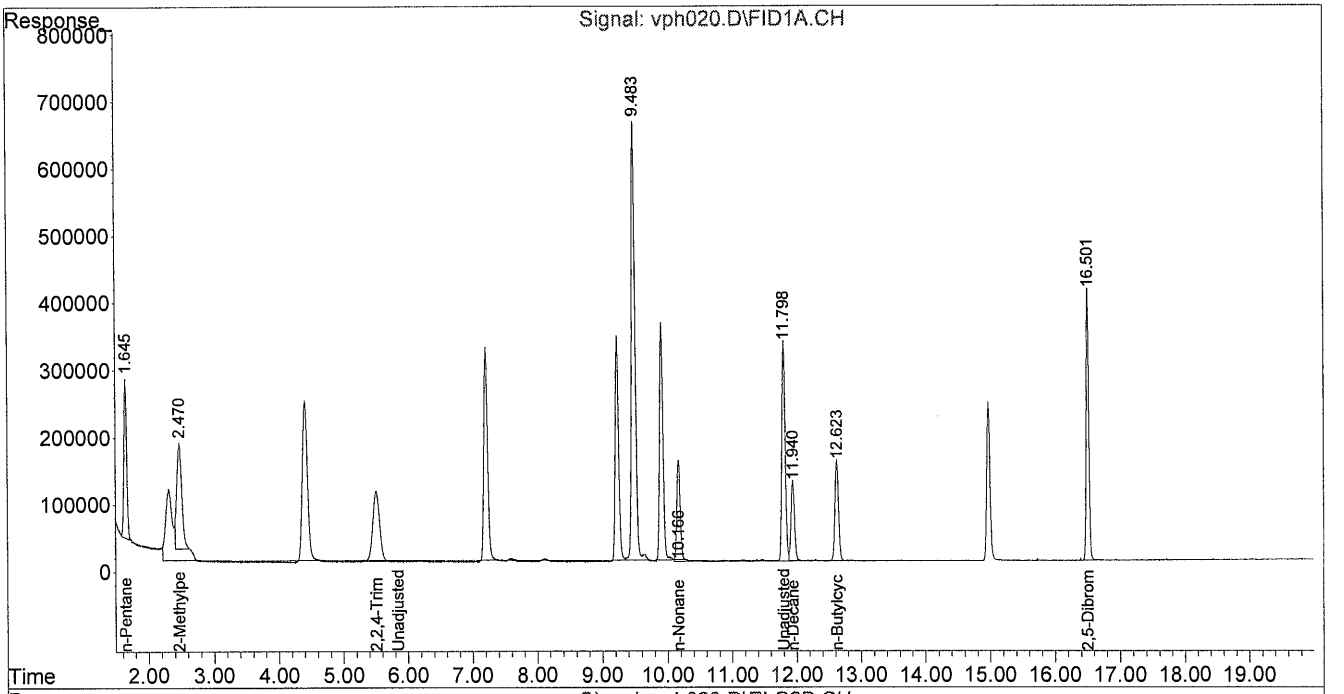
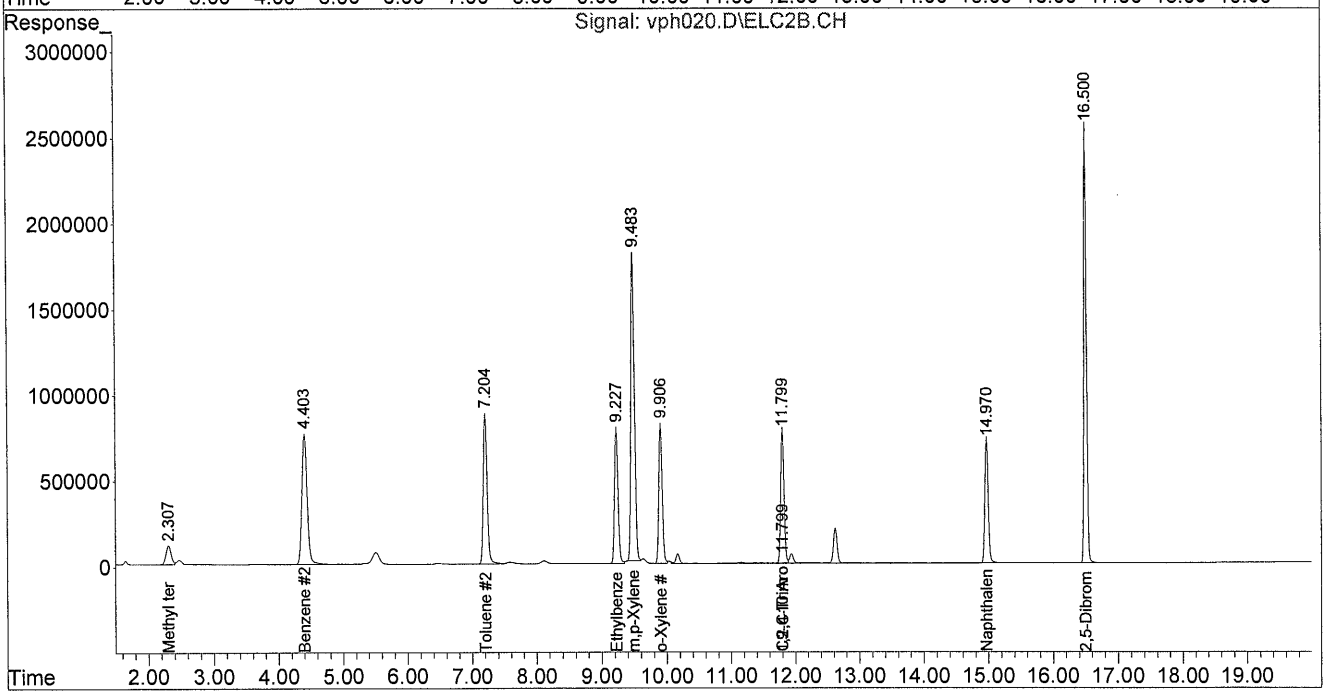
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph020.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 7:21 pm Operator: MP
Sample : seq-cal4 @ 20 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:55:38 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph050.D Vial: 9
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 8:18 pm Operator: MP
Sample : seq-cal5 @ 50 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:56:17 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.50 | 16.50 | 1560389 | 9986710 | 142.375 | 129.857 |
| | Spiked Amount 50.000 | | | | Recovery = | 284.75% | 259.71% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 25094974 | 0 | 458.838m | N.D. # |
| 2) | C9-C10 Aromatic | 12.46 | 11.80 | 1538 | 10266388 | NoCal | 44.426m |
| 3) | Unadjusted C9-C1 | 11.80 | 12.62 | 6741215 | 1882869 | 188.694m | NoCal # |
| 4) | n-Pentane | 1.64 | 0.00 | 1538502 | 0 | 43.303m | N.D. # |
| 5) | Methyl tert-buty | 0.00 | 2.30 | 0 | 1999589 | N.D. d | 52.885 |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 1856774 | 0 | 48.535 | N.D. d# |
| 7) | Benzene | 0.00 | 4.40 | 0 | 10722882 | N.D. d | 48.055 |
| 8) | 2,2,4-Trimethylp | 5.50 | 0.00 | 1755756 | 0 | 47.006 | N.D. d# |
| 9) | Toluene | 0.00 | 7.20 | 0 | 8975061 | N.D. d | 48.058 |
| 10) | Ethylbenzene | 0.00 | 9.23 | 0 | 7278075 | N.D. d | 48.277 |
| 11) | m,p-Xylene | 0.00 | 9.48 | 0 | 16752618 | N.D. d | 95.288 |
| 12) | o-Xylene | 0.00 | 9.90 | 0 | 7357915 | N.D. d | 48.420 |
| 13) | n-Nonane | 10.16 | 0.00 | 1255536 | 0 | 44.502 | N.D. d# |
| 14) | n-Decane | 11.94 | 0.00 | 1076411 | 0 | 47.326 | N.D. d# |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 1377420 | 0 | 44.509 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 11.80 | 0 | 6998549 | N.D. d | 49.564 |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 6681229 | N.D. d | 56.846 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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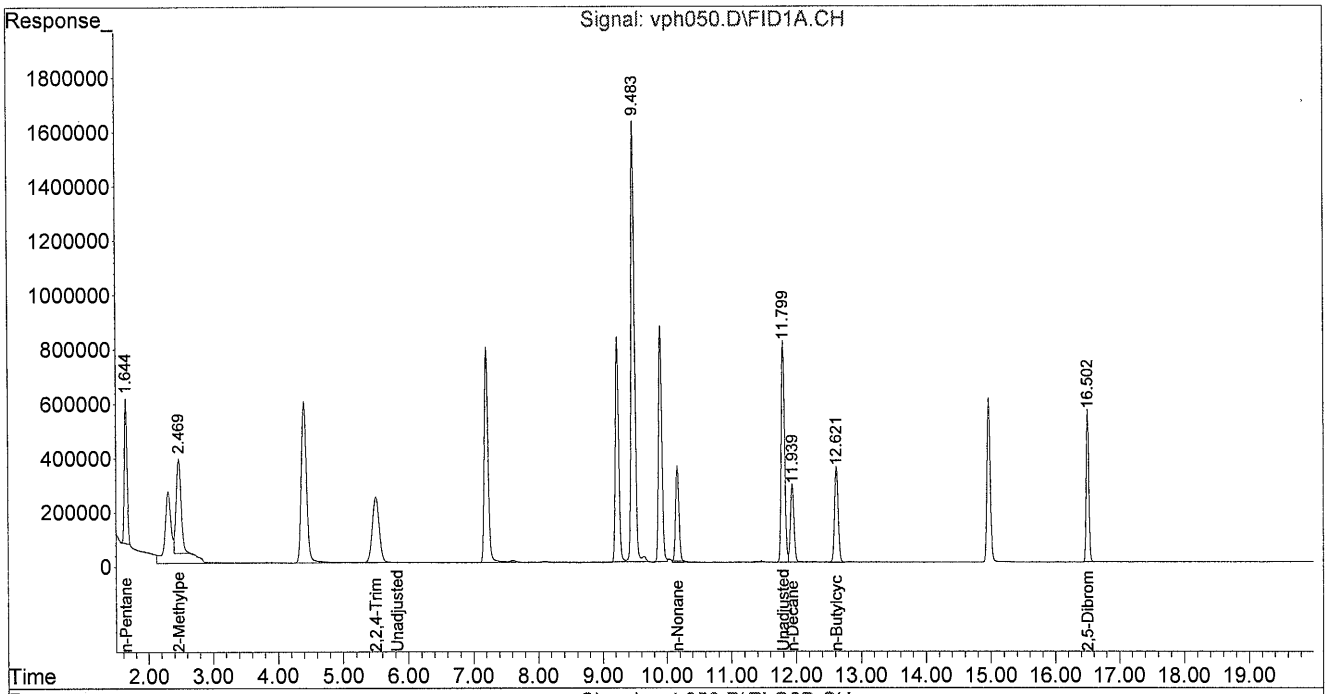
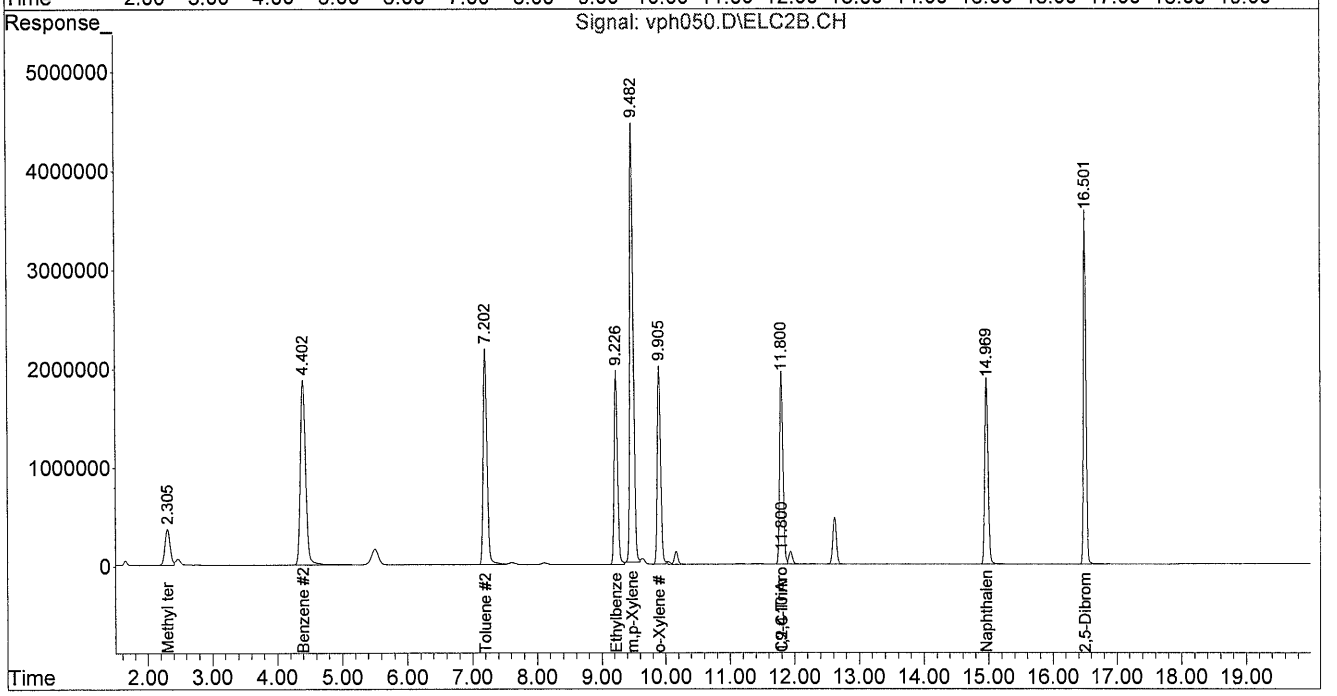
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph050.D Vial: 9
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 8:18 pm Operator: MP
Sample : seq-cal5 @ 50 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:56:17 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph100.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 9:16 pm Operator: MP
Sample : seq-cal6 @ 100 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 09:00:33 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.50 | 16.50 | 2230235 | 14312073 | 203.494 | 186.100 |
| | Spiked Amount 50.000 | | | | Recovery = | 406.99% | 372.20% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 51646168 | 0 | 944.302m | N.D. # |
| 2) | C9-C10 Aromatic | 12.51 | 11.80 | 682 | 21655804 | NoCal | 93.711m |
| 3) | Unadjusted C9-C1 | 11.80 | 12.62 | 15883181 | 4340839 | 444.587m | NoCal # |
| 4) | n-Pentane | 1.64 | 0.00 | 3293932 | 0 | 92.712m | N.D. # |
| 5) | Methyl tert-buty | 0.00 | 2.31 | 0 | 3899400 | N.D. d | 103.131m |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 4417258 | 0 | 115.466 | N.D. d# |
| 7) | Benzene | 0.00 | 4.40 | 0 | 21093344 | N.D. d | 94.530 |
| 8) | 2,2,4-Trimethylp | 5.51 | 0.00 | 3695679 | 0 | 98.942 | N.D. d# |
| 9) | Toluene | 0.00 | 7.20 | 0 | 17786810 | N.D. d | 95.241 |
| 10) | Ethylbenzene | 0.00 | 9.23 | 0 | 14582901 | N.D. d | 96.731 |
| 11) | m,p-Xylene | 0.00 | 9.48 | 0 | 33622923 | N.D. d | 191.246 |
| 12) | o-Xylene | 0.00 | 9.90 | 0 | 14638808 | N.D. d | 96.334 |
| 13) | n-Nonane | 10.16 | 0.00 | 2913839 | 0 | 103.281 | N.D. d# |
| 14) | n-Decane | 11.94 | 0.00 | 3621241 | 0 | 159.212 | N.D. d# |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 3158555 | 0 | 102.064 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 11.80 | 0 | 14048139 | N.D. d | 99.490 |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 13200672 | N.D. d | 112.316 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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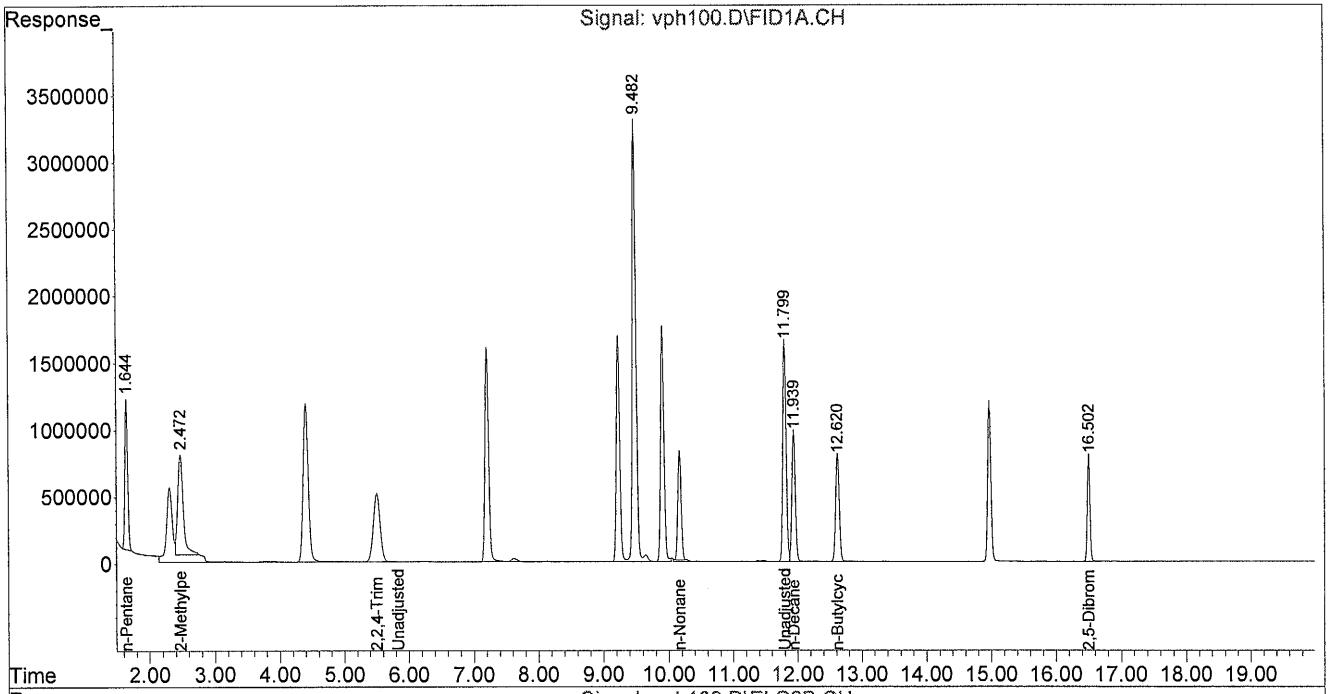
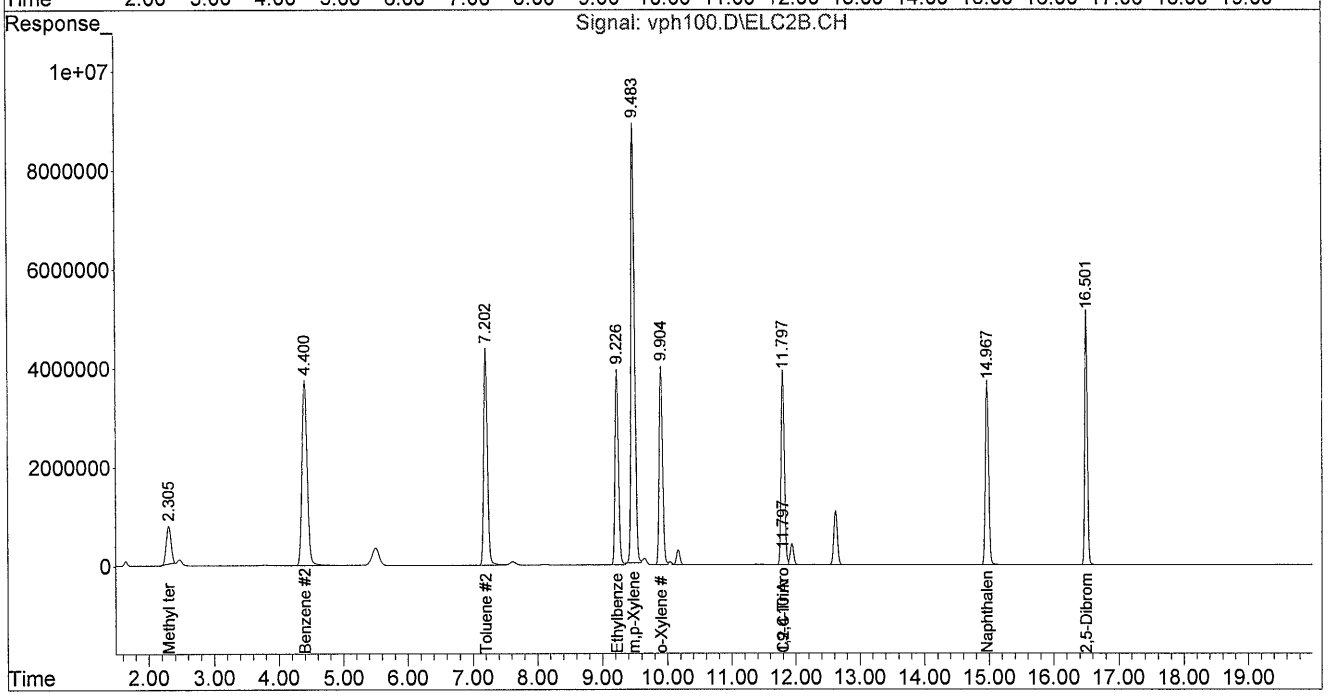
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph100.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 9:16 pm Operator: MP
Sample : seq-cal6 @ 100 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 09:00:33 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph200.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 10:43 pm Operator: MP
Sample : seq-cal7 @ 200 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:57:46 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.50 | 16.50 | 3698469 | 23724286 | 337.461 | 308.487 |
| | Spiked Amount 50.000 | | | | Recovery = | 674.92% | 616.97% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 9.48f | 0.00 | 101.4E6 | 0 | 1853.930m | N.D. # |
| 2) | C9-C10 Aromatic | 12.49 | 11.80 | 747 | 46785339 | NoCal | 202.455m |
| 3) | Unadjusted C9-C1 | 11.80 | 12.62 | 37696902 | 10863936 | 1055.176m | NoCal # |
| 4) | n-Pentane | 1.64 | 0.00 | 6227372 | 0 | 175.277m | N.D. # |
| 5) | Methyl tert-buty | 0.00 | 2.30 | 0 | 9623778 | N.D. d | 254.528 |
| 6) | 2-Methylpentane | 2.46 | 0.00 | 7939772 | 0 | 207.543 | N.D. d# |
| 7) | Benzene | 0.00 | 4.40 | 0 | 41437139 | N.D. d | 185.701 |
| 8) | 2,2,4-Trimethylp | 5.50 | 0.00 | 7555510 | 0 | 202.279 | N.D. d# |
| 9) | Toluene | 0.00 | 7.20 | 0 | 35078948 | N.D. d | 187.834 |
| 10) | Ethylbenzene | 0.00 | 9.23 | 0 | 28845830 | N.D. d | 191.339 |
| 11) | m,p-Xylene | 0.00 | 9.48 | 0 | 66558322 | N.D. d | 378.581 |
| 12) | o-Xylene | 0.00 | 9.90 | 0 | 29174116 | N.D. d | 191.986 |
| 13) | n-Nonane | 10.17 | 0.00 | 7924831 | 0 | 280.894 | N.D. d# |
| 14) | n-Decane | 11.94 | 0.00 | 9782993 | 0 | 430.120 | N.D. d# |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 8004619 | 0 | 258.658 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 11.80 | 0 | 28065959 | N.D. d | 198.766 |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 26864345 | N.D. d | 228.571 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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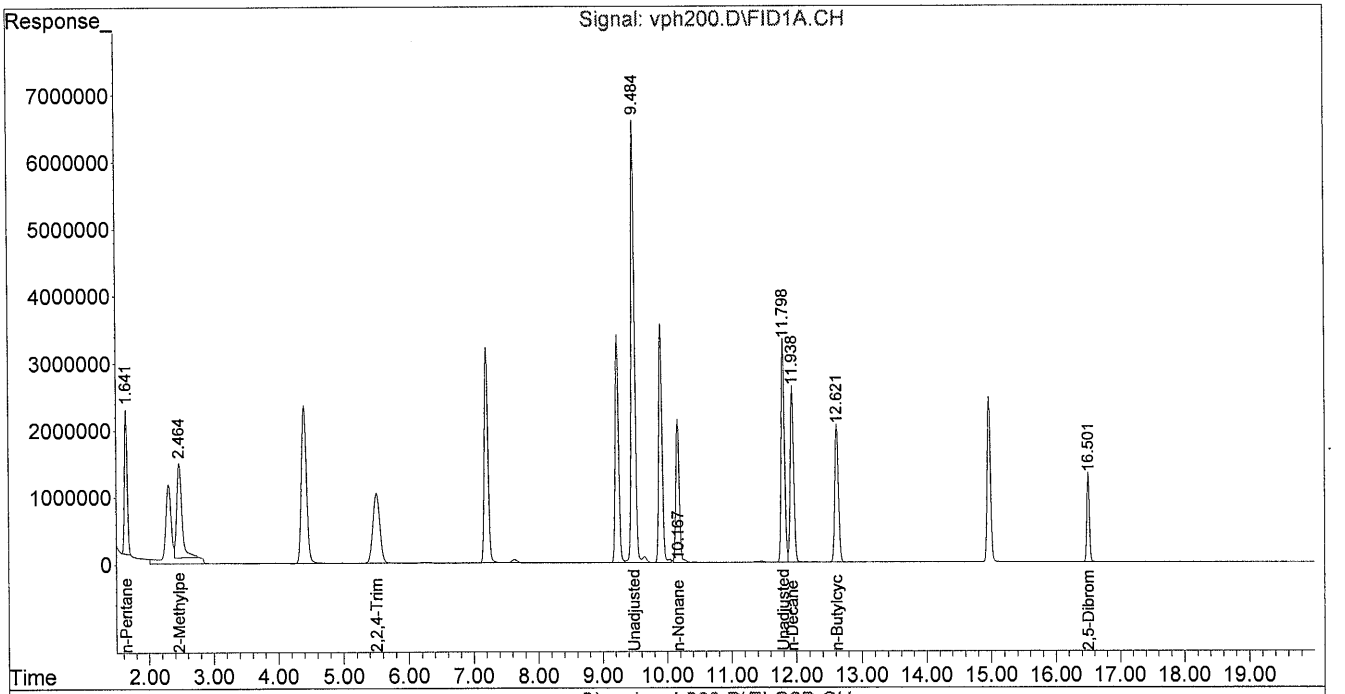
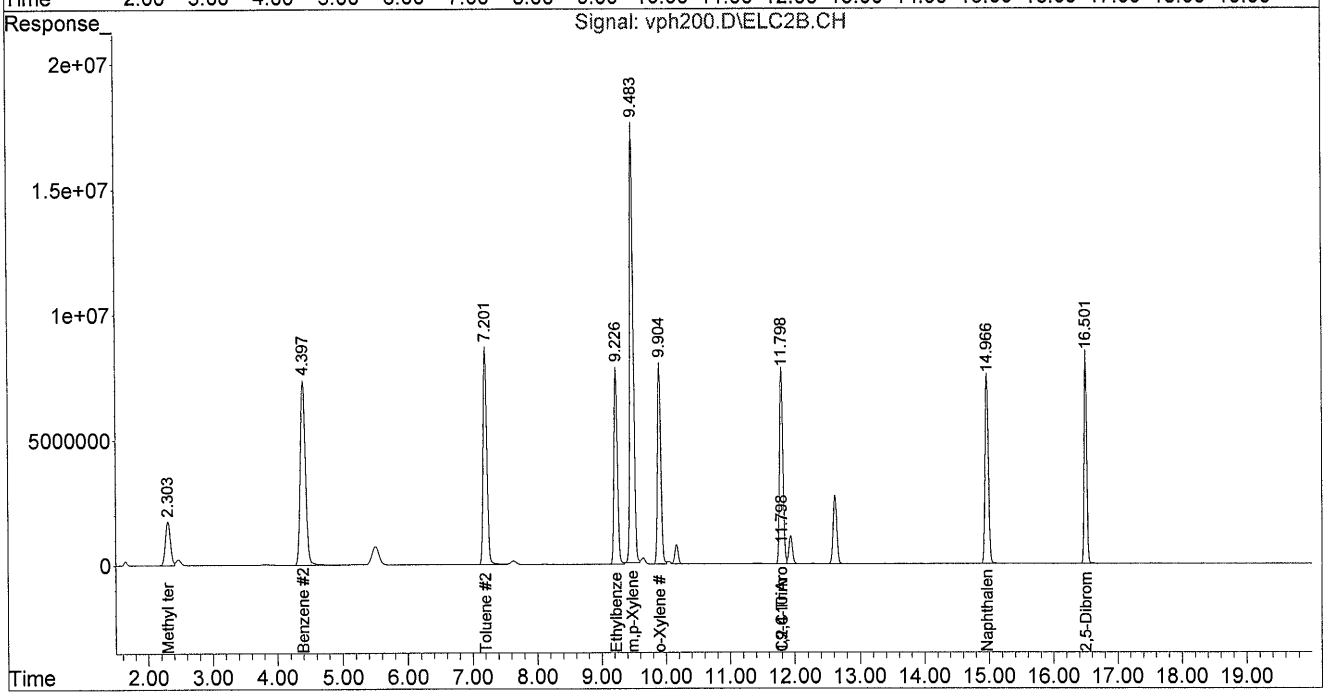
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\vph200.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 03 Jun 2011 10:43 pm Operator: MP
Sample : seq-cal7 @ 200 ppb vph gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 08:57:46 2011
Quant Results File: F2020911.RES

Quant Method : C:\msdchem\1\METHODS\F2020911.M
Quant Title :
QLast Update : Fri May 06 09:46:06 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VI - INITIAL CALIBRATION DATA

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106005 | Instrument: | FID1 |
| Matrix: | Aqueous | Calibration Date: | 06/07/11 10:50 |
| File ID: | f1060711 | | |

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF |
| C9-C10 Aromatic Hydrocarbons | 1 | 163003 | 5 | 182075.8 | 10 | 212300.8 | 20 | 186705.6 | 50 | 173959 | 100 | 155171.3 |
| Unadjusted C5-C8 Aliphatic Hydro | 10 | 52230.7 | 50 | 36220.84 | 100 | 45883.28 | 200 | 43673.89 | 500 | 43253.54 | 1000 | 42024.88 |
| Unadjusted C9-C12 Aliphatic Hydr | 4 | 21850.5 | 20 | 25463.1 | 40 | 29171.75 | 80 | 31766.22 | 200 | 33303.54 | 400 | 31399.38 |
| Benzene | 1 | 192825 | 5 | 165218.2 | 10 | 189311.8 | 20 | 181443.8 | 50 | 179039.4 | 100 | 175300.8 |
| Ethylbenzene | 1 | 88227 | 5 | 87530.6 | 10 | 100615.3 | 20 | 97377.05 | 50 | 98448.4 | 100 | 92078.85 |
| Methyl tert-butyl ether | 1 | 113664 | 5 | 94478.6 | 10 | 105785.3 | 20 | 101421.1 | 50 | 99420.76 | 100 | 104517.2 |
| Naphthalene | 1 | 100086 | 5 | 83373.2 | 10 | 95222.3 | 20 | 94357.55 | 50 | 97168.58 | 100 | 95613.62 |
| Toluene | 1 | 128957 | 5 | 117480.4 | 10 | 132973.4 | 20 | 128116.3 | 50 | 126412.4 | 100 | 119064.3 |
| m,p-Xylene | 2 | 99408.5 | 10 | 97293.8 | 20 | 111814.9 | 40 | 108616.1 | 100 | 110237.8 | 200 | 102839.8 |
| o-Xylene | 1 | 84259 | 5 | 81197.6 | 10 | 94056.1 | 20 | 91908.85 | 50 | 92491.74 | 100 | 86743.92 |
| 2-Methylpentane | 1 | 49267 | 5 | 36008.2 | 10 | 44111.8 | 20 | 45340.75 | 50 | 45640.7 | 100 | 44985.22 |
| n-Nonane | 1 | 33365 | 5 | 27764.2 | 10 | 27189.5 | 20 | 32982.9 | 50 | 34785.84 | 100 | 32698.23 |
| n-Pentane | 1 | 31294 | 5 | 31704 | 10 | 32420.1 | 20 | 34908.25 | 50 | 34492.88 | 100 | 33880.36 |
| 1,2,4-Trimethylbenzene | 1 | 87595 | 5 | 84141.6 | 10 | 95627 | 20 | 92958 | 50 | 94618.72 | 100 | 88808.7 |
| 2,2,4-Trimethylpentane | 1 | 40531 | 5 | 38073.6 | 10 | 46057.5 | 20 | 48292.1 | 50 | 47986.02 | 100 | 46918.35 |
| n-Butylcyclohexane | 1 | 35550 | 5 | 27774.4 | 10 | 27565.3 | 20 | 31088.65 | 50 | 32792.38 | 100 | 30496.72 |
| n-Decane | 1 | 26951 | 5 | 20552 | 10 | 18865.8 | 20 | 21777.45 | 50 | 26715.5 | 100 | 22562.92 |
| 2,5-Dibromotoluene (FID) | 51 | 13290.27 | 55 | 12694.18 | 60 | 11693.83 | 70 | 11708.54 | 100 | 12651.31 | 150 | 12758.39 |
| 2,5-Dibromotoluene (PID) | 51 | 89421.77 | 55 | 82215.91 | 60 | 77083.38 | 70 | 76861.23 | 100 | 83367.89 | 150 | 83168.8 |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106005 | Instrument: | FID1 |
| Matrix: | Aqueous | Calibration Date: | 06/07/11 10:50 |
| File ID: | f1060711 | | |

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF |
| C9-C10 Aromatic Hydrocarbons | 200 | 150810.9 | | | | | | | | | | |
| Unadjusted C5-C8 Aliphatic Hydro | 2000 | 41327.52 | | | | | | | | | | |
| Unadjusted C9-C12 Aliphatic Hydr | 800 | 30145.93 | | | | | | | | | | |
| Benzene | 200 | 171461.1 | | | | | | | | | | |
| Ethylbenzene | 200 | 90902.4 | | | | | | | | | | |
| Methyl tert-butyl ether | 200 | 101929 | | | | | | | | | | |
| Naphthalene | 200 | 94927.4 | | | | | | | | | | |
| Toluene | 200 | 114980.6 | | | | | | | | | | |
| m,p-Xylene | 400 | 101598.9 | | | | | | | | | | |
| o-Xylene | 200 | 86129.8 | | | | | | | | | | |
| 2-Methylpentane | 200 | 45286.72 | | | | | | | | | | |
| n-Nonane | 200 | 32750.03 | | | | | | | | | | |
| n-Pentane | 200 | 34123.18 | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | 200 | 88873.45 | | | | | | | | | | |
| 2,2,4-Trimethylpentane | 200 | 46424.94 | | | | | | | | | | |
| n-Butylcyclohexane | 200 | 29709.5 | | | | | | | | | | |
| n-Decane | 200 | 20905.96 | | | | | | | | | | |
| 2,5-Dibromotoluene (FID) | 250 | 12079.29 | | | | | | | | | | |
| 2,5-Dibromotoluene (PID) | 250 | 79843.52 | | | | | | | | | | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106005 | Instrument: | FID1 |
| Matrix: | Aqueous | Calibration Date: | 06/07/11 10:50 |
| File ID: | f1060711 | | |

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 174860.9 | 12.13508 | 12.53 | 5.031163E-02 | | | 25 | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 43516.38 | 11.17445 | 8.45 | 24.68612 | | | 25 | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 29014.34 | 13.85045 | 12.61857 | 1.892352 | | | 25 | |
| Benzene | 179228.6 | 5.407235 | 4.89 | 1.929826E-02 | | | 25 | |
| Ethylbenzene | 93597.09 | 5.556501 | 9.861428 | 0.0435001 | | | 25 | |
| Methyl tert-butyl ether | 103030.9 | 5.78073 | 2.565714 | 0.2091137 | | | 25 | |
| Naphthalene | 94392.66 | 5.538949 | 15.65571 | 4.972399E-02 | | | 25 | |
| Toluene | 123997.8 | 5.470431 | 7.761429 | 4.507991E-02 | | | 25 | |
| m,p-Xylene | 104544.3 | 5.416379 | 10.12429 | 5.442295E-02 | | | 25 | |
| o-Xylene | 88112.43 | 5.430729 | 10.57143 | 3.397159E-02 | | | 25 | |
| 2-Methylpentane | 44377.2 | 9.095074 | 2.762857 | 0.1764506 | | | 25 | |
| n-Nonane | 31647.96 | 9.289166 | 10.80857 | 3.620869E-02 | | | 25 | |
| n-Pentane | 33260.4 | 4.314969 | 1.805714 | 0.2954849 | | | 25 | |
| 1,2,4-Trimethylbenzene | 90374.64 | 4.596908 | 12.53 | 5.031163E-02 | | | 25 | |
| 2,2,4-Trimethylpentane | 44897.64 | 8.837252 | 5.997143 | 0.1257972 | | | 25 | |
| n-Butylcyclohexane | 30710.99 | 9.157739 | 13.35286 | 3.286932E-02 | | | 25 | |
| n-Decane | 22618.66 | 13.69271 | 12.63571 | 4.315869E-02 | | | 25 | |
| 2,5-Dibromotoluene (FID) | 12410.83 | 4.822779 | 17.00857 | 2.934281E-02 | | | 25 | |
| 2,5-Dibromotoluene (PID) | 81708.93 | 5.311308 | 17.00286 | 3.075856E-02 | | | 25 | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# Response Factor Report HP G1530A

Method Path : C:\msdchem\1\METHODS\
Method File : F1060711.M
Title :
Last Update : Wed Jun 08 09:47:24 2011
Response Via : Initial Calibration

Calibration Files

| | | | | | |
|---|---|---|---|---|---|
| 1 | =vph001.D | 5 | =vph005.D | 10 | =vph010.D |
| 20 | =vph020.D | 50 | =vph050.D | 100 | =vph100.D |

| | | Compound | 1 | 5 | 10 | 20 | 50 | 100 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | H | Unadjusted C5... | 5.223 | 3.622 | 4.588 | 4.367 | 4.325 | 4.202 | 4.352 | E4 | 11.17 |
| 2) | | C9-C10 Aromat... | | | | | | | 0.000 | | -1.00 |
| 3) | H | Unadjusted C9... | 2.185 | 2.546 | 2.917 | 3.177 | 3.330 | 3.140 | 2.901 | E4 | 13.85 |
| 4) | | n-Pentane | 3.129 | 3.170 | 3.242 | 3.491 | 3.449 | 3.388 | 3.326 | E4 | 4.31 |
| 5) | | Methyl tert-b... | | | | | | | 0.000 | | -1.00 |
| 6) | | 2-Methylpentane | 4.927 | 3.601 | 4.411 | 4.534 | 4.564 | 4.499 | 4.438 | E4 | 9.10 |
| 7) | | Benzene | | | | | | | 0.000 | | -1.00 |
| 8) | | 2,2,4-Trimeth... | 4.053 | 3.807 | 4.606 | 4.829 | 4.799 | 4.692 | 4.490 | E4 | 8.84 |
| 9) | | Toluene | | | | | | | 0.000 | | -1.00 |
| 10) | | Ethylbenzene | | | | | | | 0.000 | | -1.00 |
| 11) | | m,p-Xylene | | | | | | | 0.000 | | -1.00 |
| 12) | | o-Xylene | | | | | | | 0.000 | | -1.00 |
| 13) | | n-Nonane | 3.337 | 2.776 | 2.719 | 3.298 | 3.479 | 3.270 | 3.165 | E4 | 9.29 |
| 14) | | n-Decane | 2.695 | 2.055 | 1.887 | 2.178 | 2.672 | 2.256 | 2.262 | E4 | 13.69 |
| 15) | | n-Butylcycloh... | 3.555 | 2.777 | 2.757 | 3.109 | 3.279 | 3.050 | 3.071 | E4 | 9.16 |
| 16) | | 1,2,4-Trimeth... | | | | | | | 0.000 | | -1.00 |
| 17) | | Naphthalene | | | | | | | 0.000 | | -1.00 |
| 18) | S | 2,5-Dibromoto... | 1.329 | 1.269 | 1.169 | 1.171 | 1.265 | 1.276 | 1.241 | E4 | 4.82 |

Signal #2 Calibration Files

| | | | | | |
|---|---|---|---|---|---|
| 1 | =vph001.D | 5 | =vph005.D | 10 | =vph010.D |
| 20 | =vph020.D | 50 | =vph050.D | 100 | =vph100.D |

| | | Compound | 1 | 5 | 10 | 20 | 50 | 100 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | | Unadjusted C5... | | | | | | | 0.000 | | -1.00 |
| 2) | | C9-C10 Aromat... | 1.630 | 1.821 | 2.123 | 1.867 | 1.740 | 1.552 | 1.749 | E5 | 12.14 |
| 3) | | Unadjusted C9... | | | | | | | 0.000 | | -1.00 |
| 4) | | n-Pentane | | | | | | | 0.000 | | -1.00 |
| 5) | | Methyl tert-b... | 1.137 | 0.945 | 1.058 | 1.014 | 0.994 | 1.045 | 1.030 | E5 | 5.78 |
| 6) | | 2-Methylpentane | | | | | | | 0.000 | | -1.00 |
| 7) | | Benzene | 1.928 | 1.652 | 1.893 | 1.814 | 1.790 | 1.753 | 1.792 | E5 | 5.41 |
| 8) | | 2,2,4-Trimeth... | | | | | | | 0.000 | | -1.00 |
| 9) | | Toluene | 1.290 | 1.175 | 1.330 | 1.281 | 1.264 | 1.191 | 1.240 | E5 | 5.47 |
| 10) | | Ethylbenzene | 0.882 | 0.875 | 1.006 | 0.974 | 0.984 | 0.921 | 0.936 | E5 | 5.56 |
| 11) | | m,p-Xylene | 0.994 | 0.973 | 1.118 | 1.086 | 1.102 | 1.028 | 1.045 | E5 | 5.42 |
| 12) | | o-Xylene | 8.426 | 8.120 | 9.406 | 9.191 | 9.249 | 8.674 | 8.811 | E4 | 5.43 |
| 13) | | n-Nonane | | | | | | | 0.000 | | -1.00 |
| 14) | | n-Decane | | | | | | | 0.000 | | -1.00 |
| 15) | | n-Butylcycloh... | | | | | | | 0.000 | | -1.00 |
| 16) | | 1,2,4-Trimeth... | 8.759 | 8.414 | 9.563 | 9.296 | 9.462 | 8.881 | 9.037 | E4 | 4.60 |
| 17) | | Naphthalene | 1.001 | 0.834 | 0.952 | 0.944 | 0.972 | 0.956 | 0.944 | E5 | 5.54 |
| 18) | S | 2,5-Dibromoto... | 8.942 | 8.222 | 7.708 | 7.686 | 8.337 | 8.317 | 8.171 | E4 | 5.31 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0607\vph001.D Vial: 27
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Jun 2011 8:15 am Operator: mp
Sample : seq-cal1 @ 1 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 08 09:44:07 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) | S 2,5-Dibromotolue | 17.01 | 17.00 | 677804 | 4560510 | 57.698 | 47.715 |
| | Spiked Amount 50.000 | | | Recovery | = | 115.40% | 95.43% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.13f | 6.23 | 522307 | 593 | 11.539m | NoCal # |
| 2) | C9-C10 Aromatic | 13.13 | 12.54 | 949 | 163003 | NoCal | 0.781m |
| 3) | Unadjusted C9-C1 | 13.16 | 13.16 | 87402 | 1283 | 3.060m | NoCal # |
| 4) | n-Pentane | 1.81 | 0.00 | 31294 | 0 | 0.580m | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.56 | 0 | 113664 | N.D. d | 0.942 |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 49267 | 0 | 0.935m | N.D. d# |
| 7) | Benzene | 0.00 | 4.89 | 0 | 192825 | N.D. d | 0.928 |
| 8) | 2,2,4-Trimethylp | 5.98 | 0.00 | 40531 | 0 | 0.879m | N.D. d# |
| 9) | Toluene | 0.00 | 7.77 | 0 | 128957 | N.D. d | 0.930 |
| 10) | Ethylbenzene | 0.00 | 9.87 | 0 | 88227 | N.D. d | 0.830 |
| 11) | m,p-Xylene | 0.00 | 10.13 | 0 | 198817 | N.D. d | 1.683 |
| 12) | o-Xylene | 0.00 | 10.58 | 0 | 84259 | N.D. d | 0.847 |
| 13) | n-Nonane | 10.81 | 0.00 | 33365 | 0 | 1.181 | N.D. d# |
| 14) | n-Decane | 12.64 | 0.00 | 26951 | 0 | 1.289 | N.D. d# |
| 15) | n-Butylcyclohexa | 13.36 | 0.00 | 35550 | 0 | 1.352 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.54 | 0 | 87595 | N.D. d | 0.891 |
| 17) | Naphthalene | 0.00 | 15.67 | 0 | 100086 | N.D. d | 0.997 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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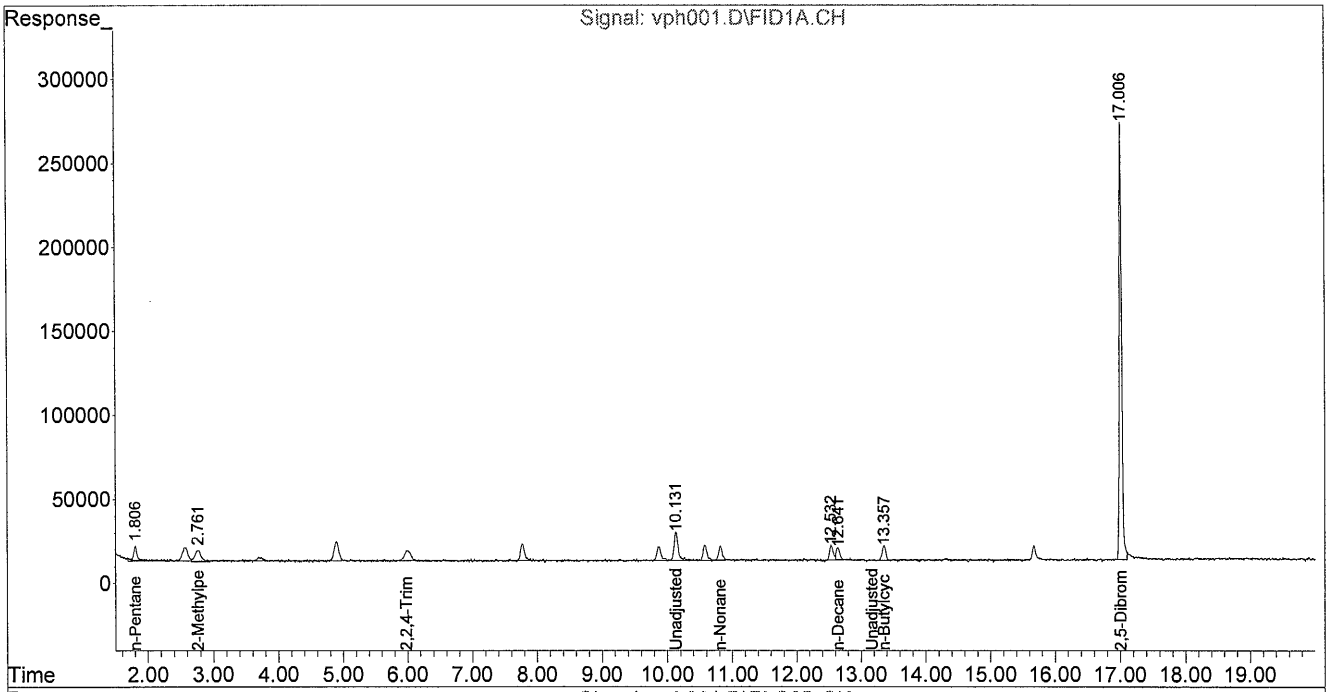
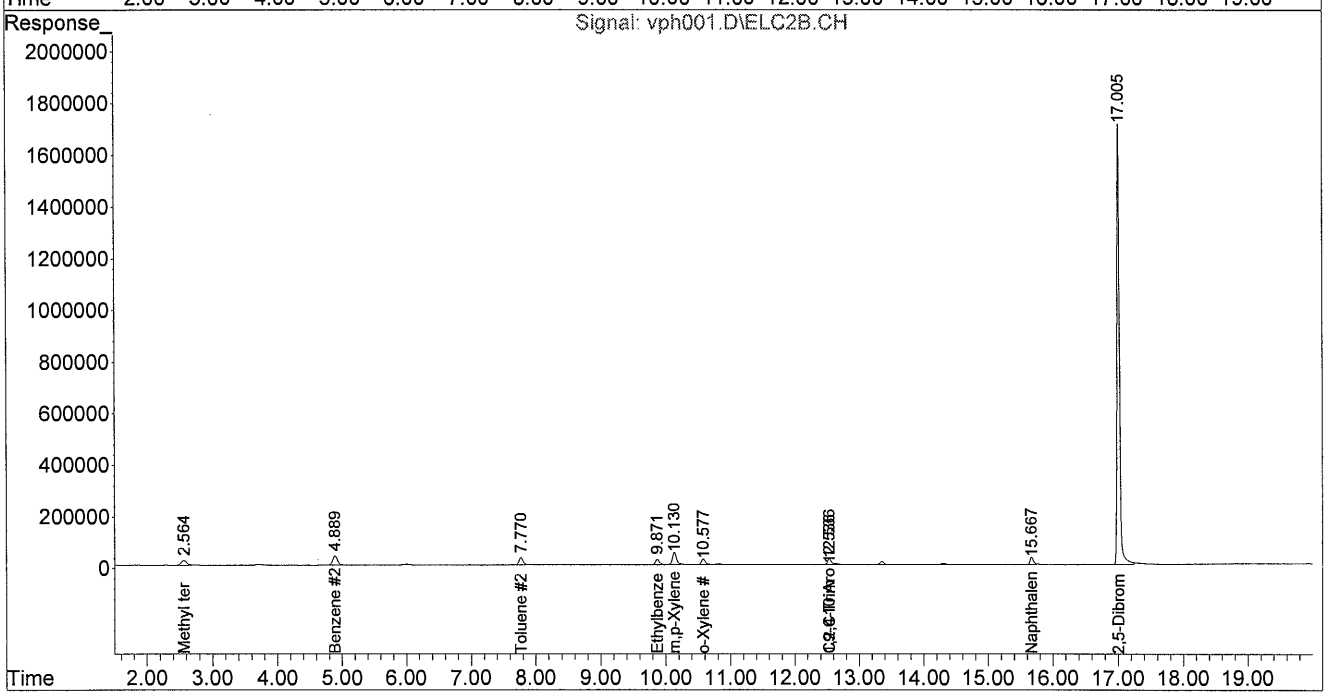
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0607\vph001.D Vial: 27
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 07 Jun 2011 8:15 am Operator: mp
Sample : seq-cal1 @ 1 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 08 09:44:07 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph005.D Vial: 28
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 8:24 pm Operator: mp
Sample : seq-cal2 @ 5 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 08 09:47:14 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) | S 2,5-Dibromotolue | 17.01 | 17.01 | 698180 | 4521875 | 59.433 | 47.310 |
| | Spiked Amount 50.000 | | | Recovery | = | 118.87% | 94.62% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.17 | 1811042 | 1498 | 40.010m | NoCal # |
| 2) | C9-C10 Aromatic | 13.12 | 12.53 | 1062 | 910379 | NoCal | 4.364m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.17 | 509262 | 624 | 17.829m | NoCal # |
| 4) | n-Pentane | 1.81 | 0.00 | 158520 | 0 | 2.939m | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.57 | 0 | 472393 | N.D. d | 3.916 |
| 6) | 2-Methylpentane | 2.77 | 0.00 | 180041 | 0 | 3.417m | N.D. d# |
| 7) | Benzene | 0.00 | 4.89 | 0 | 826091 | N.D. d | 3.976 |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 190368 | 0 | 4.128 | N.D. d# |
| 9) | Toluene | 0.00 | 7.76 | 0 | 587402 | N.D. d | 4.238 |
| 10) | Ethylbenzene | 0.00 | 9.86 | 0 | 437653 | N.D. d | 4.118 |
| 11) | m,p-Xylene | 0.00 | 10.13 | 0 | 972938 | N.D. d | 8.237 |
| 12) | o-Xylene | 0.00 | 10.57 | 0 | 405988 | N.D. d | 4.083 |
| 13) | n-Nonane | 10.81 | 0.00 | 138821 | 0 | 4.913 | N.D. d# |
| 14) | n-Decane | 12.64 | 0.00 | 102760 | 0 | 4.915 | N.D. d# |
| 15) | n-Butylcyclohexa | 13.35 | 0.00 | 138872 | 0 | 5.282 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.53 | 0 | 420708 | N.D. d | 4.281 |
| 17) | Naphthalene | 0.00 | 15.66 | 0 | 416866 | N.D. d | 4.153 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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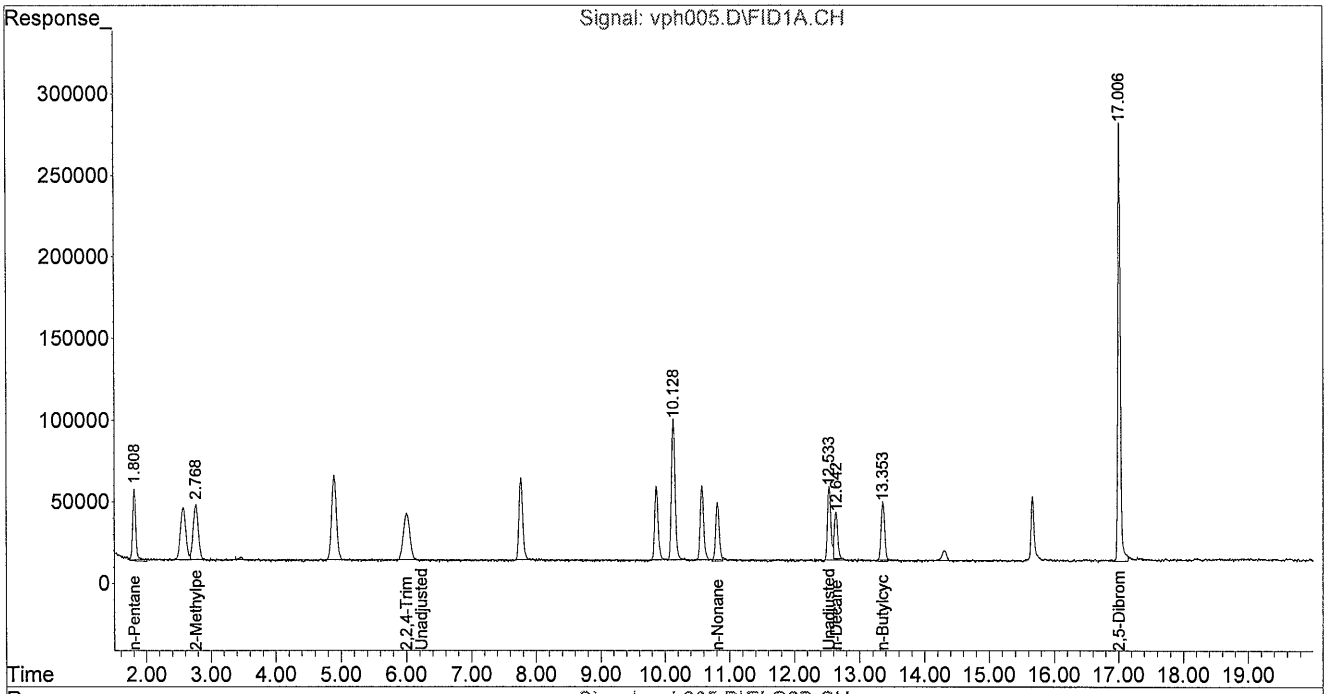
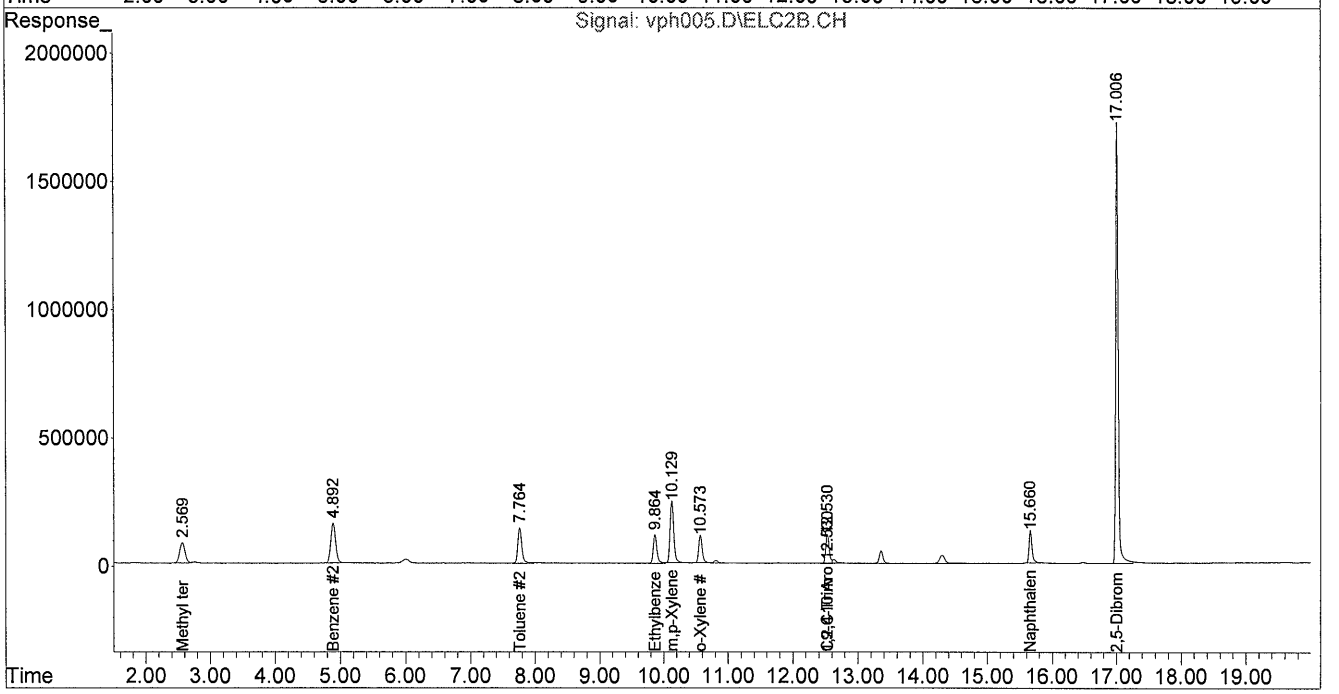
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph005.D Vial: 28
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 8:24 pm Operator: mp
Sample : seq-cal2 @ 5 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 08 09:47:14 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph010.D Vial: 29
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 8:51 pm Operator: mp
Sample : seq-cal3 @ 10 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:56:36 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.00 | 701630 | 4625003 | 59.726 | 48.389 |
| | Spiked Amount 50.000 | | | Recovery | = | 119.45% | 96.78% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.28 | 4588328 | 728 | 101.366m | NoCal # |
| 2) | C9-C10 Aromatic | 13.36 | 12.53 | 275653 | 2123008 | NoCal | 10.176m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.01 | 1166870 | 1997 | 40.852m | NoCal # |
| 4) | n-Pentane | 1.81 | 0.00 | 324201 | 0 | 6.011 | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.57 | 0 | 1057853 | N.D. d | 8.769 |
| 6) | 2-Methylpentane | 2.77 | 0.00 | 441118 | 0 | 8.373 | N.D. d# |
| 7) | Benzene | 0.00 | 4.89 | 0 | 1893118 | N.D. d | 9.111 |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 460575 | 0 | 9.987 | N.D. d# |
| 9) | Toluene | 0.00 | 7.76 | 0 | 1329734 | N.D. d | 9.593 |
| 10) | Ethylbenzene | 0.00 | 9.86 | 0 | 1006153 | N.D. d | 9.467 |
| 11) | m,p-Xylene | 0.00 | 10.13 | 0 | 2236298 | N.D. d | 18.933 |
| 12) | o-Xylene | 0.00 | 10.57 | 0 | 940561 | N.D. d | 9.460 |
| 13) | n-Nonane | 10.81 | 0.00 | 271895 | 0 | 9.624 | N.D. d# |
| 14) | n-Decane | 12.64 | 0.00 | 188658 | 0 | 9.024m | N.D. d# |
| 15) | n-Butylcyclohexa | 13.36 | 0.00 | 275653 | 0 | 10.484 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.53 | 0 | 956270 | N.D. d | 9.730 |
| 17) | Naphthalene | 0.00 | 15.66 | 0 | 952223 | N.D. d | 9.487 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

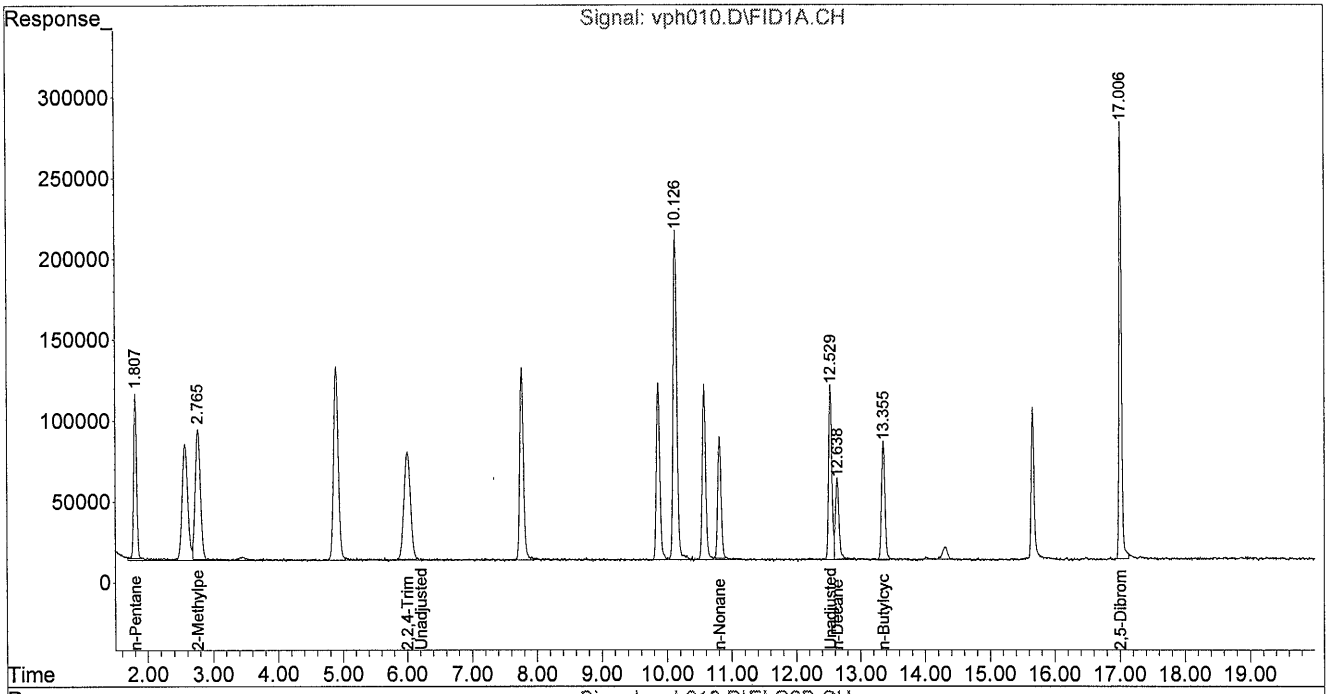
5755198

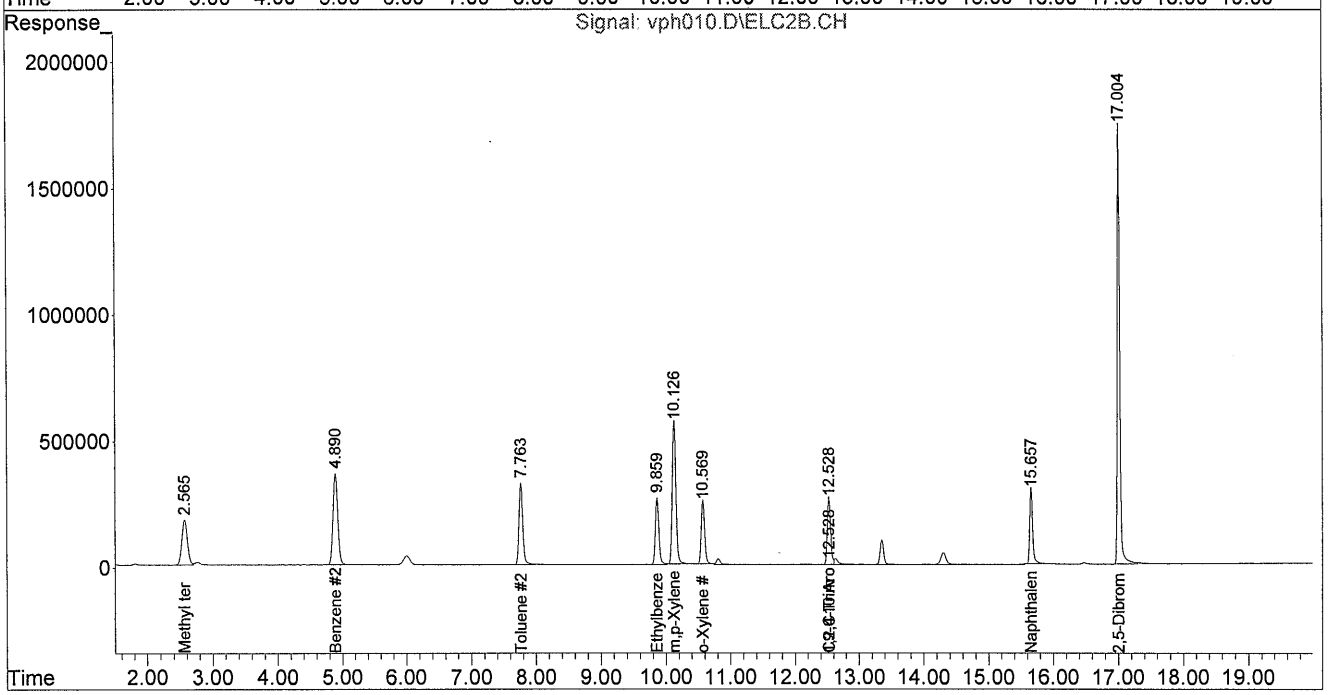
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph010.D Vial: 29
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 8:51 pm Operator: mp
Sample : seq-cal3 @ 10 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:56:36 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph020.D Vial: 30
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 9:17 pm Operator: mp
Sample : seq-cal4 @ 20 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:50:58 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.00 | 819598 | 5380286 | 69.768 | 56.292 |
| | Spiked Amount 50.000 | | | | Recovery = | 139.54% | 112.58% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.36 | 8734779 | 1233 | 192.970m | NoCal # |
| 2) | C9-C10 Aromatic | 13.18 | 12.53 | 1126 | 3734112 | NoCal | 17.899m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.02 | 2541298 | 8497 | 88.971m | NoCal # |
| 4) | n-Pentane | 1.81 | 0.00 | 698165 | 0 | 12.944 | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.57 | 0 | 2028422 | N.D. d | 16.815 |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 906815 | 0 | 17.212 | N.D. d# |
| 7) | Benzene | 0.00 | 4.89 | 0 | 3628877 | N.D. d | 17.464 |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 965842 | 0 | 20.943 | N.D. d# |
| 9) | Toluene | 0.00 | 7.76 | 0 | 2562325 | N.D. d | 18.486 |
| 10) | Ethylbenzene | 0.00 | 9.86 | 0 | 1947541 | N.D. d | 18.325 |
| 11) | m,p-Xylene | 0.00 | 10.12 | 0 | 4344646 | N.D. d | 36.783 |
| 12) | o-Xylene | 0.00 | 10.57 | 0 | 1838177 | N.D. d | 18.487 |
| 13) | n-Nonane | 10.81 | 0.00 | 659658 | 0 | 23.348 | N.D. d# |
| 14) | n-Decane | 12.63 | 0.00 | 435549 | 0 | 20.834 | N.D. d# |
| 15) | n-Butylcyclohexa | 13.35 | 0.00 | 621773 | 0 | 23.649 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.53 | 0 | 1859160 | N.D. d | 18.916 |
| 17) | Naphthalene | 0.00 | 15.65 | 0 | 1887151 | N.D. d | 18.802 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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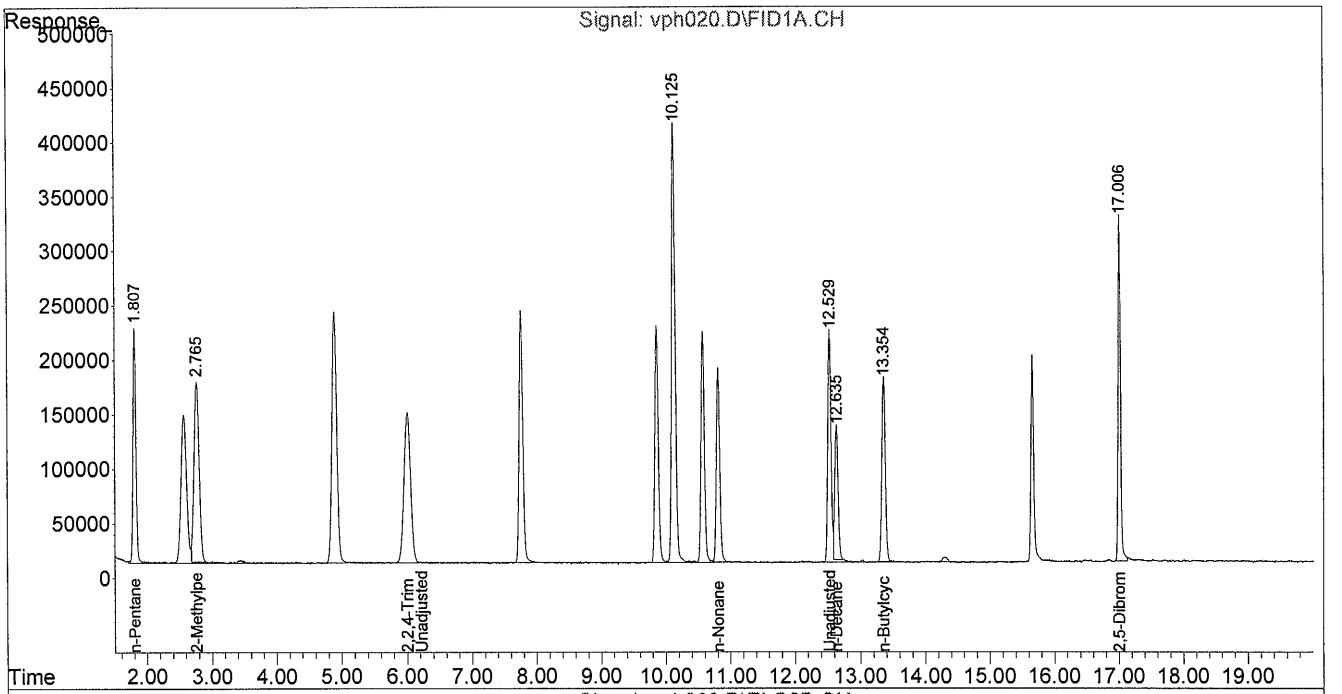
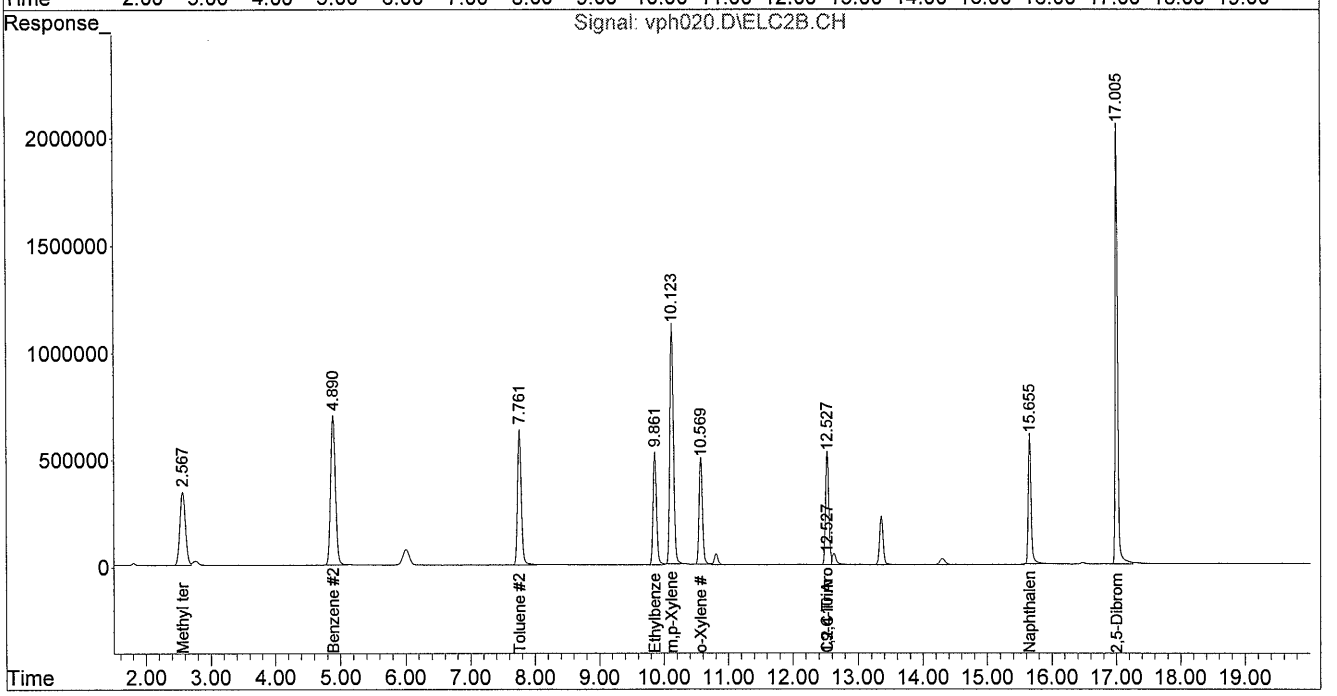
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph020.D Vial: 30
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 9:17 pm Operator: mp
Sample : seq-cal4 @ 20 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:50:58 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph050.D Vial: 31
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 9:44 pm Operator: mp
Sample : seq-cal5 @ 50 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:51:42 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) | S 2,5-Dibromotolue | 17.01 | 17.00 | 1265131 | 8336789 | 107.694 | 87.224 |
| | Spiked Amount 50.000 | | | | Recovery = | 215.39% | 174.45% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.12f | 6.31 | 21626766 | 582 | 477.782m | NoCal # |
| 2) | C9-C10 Aromatic | 13.18 | 12.53 | 1114 | 8697952 | NoCal | 41.692m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.02 | 6660707 | 14481 | 233.191m | NoCal # |
| 4) | n-Pentane | 1.80 | 0.00 | 1724644 | 0 | 31.976 | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.56 | 0 | 4971038 | N.D. d | 41.208 |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 2282035 | 0 | 43.314 | N.D. d# |
| 7) | Benzene | 0.00 | 4.89 | 0 | 8951968 | N.D. d | 43.081 |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 2399301 | 0 | 52.025 | N.D. d# |
| 9) | Toluene | 0.00 | 7.76 | 0 | 6320620 | N.D. d | 45.600 |
| 10) | Ethylbenzene | 0.00 | 9.86 | 0 | 4922420 | N.D. d | 46.316 |
| 11) | m,p-Xylene | 0.00 | 10.12 | 0 | 11023780 | N.D. d | 93.331 |
| 12) | o-Xylene | 0.00 | 10.57 | 0 | 4624587 | N.D. d | 46.511 |
| 13) | n-Nonane | 10.81 | 0.00 | 1739292 | 0 | 61.561 | N.D. d# |
| 14) | n-Decane | 12.64 | 0.00 | 1335775 | 0 | 63.894 | N.D. d# |
| 15) | n-Butylcyclohexa | 13.35 | 0.00 | 1639619 | 0 | 62.363 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.53 | 0 | 4730936 | N.D. d | 48.135 |
| 17) | Naphthalene | 0.00 | 15.65 | 0 | 4858429 | N.D. d | 48.407 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

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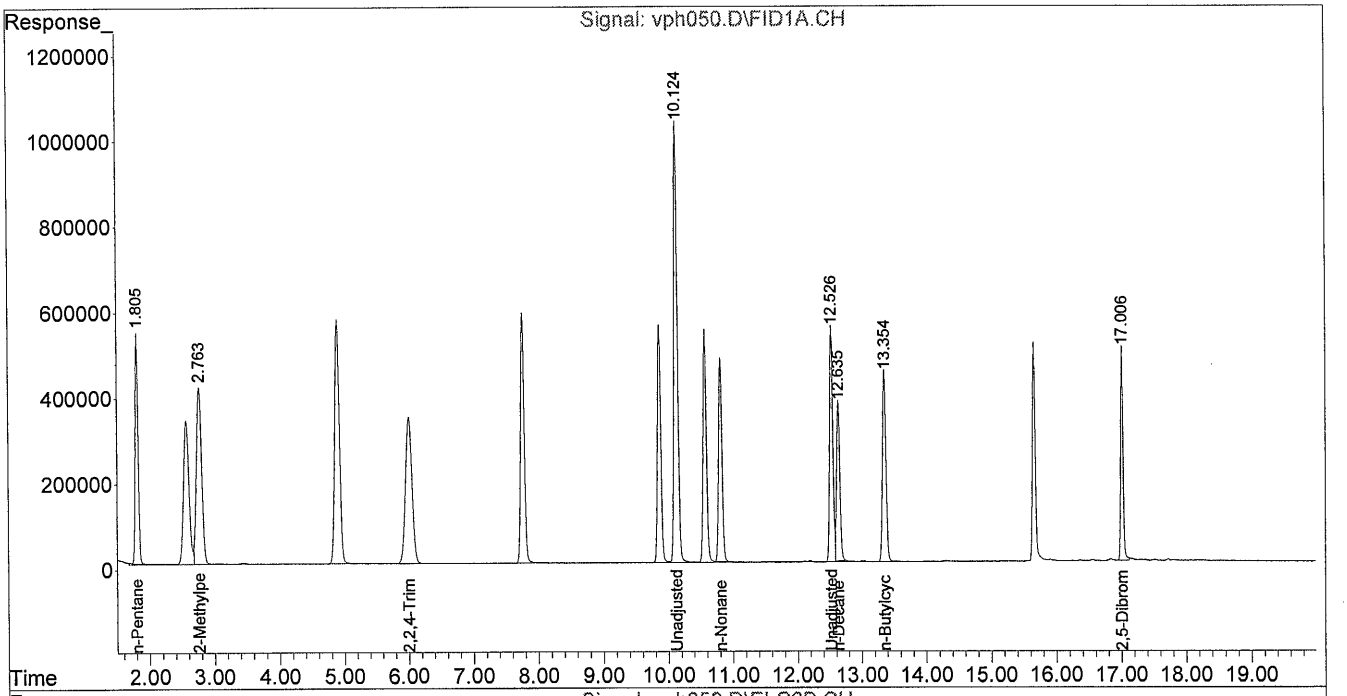
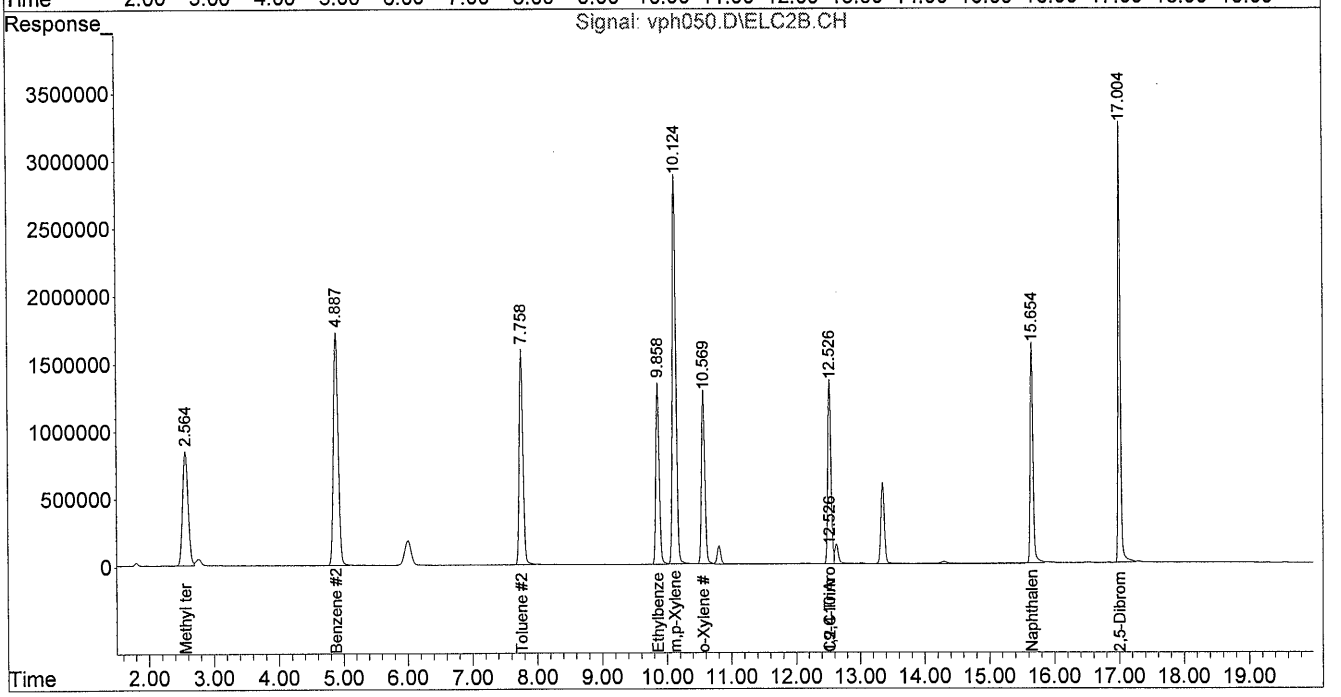
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph050.D Vial: 31
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 9:44 pm Operator: mp
Sample : seq-cal5 @ 50 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:51:42 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph100.D Vial: 32
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 10:10 pm Operator: mp
Sample : seq-cal6 @ 100 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:52:34 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 1913759 | 12475319 | 162.909 | 130.524 |
| | Spiked Amount 50.000 | | | | Recovery = | 325.82% | 261.05% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.12f | 0.00 | 42024878 | 0 | 928.421m | N.D. # |
| 2) | C9-C10 Aromatic | 13.35 | 12.53 | 3049672 | 15517133 | NoCal | 74.378m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.02 | 12559745 | 19092 | 439.716m | NoCal # |
| 4) | n-Pentane | 1.80 | 0.00 | 3388036 | 0 | 62.815 | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.57 | 0 | 10451718 | N.D. d | 86.642 |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 4498522 | 0 | 85.384 | N.D. d# |
| 7) | Benzene | 0.00 | 4.89 | 0 | 17530085 | N.D. d | 84.363 |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 4691835 | 0 | 101.735 | N.D. d# |
| 9) | Toluene | 0.00 | 7.76 | 0 | 11906430 | N.D. d | 85.899 |
| 10) | Ethylbenzene | 0.00 | 9.86 | 0 | 9207885 | N.D. d | 86.640 |
| 11) | m,p-Xylene | 0.00 | 10.12 | 0 | 20567946 | N.D. d | 174.136 |
| 12) | o-Xylene | 0.00 | 10.57 | 0 | 8674392 | N.D. d | 87.242 |
| 13) | n-Nonane | 10.81 | 0.00 | 3269823 | 0 | 115.734 | N.D. d# |
| 14) | n-Decane | 12.63 | 0.00 | 2256292 | 0 | 107.925 | N.D. d# |
| 15) | n-Butylcyclohexa | 13.35 | 0.00 | 3049672 | 0 | 115.995 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.53 | 0 | 8880870 | N.D. d | 90.359 |
| 17) | Naphthalene | 0.00 | 15.65 | 0 | 9561362 | N.D. d | 95.264 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

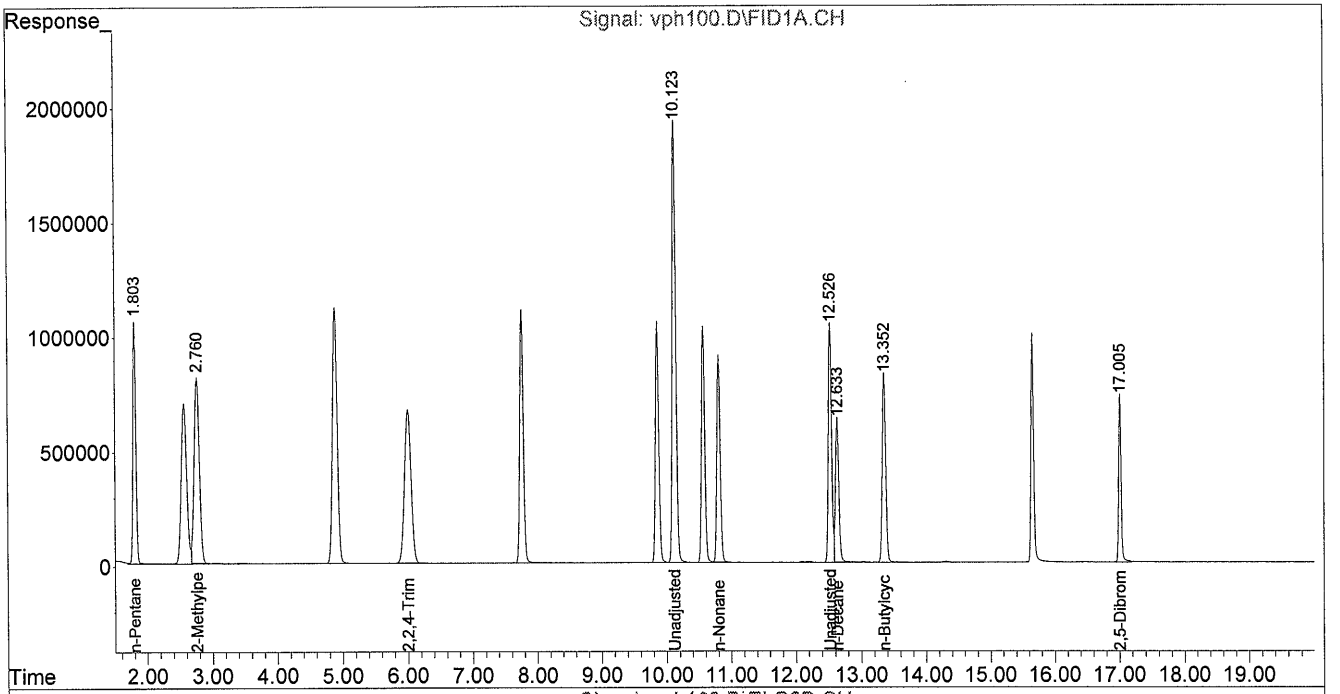
S20 : 54584620

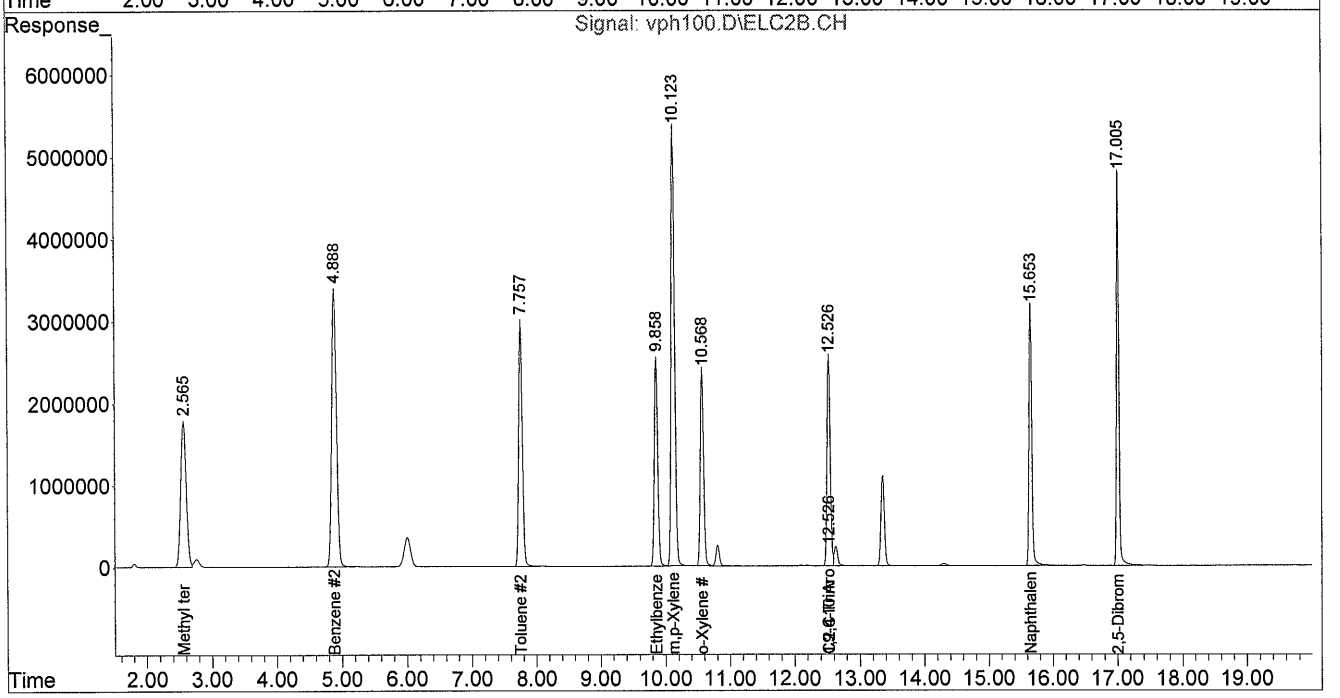
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph100.D Vial: 32
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 10:10 pm Operator: mp
Sample : seq-cal6 @ 100 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:52:34 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph200.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 10:37 pm Operator: mp
Sample : seq-cal7 @ 200 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:53:19 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.00 | 17.00 | 3019823 | 19960880 | 257.062 | 208.842 |
| | Spiked Amount 50.000 | | | | Recovery = | 514.12% | 417.68% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.12f | 6.36 | 82655039 | 614 | 1826.029m | NoCal # |
| 2) | C9-C10 Aromatic | 13.01 | 12.52 | 17012 | 30162183 | NoCal | 144.576m |
| 3) | Unadjusted C9-C1 | 12.52 | 13.01 | 24116736 | 43120 | 844.325m | NoCal # |
| 4) | n-Pentane | 1.80 | 0.00 | 6824637 | 0 | 126.531 | N.D. d# |
| 5) | Methyl tert-buty | 0.00 | 2.56 | 0 | 20385804 | N.D. d | 168.992 |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 9057344 | 0 | 171.913 | N.D. d# |
| 7) | Benzene | 0.00 | 4.89 | 0 | 34292219 | N.D. d | 165.030 |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 9284988 | 0 | 201.330 | N.D. d# |
| 9) | Toluene | 0.00 | 7.76 | 0 | 22996130 | N.D. d | 165.906 |
| 10) | Ethylbenzene | 0.00 | 9.86 | 0 | 18180482 | N.D. d | 171.065 |
| 11) | m,p-Xylene | 0.00 | 10.12 | 0 | 40639569 | N.D. d | 344.070 |
| 12) | o-Xylene | 0.00 | 10.57 | 0 | 17225962 | N.D. d | 173.249 |
| 13) | n-Nonane | 10.80 | 0.00 | 6550006 | 0 | 231.834 | N.D. d# |
| 14) | n-Decane | 12.63 | 0.00 | 4181191 | 0 | 199.998 | N.D. d# |
| 15) | n-Butylcyclohexa | 13.35 | 0.00 | 5941900 | 0 | 226.001 | N.D. d# |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.52 | 0 | 17774689 | N.D. d | 180.849 |
| 17) | Naphthalene | 0.00 | 15.65 | 0 | 18985478 | N.D. d | 189.160 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

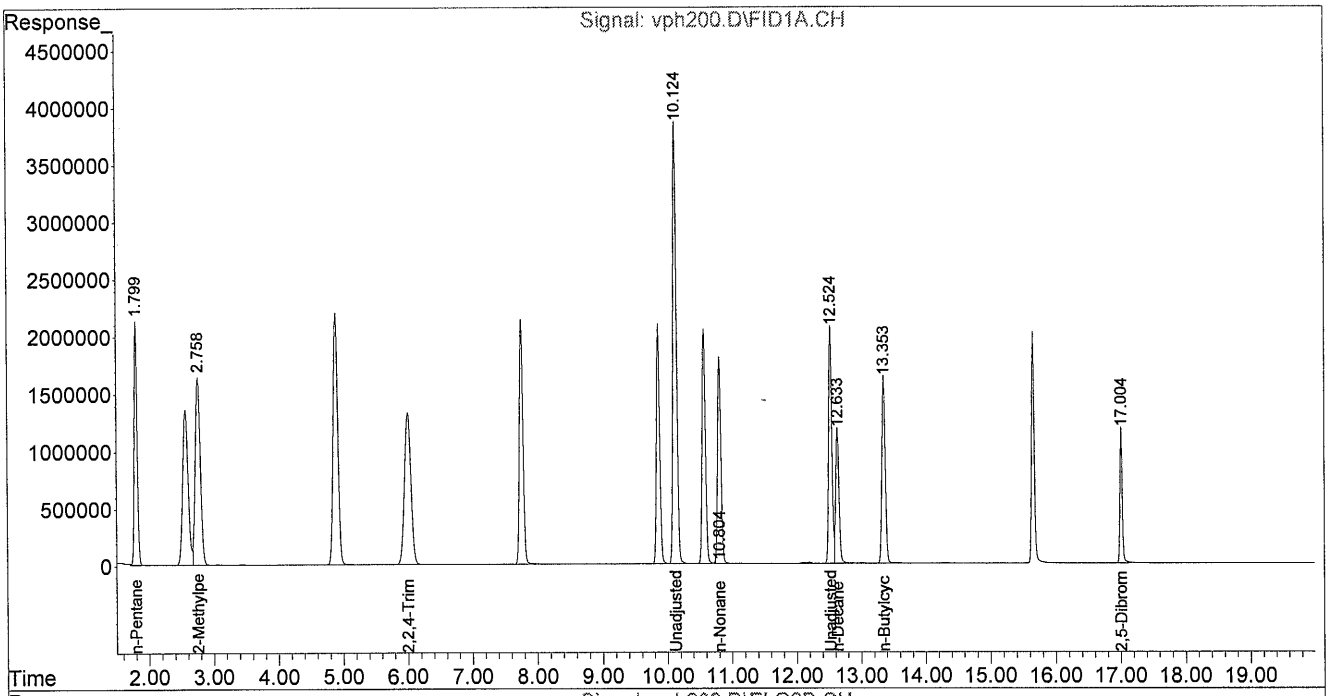
Sra
10/07/18 00

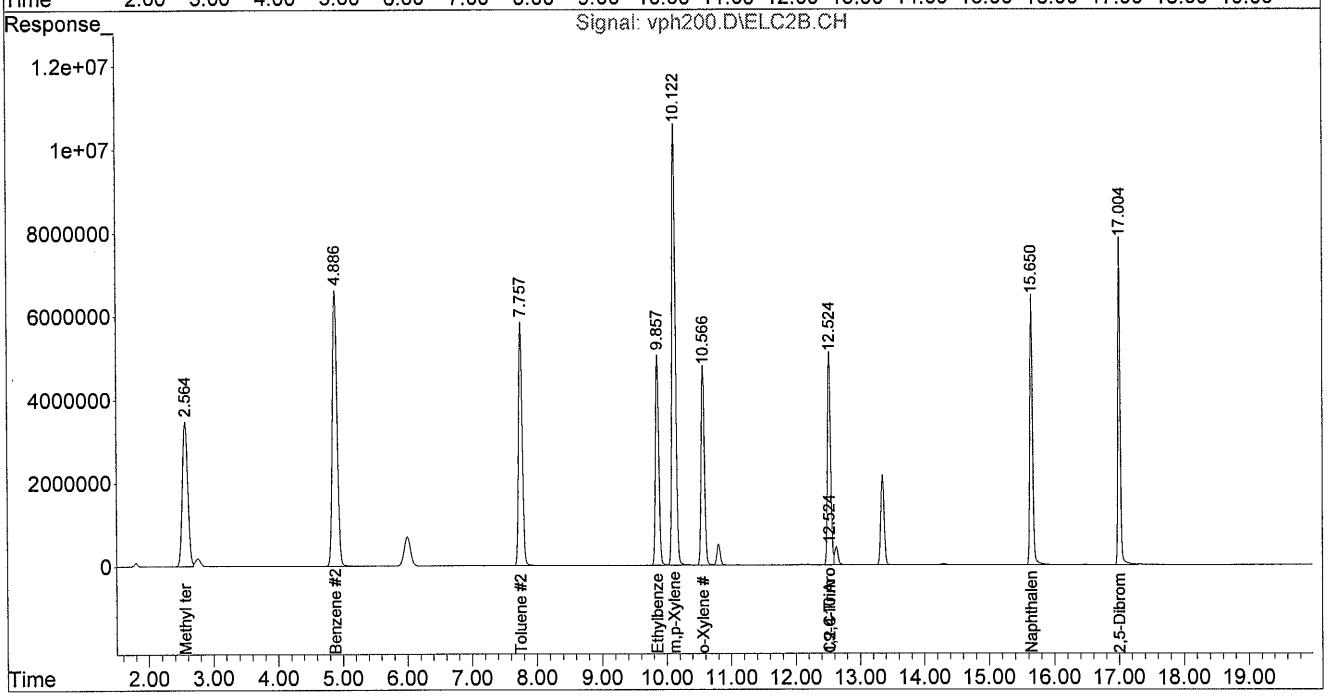
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\vph200.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 10:37 pm Operator: mp
Sample : seq-cal7 @ 200 ppb vph gro cal std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 07 08:53:19 2011
Quant Results File: F1092710.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1092710.M
Quant Title :
QLast Update : Mon Sep 27 15:47:49 2010
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VIIa - INITIAL CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA
**SDG:** 32209
**Client:** Mitkem Laboratories
**Project:** See Chain of Custody
**Calibration:** 1106002
**Laboratory ID:** S104952-ICV1
**Sequence:** S104952
**Standard ID:** 11F0125
**Analyzed:** 06/04/11 00:40
**File ID:** icv001.D

| ANALYTE | EXPECTED | FOUND | % R | QC LIMIT |
|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 17.8 µg/l | 89 | 0 - 200 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 211 µg/l | 105 | 0 - 200 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 80.6 µg/l | 101 | 0 - 200 |
| Benzene | 20.0 µg/l | 19.8 µg/l | 99 | 80 - 120 |
| Ethylbenzene | 20.0 µg/l | 20.1 µg/l | 101 | 80 - 120 |
| Methyl tert-butyl ether | 20.0 µg/l | 20.6 µg/l | 103 | 80 - 120 |
| Naphthalene | 20.0 µg/l | 20.5 µg/l | 102 | 80 - 120 |
| Toluene | 20.0 µg/l | 20.1 µg/l | 101 | 80 - 120 |
| m,p-Xylene | 40.0 µg/l | 40.8 µg/l | 102 | 80 - 120 |
| o-Xylene | 20.0 µg/l | 20.5 µg/l | 103 | 80 - 120 |
| 2-Methylpentane | 20.0 µg/l | 18.2 µg/l | 91 | 80 - 120 |
| n-Nonane | 20.0 µg/l | 16.7 µg/l | 83 | 80 - 120 |
| n-Pentane | 20.0 µg/l | 18.4 µg/l | 92 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 20.2 µg/l | 101 | 80 - 120 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 17.8 µg/l | 89 | 80 - 120 |
| n-Butylcyclohexane | 20.0 µg/l | 17.1 µg/l | 85 | 80 - 120 |
| n-Decane | 20.0 µg/l | 19.9 µg/l | 100 | 80 - 120 |

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\icv001.D Vial: 14
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Jun 2011 12:40 am Operator: MP
Sample : seq-icv1 @ 20 ppb vph gro icv Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 13:30:34 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.50 | 16.50 | 1145239 | 7373090 | 72.547 | 72.823 | |
| | Spiked Amount 50.000 | | | Recovery | = | 145.09% | 145.65% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.85 | 10480740 | 47 | 210.926m | NoCal | # |
| 2) | C9-C10 Aromatic | 12.40 | 11.80 | 1807 | 4267026 | NoCal | 17.789m | |
| 3) | Unadjusted C9-C1 | 12.48 | 12.62 | 3069215 | 750495 | 80.609m | NoCal | # |
| 4) | n-Pentane | 1.64 | 0.00 | 562803 | 0 | 18.382m | N.D. | # |
| 5) | Methyl tert-buty | 2.47 | 2.31 | 508731 | 751909 | NoCal | 20.590 | |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 677086 | 0 | 18.231m | N.D. | # |
| 7) | Benzene | 4.79 | 4.40 | 1494 | 4213227 | NoCal | 19.843 | |
| 8) | 2,2,4-Trimethylp | 5.50 | 5.85 | 678498 | 47 | 17.833 | NoCal | # |
| 9) | Toluene | 7.59 | 7.20 | 2082 | 3585146 | NoCal | 20.138 | |
| 10) | Ethylbenzene | 9.48 | 9.23 | 2418499 | 2906892 | NoCal | 20.109 | |
| 11) | m,p-Xylene | 0.00 | 9.48 | 0 | 6776798 | N.D. | 40.757 | |
| 12) | o-Xylene | 10.17 | 9.91 | 464312 | 3002769 | NoCal | 20.515 | |
| 13) | n-Nonane | 10.17 | 10.59f | 464312 | 38 | 16.695 | NoCal | # |
| 14) | n-Decane | 11.94 | 12.27 | 427990 | 6322 | 19.906 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 542302 | 0 | 17.098 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.29 | 11.80 | 1759 | 2814432 | NoCal | 20.192 | |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 2714210 | N.D. | 20.473 | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

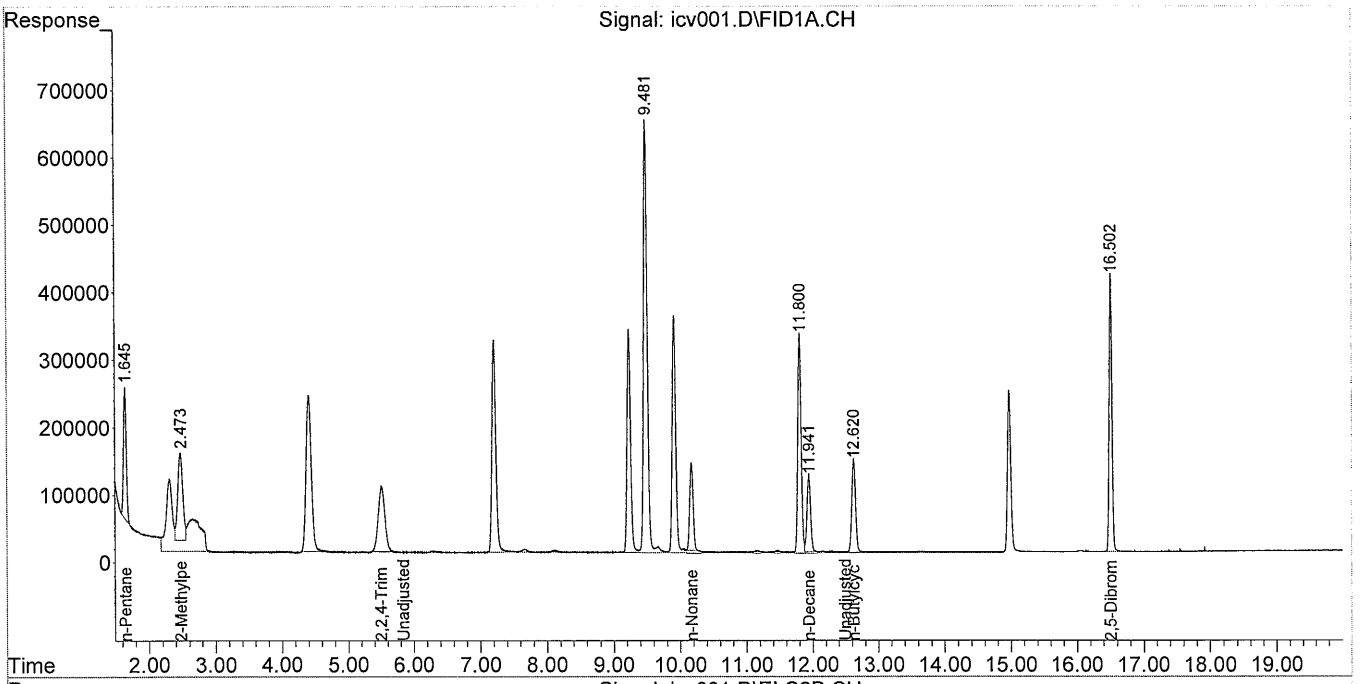
8 10
1354966

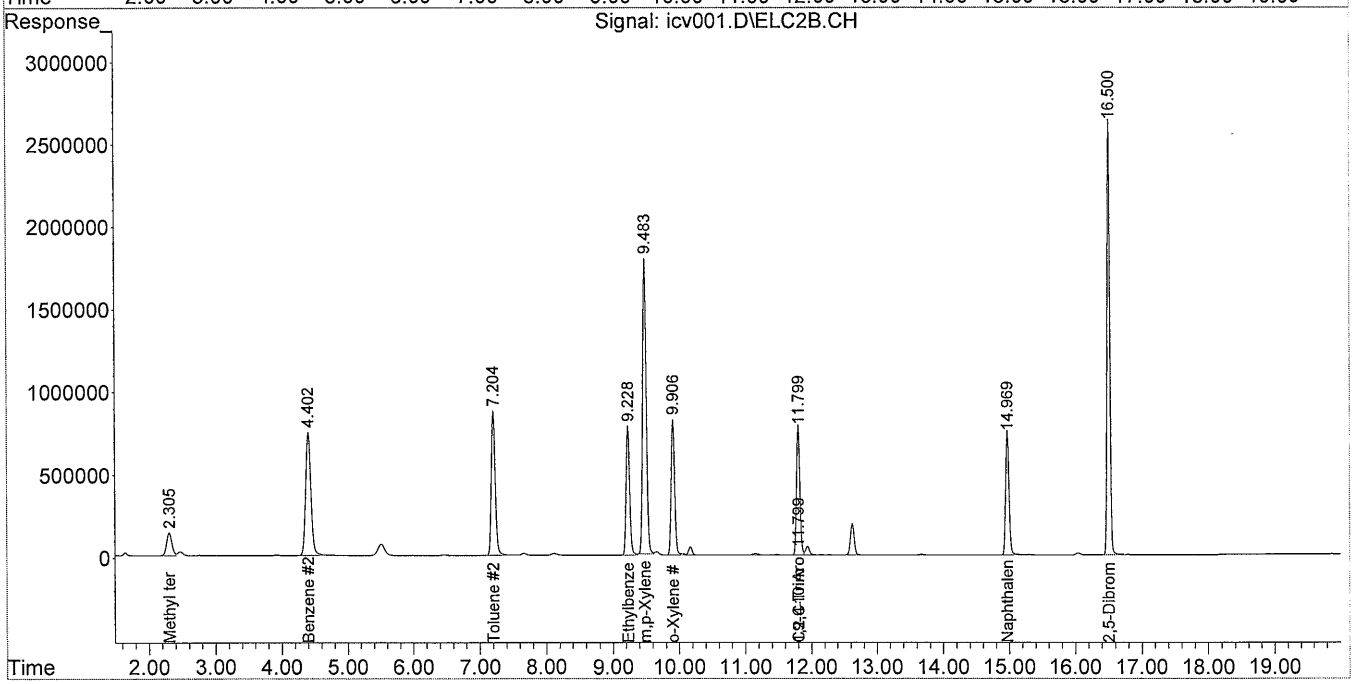
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID2\0603\icv001.D Vial: 14
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Jun 2011 12:40 am Operator: MP
Sample : seq-icv1 @ 20 ppb vph gro icv Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 06 13:30:34 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VIIa - INITIAL CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA
**SDG:** 32209
**Client:** Mitkem Laboratories
**Project:** See Chain of Custody
**Calibration:** 1106005
**Laboratory ID:** S104984-ICV1
**Sequence:** S104984
**Standard ID:** 11F0125
**Analyzed:** 06/06/11 23:04
**File ID:** icv020.D

| ANALYTE | EXPECTED | FOUND | % R | QC LIMIT |
|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 18.6 µg/l | 93 | 0 - 200 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 196 µg/l | 98 | 0 - 200 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 81.3 µg/l | 102 | 0 - 200 |
| Benzene | 20.0 µg/l | 19.2 µg/l | 96 | 80 - 120 |
| Ethylbenzene | 20.0 µg/l | 18.7 µg/l | 93 | 80 - 120 |
| Methyl tert-butyl ether | 20.0 µg/l | 19.3 µg/l | 97 | 80 - 120 |
| Naphthalene | 20.0 µg/l | 18.4 µg/l | 92 | 80 - 120 |
| Toluene | 20.0 µg/l | 19.0 µg/l | 95 | 80 - 120 |
| m,p-Xylene | 40.0 µg/l | 37.4 µg/l | 93 | 80 - 120 |
| o-Xylene | 20.0 µg/l | 18.8 µg/l | 94 | 80 - 120 |
| 2-Methylpentane | 20.0 µg/l | 23.3 µg/l | 117 | 80 - 120 |
| n-Nonane | 20.0 µg/l | 18.5 µg/l | 92 | 80 - 120 |
| n-Pentane | 20.0 µg/l | 23.1 µg/l | 116 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 18.1 µg/l | 90 | 80 - 120 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 20.6 µg/l | 103 | 80 - 120 |
| n-Butylcyclohexane | 20.0 µg/l | 18.1 µg/l | 90 | 80 - 120 |
| n-Decane | 20.0 µg/l | 19.3 µg/l | 97 | 80 - 120 |

* Values outside of QC limits

Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\icv020.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 11:04 pm Operator: mp
Sample : seq-icv1 @ 20 ppb vph gro icv std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 08 10:41:24 2011
Quant Results File: F1060711.RES

Quant Method : F:\VOC\HPMETHODS\Fid1\F1060711.M
Quant Title :
QLast Update : Tue Jun 07 10:16:53 2011
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.00 | 783210 | 5106781 | 63.107 | 62.500 | |
| | Spiked Amount 50.000 | | | Recovery | = | 126.21% | 125.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 10.13f | 6.31 | 8530767 | 681 | 196.036m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.18 | 12.53 | 931 | 3260600 | NoCal | 18.647m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.35 | 2358944 | 753696 | 81.303m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.80 | 725585 | 62655 | 23.102m | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.57 | 999273 | 1990111 | NoCal | 19.316 | |
| 6) | 2-Methylpentane | 2.76 | 2.97 | 999273 | 246 | 23.325 | NoCal | # |
| 7) | Benzene | 4.89 | 4.89 | 1116497 | 3446358 | NoCal | 19.229 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 925968 | 493897 | 20.624 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 841762 | 2360940 | NoCal | 19.040 | |
| 10) | Ethylbenzene | 9.86 | 9.86 | 703337 | 1748283 | NoCal | 18.679 | |
| 11) | m,p-Xylene | 10.13 | 10.13 | 1369236 | 3909444 | NoCal | 37.395 | |
| 12) | o-Xylene | 10.57 | 10.57 | 690299 | 1655492 | NoCal | 18.788 | |
| 13) | n-Nonane | 10.81 | 10.81 | 585190 | 174483 | 18.491 | NoCal | # |
| 14) | n-Decane | 12.63 | 12.53 | 437401 | 1635082 | 19.338 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 554947 | 753696 | 18.070 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 643258 | 1635082 | NoCal | 18.092 | |
| 17) | Naphthalene | 15.66 | 15.66 | 511766 | 1734240 | NoCal | 18.373 | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

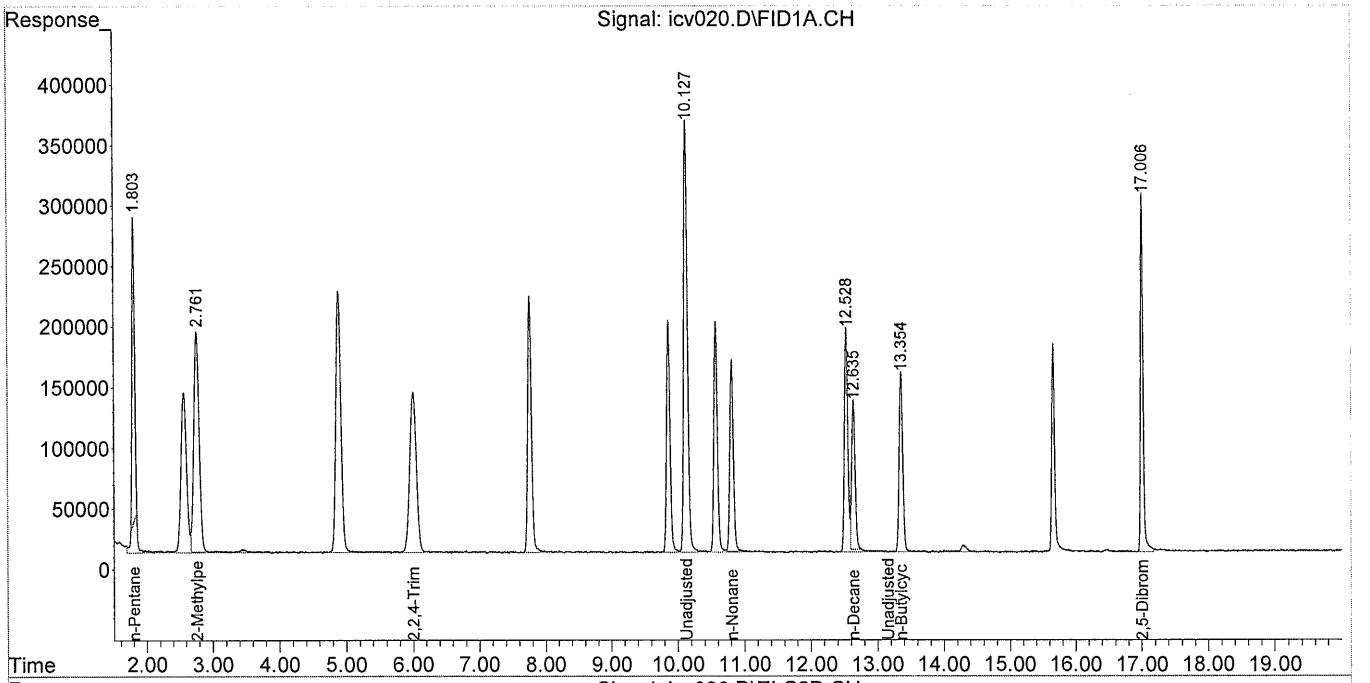
92 -
10 8 8 9 7 10

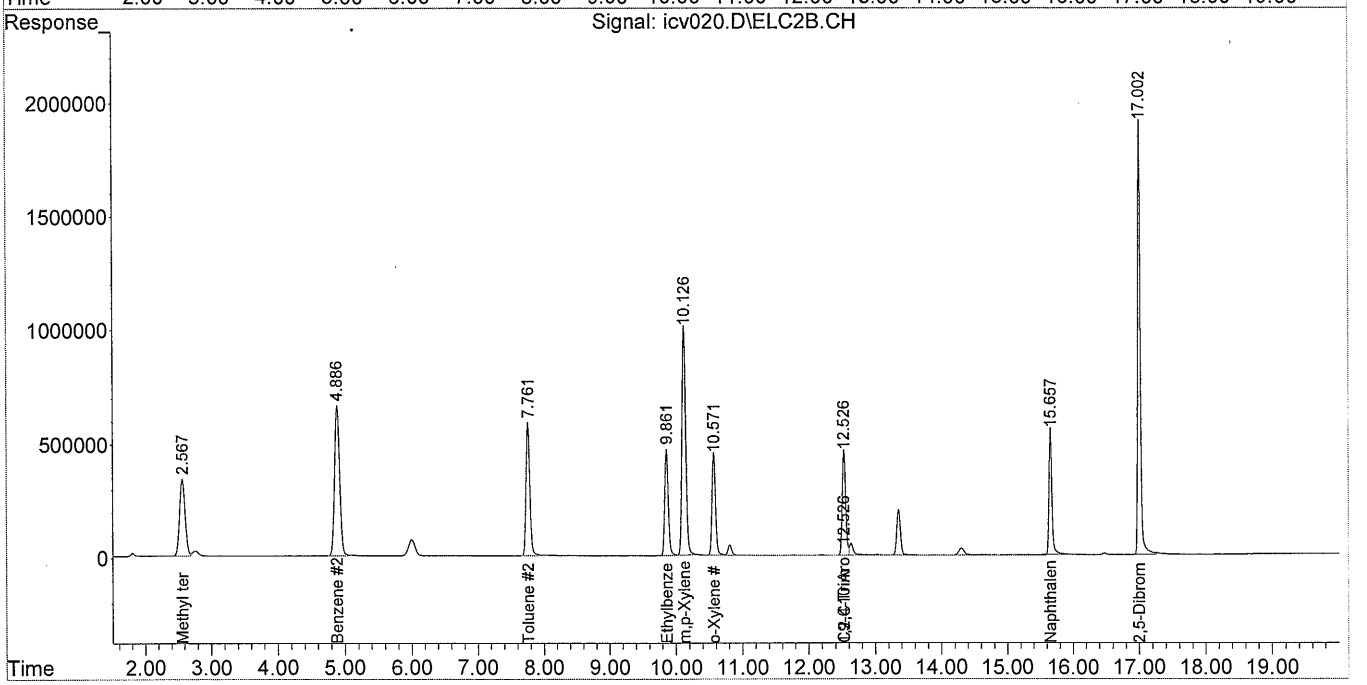
Quantitation Report (QT Reviewed)

Data File : G:\Jun2011\FID1\0606\icv020.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 06 Jun 2011 11:04 pm Operator: mp
Sample : seq-icv1 @ 20 ppb vph gro icv std Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jun 08 10:41:24 2011
Quant Results File: F1060711.RES

Quant Method : F:\VOC\HPMETHODS\Fid1\F1060711.M
Quant Title :
QLast Update : Tue Jun 07 10:16:53 2011
Response via : Initial Calibration
DataAcq Meth:F1092710.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID1 | Calibration: | 1106005 |
| Lab File ID: | ccc0730a.D | Calibration Date: | 06/07/11 10:50 |
| Sequence: | S106694 | Analyzed: | 07/30/11 09:29 |
| Lab Sample ID: | S106694-CCV1 | | |
| Spike ID: | 10F0116 | | |

| | | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 46.9 µg/l | 174860.9 | 164018.2 | | -6.2 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 481 µg/l | 43516.38 | 41865.3 | | -3.8 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 223 µg/l | 29014.34 | 32320.94 | | 11.4 | 25 |
| Benzene | A | 50.0 µg/l | 47.4 µg/l | 179228.6 | 169845 | | -5.2 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 47.9 µg/l | 93597.09 | 89669.4 | | -4.2 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 47.3 µg/l | 103030.9 | 97474.68 | | -5.4 | 25 |
| Naphthalene | A | 50.0 µg/l | 49.5 µg/l | 94392.66 | 93415.52 | | -1.0 | 25 |
| Toluene | A | 50.0 µg/l | 47.0 µg/l | 123997.8 | 116650.8 | | -5.9 | 25 |
| m,p-Xylene | A | 100 µg/l | 96.2 µg/l | 104544.3 | 100551.8 | | -3.8 | 25 |
| o-Xylene | A | 50.0 µg/l | 47.7 µg/l | 88112.43 | 84096.22 | | -4.6 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 48.3 µg/l | 44377.2 | 42881.04 | | -3.4 | 25 |
| n-Nonane | A | 50.0 µg/l | 55.6 µg/l | 31647.96 | 35209.04 | | 11.3 | 30 |
| n-Pentane | A | 50.0 µg/l | 42.8 µg/l | 33260.4 | 28485.58 | | -14.4 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 47.4 µg/l | 90374.64 | 85717.5 | | -5.2 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 53.2 µg/l | 44897.64 | 47791.2 | | 6.4 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 54.7 µg/l | 30710.99 | 33617.82 | | 9.5 | 25 |
| n-Decane | A | 50.0 µg/l | 62.2 µg/l | 22618.66 | 28140.52 | | 24.4 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# Evaluate Continuing Calibration Report

Data File : G:\Jul2011\FID1\0730\ccc0730a.D  Vial: 2
Signal(s) : Signal #1: FID1A.CH  Signal #2: ELC2B.CH
Acq On : 30 Jul 2011  9:29 am  Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph  Inst : HP G1530A
Misc : 1  Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 10:21:48 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase :  Signal #2 Phase:
Signal #1 Info :  Signal #2 Info :

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 25%  Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|
| 1 H | Unadjusted C5-C8 Aliphatics | 43.516 | 41.865 E3 | 3.8 | 97 | 3.90# |
| 2 | C9-C10 Aromatic Hydrocarbon | 0.000 | 0.000 | 0.0 | 150888# | 0.20 |
| 3 H | Unadjusted C9-C12 Aliphatic | 29.014 | 32.321 E3 | -11.4 | 97 | 0.00 |
| 4 | n-Pentane | 31.408 | 28.486 E3 | 9.3 | 83 | 0.00 |
| 5 | Methyl tert-butyl ether | 0.000 | 0.000 | 0.0 | 52 | 0.00 |
| 6 | 2-Methylpentane | 42.841 | 42.881 E3 | -0.1 | 94 | 0.00 |
| 7 | Benzene | 0.000 | 0.000 | 0.0 | 70 | 0.00 |
| 8 | 2,2,4-Trimethylpentane | 44.898 | 47.791 E3 | -6.4 | 100 | 0.00 |
| 9 | Toluene | 0.000 | 0.000 | 0.0 | 81 | 0.00 |
| 10 | Ethylbenzene | 0.000 | 0.000 | 0.0 | 95 | 0.00 |
| 11 | m,p-Xylene | 0.000 | 0.000 | 0.0 | 97 | 0.00 |
| 12 | o-Xylene | 0.000 | 0.000 | 0.0 | 99 | 0.00 |
| 13 | n-Nonane | 31.648 | 35.209 E3 | -11.3 | 101 | 0.00 |
| 14 | n-Decane | 22.619 | 28.141 E3 | -24.4 | 105 | 0.00 |
| 15 | n-Butylcyclohexane | 30.711 | 33.618 E3 | -9.5 | 103 | 0.00 |
| 16 | 1,2,4-Trimethylbenzene | 0.000 | 0.000 | 0.0 | 100 | 0.00 |
| 17 | Naphthalene | 0.000 | 0.000 | 0.0 | 129 | 0.00 |
| 18 S | 2,5-Dibromotoluene | 12.411 | 13.365 E3 | -7.7 | 106 | 0.00 |

Signal #2

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Unadjusted C5-C8 Aliphati | 0.000 | 0.000 | 0.0 | 121 | 0.09 |
| 2 | C9-C10 Aromatic Hydrocarb | 174.861 | 164.018 E3 | 6.2 | 94 | -0.63# |
| 3 | Unadjusted C9-C12 Aliphat | 0.000 | 0.000 | 0.0 | 7# | 0.02 |
| 4 | n-Pentane | 0.000 | 0.000 | 0.0 | 65 | 0.00 |
| 5 | Methyl tert-butyl ether | 103.031 | 97.475 E3 | 5.4 | 98 | 0.00 |
| 7 | Benzene | 179.229 | 169.845 E3 | 5.2 | 95 | -0.01 |
| 8 | 2,2,4-Trimethylpentane | 0.000 | 0.000 | 0.0 | 293# | 0.00 |
| 9 | Toluene | 123.998 | 116.651 E3 | 5.9 | 92 | 0.00 |
| 10 | Ethylbenzene | 93.597 | 89.669 E3 | 4.2 | 91 | 0.00 |
| 11 | m,p-Xylene | 104.544 | 100.552 E3 | 3.8 | 91 | 0.00 |
| 12 | o-Xylene | 88.112 | 84.096 E3 | 4.6 | 91 | 0.00 |
| 13 | n-Nonane | 0.000 | 0.000 | 0.0 | 558# | 0.00 |
| 14 | n-Decane | 0.000 | 0.000 | 0.0 | 390# | 0.00 |
| 15 | n-Butylcyclohexane | 0.000 | 0.000 | 0.0 | 480# | -0.01 |
| 16 | 1,2,4-Trimethylbenzene | 90.375 | 85.718 E3 | 5.2 | 91 | 0.00 |
| 17 | Naphthalene | 94.393 | 93.416 E3 | 1.0 | 96 | 0.00 |
| 18 S | 2,5-Dibromotoluene | 81.709 | 81.489 E3 | 0.3 | 98 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

Evaluate Continuing Calibration Report

Data File : G:\Jul2011\FID1\0730\ccc0730a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 9:29 am Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 10:21:48 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|
| Signal #2 | | | | | |
| 6 2-Methylpentane | 0.000 | 0.000 | 0.0 | 0# | -2.97# |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\ccc0730a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 9:29 am Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 10:21:48 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.00 | 1336456 | 8148863 | 107.685 | 99.730 | |
| | Spiked Amount 50.000 | | | Recovery | = | 215.37% | 199.46% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 10.12f | 6.31 | 20932654 | 706 | 481.029m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.35 | 12.52 | 1680891 | 8200910 | NoCal | 46.900m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.17 | 6464187 | 997 | 222.793m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.80 | 1424279 | 93723 | 42.822 | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.56 | 2144052 | 4873734 | NoCal | 47.304 | |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 2144052 | 0 | 48.314 | N.D. | # |
| 7) | Benzene | 4.88 | 4.88 | 2938907 | 8492249 | NoCal | 47.382 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 2389560 | 1254599 | 53.222 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 2236842 | 5832541 | NoCal | 47.037 | |
| 10) | Ethylbenzene | 9.86 | 9.86 | 1956116 | 4483470 | NoCal | 47.902 | |
| 11) | m,p-Xylene | 10.12 | 10.12 | 3782821 | 10055183 | NoCal | 96.181 | |
| 12) | o-Xylene | 10.57 | 10.57 | 1878943 | 4204811 | NoCal | 47.721 | |
| 13) | n-Nonane | 10.81 | 10.81 | 1760452 | 496193 | 55.626 | NoCal | # |
| 14) | n-Decane | 12.63 | 12.52 | 1407026 | 4285875 | 62.206m | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 1680891 | 2135068 | 54.733 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.52 | 1808725 | 4285875 | NoCal | 47.423 | |
| 17) | Naphthalene | 15.65 | 15.65 | 1530282 | 4670776 | NoCal | 49.482 | |

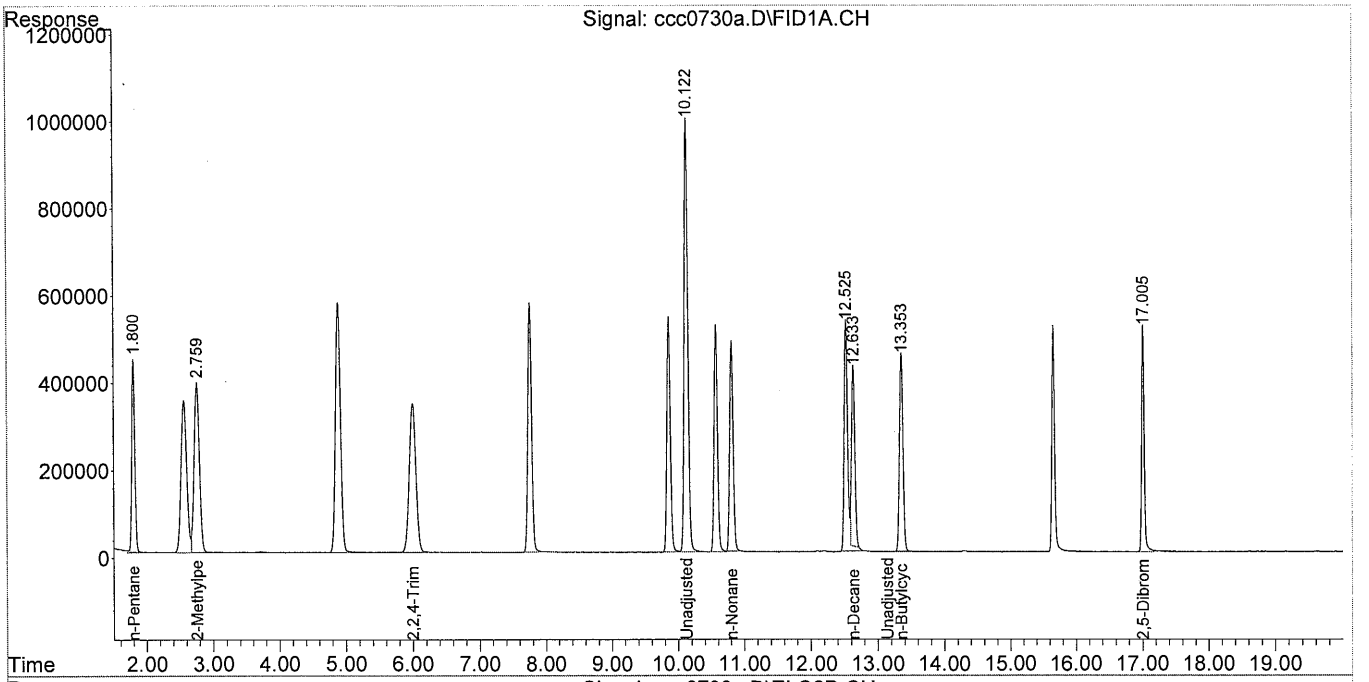
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

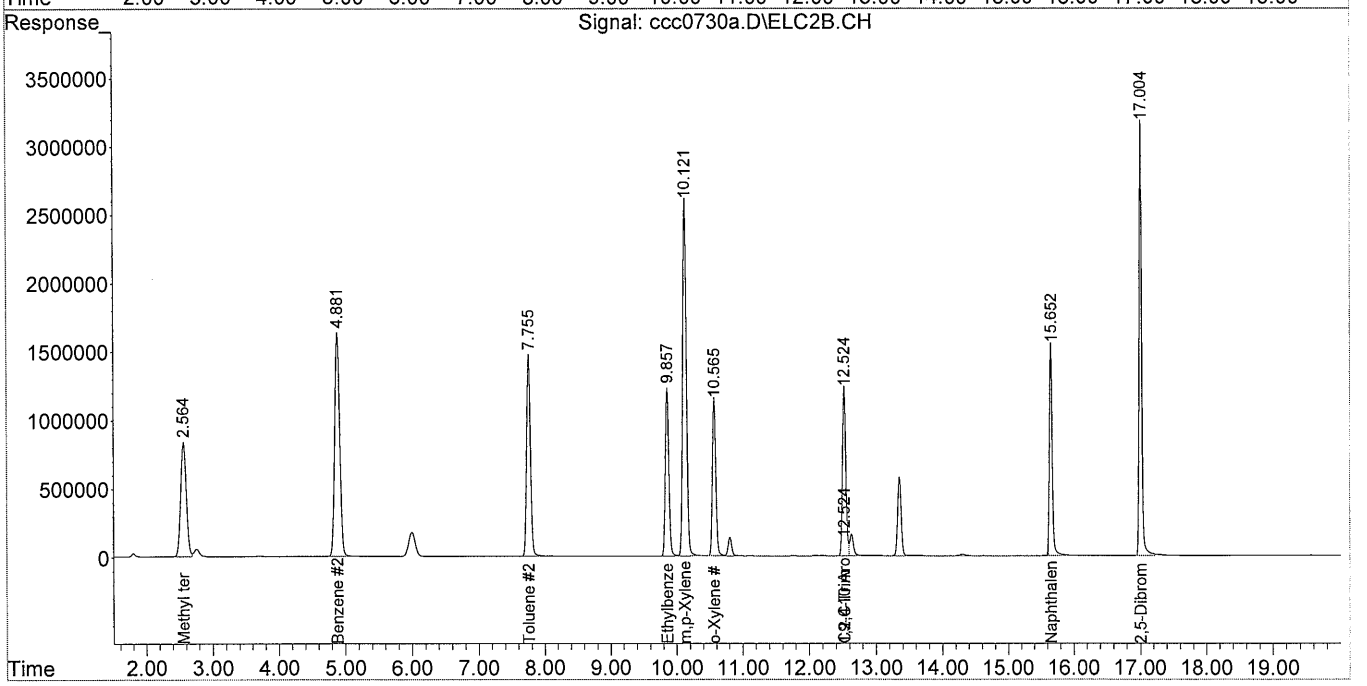
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\ccc0730a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 9:29 am Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 10:21:48 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID2 | Calibration: | 1106002 |
| Lab File ID: | ccc0731a.D | Calibration Date: | 06/06/11 13:37 |
| Sequence: | S106699 | Analyzed: | 07/31/11 17:53 |
| Lab Sample ID: | S106699-CCV1 | | |
| Spike ID: | 10F0116 | | |

| | | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 44.0 µg/l | 239871.8 | 211326.8 | | -11.9 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 475 µg/l | 49689.45 | 47160.8 | | -5.1 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 214 µg/l | 38075.18 | 40750.37 | | 7.0 | 25 |
| Benzene | A | 50.0 µg/l | 47.5 µg/l | 212327.6 | 201718.6 | | -5.0 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 49.5 µg/l | 144558.8 | 143144.1 | | -1.0 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 40.4 µg/l | 36518.41 | 29482.82 | | -19.3 | 25 |
| Naphthalene | A | 50.0 µg/l | 47.0 µg/l | 132573.5 | 124618.1 | | -6.0 | 25 |
| Toluene | A | 50.0 µg/l | 48.6 µg/l | 178024.6 | 172984.9 | | -2.8 | 25 |
| m,p-Xylene | A | 100 µg/l | 99.6 µg/l | 166271.3 | 165540.8 | | -0.4 | 25 |
| o-Xylene | A | 50.0 µg/l | 48.9 µg/l | 146369.9 | 143041.5 | | -2.3 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 61.6 µg/l | 37139.6 | 45722.22 | | 23.1 | 25 |
| n-Nonane | A | 50.0 µg/l | 61.0 µg/l | 27811.19 | 33949.68 | | 22.1 | 30 |
| n-Pentane | A | 50.0 µg/l | 55.8 µg/l | 30616.71 | 34180.1 | | 11.6 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 49.1 µg/l | 139382.1 | 136762.2 | | -1.9 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 56.5 µg/l | 38047.22 | 42975.58 | | 13.0 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 54.7 µg/l | 31717.04 | 34721.16 | | 9.5 | 25 |
| n-Decane | A | 50.0 µg/l | 62.0 µg/l | 21500.7 | 26649.88 | | 23.9 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# Evaluate Continuing Calibration Report

Data File : G:\Jul2011\FID2\0731\ccc0731a.D  Vial: 2
Signal(s) : Signal #1: FID1A.CH  Signal #2: ELC2B.CH
Acq On : 31 Jul 2011  5:53 pm  Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph  Inst : HP G1530A
Misc : 1  Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:15:35 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase :  Signal #2 Phase:
Signal #1 Info :  Signal #2 Info :

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 25%  Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|
| 1 H | Unadjusted C5-C8 Aliphatics | 500.000 | 474.558 | 5.1 | 94 | 0.00 |
| 2 | C9-C10 Aromatic Hydrocarbon | -1.000 | 0.000 | 0.0 | 112878 | 0.14 |
| 3 H | Unadjusted C9-C12 Aliphatic | 200.000 | 214.052 | -7.0 | 121 | 0.00 |
| 4 | n-Pentane | 50.000 | 55.819 | -11.6 | 111 | 0.00 |
| 5 | Methyl tert-butyl ether | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 6 | 2-Methylpentane | 50.000 | 61.555 | -23.1 | 123 | 0.00 |
| 8 | 2,2,4-Trimethylpentane | 50.000 | 56.477 | -13.0 | 122 | 0.00 |
| 9 | Toluene | -1.000 | 0.000 | 0.0 | 0 | 0.09 |
| 10 | Ethylbenzene | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 11 | m,p-Xylene | -1.000 | 0.000 | 0.0 | 0 | -0.20 |
| 12 | o-Xylene | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 13 | n-Nonane | 50.000 | 61.036 | -22.1 | 135 | 0.00 |
| 14 | n-Decane | 50.000 | 61.974 | -23.9 | 124 | 0.00 |
| 15 | n-Butylcyclohexane | 50.000 | 54.736 | -9.5 | 126 | 0.00 |
| 16 | 1,2,4-Trimethylbenzene | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 18 S | 2,5-Dibromotoluene | 100.000 | 95.032 | 5.0 | 96 | 0.00 |

Signal #2

| | | | | | | |
|---|---|---|---|---|---|---|
| 2 | C9-C10 Aromatic Hydrocarb | 50.000 | 44.050 | 11.9 | 103 | -0.68# |
| 3 | Unadjusted C9-C12 Aliphat | -1.000 | 0.000 | 0.0 | 116 | 0.14 |
| 5 | Methyl tert-butyl ether | 50.000 | 40.367 | 19.3 | 74 | 0.00 |
| 7 | Benzene | 50.000 | 47.502 | 5.0 | 94 | 0.00 |
| 9 | Toluene | 50.000 | 48.585 | 2.8 | 96 | 0.00 |
| 10 | Ethylbenzene | 50.000 | 49.511 | 1.0 | 98 | 0.00 |
| 11 | m,p-Xylene | 100.000 | 99.561 | 0.4 | 99 | 0.00 |
| 12 | o-Xylene | 50.000 | 48.863 | 2.3 | 97 | 0.00 |
| 13 | n-Nonane | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 14 | n-Decane | -1.000 | 0.000 | 0.0 | 0 | 0.00 |
| 16 | 1,2,4-Trimethylbenzene | 50.000 | 49.060 | 1.9 | 98 | 0.00 |
| 17 | Naphthalene | 50.000 | 47.000 | 6.0 | 93 | 0.00 |
| 18 S | 2,5-Dibromotoluene | 100.000 | 87.952 | 12.0 | 89 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | |
|---|---|---|---|---|---|---|
| 7 | Benzene | -1.000 | 0.000 | 0.0 | 0 | -4.77# |
| 17 | Naphthalene | -1.000 | 0.000 | 0.0 | 0 | -15.23# |

Signal #2

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Unadjusted C5-C8 Aliphati | -1.000 | 0.000 | 0.0 | 0 | -5.84# |
| 4 | n-Pentane | -1.000 | 0.000 | 0.0 | 0 | -1.78# |

Evaluate Continuing Calibration Report

Data File : G:\Jul2011\FID2\0731\ccc0731a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 5:53 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:15:35 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | Amount | Calc. | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|
| 6 | 2-Methylpentane | -1.000 | 0.000 | 0.0 | 0 | -2.66# |
| 8 | 2,2,4-Trimethylpentane | -1.000 | 0.000 | 0.0 | 0 | -5.80# |
| 15 | n-Butylcyclohexane | -1.000 | 0.000 | 0.0 | 0 | -12.87# |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\ccc0731a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 5:53 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:15:35 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 16.50 | 16.50 | 1500189 | 8904773 | 95.032 | 87.952 | |
| | Spiked Amount 50.000 | | | Recovery | = | 190.06% | 175.90% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 23580397 | 0 | 474.558m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.62 | 11.80 | 1736058 | 10566336 | NoCal | 44.050m | |
| 3) | Unadjusted C9-C1 | 12.48 | 12.62 | 8150073 | 2180611 | 214.052m | NoCal | # |
| 4) | n-Pentane | 1.64 | 0.00 | 1709005 | 0 | 55.819m | N.D. | # |
| 5) | Methyl tert-buty | 2.47 | 2.31 | 2286111 | 1474141 | NoCal | 40.367m | |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 2286111 | 0 | 61.555 | N.D. | # |
| 7) | Benzene | 0.00 | 4.41 | 0 | 10085928 | N.D. | 47.502 | |
| 8) | 2,2,4-Trimethylp | 5.51 | 0.00 | 2148779 | 0 | 56.477 | N.D. | # |
| 9) | Toluene | 7.62 | 7.21 | 50169 | 8649243 | NoCal | 48.585 | |
| 10) | Ethylbenzene | 9.48 | 9.23 | 6479142 | 7157204 | NoCal | 49.511 | |
| 11) | m,p-Xylene | 9.48f | 9.48 | 6479142 | 16554081 | NoCal | 99.561 | |
| 12) | o-Xylene | 10.17 | 9.91 | 1697484 | 7152073 | NoCal | 48.863 | |
| 13) | n-Nonane | 10.17 | 10.44 | 1697484 | 10547 | 61.036 | NoCal | # |
| 14) | n-Decane | 11.94 | 12.28 | 1332494 | 15959 | 61.974m | NoCal | # |
| 15) | n-Butylcyclohexa | 12.62 | 0.00 | 1736058 | 0 | 54.736 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.28 | 11.80 | 5255 | 6838110 | NoCal | 49.060 | |
| 17) | Naphthalene | 0.00 | 14.97 | 0 | 6230905 | N.D. | 47.000 | |

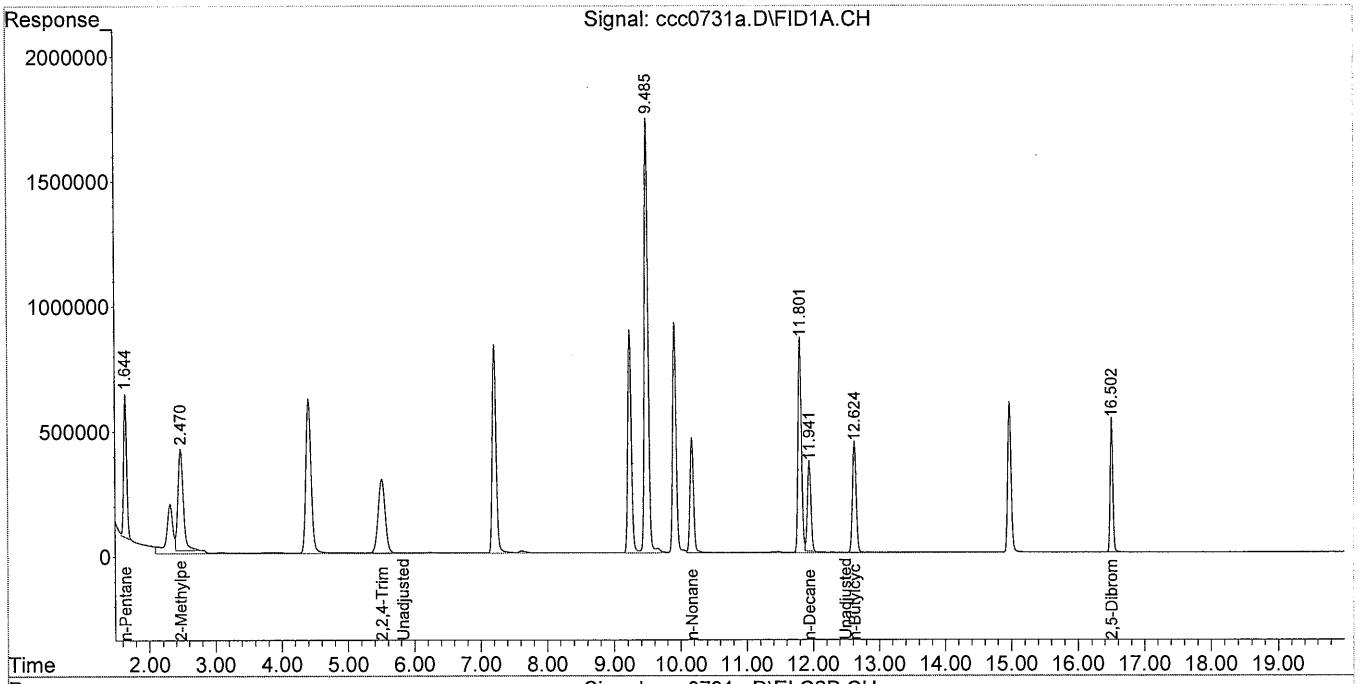
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

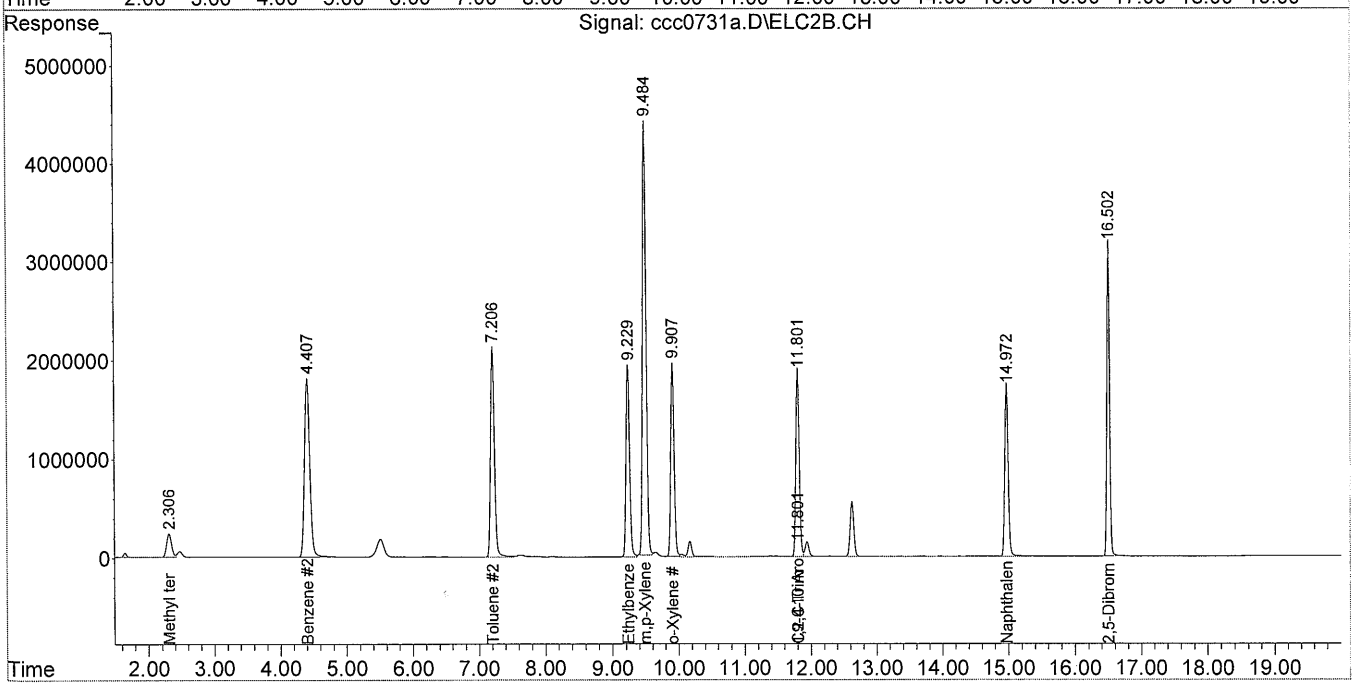
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\ccc0731a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 5:53 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:15:35 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID1 | Calibration: | 1106005 |
| Lab File ID: | ccc0801a.D | Calibration Date: | 06/07/11 10:50 |
| Sequence: | S106728 | Analyzed: | 08/01/11 10:37 |
| Lab Sample ID: | S106728-CCV1 | | |
| Spike ID: | 10F0116 | | |

| | | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 37.9 µg/l | 174860.9 | 132600.4 | | -24.2 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 477 µg/l | 43516.38 | 41489.68 | | -4.7 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 201 µg/l | 29014.34 | 29173.82 | | 0.5 | 25 |
| Benzene | A | 50.0 µg/l | 43.7 µg/l | 179228.6 | 156699.4 | | -12.6 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 42.6 µg/l | 93597.09 | 79690.98 | | -14.9 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 42.9 µg/l | 103030.9 | 88308.04 | | -14.3 | 25 |
| Naphthalene | A | 50.0 µg/l | 40.3 µg/l | 94392.66 | 76029.52 | | -19.5 | 25 |
| Toluene | A | 50.0 µg/l | 43.0 µg/l | 123997.8 | 106699.1 | | -14.0 | 25 |
| m,p-Xylene | A | 100 µg/l | 84.6 µg/l | 104544.3 | 88479.94 | | -15.4 | 25 |
| o-Xylene | A | 50.0 µg/l | 41.5 µg/l | 88112.43 | 73196.84 | | -16.9 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 53.7 µg/l | 44377.2 | 47700.9 | | 7.5 | 25 |
| n-Nonane | A | 50.0 µg/l | 45.7 µg/l | 31647.96 | 28933.12 | | -8.6 | 30 |
| n-Pentane | A | 50.0 µg/l | 58.9 µg/l | 33260.4 | 39212.76 | | 17.9 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 40.1 µg/l | 90374.64 | 72416.06 | | -19.9 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 51.2 µg/l | 44897.64 | 45953.92 | | 2.4 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 42.4 µg/l | 30710.99 | 26021.78 | | -15.3 | 25 |
| n-Decane | A | 50.0 µg/l | 45.2 µg/l | 22618.66 | 20428.3 | | -9.7 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# Evaluate Continuing Calibration Report

Data File : G:\Aug2011\FID1\0801\ccc0801a.D  Vial: 2
Signal(s) : Signal #1: FID1A.CH  Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 10:37 am  Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph  Inst : HP G1530A
Misc : 1  Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:42:11 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase :  Signal #2 Phase:
Signal #1 Info :  Signal #2 Info :

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 25%  Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1 H | Unadjusted C5-C8 Aliphatics | 43.516 | 41.490 | E3 | 4.7 | 96 | 0.00 |
| 2 | C9-C10 Aromatic Hydrocarbon | 0.000 | 0.000 | | 0.0 | 306# | -0.12 |
| 3 H | Unadjusted C9-C12 Aliphatic | 29.014 | 29.174 | E3 | -0.6 | 88 | 0.00 |
| 4 | n-Pentane | 31.408 | 39.213 | E3 | -24.9 | 114 | 0.00 |
| 5 | Methyl tert-butyl ether | 0.000 | 0.000 | | 0.0 | 58 | 0.00 |
| 6 | 2-Methylpentane | 42.841 | 47.701 | E3 | -11.3 | 105 | -0.01 |
| 7 | Benzene | 0.000 | 0.000 | | 0.0 | 67 | 0.00 |
| 8 | 2,2,4-Trimethylpentane | 44.898 | 45.954 | E3 | -2.4 | 96 | 0.00 |
| 9 | Toluene | 0.000 | 0.000 | | 0.0 | 76 | 0.00 |
| 10 | Ethylbenzene | 0.000 | 0.000 | | 0.0 | 87 | 0.00 |
| 11 | m,p-Xylene | 0.000 | 0.000 | | 0.0 | 88 | 0.00 |
| 12 | o-Xylene | 0.000 | 0.000 | | 0.0 | 89 | 0.00 |
| 13 | n-Nonane | 31.648 | 28.933 | E3 | 8.6 | 83 | 0.00 |
| 14 | n-Decane | 22.619 | 20.428 | E3 | 9.7 | 76 | 0.00 |
| 15 | n-Butylcyclohexane | 30.711 | 26.022 | E3 | 15.3 | 79 | 0.00 |
| 16 | 1,2,4-Trimethylbenzene | 0.000 | 0.000 | | 0.0 | 87 | 0.00 |
| 17 | Naphthalene | 0.000 | 0.000 | | 0.0 | 107 | 0.00 |
| 18 S | 2,5-Dibromotoluene | 12.411 | 11.962 | E3 | 3.6 | 95 | 0.00 |

Signal #2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Unadjusted C5-C8 Aliphati | 0.000 | 0.000 | | 0.0 | 133 | 0.10 |
| 2 | C9-C10 Aromatic Hydrocarb | 174.861 | 132.600 | E3 | 24.2 | 76 | -0.63# |
| 3 | Unadjusted C9-C12 Aliphat | 0.000 | 0.000 | | 0.0 | 37# | -0.13 |
| 4 | n-Pentane | 0.000 | 0.000 | | 0.0 | 42# | 0.00 |
| 5 | Methyl tert-butyl ether | 103.031 | 88.308 | E3 | 14.3 | 89 | 0.00 |
| 7 | Benzene | 179.229 | 156.699 | E3 | 12.6 | 88 | 0.00 |
| 8 | 2,2,4-Trimethylpentane | 0.000 | 0.000 | | 0.0 | 259# | 0.00 |
| 9 | Toluene | 123.998 | 106.699 | E3 | 14.0 | 84 | 0.00 |
| 10 | Ethylbenzene | 93.597 | 79.691 | E3 | 14.9 | 81 | 0.00 |
| 11 | m,p-Xylene | 104.544 | 88.480 | E3 | 15.4 | 80 | 0.00 |
| 12 | o-Xylene | 88.112 | 73.197 | E3 | 16.9 | 79 | 0.00 |
| 13 | n-Nonane | 0.000 | 0.000 | | 0.0 | 422# | 0.00 |
| 14 | n-Decane | 0.000 | 0.000 | | 0.0 | 329# | 0.00 |
| 15 | n-Butylcyclohexane | 0.000 | 0.000 | | 0.0 | 361# | -0.01 |
| 16 | 1,2,4-Trimethylbenzene | 90.375 | 72.416 | E3 | 19.9 | 77 | 0.00 |
| 17 | Naphthalene | 94.393 | 76.030 | E3 | 19.5 | 78 | 0.00 |
| 18 S | 2,5-Dibromotoluene | 81.709 | 72.237 | E3 | 11.6 | 87 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

Evaluate Continuing Calibration Report

```
Data File : G:\Aug2011\FID1\0801\ccc0801a.D              Vial: 2
Signal(s) : Signal #1: FID1A.CH  Signal #2: ELC2B.CH
Acq On    : 01 Aug 2011  10:37 am                    Operator: mp
Sample    : seq-ccv1 @ 50 ppb ccc vph                Inst    : HP G1530A
Misc      : 1                                        Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:42:11 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title  :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj.     :
Signal #1 Phase :                    Signal #2 Phase:
Signal #1 Info  :                    Signal #2 Info :


Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.50min
Max. RRF Dev :  25%     Max. Rel. Area : 150%

      Compound                       AvgRF   CCRF       %Dev  Area% Dev(Min)
---------------------------------------------------------------------------
Signal #2

6     2-Methylpentane                0.000   0.000       0.0     0# -2.97#
---------------------------------------------------------------------------

   (#) = Out of Range               SPCC's out = 0  CCC's out = 0
```

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\ccc0801a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 10:37 am Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:42:11 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.00 | 17.00 | 1196208 | 7223700 | 96.384 | 88.408m | |
| | Spiked Amount 50.000 | | | Recovery | = | 192.77% | 176.82% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.32 | 20744840 | 773 | 476.713m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.03 | 12.52 | 3409 | 6630021 | NoCal | 37.916m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.02 | 5834763 | 5364 | 201.099m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.80 | 1960638 | 60487 | 58.948m | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.56 | 2385045 | 4415402 | NoCal | 42.855 | |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 2385045 | 0 | 53.745 | N.D. | # |
| 7) | Benzene | 4.89 | 4.89 | 2814382 | 7834970 | NoCal | 43.715 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 2297696 | 1109345 | 51.176 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 2112641 | 5334955 | NoCal | 43.025 | |
| 10) | Ethylbenzene | 9.86 | 9.86 | 1782252 | 3984549 | NoCal | 42.571 | |
| 11) | m,p-Xylene | 10.12 | 10.12 | 3428789 | 8847994 | NoCal | 84.634 | |
| 12) | o-Xylene | 10.57 | 10.57 | 1688715 | 3659842 | NoCal | 41.536 | |
| 13) | n-Nonane | 10.81 | 10.80 | 1446656 | 375634 | 45.711 | NoCal | # |
| 14) | n-Decane | 12.63 | 12.52 | 1021415 | 3620803 | 45.158 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 1301089 | 1604995 | 42.366 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.52 | 1576522 | 3620803 | NoCal | 40.064 | |
| 17) | Naphthalene | 15.65 | 15.65 | 1271433 | 3801476 | NoCal | 40.273 | |

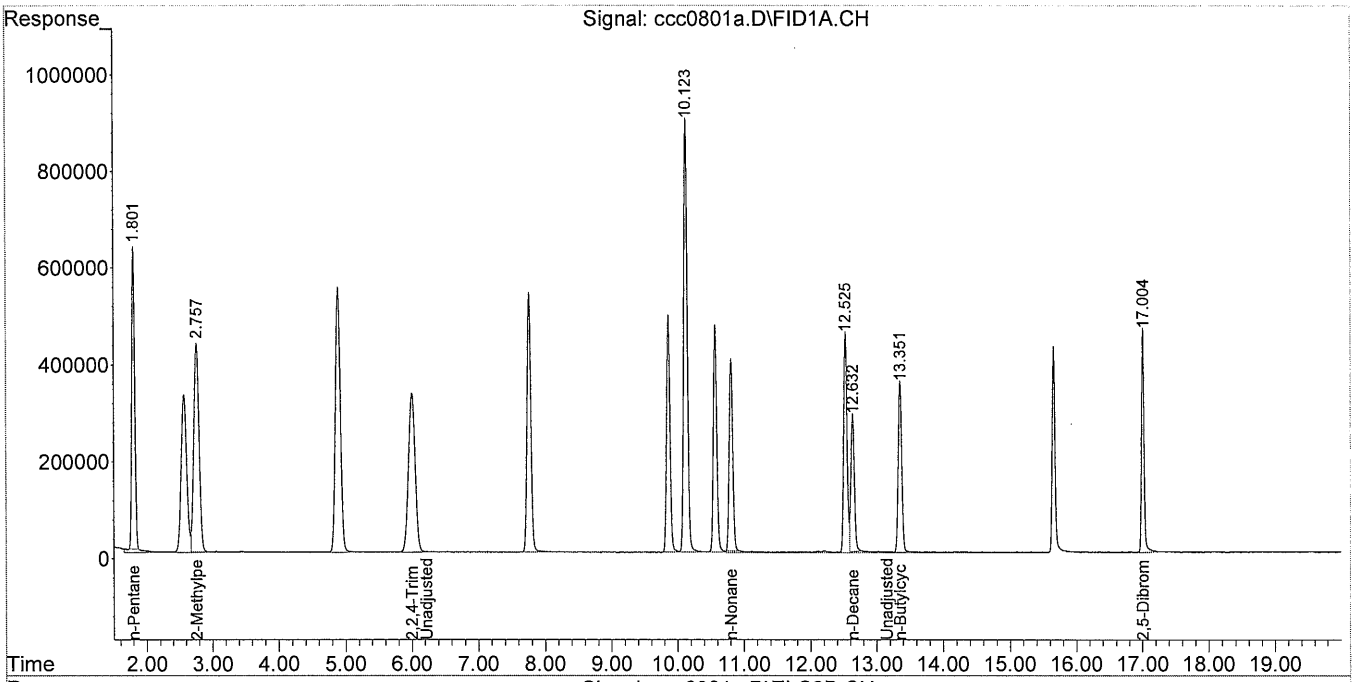
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

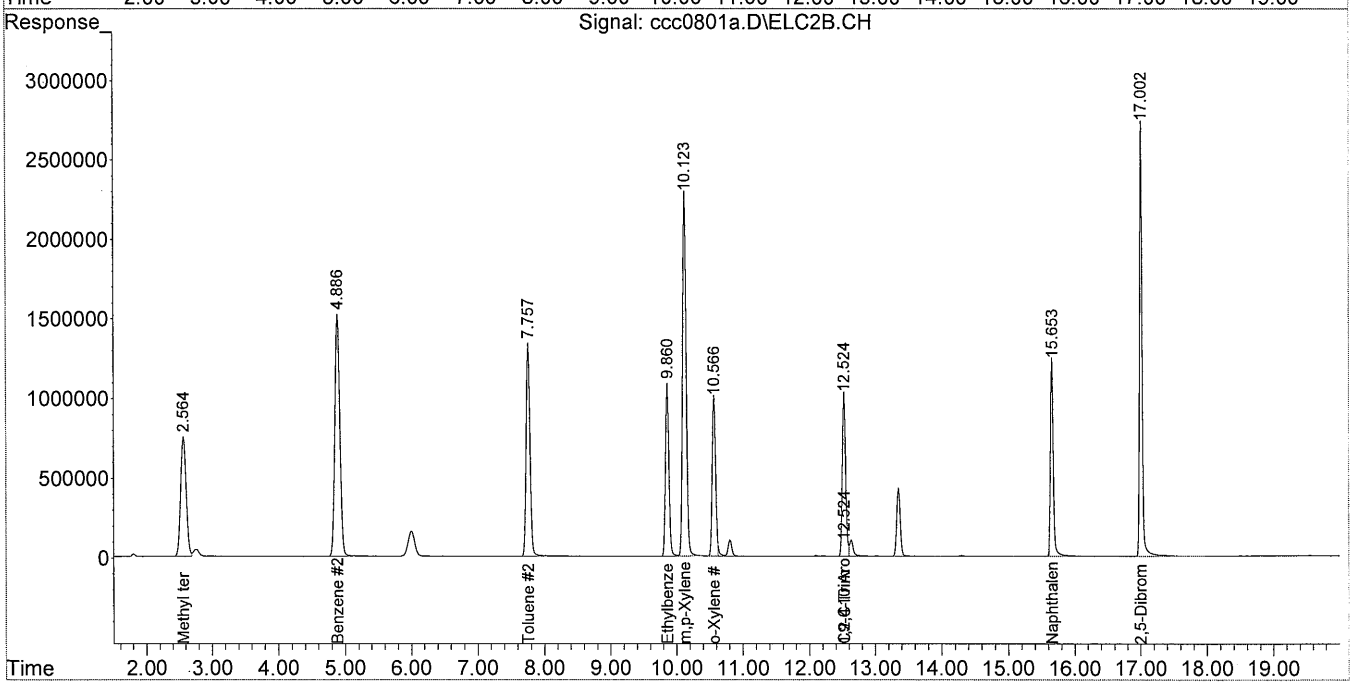
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\ccc0801a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 10:37 am Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:42:11 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID1 | Calibration: | 1106005 |
| Lab File ID: | ccc0802c.D | Calibration Date: | 06/07/11 10:50 |
| Sequence: | S106786 | Analyzed: | 08/02/11 17:12 |
| Lab Sample ID: | S106786-CCV1 | | |
| Spike ID: | 11H0080 | | |

| | | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 42.3 µg/l | 174860.9 | 147897.9 | | -15.4 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 481 µg/l | 43516.38 | 41877.24 | | -3.8 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 222 µg/l | 29014.34 | 32147.1 | | 10.8 | 25 |
| Benzene | A | 50.0 µg/l | 44.8 µg/l | 179228.6 | 160494.6 | | -10.5 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 46.0 µg/l | 93597.09 | 86133.3 | | -8.0 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 43.0 µg/l | 103030.9 | 88653.16 | | -14.0 | 25 |
| Naphthalene | A | 50.0 µg/l | 47.1 µg/l | 94392.66 | 88899.74 | | -5.8 | 25 |
| Toluene | A | 50.0 µg/l | 45.5 µg/l | 123997.8 | 112753.3 | | -9.1 | 25 |
| m,p-Xylene | A | 100 µg/l | 91.1 µg/l | 104544.3 | 95232.51 | | -8.9 | 25 |
| o-Xylene | A | 50.0 µg/l | 45.2 µg/l | 88112.43 | 79616.62 | | -9.6 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 44.7 µg/l | 44377.2 | 39632.92 | | -10.7 | 25 |
| n-Nonane | A | 50.0 µg/l | 52.6 µg/l | 31647.96 | 33283.04 | | 5.2 | 30 |
| n-Pentane | A | 50.0 µg/l | 38.5 µg/l | 33260.4 | 25589.6 | | -23.1 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 44.7 µg/l | 90374.64 | 80718.2 | | -10.7 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 52.1 µg/l | 44897.64 | 46767.52 | | 4.2 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 51.3 µg/l | 30710.99 | 31502.68 | | 2.6 | 25 |
| n-Decane | A | 50.0 µg/l | 60.5 µg/l | 22618.66 | 27374.66 | | 21.0 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# Evaluate Continuing Calibration Report

Data File : G:\Aug2011\FID1\0802b\ccc0802c.D  Vial: 6
Signal(s) : Signal #1: FID1A.CH  Signal #2: ELC2B.CH
Acq On : 02 Aug 2011  5:12 pm  Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph  Inst : HP G1530A
Misc : 1  Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:11:39 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase :  Signal #2 Phase:
Signal #1 Info :  Signal #2 Info :

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 25%  Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 1 H | Unadjusted C5-C8 Aliphatics | 43.516 | 41.877 | E3 | 3.8 | 97 | 0.00 |
| 2 | C9-C10 Aromatic Hydrocarbon | 0.000 | 0.000 | | 0.0 | 80 | 0.10 |
| 3 H | Unadjusted C9-C12 Aliphatic | 29.014 | 32.147 | E3 | -10.8 | 97 | 0.00 |
| 4 | n-Pentane | 31.408 | 25.590 | E3 | 18.5 | 74 | 0.00 |
| 5 | Methyl tert-butyl ether | 0.000 | 0.000 | | 0.0 | 48# | 0.00 |
| 6 | 2-Methylpentane | 42.841 | 39.633 | E3 | 7.5 | 87 | 0.00 |
| 7 | Benzene | 0.000 | 0.000 | | 0.0 | 71 | 0.00 |
| 8 | 2,2,4-Trimethylpentane | 44.898 | 46.768 | E3 | -4.2 | 97 | 0.00 |
| 9 | Toluene | 0.000 | 0.000 | | 0.0 | 82 | 0.00 |
| 10 | Ethylbenzene | 0.000 | 0.000 | | 0.0 | 94 | 0.00 |
| 11 | m,p-Xylene | 0.000 | 0.000 | | 0.0 | 97 | 0.00 |
| 12 | o-Xylene | 0.000 | 0.000 | | 0.0 | 98 | 0.00 |
| 13 | n-Nonane | 31.648 | 33.283 | E3 | -5.2 | 96 | 0.00 |
| 14 | n-Decane | 22.619 | 27.375 | E3 | -21.0 | 102 | 0.00 |
| 15 | n-Butylcyclohexane | 30.711 | 31.503 | E3 | -2.6 | 96 | 0.00 |
| 16 | 1,2,4-Trimethylbenzene | 0.000 | 0.000 | | 0.0 | 98 | 0.00 |
| 17 | Naphthalene | 0.000 | 0.000 | | 0.0 | 128 | 0.00 |
| 18 S | 2,5-Dibromotoluene | 12.411 | 13.774 | E3 | -11.0 | 109 | 0.00 |

Signal #2

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 21 | C9-C10 Aromatic Hydrocarbon | 174.861 | 147.898 | E3 | 15.4 | 85 | -0.62# |
| 22 | Unadjusted C9-C12 Aliphatic | 0.000 | 0.000 | | 0.0 | 3# | 0.00 |
| 23 | n-Pentane #2 | 0.000 | 0.000 | | 0.0 | 27# | 0.00 |
| 24 | Methyl tert-butyl ether #2 | 103.031 | 88.653 | E3 | 14.0 | 89 | 0.00 |
| 26 | Benzene #2 | 179.229 | 160.495 | E3 | 10.5 | 90 | 0.00 |
| 27 | 2,2,4-Trimethylpentane #2 | 0.000 | 0.000 | | 0.0 | 254# | 0.00 |
| 28 | Toluene #2 | 123.998 | 112.753 | E3 | 9.1 | 89 | 0.00 |
| 29 | Ethylbenzene #2 | 93.597 | 86.133 | E3 | 8.0 | 87 | 0.00 |
| 30 | m,p-Xylene #2 | 104.544 | 95.233 | E3 | 8.9 | 86 | 0.00 |
| 31 | o-Xylene #2 | 88.112 | 79.617 | E3 | 9.6 | 86 | 0.00 |
| 32 | n-Nonane #2 | 0.000 | 0.000 | | 0.0 | 474# | 0.00 |
| 33 | n-Decane #2 | 0.000 | 0.000 | | 0.0 | 367# | 0.00 |
| 34 | n-Butylcyclohexane #2 | 0.000 | 0.000 | | 0.0 | 425# | 0.00 |
| 35 | 1,2,4-Trimethylbenzene #2 | 90.375 | 80.718 | E3 | 10.7 | 85 | 0.00 |
| 36 | Naphthalene #2 | 94.393 | 88.900 | E3 | 5.8 | 91 | 0.00 |
| 37 S | 2,5-Dibromotoluene #2 | 81.709 | 80.346 | E3 | 1.7 | 96 | 0.00 |

## Evaluate Continuing Calibration Report - Not Founds

Signal #2

Evaluate Continuing Calibration Report

Data File : G:\Aug2011\FID1\0802b\ccc0802c.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 5:12 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:11:39 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 25% Max. Rel. Area : 150%

| | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|
| 20 | Unadjusted C5-C8 Aliphatics | 0.000 | 0.000 | 0.0 | 0# | -6.22# |
| 25 | 2-Methylpentane #2 | 0.000 | 0.000 | 0.0 | 0# | -2.97# |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\ccc0802c.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 5:12 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:11:39 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| .8) | S 2,5-Dibromotolue | 17.01 | 17.01 | 1377381 | 8034647 | 110.982 | 98.333 | |
| | Spiked Amount 50.000 | | | Recovery | = | 221.96% | 196.67% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 0.00 | 20938619 | 0 | 481.166m | N.D. | # |
| 2) | C9-C10 Aromatic | 13.25 | 12.53 | 887 | 7394893 | NoCal | 42.290m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.16 | 6429419 | 438 | 221.595m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.81 | 1279480 | 39483 | 38.469 | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.57 | 1981646 | 4432658 | NoCal | 43.023 | |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 1981646 | 0 | 44.655 | N.D. | # |
| 7) | Benzene | 4.89 | 4.89 | 2944006 | 8024731 | NoCal | 44.774 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 2338376 | 1090329 | 52.082 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 2277380 | 5637664 | NoCal | 45.466 | |
| .0) | Ethylbenzene | 9.86 | 9.86 | 1945559 | 4306665 | NoCal | 46.013 | |
| .1) | m,p-Xylene | 10.12 | 10.12 | 3768970 | 9523251 | NoCal | 91.093 | |
| .2) | o-Xylene | 10.57 | 10.57 | 1867687 | 3980831 | NoCal | 45.179 | |
| .3) | n-Nonane | 10.81 | 10.80 | 1664152 | 421274 | 52.583 | NoCal | # |
| .4) | n-Decane | 12.63 | 12.53 | 1368733 | 4035910 | 60.513 | NoCal | # |
| .5) | n-Butylcyclohexa | 13.35 | 13.35 | 1575134 | 1889170 | 51.289 | NoCal | # |
| .6) | 1,2,4-Trimethylb | 12.53 | 12.53 | 1786163 | 4035910 | NoCal | 44.658 | |
| .7) | Naphthalene | 15.65 | 15.65 | 1511288 | 4444987 | NoCal | 47.090 | |

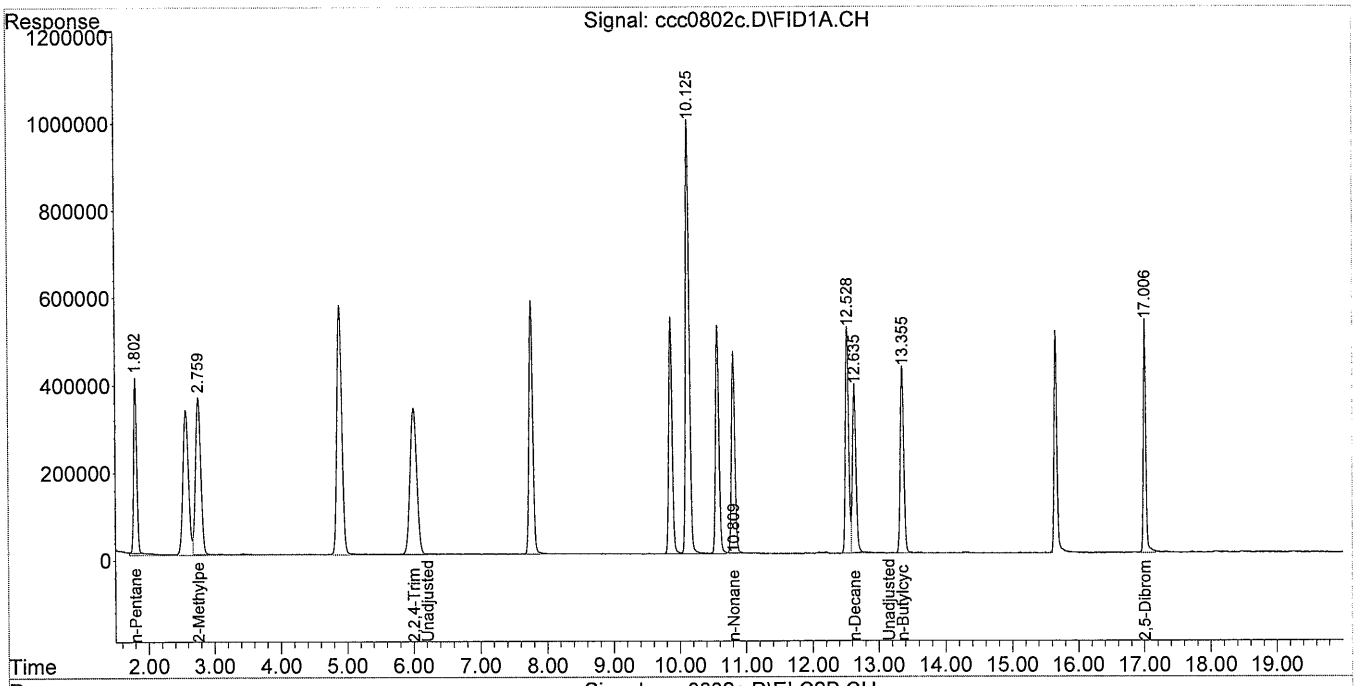
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

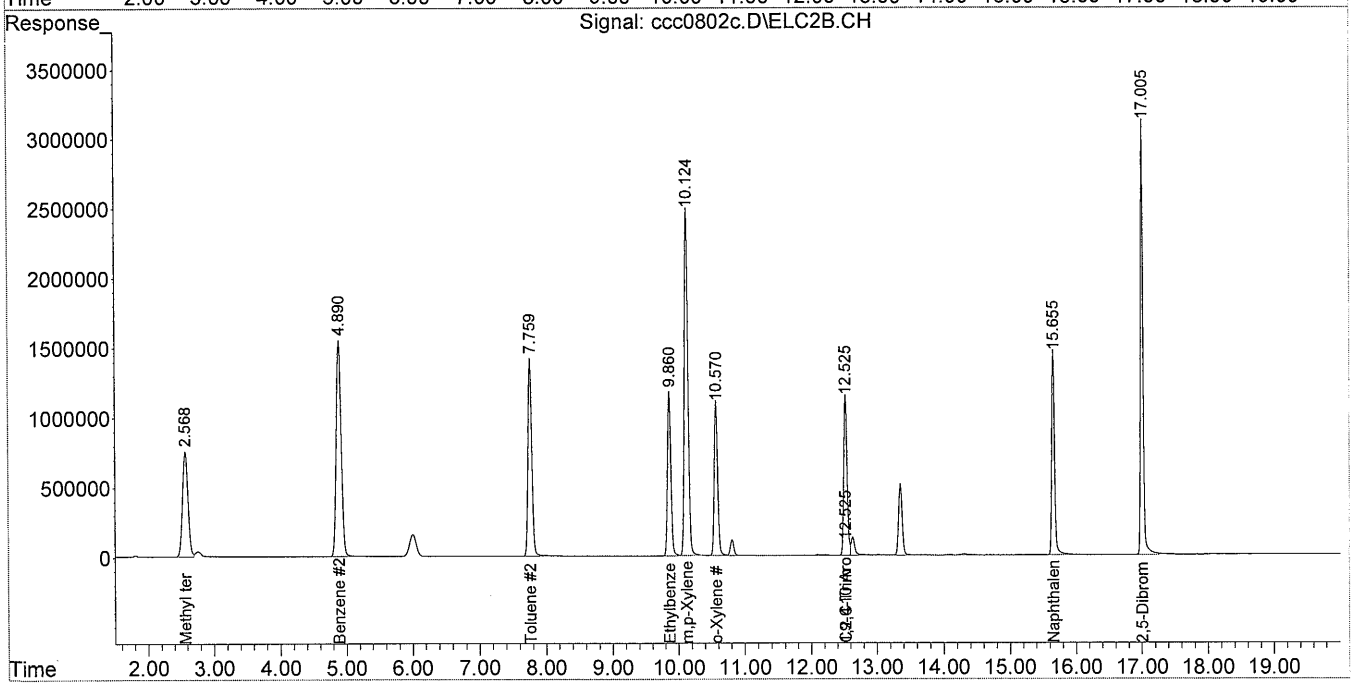
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\ccc0802c.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 5:12 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:11:39 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Raw Quality Control Data

# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115032-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115032-BLK1 | File ID: | blk0730a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 08:21 | Instrument: | FID1 | | |
| Batch: | 1115032 | Sequence: | S106694 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0103 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0103 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\blk0730a.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 8:21 am Operator: mp
Sample : seq-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jul 30 12:09:31 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 526055 | 3251945 | 42.387 | 39.799 |
| | Spiked Amount 50.000 | | | Recovery | = | 84.77% | 79.60% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.19f | 6.23 | 447548 | 542 | 10.285m | NoCal # |
| 2) | C9-C10 Aromatic | 13.27 | 14.30 | 1260 | 164739 | NoCal | 0.942m |
| 3) | Unadjusted C9-C1 | 13.15 | 0.00 | 118325 | 0 | 4.078m | N.D. # |
| 4) | n-Pentane | 0.00 | 1.80 | 0 | 660 | N.D. | NoCal |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 6) | 2-Methylpentane | 0.00 | 2.93 | 0 | 844 | N.D. | NoCal |
| 7) | Benzene | 0.00 | 4.90 | 0 | 1465 | N.D. | <MDL |
| 8) | 2,2,4-Trimethylp | 0.00 | 6.04 | 0 | 531 | N.D. | NoCal |
| 9) | Toluene | 7.73 | 7.78 | 1627 | 9295 | NoCal | <MDL |
| 10) | Ethylbenzene | 9.84 | 9.77 | 5530 | 591 | NoCal | <MDL |
| 11) | m,p-Xylene | 10.19 | 10.16 | 5866 | 4746 | NoCal | <MDL |
| 12) | o-Xylene | 10.75f | 10.57 | 3388 | 2277 | NoCal | <MDL |
| 13) | n-Nonane | 0.00 | 10.82 | 0 | 797 | N.D. d | NoCal |
| 14) | n-Decane | 12.66 | 12.54 | 1224 | 7502 | <MDL | NoCal # |
| 15) | n-Butylcyclohexa | 13.36 | 13.51 | 808 | 1751 | <MDL | NoCal # |
| 16) | 1,2,4-Trimethylb | 12.45 | 12.54 | 2896 | 7502 | NoCal | <MDL |
| 17) | Naphthalene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. d |

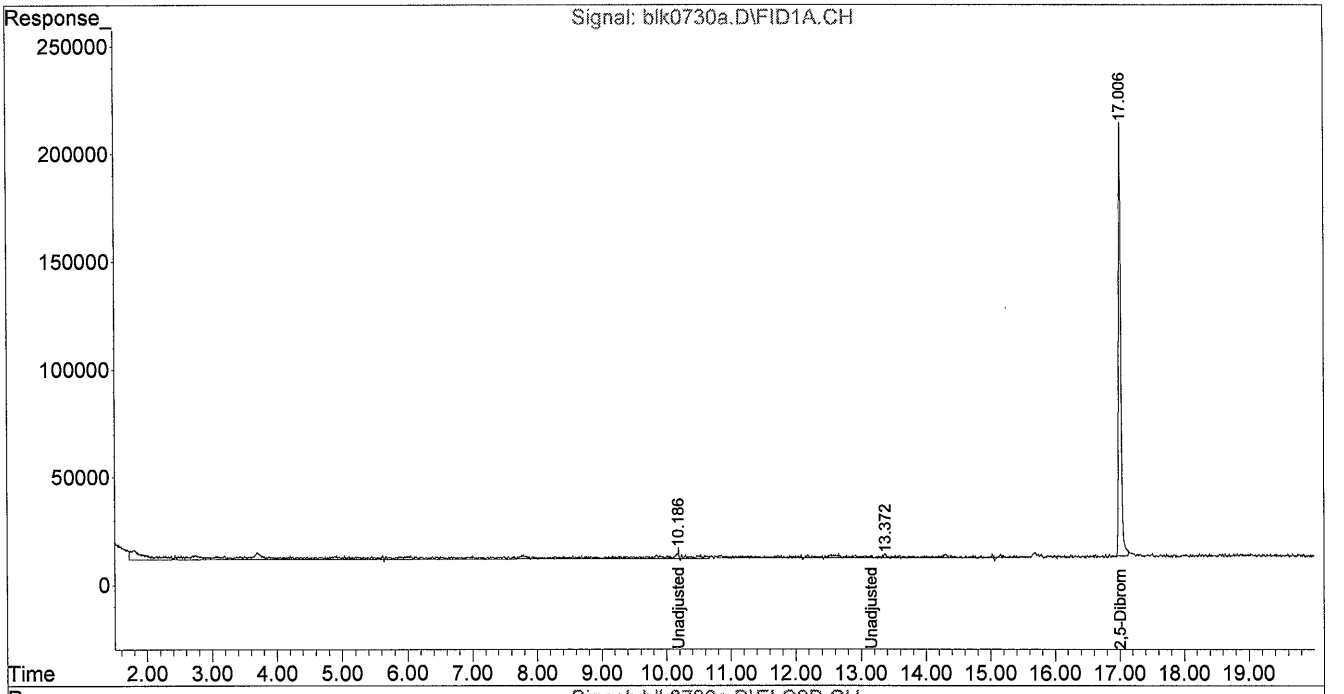
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

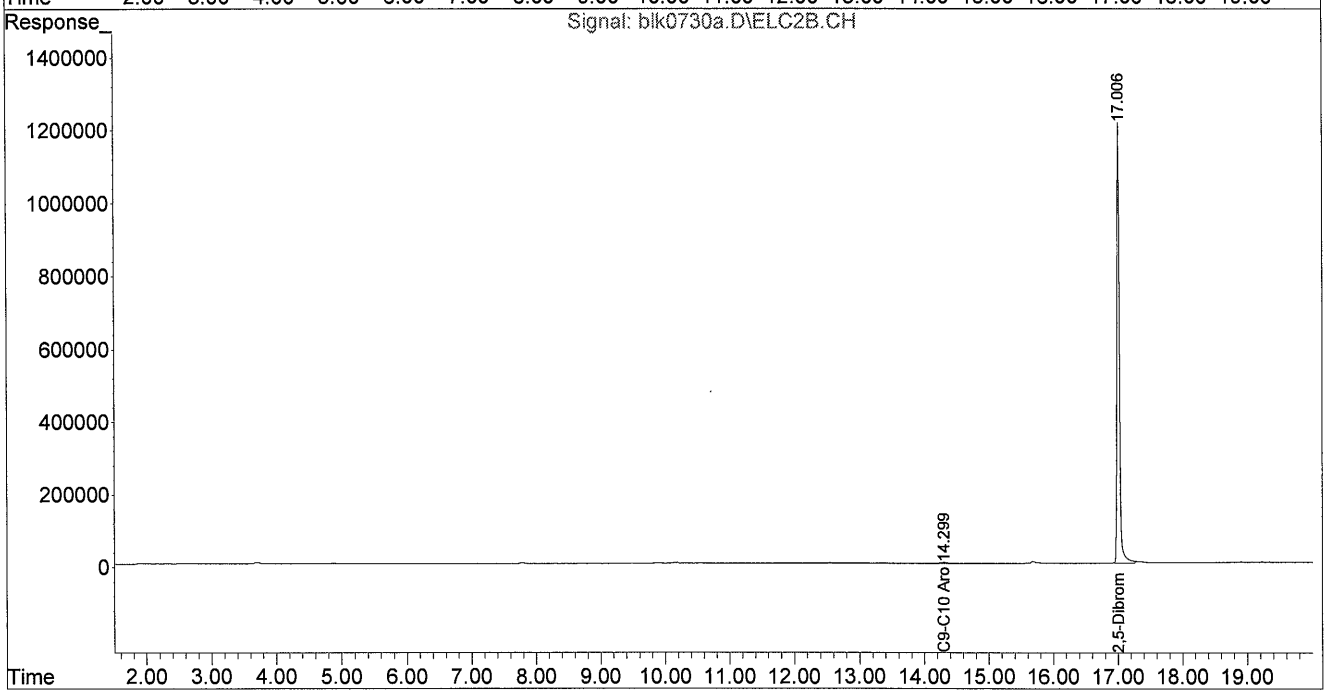
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\blk0730a.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 8:21 am Operator: mp
Sample : seq-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jul 30 12:09:31 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115046-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115046-BLK1 | File ID: | blk0731b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 17:24 | Instrument: | FID2 | | |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0122 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0122 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\blk0731b.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 5:24 pm Operator: mp
Sample : 1114615-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:15:16 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 8) | S 2,5-Dibromotolue | 16.50 | 16.50 | 787794 | 4675030 | 49.904 | 46.175 |
| | Spiked Amount 50.000 | | | Recovery | = | 99.81% | 92.35% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 2.50f | 5.90 | 607447 | 39 | 12.225m | NoCal # |
| 2) | C9-C10 Aromatic | 0.00 | 11.15f | 0 | 123893 | N.D. | 0.516m |
| 3) | Unadjusted C9-C1 | 10.81f | 12.58 | 131251 | 4086 | 3.447m | NoCal # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 6) | 2-Methylpentane | 0.00 | 2.70 | 0 | 113 | N.D. | NoCal |
| 7) | Benzene | 4.79 | 4.41 | 4093 | 3856 | NoCal | <MDL |
| 8) | 2,2,4-Trimethylp | 5.51 | 5.73 | 1745 | 249 | <MDL | NoCal # |
| 9) | Toluene | 7.44 | 7.23 | 1357 | 8680 | NoCal | <MDL |
| .0) | Ethylbenzene | 0.00 | 9.25 | 0 | 452 | N.D. | <MDL |
| .1) | m,p-Xylene | 9.76 | 9.51 | 1796 | 6354 | NoCal | <MDL |
| .2) | o-Xylene | 0.00 | 9.94 | 0 | 1947 | N.D. | <MDL |
| .3) | n-Nonane | 0.00 | 10.45 | 0 | 276 | N.D. | NoCal |
| .4) | n-Decane | 0.00 | 12.30 | 0 | 352 | N.D. | NoCal |
| .5) | n-Butylcyclohexa | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| .6) | 1,2,4-Trimethylb | 0.00 | 11.82 | 0 | 2624 | N.D. | <MDL |
| .7) | Naphthalene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |

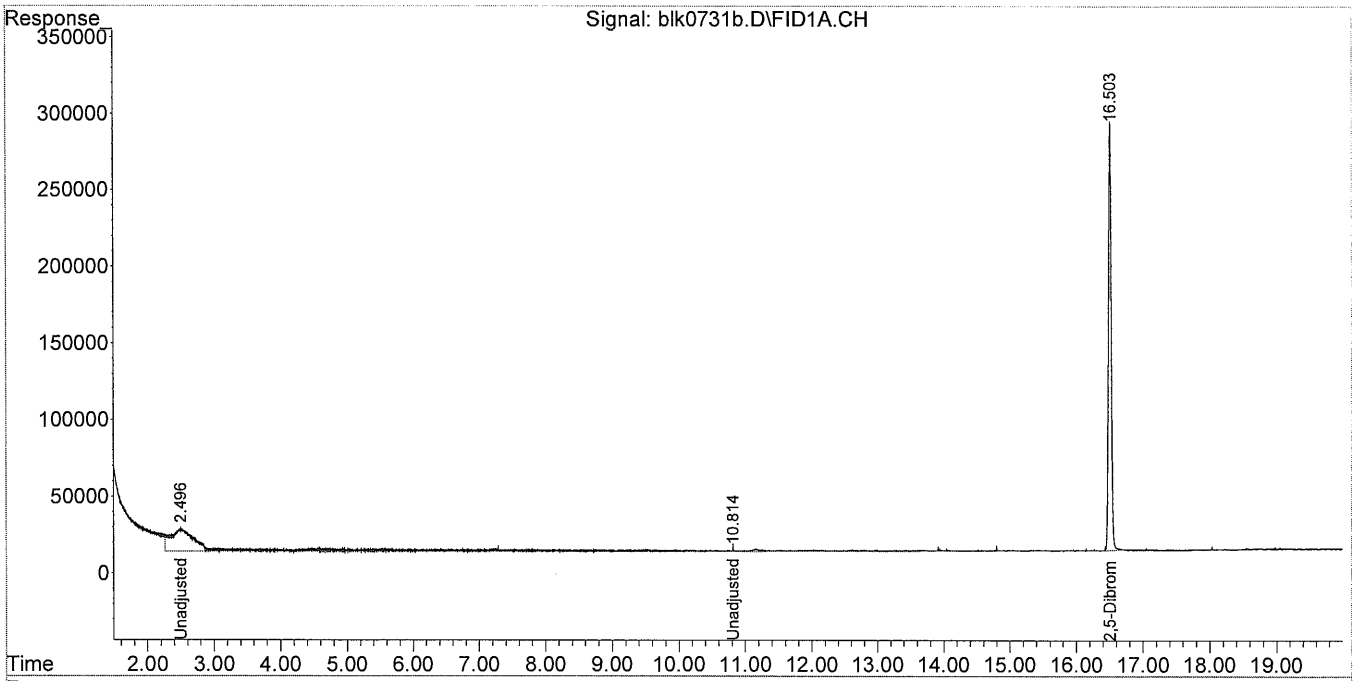
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

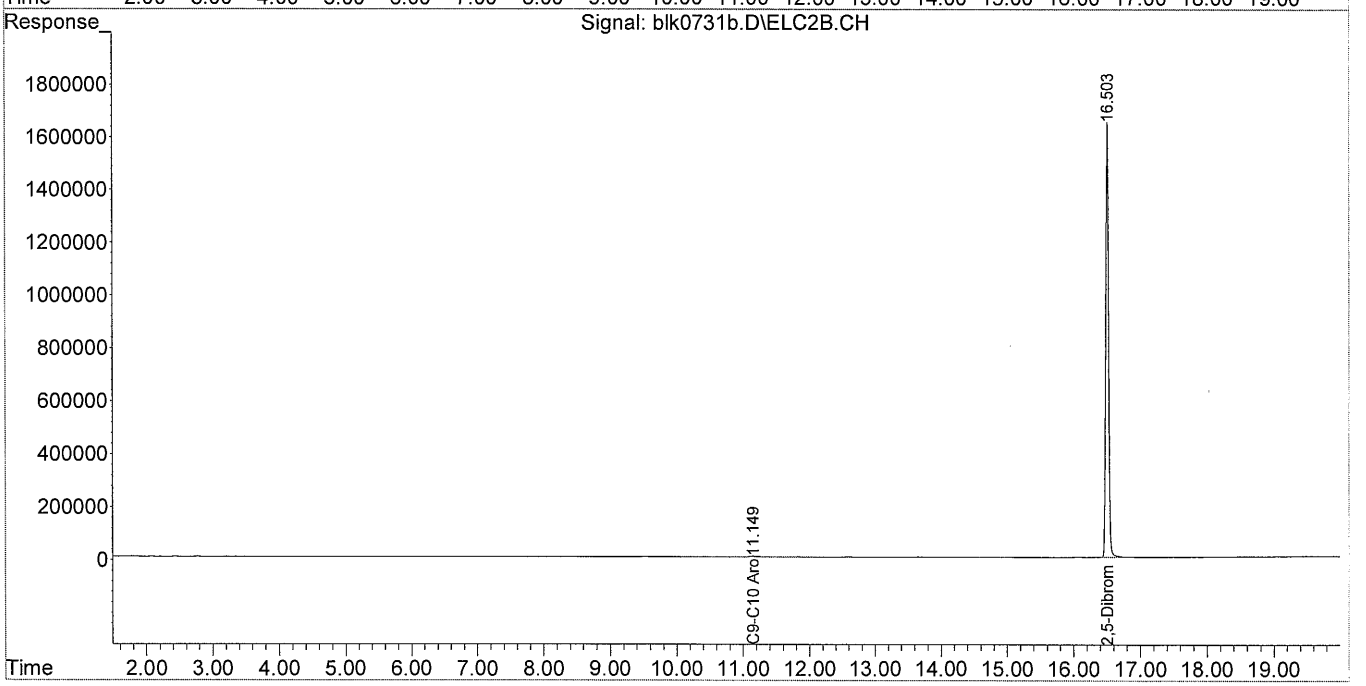
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\blk0731b.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 5:24 pm Operator: mp
Sample : 1114615-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:15:16 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115056-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115056-BLK1 | File ID: | blk0801a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 10:11 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0102 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0102 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\blk0801a.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 10:11 am Operator: mp
Sample : seq-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:25:15 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 530560 | 3288959 | 42.750 | 40.252 | |
| | Spiked Amount 50.000 | | | Recovery | = | 85.50% | 80.50% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.29 | 442983 | 428 | 10.180m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.17 | 14.30 | 964 | 184076 | NoCal | 1.053m | |
| 3) | Unadjusted C9-C1 | 14.30 | 13.10 | 107072 | 1298 | 3.690m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.82 | 0 | 836 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 3.01 | 0 | 531 | N.D. | NoCal | |
| 7) | Benzene | 4.93 | 4.86 | 673 | 1373 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.11f | 5.94 | 1044 | 1076 | <MDL | NoCal | # |
| 9) | Toluene | 7.88f | 7.76 | 686 | 716 | NoCal | <MDL | |
| 10) | Ethylbenzene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 11) | m,p-Xylene | 10.16 | 10.19 | 2017 | 718 | NoCal | <MDL | |
| 12) | o-Xylene | 10.54 | 10.55 | 1445 | 1359 | NoCal | <MDL | |
| 13) | n-Nonane | 10.71f | 10.81 | 581 | 479 | <MDL | NoCal | # |
| 14) | n-Decane | 12.72 | 12.81f | 706 | 812 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.59 | 1403 | 2948 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.41f | 0.00 | 1738 | 0 | NoCal | N.D. | |
| 17) | Naphthalene | 0.00 | 15.68 | 0 | 4495 | N.D. | <MDL | |

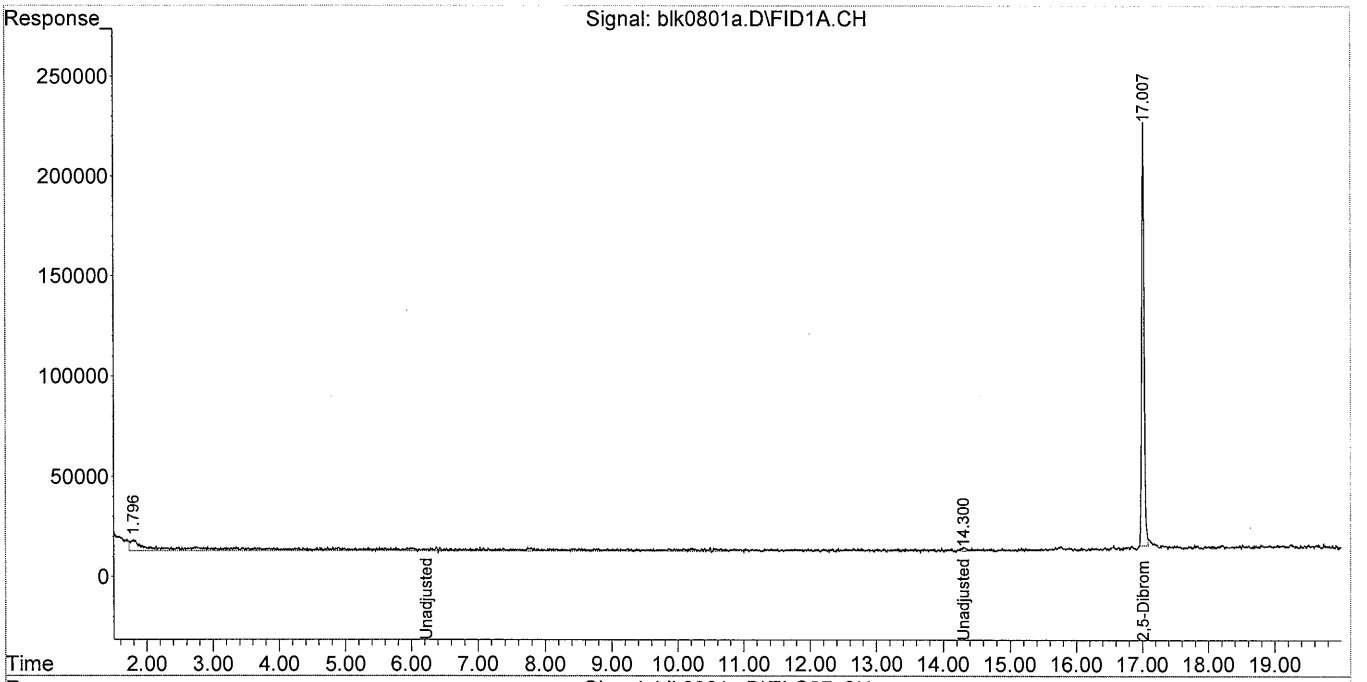
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

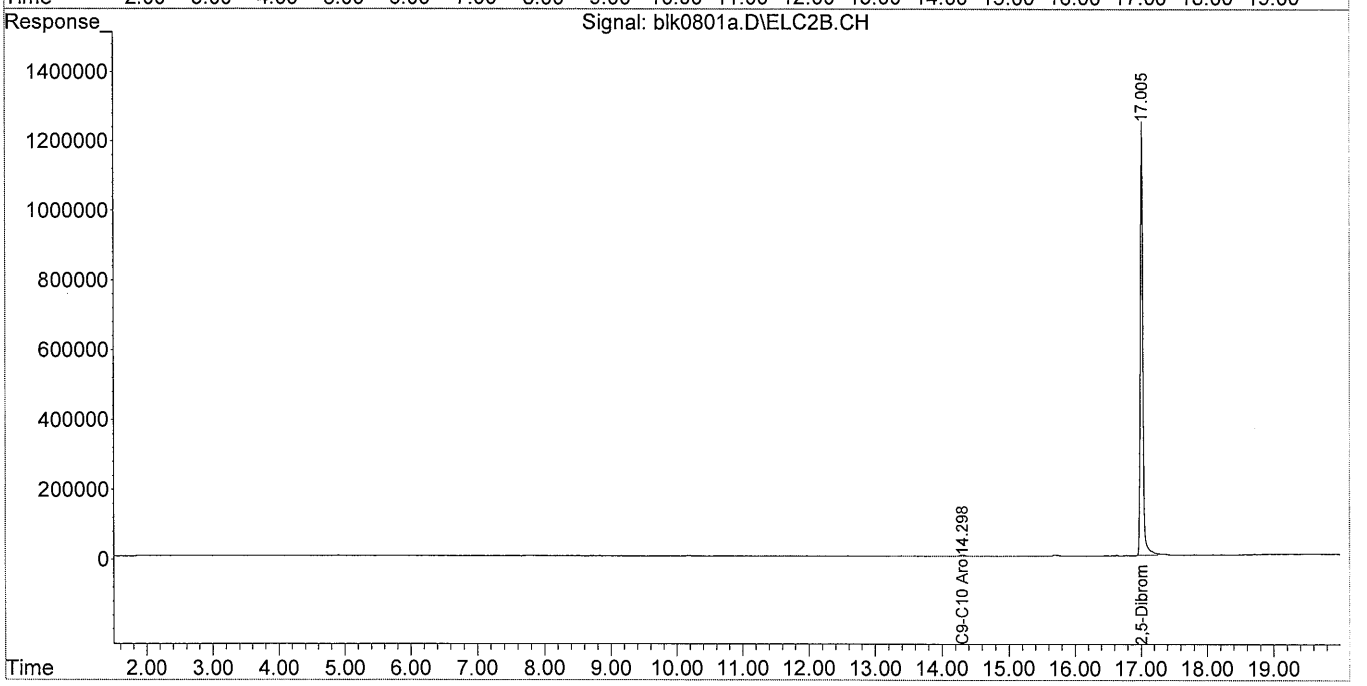
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\blk0801a.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 10:11 am Operator: mp
Sample : seq-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:25:15 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115180-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115180-BLK1 | File ID: | blk0802b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 14:58 | Instrument: | FID1 | | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0120 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00137 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0120 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\blk0802b.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 2:58 pm Operator: mp
Sample : 1115180-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:10:51 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 17.01 | 17.01 | 617896 | 3603414 | 49.787 | 44.101 | |
| | Spiked Amount 50.000 | | | Recovery | = | 99.57% | 88.20% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 1.82f | 6.27 | 523806 | 1177 | 12.037m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.04 | 14.31 | 1508 | 238789 | NoCal | 1.366m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.18 | 120799 | 670 | 4.163m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.81 | 0 | 563 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 2.55 | 0 | 753 | N.D. | <MDL | |
| 6) | 2-Methylpentane | 0.00 | 3.00 | 0 | 949 | N.D. | NoCal | |
| 7) | Benzene | 4.85 | 4.84 | 1065 | 1294 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.01 | 5.95 | 1327 | 1112 | <MDL | NoCal | # |
| 9) | Toluene | 0.00 | 7.77 | 0 | 973 | N.D. | <MDL | |
| 10) | Ethylbenzene | 9.74f | 9.74f | 1295 | 1255 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.13 | 10.07 | 705 | 1160 | NoCal | <MDL | |
| 12) | o-Xylene | 10.40f | 10.57 | 770 | 1803 | NoCal | <MDL | |
| 13) | n-Nonane | 10.97f | 10.77 | 711 | 703 | <MDL | NoCal | # |
| 14) | n-Decane | 12.59 | 12.63 | 1231 | 830 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.04f | 13.49 | 1508 | 606 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.59 | 12.63 | 1231 | 830 | NoCal | <MDL | |
| 17) | Naphthalene | 15.61 | 15.66 | 890 | 786 | NoCal | <MDL | |

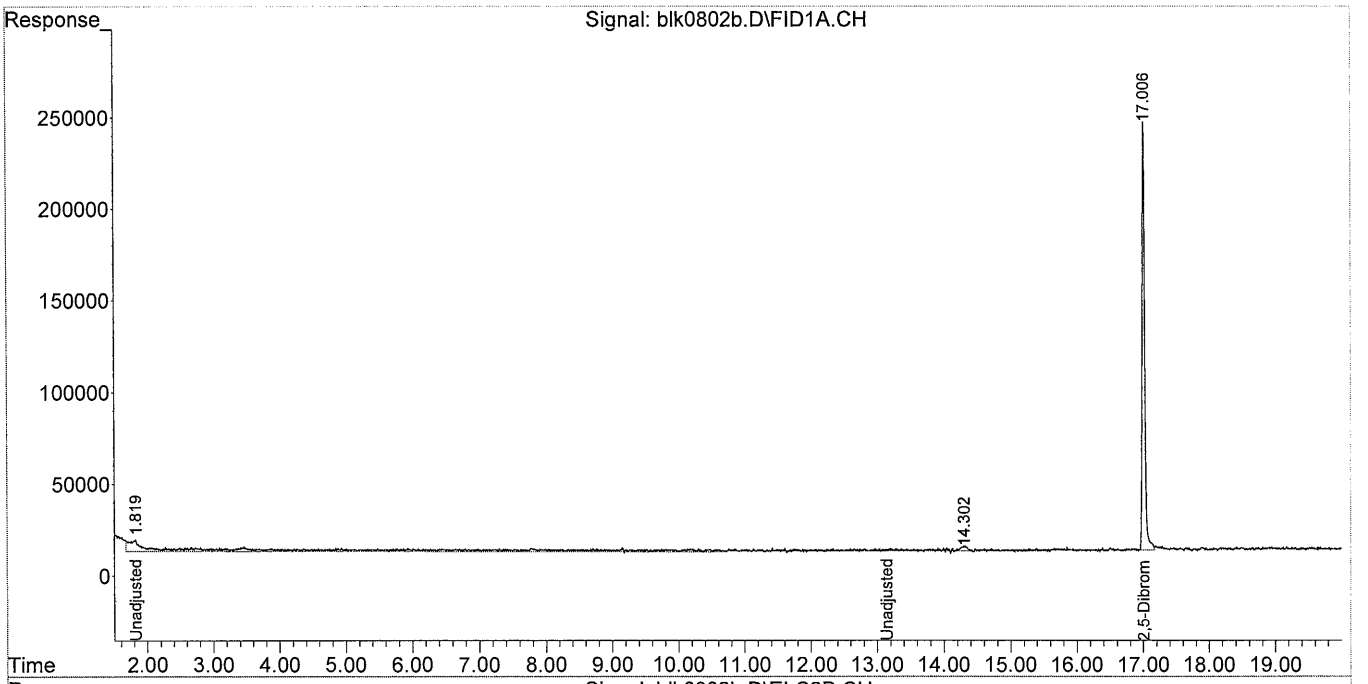
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

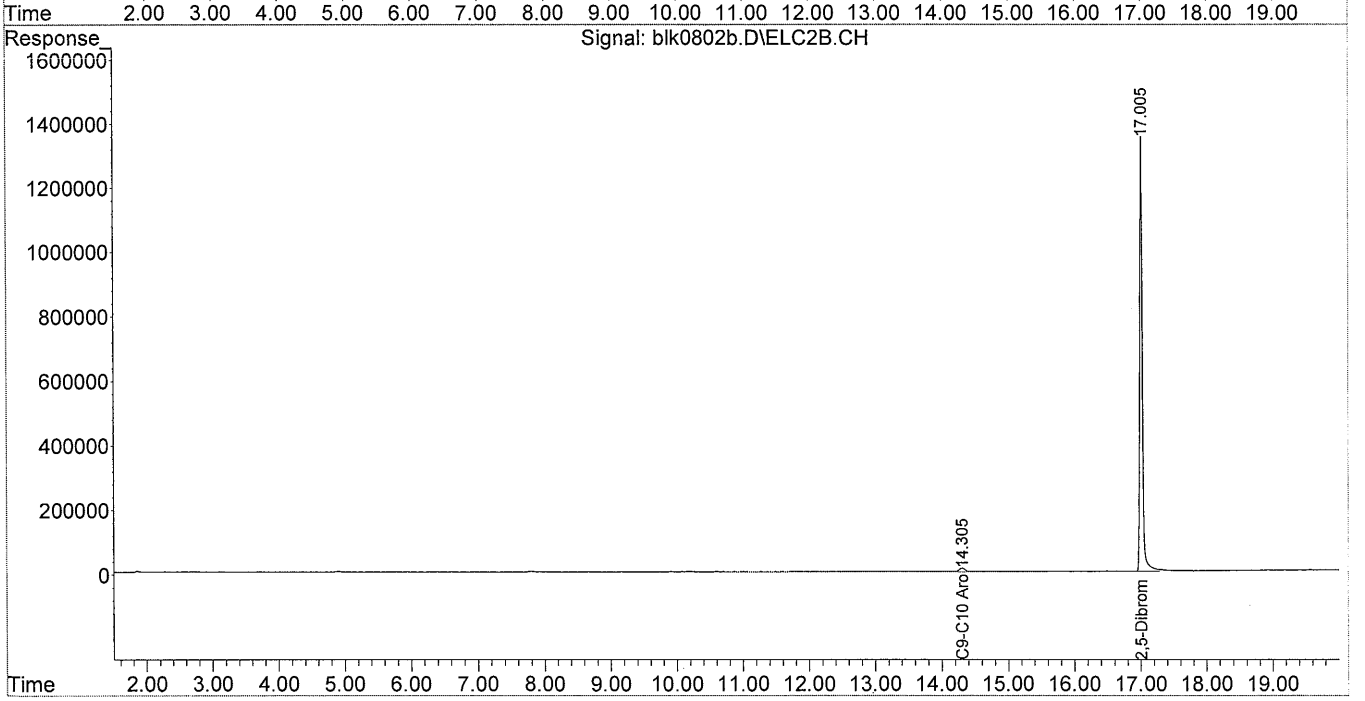
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\blk0802b.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 2:58 pm Operator: mp
Sample : 1115180-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:10:51 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115032-BS1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115032-BS1 | File ID: | lcs0730a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 09:56 | Instrument: | FID1 | | |
| Batch: | 1115032 | Sequence: | S106694 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 69.5 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 62.4 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 16.6 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 187 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 79.0 µg/l | |
| 71-43-2 | Benzene | 1 | 18.8 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 15.5 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 20.1 µg/l | |
| 91-20-3 | Naphthalene | 1 | 15.1 µg/l | |
| 108-88-3 | Toluene | 1 | 16.7 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 31.0 µg/l | |
| 95-47-6 | o-Xylene | 1 | 15.7 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 21.2 µg/l | |
| 111-84-2 | n-Nonane | 1 | 16.7 µg/l | |
| 109-66-0 | n-Pentane | 1 | 22.8 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 14.9 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 20.0 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 16.9 µg/l | |
| 124-18-5 | n-Decane | 1 | 19.3 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\lcs0730a.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 9:56 am Operator: mp
Sample : seq-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jul 30 12:10:56 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 768084 | 4708988 | 61.888 | 57.631 |
| | Spiked Amount 50.000 | | | Recovery | = | 123.78% | 115.26% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.13f | 6.23 | 8153195 | 936 | 187.359m | NoCal # |
| 2) | C9-C10 Aromatic | 13.15 | 12.53 | 1374 | 2899383 | NoCal | 16.581m |
| 3) | Unadjusted C9-C1 | 13.15 | 13.19 | 2291720 | 459 | 78.986m | NoCal # |
| 4) | n-Pentane | 1.80 | 1.80 | 758743 | 36107 | 22.812 | NoCal # |
| 5) | Methyl tert-buty | 2.76 | 2.57 | 939763 | 2069486 | NoCal | 20.086 |
| 6) | 2-Methylpentane | 2.76 | 3.03 | 939763 | 1061 | 21.177 | NoCal # |
| 7) | Benzene | 4.89 | 4.89 | 1194286 | 3376174 | NoCal | 18.837 |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 895721 | 449806 | 19.950 | NoCal # |
| 9) | Toluene | 7.76 | 7.76 | 803983 | 2072518 | NoCal | 16.714 |
| 10) | Ethylbenzene | 9.86 | 9.86 | 632751 | 1454679 | NoCal | 15.542 |
| 11) | m,p-Xylene | 10.13 | 10.12 | 1228759 | 3237276 | NoCal | 30.966 |
| 12) | o-Xylene | 10.57 | 10.57 | 625404 | 1381753 | NoCal | 15.682 |
| 13) | n-Nonane | 10.81 | 10.81 | 528670 | 145962 | 16.705 | NoCal # |
| 14) | n-Decane | 12.64 | 12.53 | 437150 | 1349816 | 19.327 | NoCal # |
| 15) | n-Butylcyclohexa | 13.36 | 13.35 | 518117 | 645697 | 16.871 | NoCal # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 573342 | 1349816 | NoCal | 14.936 |
| 17) | Naphthalene | 15.66 | 15.65 | 463567 | 1428371 | NoCal | 15.132 |

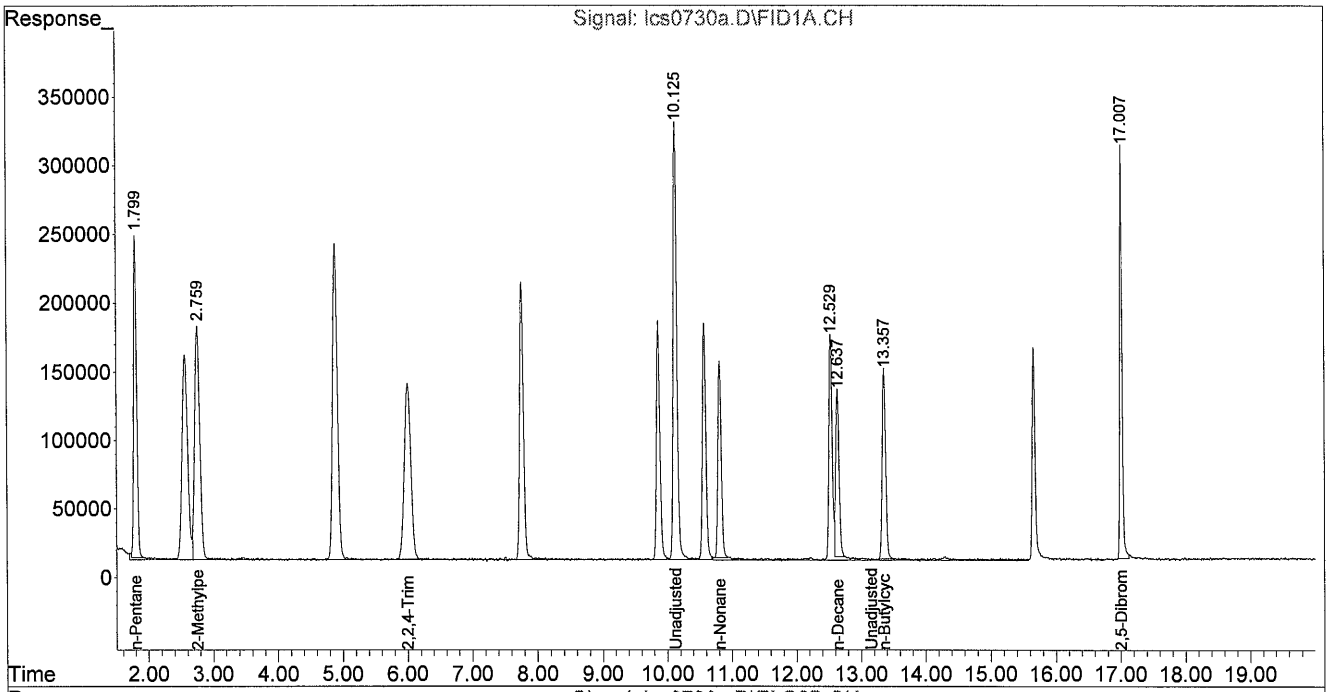
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

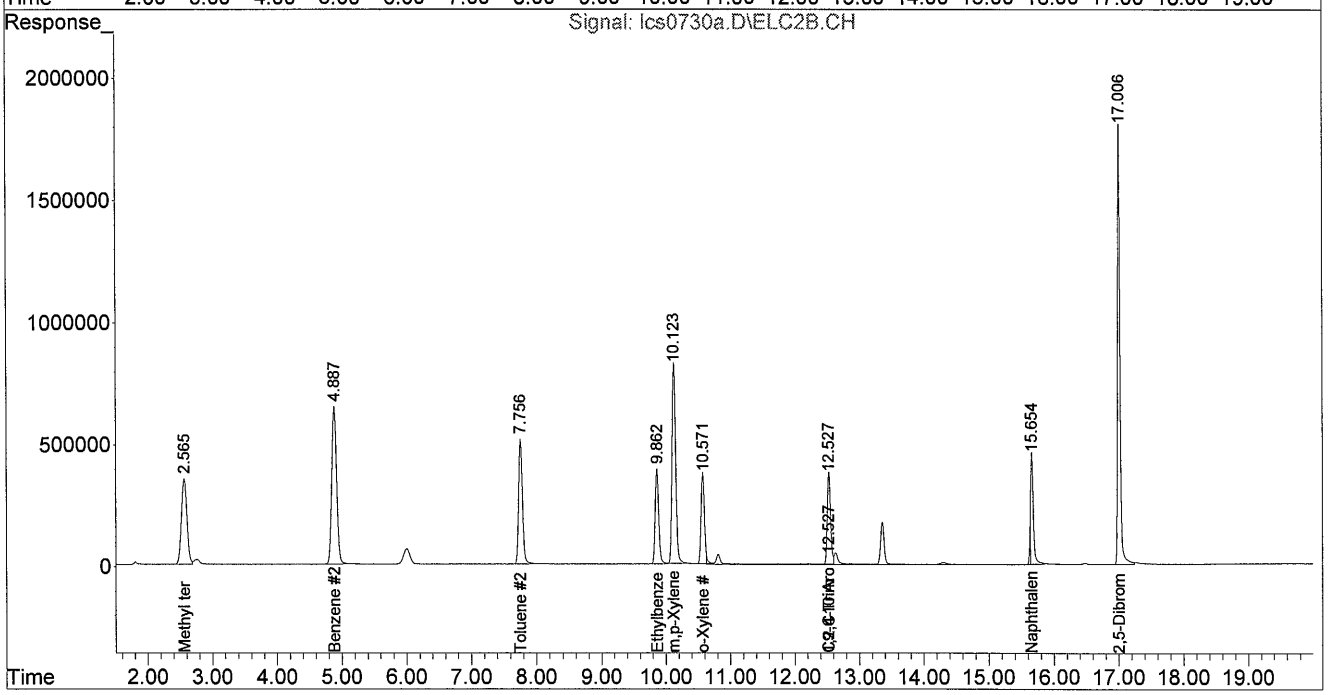
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\lcs0730a.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 9:56 am Operator: mp
Sample : seq-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jul 30 12:10:56 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115032-BSD1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115032-BSD1 | File ID: | lcs0730b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 10:23 | Instrument: | FID1 | | |
| Batch: | 1115032 | Sequence: | S106694 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 59.8 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 64.4 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 16.2 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 183 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 80.6 µg/l | |
| 71-43-2 | Benzene | 1 | 18.2 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 17.0 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 18.6 µg/l | |
| 91-20-3 | Naphthalene | 1 | 16.3 µg/l | |
| 108-88-3 | Toluene | 1 | 17.5 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 34.1 µg/l | |
| 95-47-6 | o-Xylene | 1 | 17.3 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 19.8 µg/l | |
| 111-84-2 | n-Nonane | 1 | 17.1 µg/l | |
| 109-66-0 | n-Pentane | 1 | 21.4 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 16.4 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 19.3 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 17.7 µg/l | |
| 124-18-5 | n-Decane | 1 | 20.1 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\lcs0730b.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 10:23 am Operator: mp
Sample : 1115032-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jul 30 12:11:23 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) | S 2,5-Dibromotolue | 17.01 | 17.01 | 840934 | 5047210 | 67.758 | 61.771 | |
| | Spiked Amount 50.000 | | | Recovery | = | 135.52% | 123.54% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.24 | 7946116 | 645 | 182.601m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.09 | 12.53 | 1530 | 2839762 | NoCal | 16.240m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.35 | 2339564 | 677320 | 80.635m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.80 | 710151 | 19071 | 21.351 | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.57 | 879756 | 1921075 | NoCal | 18.646 | |
| 6) | 2-Methylpentane | 2.76 | 2.99 | 879756 | 747 | 19.825 | NoCal | # |
| 7) | Benzene | 4.89 | 4.89 | 1158953 | 3263762 | NoCal | 18.210 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 864560 | 422016 | 19.256 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 851818 | 2176063 | NoCal | 17.549 | |
| 10) | Ethylbenzene | 9.86 | 9.86 | 707102 | 1590855 | NoCal | 16.997 | |
| 11) | m,p-Xylene | 10.13 | 10.12 | 1371359 | 3568893 | NoCal | 34.138 | |
| 12) | o-Xylene | 10.57 | 10.57 | 692754 | 1520993 | NoCal | 17.262 | |
| 13) | n-Nonane | 10.81 | 10.81 | 542195 | 142796 | 17.132 | NoCal | # |
| 14) | n-Decane | 12.63 | 12.53 | 453903 | 1479592 | 20.068 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 545094 | 677320 | 17.749 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 633900 | 1479592 | NoCal | 16.372 | |
| 17) | Naphthalene | 15.66 | 15.66 | 531031 | 1537979 | NoCal | 16.293 | |

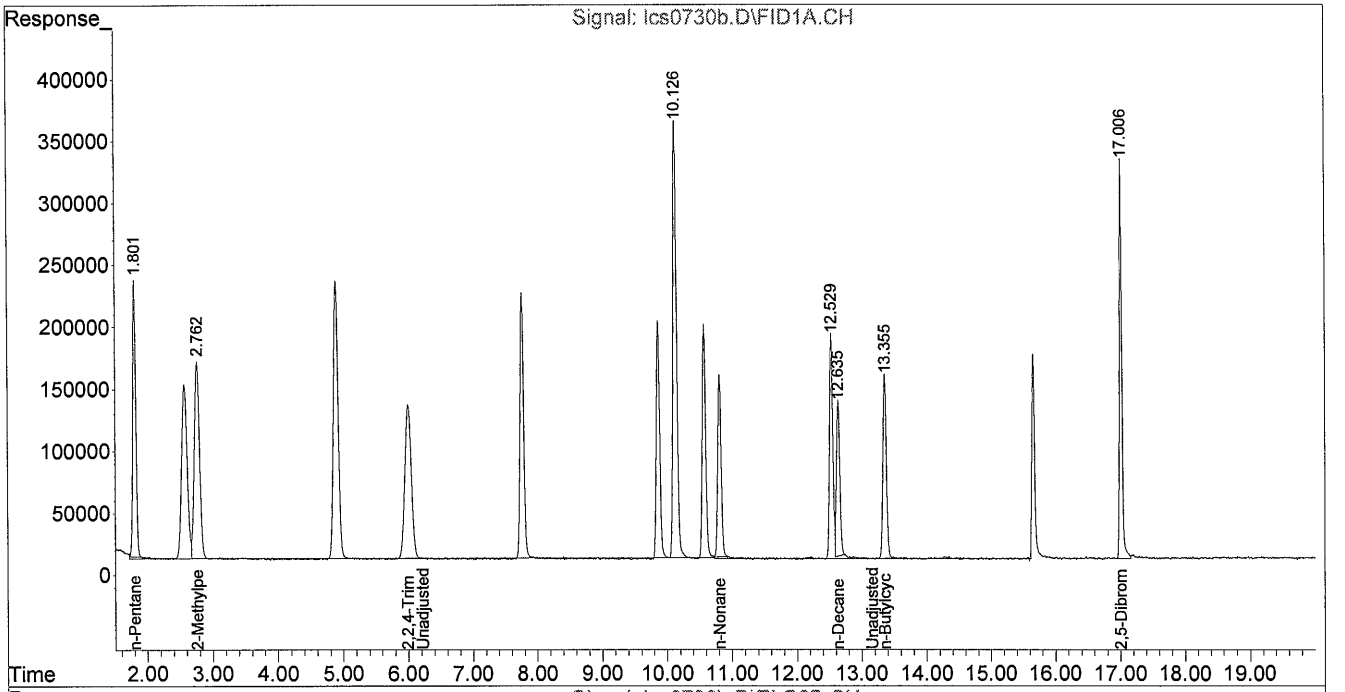
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

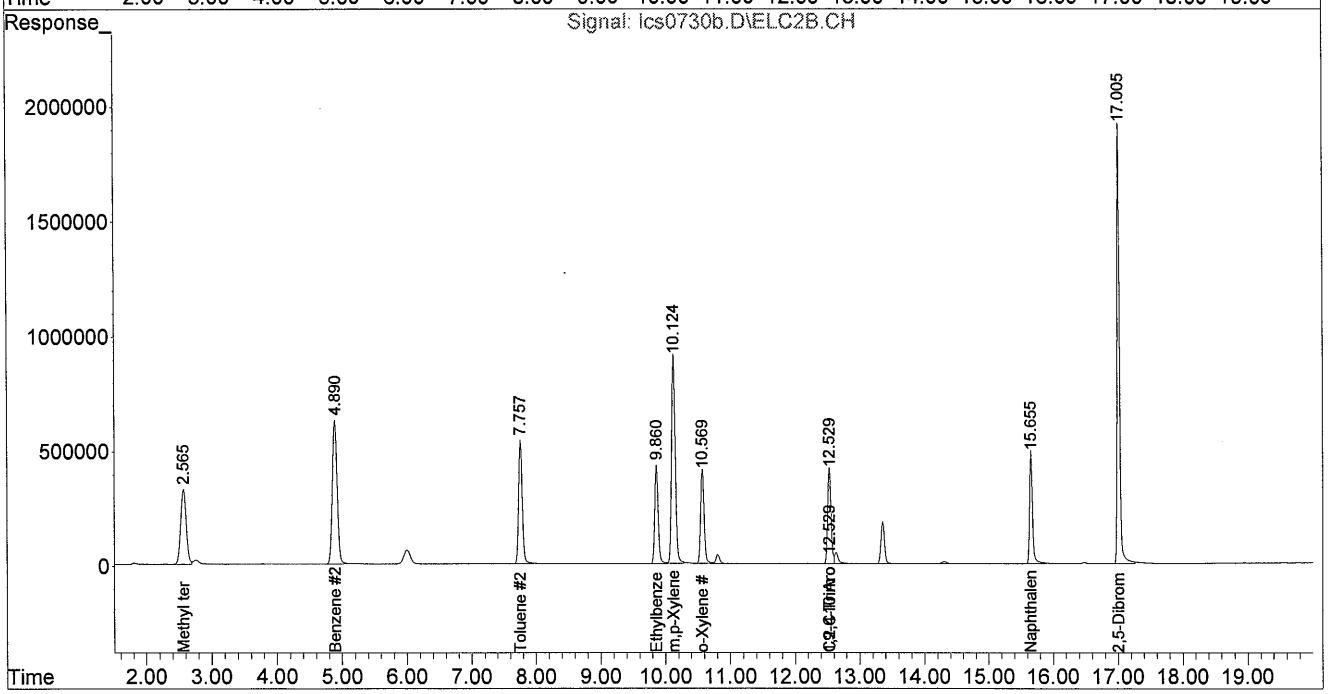
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID1\0730\lcs0730b.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 30 Jul 2011 10:23 am Operator: mp
Sample : 1115032-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Jul 30 12:11:23 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115046-BS1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115046-BS1 | File ID: | lcs0731a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 18:22 | Instrument: | FID2 | | |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 53.7 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 62.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 17.1 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 175 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 79.9 µg/l | |
| 71-43-2 | Benzene | 1 | 16.1 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 18.2 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 14.1 µg/l | |
| 91-20-3 | Naphthalene | 1 | 20.2 µg/l | |
| 108-88-3 | Toluene | 1 | 17.2 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 36.5 µg/l | |
| 95-47-6 | o-Xylene | 1 | 19.0 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 14.7 µg/l | |
| 111-84-2 | n-Nonane | 1 | 18.3 µg/l | |
| 109-66-0 | n-Pentane | 1 | 17.9 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 19.1 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 17.2 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 20.0 µg/l | |
| 124-18-5 | n-Decane | 1 | 22.3 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\lcs0731a.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 6:22 pm Operator: mp
Sample : 1114615-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:16:10 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 16.50 | 16.50 | 1116031 | 6611956 | 70.697 | 65.306 | |
| | Spiked Amount 50.000 | | | Recovery | = | 141.39% | 130.61% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 8688202 | 0 | 174.851m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.62 | 11.80 | 635741 | 4094310 | NoCal | 17.069m | |
| 3) | Unadjusted C9-C1 | 12.48 | 12.62 | 3043716 | 797259 | 79.940m | NoCal | # |
| 4) | n-Pentane | 1.64 | 0.00 | 548765 | 0 | 17.924 | N.D. | # |
| 5) | Methyl tert-buty | 2.47 | 2.31 | 544199 | 514879 | NoCal | 14.099m | |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 544199 | 0 | 14.653 | N.D. | # |
| 7) | Benzene | 4.75 | 4.41 | 607 | 3420912 | NoCal | 16.111 | |
| 8) | 2,2,4-Trimethylp | 5.51 | 0.00 | 654450 | 0 | 17.201 | N.D. | # |
| 9) | Toluene | 7.56 | 7.21 | 719 | 3066863 | NoCal | 17.227 | |
| .0) | Ethylbenzene | 9.49 | 9.23 | 2377696 | 2631595 | NoCal | 18.204 | |
| .1) | m,p-Xylene | 9.49f | 9.49 | 2377696 | 6076634 | NoCal | 36.546 | |
| .2) | o-Xylene | 10.17 | 9.91 | 509573 | 2774114 | NoCal | 18.953 | |
| .3) | n-Nonane | 10.17 | 10.57f | 509573 | 51 | 18.323 | NoCal | # |
| .4) | n-Decane | 11.94 | 12.29 | 480169 | 6964 | 22.333 | NoCal | # |
| .5) | n-Butylcyclohexa | 12.62 | 0.00 | 635741 | 0 | 20.044 | N.D. | # |
| .6) | 1,2,4-Trimethylb | 0.00 | 11.80 | 0 | 2658347 | N.D. | 19.072 | |
| .7) | Naphthalene | 0.00 | 14.97 | 0 | 2679617 | N.D. | 20.212 | |

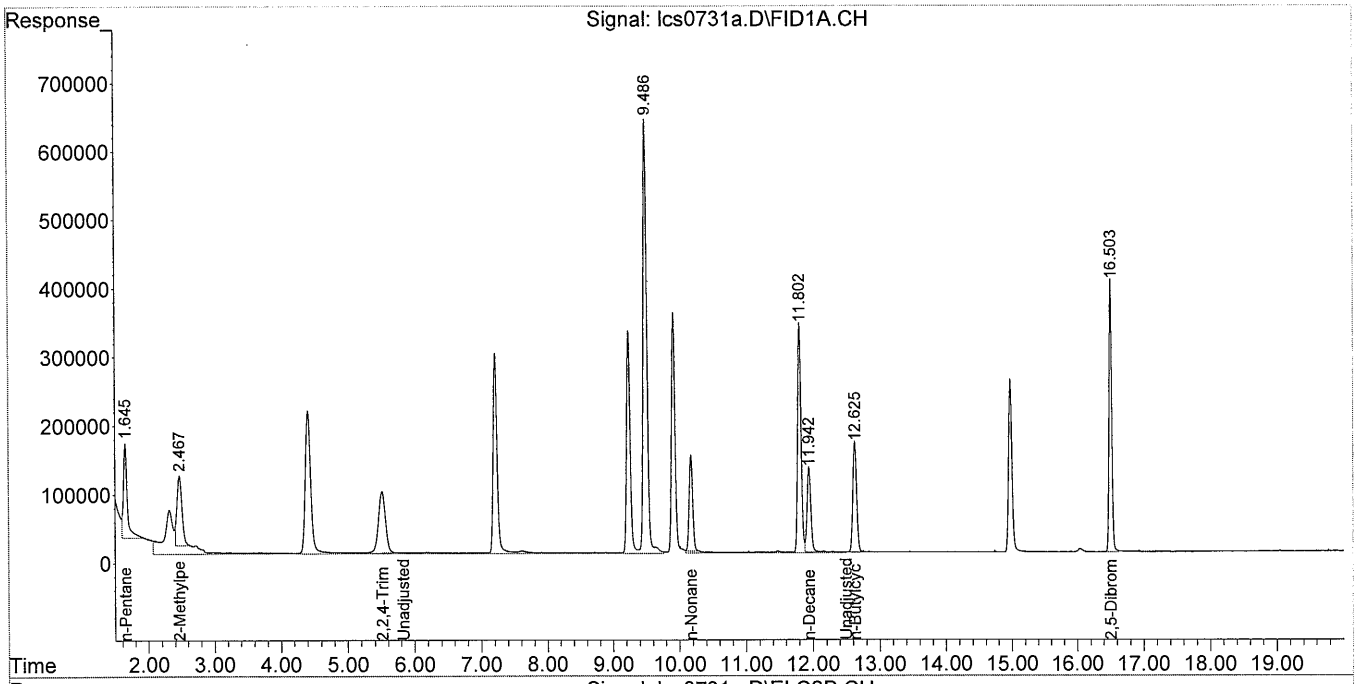
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

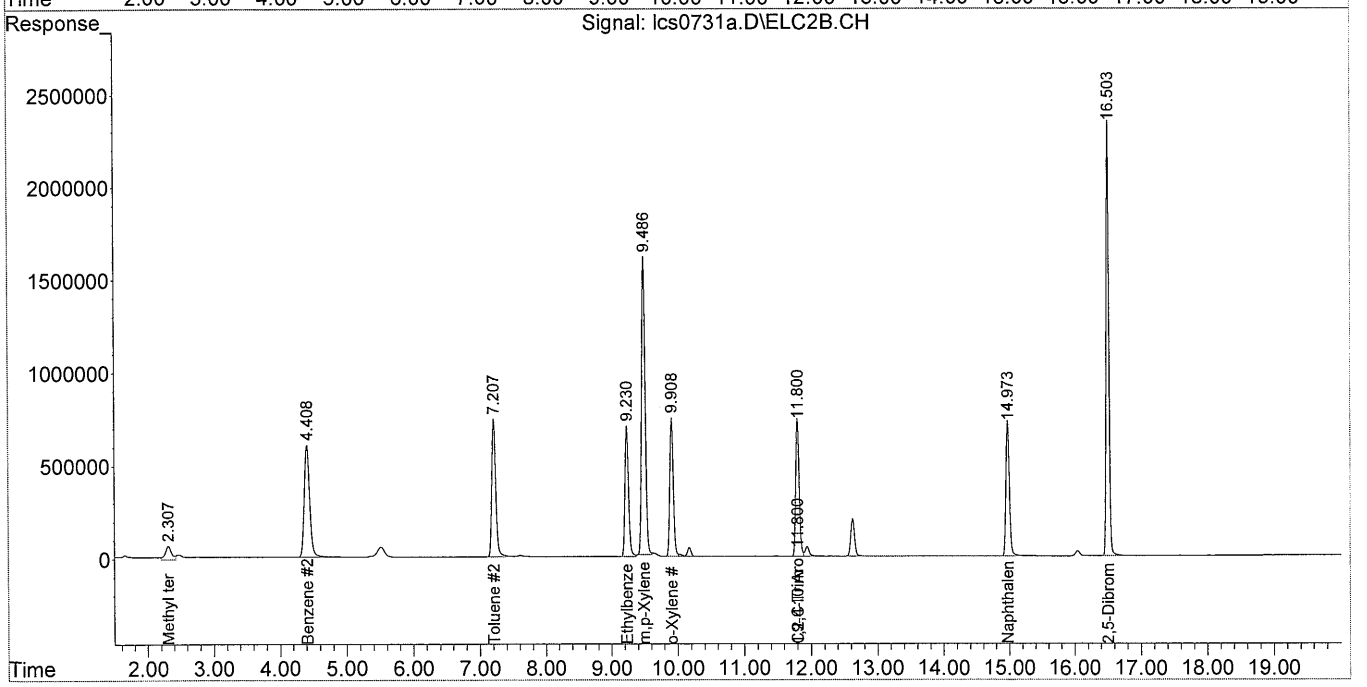
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\lcs0731a.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 6:22 pm Operator: mp
Sample : 1114615-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:16:10 2011
Quant Results File: F2060611.RES

Quant Method : C:\msdchem\1\METHODS\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115046-BSD1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115046-BSD1 | File ID: | lcs0731b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 18:51 | Instrument: | FID2 | | |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 55.6 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 60.4 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 16.4 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 174 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 76.9 µg/l | |
| 71-43-2 | Benzene | 1 | 15.6 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 17.7 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 14.3 µg/l | |
| 91-20-3 | Naphthalene | 1 | 19.4 µg/l | |
| 108-88-3 | Toluene | 1 | 16.7 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 35.5 µg/l | |
| 95-47-6 | o-Xylene | 1 | 18.4 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 15.4 µg/l | |
| 111-84-2 | n-Nonane | 1 | 18.0 µg/l | |
| 109-66-0 | n-Pentane | 1 | 18.1 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 18.5 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 16.4 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 18.9 µg/l | |
| 124-18-5 | n-Decane | 1 | 20.7 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\lcs0731b.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 6:51 pm Operator: mp
Sample : 1114615-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:16:41 2011
Quant Results File: F2060611.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| .8) | S 2,5-Dibromotolue | 16.50 | 16.50 | 1100690 | 6497118 | 69.725 | 64.171 | |
| | Spiked Amount 50.000 | | | Recovery | = | 139.45% | 128.34% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 8630817 | 0 | 173.696m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.44 | 11.80 | 531 | 3937173 | NoCal | 16.414m | |
| 3) | Unadjusted C9-C1 | 12.48 | 12.62 | 2926141 | 752977 | 76.852m | NoCal | # |
| 4) | n-Pentane | 1.64 | 0.00 | 553721 | 0 | 18.086 | N.D. | # |
| 5) | Methyl tert-buty | 2.47 | 2.31 | 572000 | 521276 | NoCal | 14.274m | |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 572000 | 0 | 15.401 | N.D. | # |
| 7) | Benzene | 4.73 | 4.41 | 645 | 3319087 | NoCal | 15.632 | |
| 8) | 2,2,4-Trimethylp | 5.50 | 0.00 | 622059 | 0 | 16.350 | N.D. | # |
| 9) | Toluene | 7.61 | 7.21 | 2311 | 2974168 | NoCal | 16.706 | |
| .0) | Ethylbenzene | 9.49 | 9.23 | 2311309 | 2551983 | NoCal | 17.654 | |
| .1) | m,p-Xylene | 9.49f | 9.49 | 2311309 | 5897922 | NoCal | 35.472 | |
| .2) | o-Xylene | 10.17 | 9.91 | 500325 | 2690419 | NoCal | 18.381 | |
| .3) | n-Nonane | 10.17 | 0.00 | 500325 | 0 | 17.990 | N.D. | # |
| .4) | n-Decane | 11.94 | 12.28 | 446033 | 6791 | 20.745 | NoCal | # |
| .5) | n-Butylcyclohexa | 12.62 | 0.00 | 599765 | 0 | 18.910 | N.D. | # |
| .6) | 1,2,4-Trimethylb | 12.27 | 11.80 | 749 | 2571748 | NoCal | 18.451 | |
| .7) | Naphthalene | 15.33 | 14.97 | 767 | 2566234 | NoCal | 19.357 | |

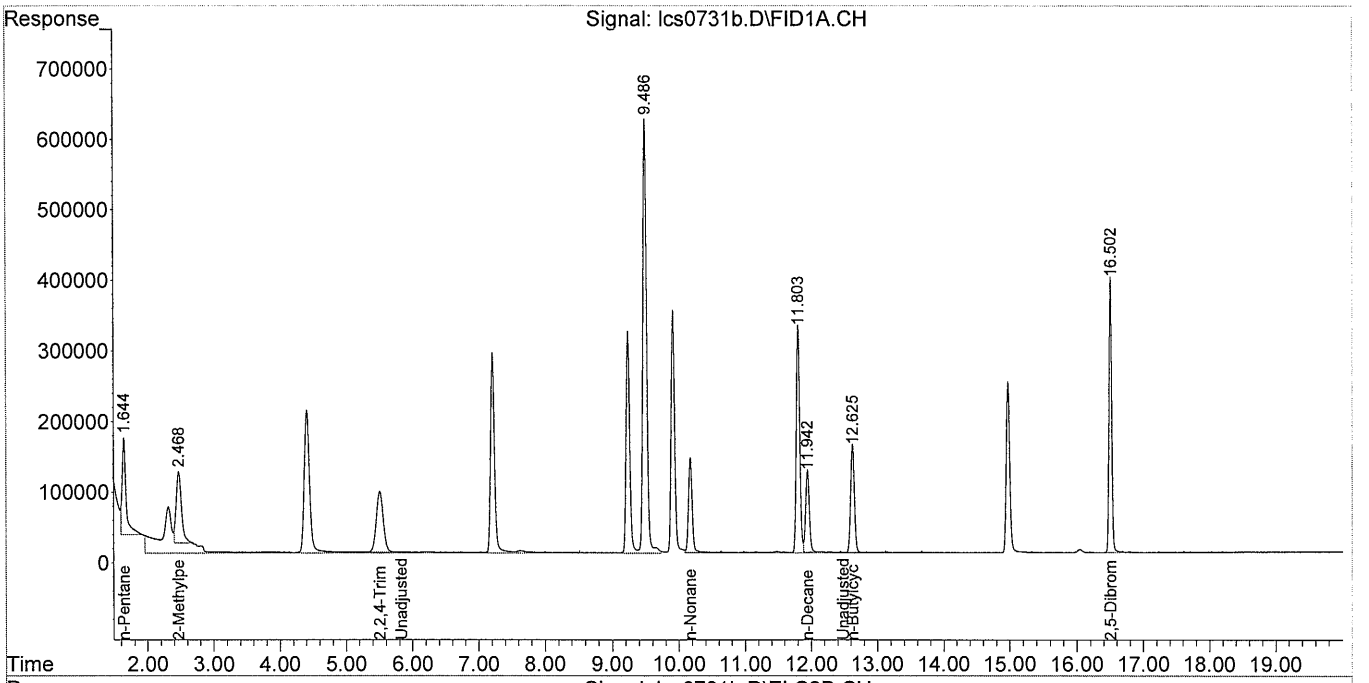
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

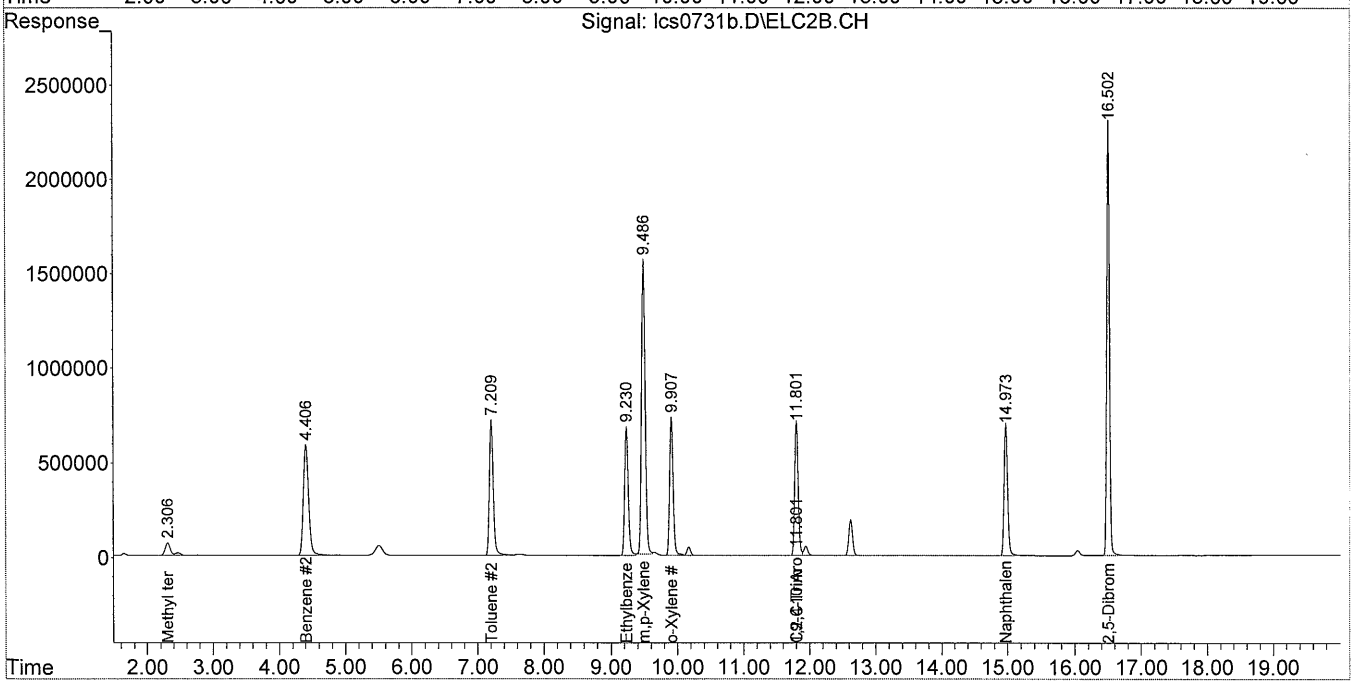
Quantitation Report (QT Reviewed)

Data File : G:\Jul2011\FID2\0731\lcs0731b.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 6:51 pm Operator: mp
Sample : 1114615-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:16:41 2011
Quant Results File: F2060611.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115056-BS1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115056-BS1 | File ID: | lcs0801a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 11:30 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 72.0 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 63.6 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 15.3 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 188 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 78.9 µg/l | |
| 71-43-2 | Benzene | 1 | 17.4 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 16.2 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 17.0 µg/l | |
| 91-20-3 | Naphthalene | 1 | 15.2 µg/l | |
| 108-88-3 | Toluene | 1 | 16.9 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 32.2 µg/l | |
| 95-47-6 | o-Xylene | 1 | 16.2 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 21.7 µg/l | |
| 111-84-2 | n-Nonane | 1 | 17.3 µg/l | |
| 109-66-0 | n-Pentane | 1 | 25.7 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 15.2 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 19.3 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 16.8 µg/l | |
| 124-18-5 | n-Decane | 1 | 17.2 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\lcs0801a.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 11:30 am Operator: mp
Sample : seq-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:27:06 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.00 | 17.00 | 823437 | 4957297 | 66.348 | 60.670 | |
| | Spiked Amount 50.000 | | | Recovery | = | 132.70% | 121.34% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 10.12f | 6.20 | 8176536 | 418 | 187.896m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.15 | 12.53 | 3286 | 2676725 | NoCal | 15.308m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.35 | 2289585 | 631894 | 78.912m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.80 | 853366 | 29428 | 25.657m | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.57 | 964442 | 1751325 | NoCal | 16.998 | |
| 6) | 2-Methylpentane | 2.76 | 3.03 | 964442 | 707 | 21.733 | NoCal | # |
| 7) | Benzene | 4.89 | 4.89 | 1119469 | 3125599 | NoCal | 17.439 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.01 | 868737 | 426779 | 19.349 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 826016 | 2093468 | NoCal | 16.883 | |
| 10) | Ethylbenzene | 9.86 | 9.86 | 672923 | 1515812 | NoCal | 16.195 | |
| 11) | m,p-Xylene | 10.12 | 10.12 | 1293496 | 3371351 | NoCal | 32.248 | |
| 12) | o-Xylene | 10.57 | 10.57 | 658222 | 1425363 | NoCal | 16.177 | |
| 13) | n-Nonane | 10.81 | 10.81 | 547290 | 141764 | 17.293 | NoCal | # |
| 14) | n-Decane | 12.63 | 12.53 | 389943 | 1371743 | 17.240 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 517176 | 631894 | 16.840 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 584058 | 1371743 | NoCal | 15.178 | |
| 17) | Naphthalene | 15.65 | 15.65 | 474816 | 1438529 | NoCal | 15.240 | |

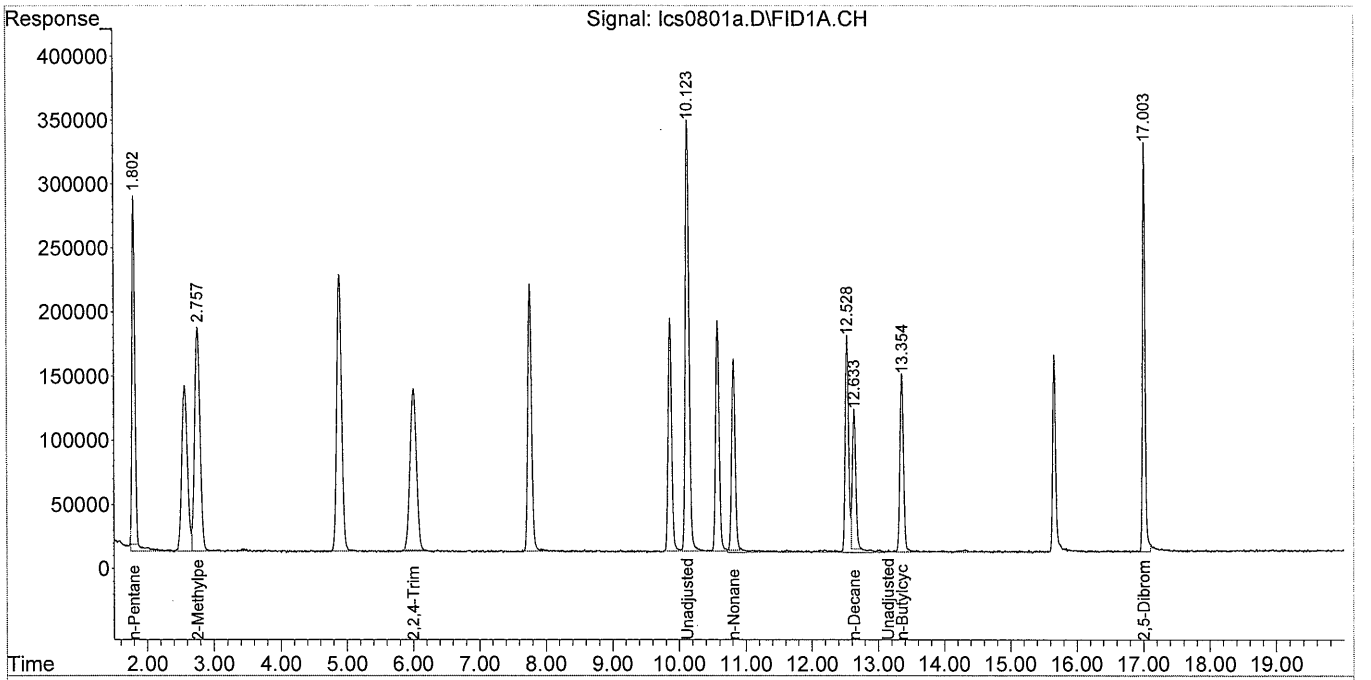
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

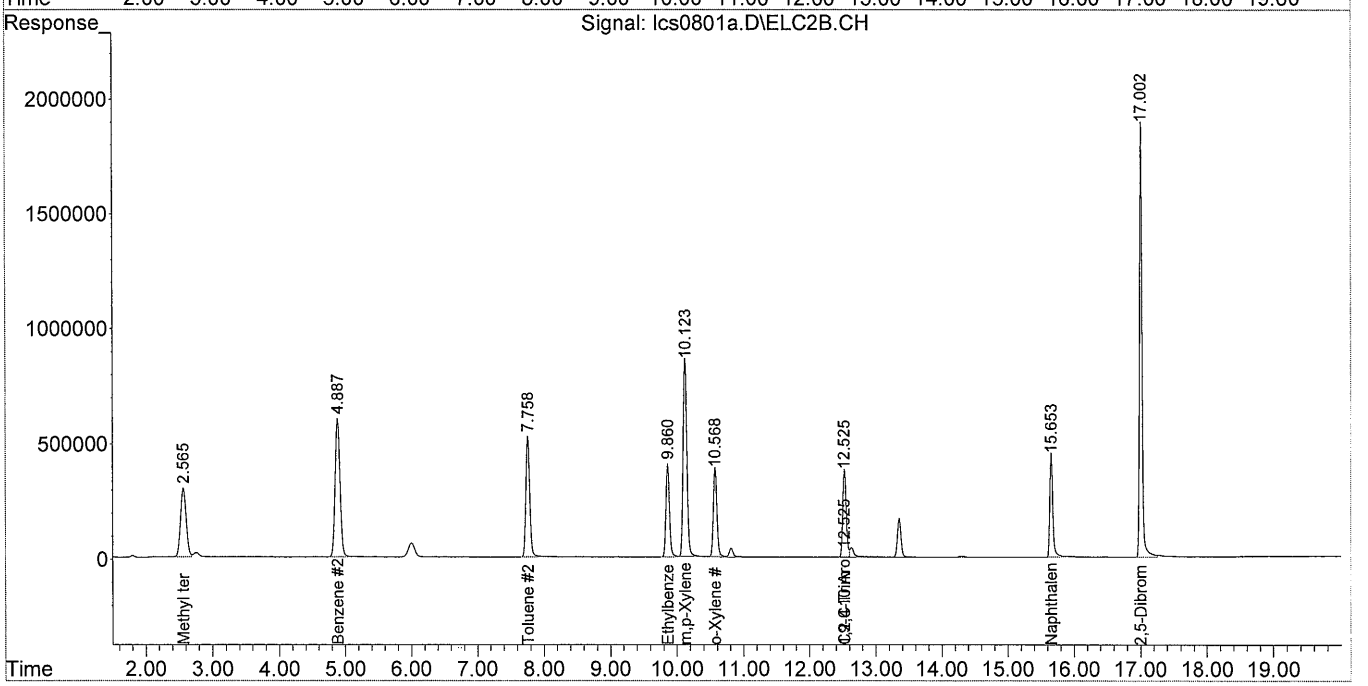
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\lcs0801a.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 11:30 am Operator: mp
Sample : seq-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:27:06 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115056-BSD1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115056-BSD1 | File ID: | lcs0801c.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 15:32 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 64.5 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 64.8 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 16.9 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 183 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 81.7 µg/l | |
| 71-43-2 | Benzene | 1 | 17.5 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 16.6 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 17.4 µg/l | |
| 91-20-3 | Naphthalene | 1 | 15.6 µg/l | |
| 108-88-3 | Toluene | 1 | 17.1 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 33.1 µg/l | |
| 95-47-6 | o-Xylene | 1 | 16.8 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 20.0 µg/l | |
| 111-84-2 | n-Nonane | 1 | 16.3 µg/l | |
| 109-66-0 | n-Pentane | 1 | 25.0 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 15.8 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 18.1 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 16.0 µg/l | |
| 124-18-5 | n-Decane | 1 | 17.0 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\lcs0801c.D Vial: 13
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 3:32 pm Operator: mp
Sample : seq-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:27:46 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.00 | 17.00 | 784595 | 4761493 | 63.219 | 58.274 |
| | Spiked Amount 50.000 | | | Recovery | = | 126.44% | 116.55% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.13f | 6.20 | 7968748 | 856 | 183.121m | NoCal # |
| 2) | C9-C10 Aromatic | 13.26 | 12.53 | 4115 | 2959354 | NoCal | 16.924m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.01 | 2371862 | 8292 | 81.748m | NoCal # |
| 4) | n-Pentane | 1.80 | 1.80 | 832442 | 25945 | 25.028 | NoCal # |
| 5) | Methyl tert-buty | 2.76 | 2.56 | 886264 | 1794967 | NoCal | 17.422 |
| 6) | 2-Methylpentane | 2.76 | 2.97 | 886264 | 1792 | 19.971 | NoCal # |
| 7) | Benzene | 4.89 | 4.89 | 1124303 | 3134141 | NoCal | 17.487 |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 812761 | 390301 | 18.103 | NoCal # |
| 9) | Toluene | 7.76 | 7.76 | 847037 | 2126370 | NoCal | 17.148 |
| 10) | Ethylbenzene | 9.86 | 9.86 | 698896 | 1555204 | NoCal | 16.616 |
| 11) | m,p-Xylene | 10.13 | 10.12 | 1341427 | 3465346 | NoCal | 33.147 |
| 12) | o-Xylene | 10.57 | 10.57 | 675612 | 1480916 | NoCal | 16.807 |
| 13) | n-Nonane | 10.81 | 10.81 | 516299 | 139976 | 16.314 | NoCal # |
| 14) | n-Decane | 12.64 | 12.53 | 384605 | 1432233 | 17.004 | NoCal # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 492430 | 613499 | 16.034 | NoCal # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 626538 | 1432233 | NoCal | 15.848 |
| 17) | Naphthalene | 15.66 | 15.65 | 495131 | 1469287 | NoCal | 15.566 |

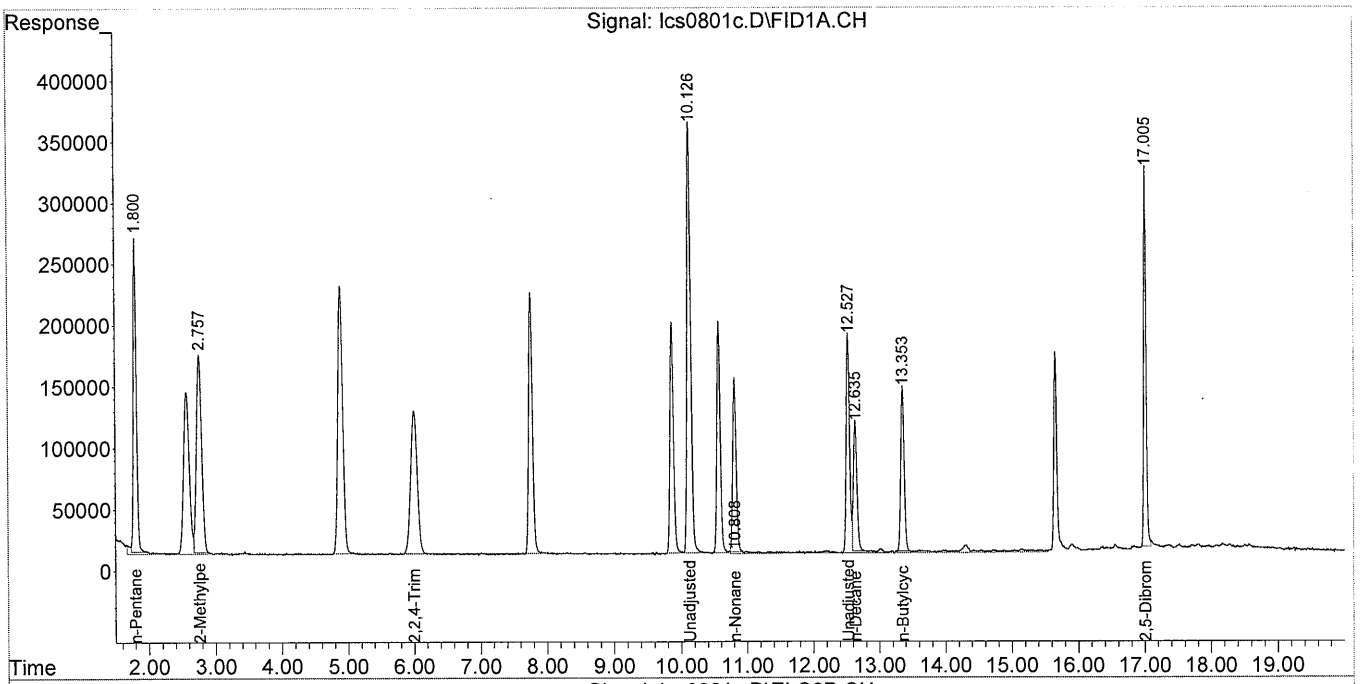
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

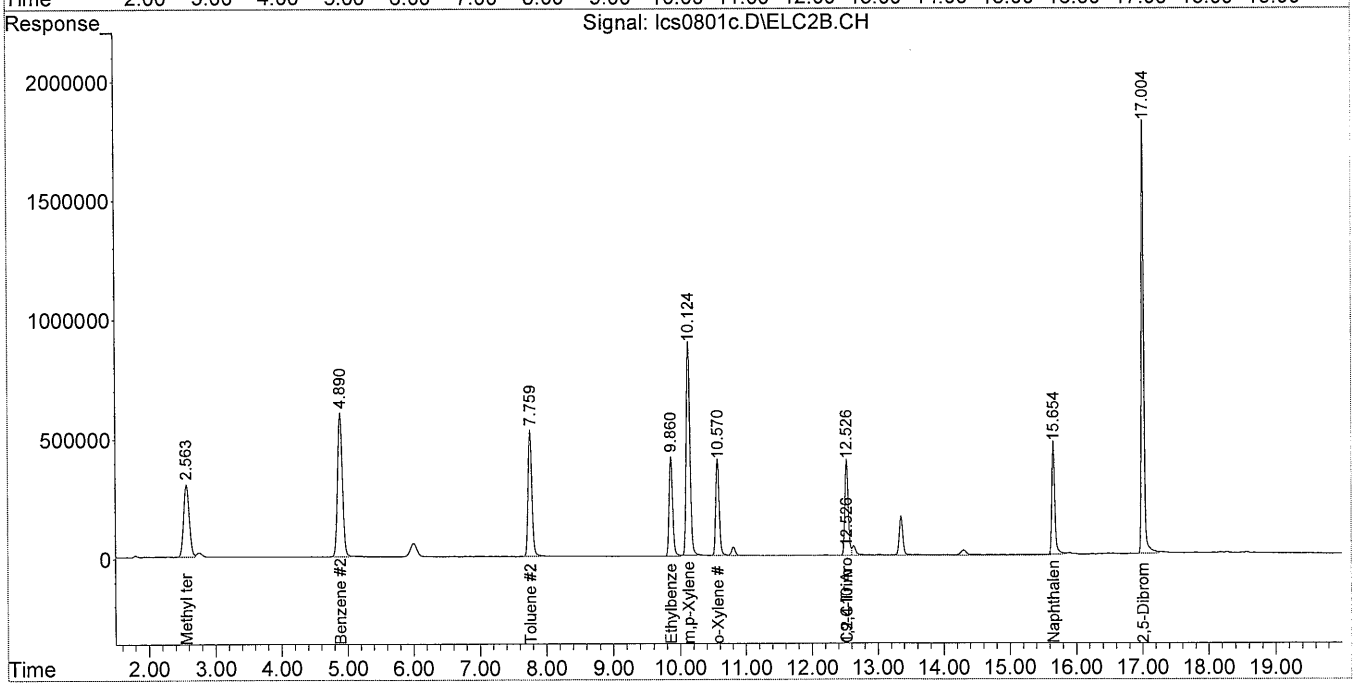
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\lcs0801c.D Vial: 13
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 3:32 pm Operator: mp
Sample : seq-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 08:27:46 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115180-BS1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115180-BS1 | File ID: | lcs0802c.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 15:51 | Instrument: | FID1 | | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 77.9 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 61.5 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 15.1 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 190 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 76.6 µg/l | |
| 71-43-2 | Benzene | 1 | 18.4 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 14.7 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 19.0 µg/l | |
| 91-20-3 | Naphthalene | 1 | 14.2 µg/l | |
| 108-88-3 | Toluene | 1 | 16.3 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 29.1 µg/l | |
| 95-47-6 | o-Xylene | 1 | 14.5 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 23.1 µg/l | |
| 111-84-2 | n-Nonane | 1 | 17.5 µg/l | |
| 109-66-0 | n-Pentane | 1 | 25.9 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 14.2 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 20.6 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 16.8 µg/l | |
| 124-18-5 | n-Decane | 1 | 20.3 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\lcs0802c.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 3:51 pm Operator: mp
Sample : 1115180-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:19:16 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 17.00 | 17.00 | 829162 | 4812791 | 66.810 | 58.902 | |
| Spiked Amount | 50.000 | | | Recovery | = | 133.62% | 117.80% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.31 | 8265989 | 654 | 189.951m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.10 | 12.53 | 581 | 2642824 | NoCal | 15.114m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.35 | 2223172 | 614887 | 76.623m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.80 | 862588 | 29062 | 25.934m | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.56 | 1026029 | 1959231 | NoCal | 19.016 | |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 1026029 | 0 | 23.121 | N.D. | # |
| 7) | Benzene | 4.89 | 4.89 | 1195128 | 3292189 | NoCal | 18.369 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 923436 | 436335 | 20.568 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 812053 | 2019367 | NoCal | 16.286 | |
| .0) | Ethylbenzene | 9.86 | 9.86 | 630846 | 1376007 | NoCal | 14.701 | |
| .1) | m,p-Xylene | 10.13 | 10.12 | 1186546 | 3046361 | NoCal | 29.139 | |
| .2) | o-Xylene | 10.57 | 10.57 | 590833 | 1277496 | NoCal | 14.498 | |
| .3) | n-Nonane | 10.81 | 10.81 | 553302 | 137286 | 17.483 | NoCal | # |
| .4) | n-Decane | 12.63 | 12.53 | 458323 | 1223822 | 20.263 | NoCal | # |
| .5) | n-Butylcyclohexa | 13.35 | 13.35 | 514745 | 614887 | 16.761 | NoCal | # |
| .6) | 1,2,4-Trimethylb | 12.53 | 12.53 | 540377 | 1279127 | NoCal | 14.154m | |
| .7) | Naphthalene | 15.66 | 15.66 | 443495 | 1341700 | NoCal | 14.214m | |

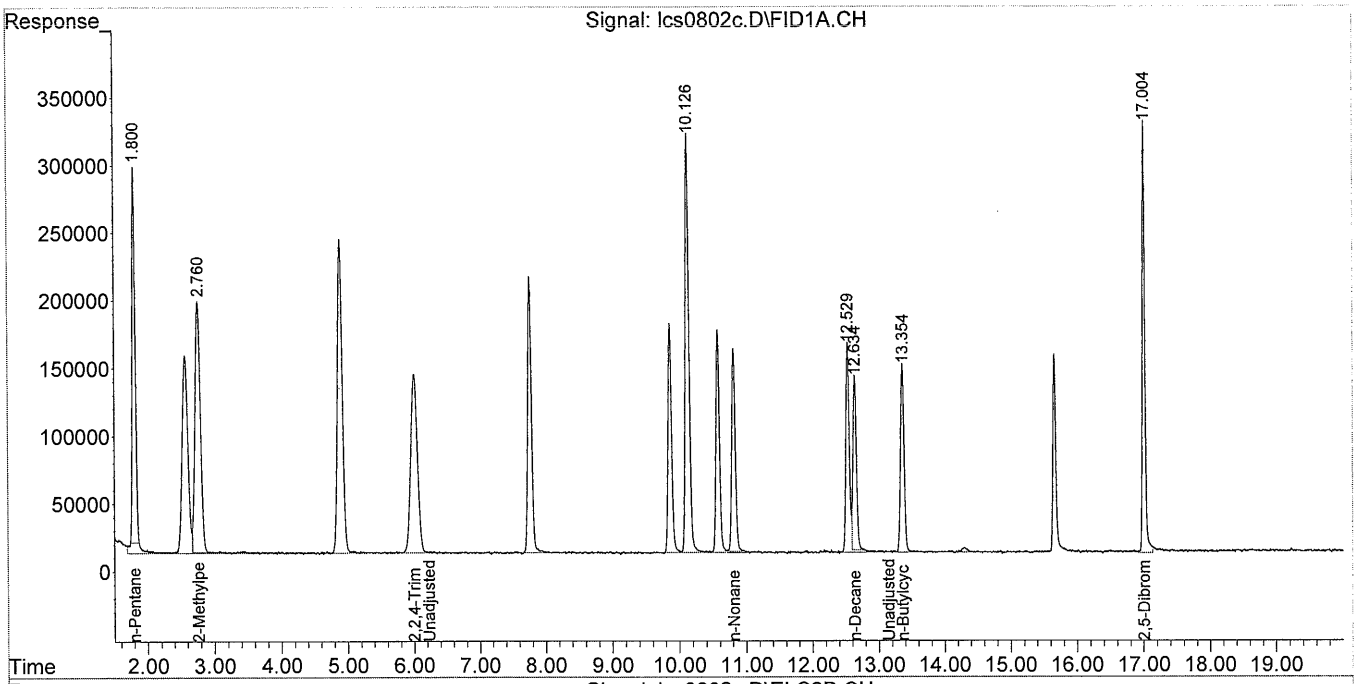
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

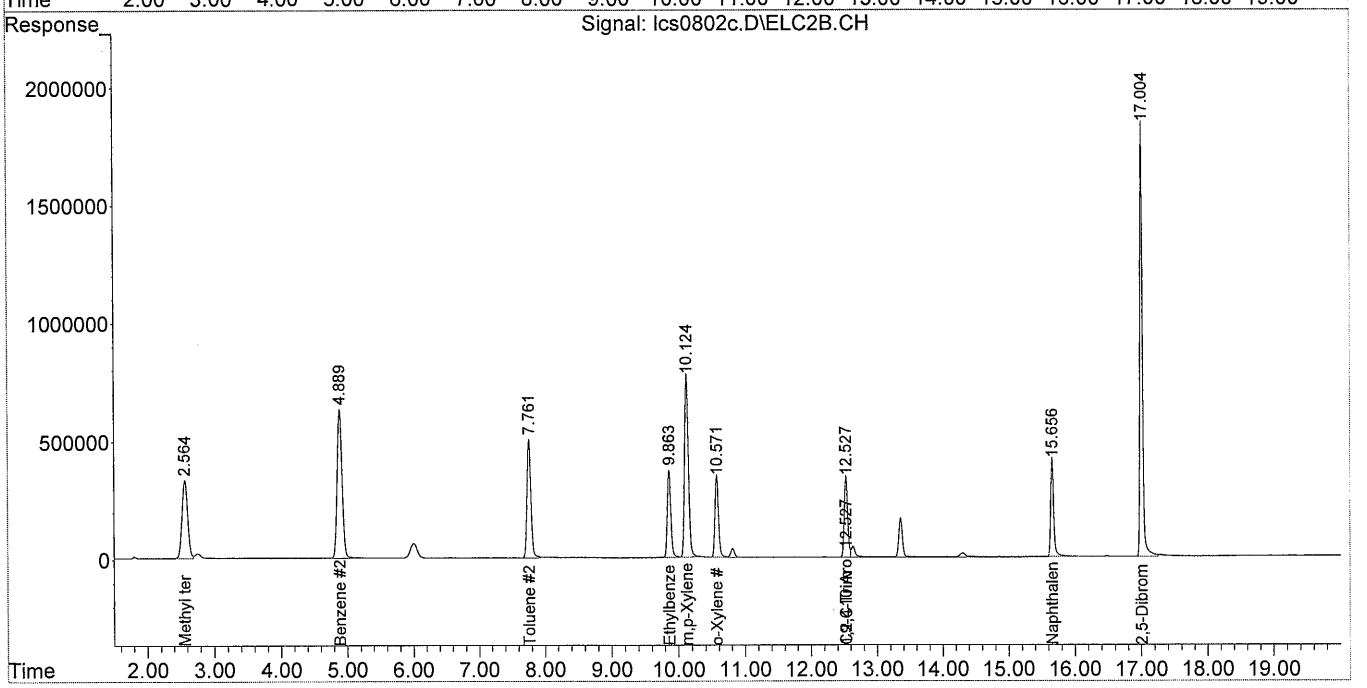
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\lcs0802c.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 3:51 pm Operator: mp
Sample : 1115180-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:19:16 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115180-BSD1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115180-BSD1 | File ID: | lcs0802d.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 16:18 | Instrument: | FID1 | | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 72.9 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 67.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 17.0 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 192 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 84.9 µg/l | |
| 71-43-2 | Benzene | 1 | 17.8 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 16.4 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 18.2 µg/l | |
| 91-20-3 | Naphthalene | 1 | 16.2 µg/l | |
| 108-88-3 | Toluene | 1 | 17.2 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 32.7 µg/l | |
| 95-47-6 | o-Xylene | 1 | 16.6 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 21.7 µg/l | |
| 111-84-2 | n-Nonane | 1 | 18.2 µg/l | |
| 109-66-0 | n-Pentane | 1 | 25.4 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 15.6 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 19.9 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 18.3 µg/l | |
| 124-18-5 | n-Decane | 1 | 22.3 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\lcs0802d.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 4:18 pm Operator: mp
Sample : 1115180-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:16:14 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 8) S | 2,5-Dibromotolue | 17.01 | 17.00 | 826373 | 4932023 | 66.585 | 60.361 | |
| | Spiked Amount 50.000 | | | Recovery | = | 133.17% | 120.72% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 0.00 | 8345926 | 0 | 191.788m | N.D. | # |
| 2) | C9-C10 Aromatic | 13.24 | 12.53 | 1081 | 2964708 | NoCal | 16.955m | |
| 3) | Unadjusted C9-C1 | 12.53 | 13.15 | 2463172 | 1101 | 84.895m | NoCal | # |
| 4) | n-Pentane | 1.80 | 1.80 | 845985 | 21361 | 25.435 | NoCal | # |
| 5) | Methyl tert-buty | 2.76 | 2.57 | 963615 | 1874375 | NoCal | 18.192 | |
| 6) | 2-Methylpentane | 2.76 | 2.97 | 963615 | 1018 | 21.714 | NoCal | # |
| 7) | Benzene | 4.89 | 4.89 | 1160071 | 3186020 | NoCal | 17.776 | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.01 | 894660 | 421490 | 19.927 | NoCal | # |
| 9) | Toluene | 7.76 | 7.76 | 862262 | 2130479 | NoCal | 17.182 | |
| 10) | Ethylbenzene | 9.86 | 9.86 | 694464 | 1535990 | NoCal | 16.411 | |
| 11) | m,p-Xylene | 10.13 | 10.13 | 1347431 | 3419109 | NoCal | 32.705 | |
| 12) | o-Xylene | 10.57 | 10.57 | 682330 | 1462301 | NoCal | 16.596 | |
| 13) | n-Nonane | 10.81 | 10.81 | 576532 | 150862 | 18.217 | NoCal | # |
| 14) | n-Decane | 12.63 | 12.53 | 504655 | 1405746 | 22.311 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 561141 | 668855 | 18.272 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 617768 | 1405746 | NoCal | 15.555 | |
| 17) | Naphthalene | 15.65 | 15.65 | 517470 | 1526864 | NoCal | 16.176 | |

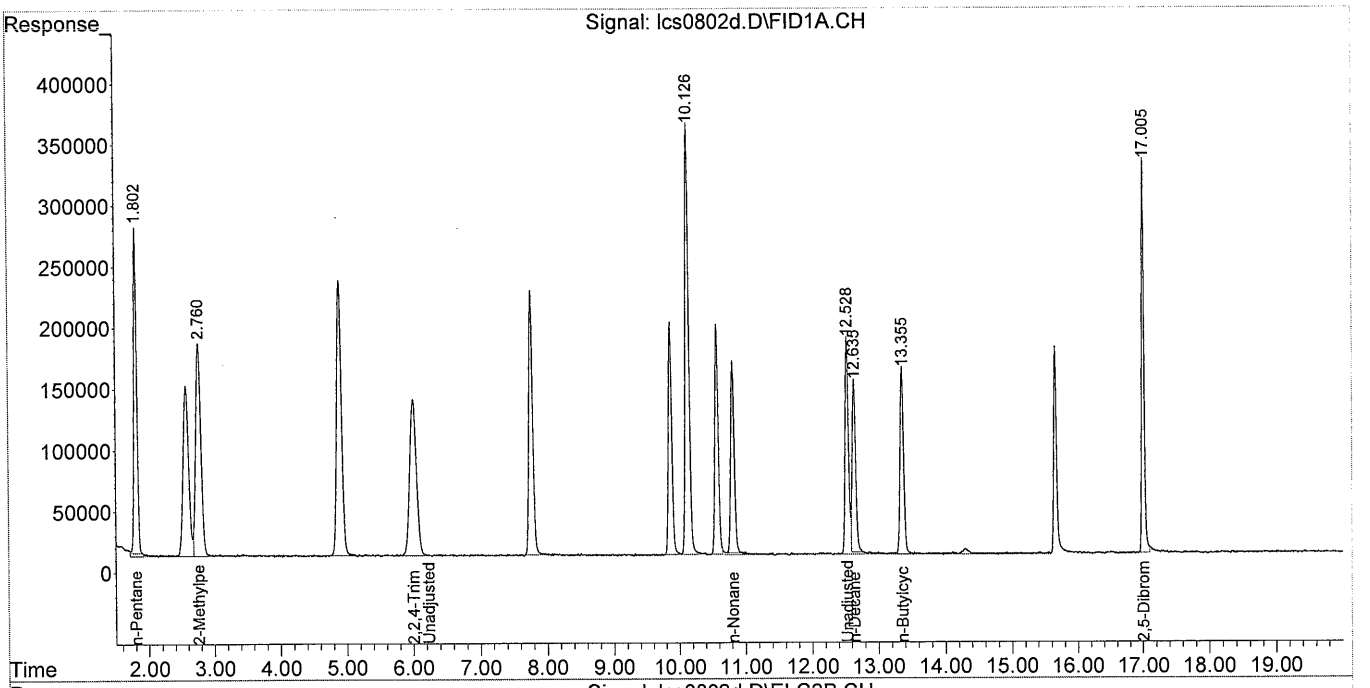
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

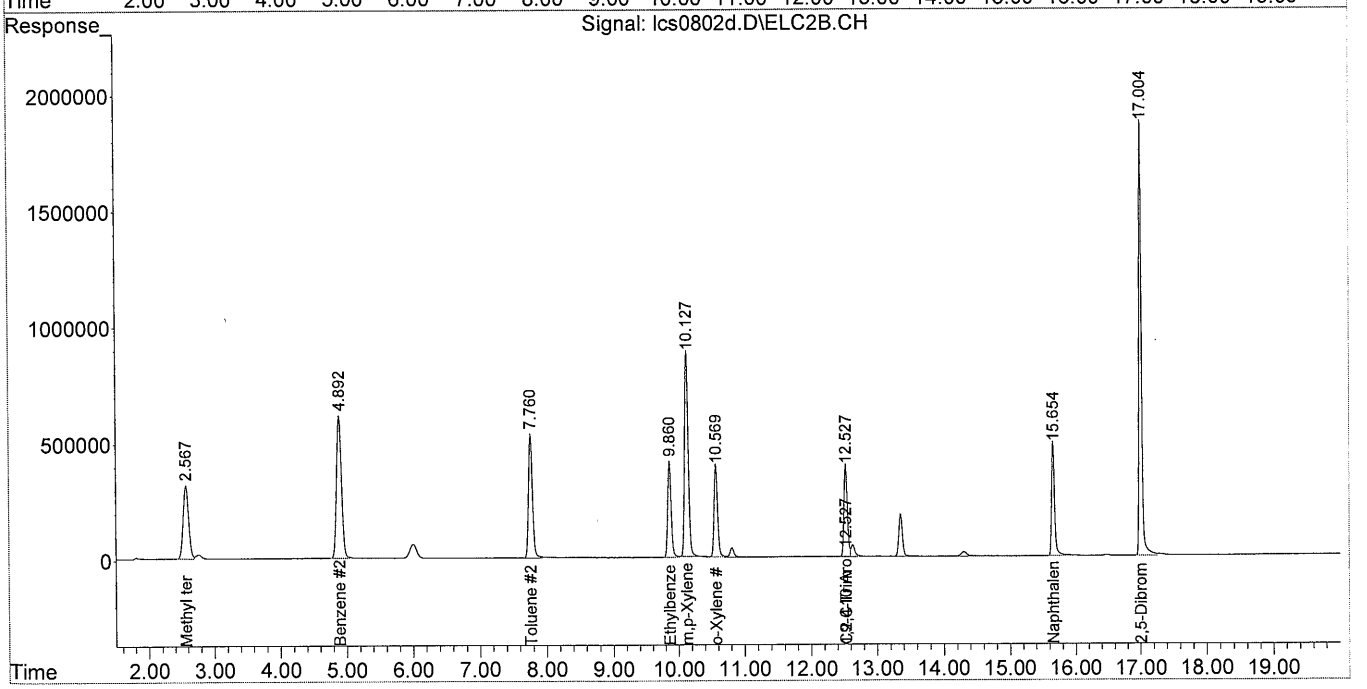
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802b\lcs0802d.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 4:18 pm Operator: mp
Sample : 1115180-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 03 11:16:14 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**06MW13-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115056-DUP1 | File ID: | 32209-09r.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 09:08 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0466 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0104 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00731 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0466 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0177 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.001 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.001 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.002 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.001 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.001 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.003 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.001 mg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802\32209-09r.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 9:08 am Operator: mp
Sample : 1115056-dup1 @ 06mw13-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 10:00:30 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.00 | 664977 | 4062282 | 53.580 | 49.717 | |
| | Spiked Amount 50.000 | | | | Recovery = | 107.16% | 99.43% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.22 | 6.24 | 405508 | 482 | 9.319m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.12 | 14.30 | 792 | 255733 | NoCal | 1.462m | |
| 3) | Unadjusted C9-C1 | 13.15 | 13.04 | 102979 | 3969 | 3.549m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.79 | 0 | 778 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 0.00 | 2.56 | 0 | 25989 | N.D. | <MDL | |
| 6) | 2-Methylpentane | 0.00 | 3.00 | 0 | 1319 | N.D. | NoCal | |
| 7) | Benzene | 4.80 | 4.87 | 1268 | 469 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 0.00 | 6.10 | 0 | 442 | N.D. | NoCal | |
| 9) | Toluene | 0.00 | 7.76 | 0 | 3799 | N.D. | <MDL | |
| 10) | Ethylbenzene | 9.78 | 9.87 | 485 | 445 | NoCal | <MDL | |
| 11) | m,p-Xylene | 0.00 | 10.13 | 0 | 3003 | N.D. | <MDL | |
| 12) | o-Xylene | 10.49 | 10.58 | 2838 | 1366 | NoCal | <MDL | |
| 13) | n-Nonane | 10.81 | 10.85 | 1079 | 832 | <MDL | NoCal | # |
| 14) | n-Decane | 12.84 | 12.50 | 1000 | 444 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.12 | 13.04f | 792 | 3969 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.45 | 12.50 | 1319 | 444 | NoCal | <MDL | |
| 17) | Naphthalene | 15.50f | 15.67 | 1347 | 12394 | NoCal | <MDL | |

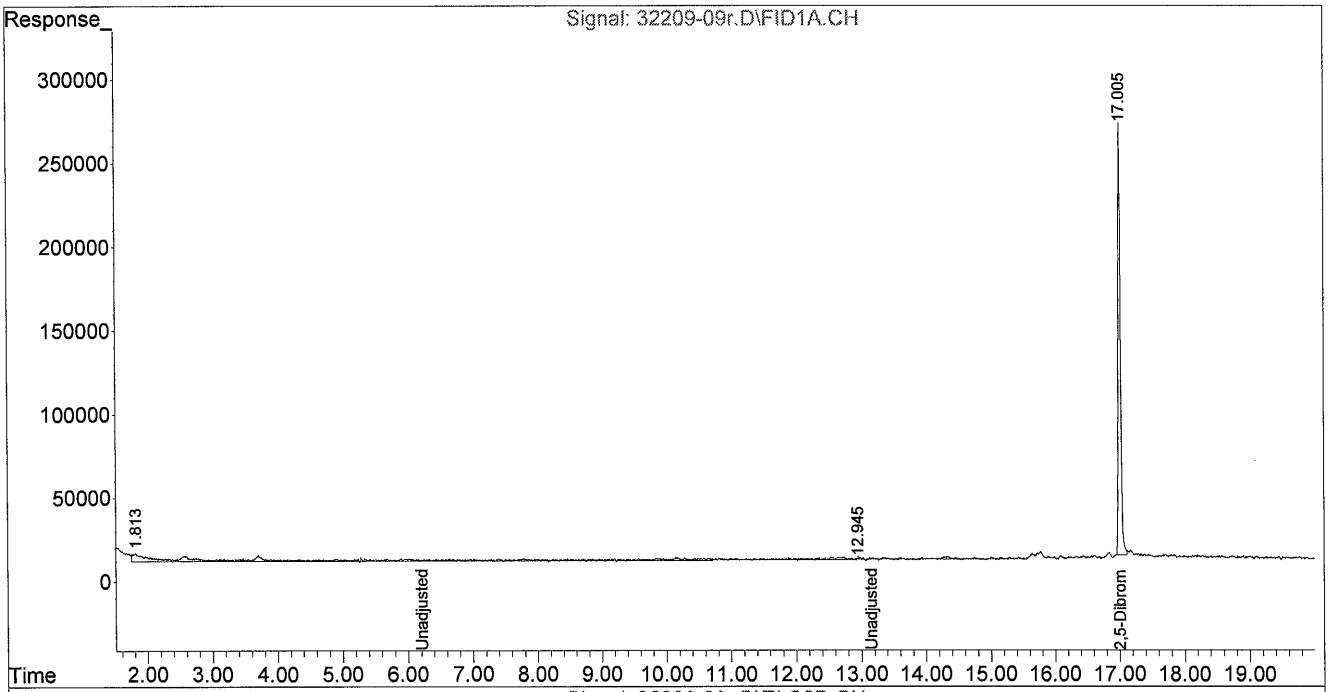
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

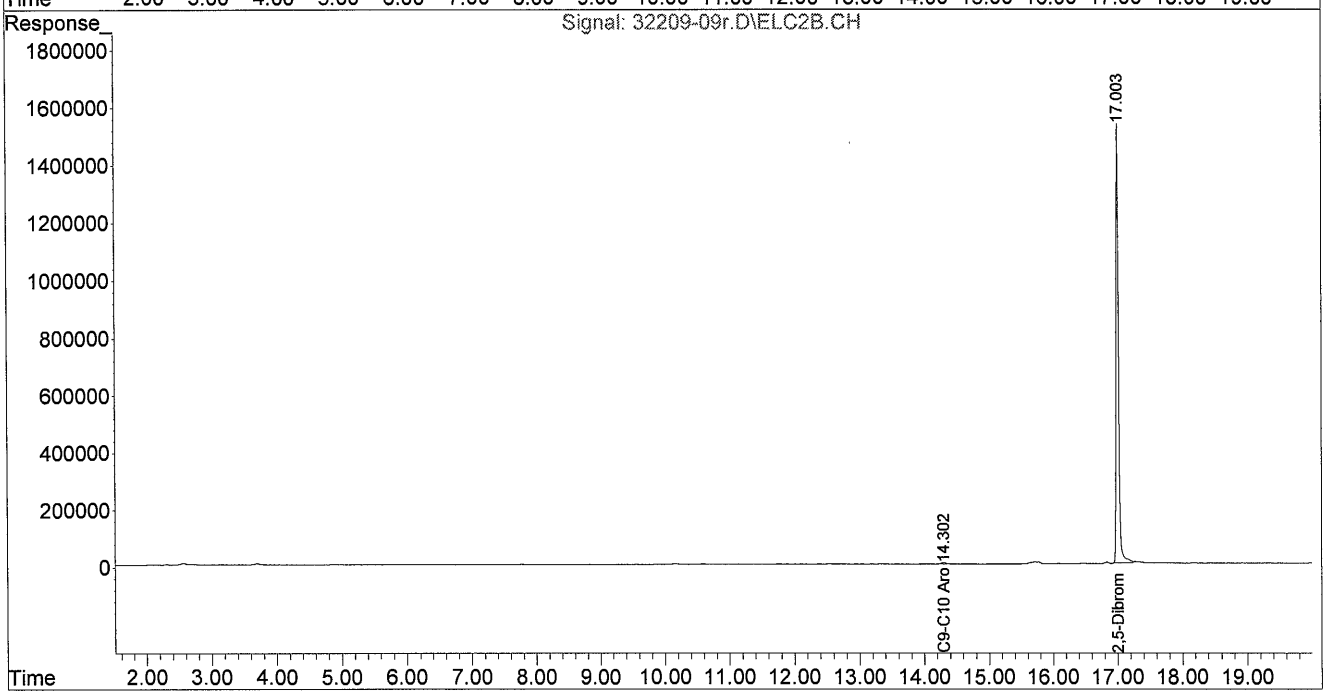
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0802\32209-09r.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 02 Aug 2011 9:08 am Operator: mp
Sample : 1115056-dup1 @ 06mw13-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 10:00:30 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**06MW13-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115056-MS1 | File ID: | 32209-09m.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 16:53 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| 71-43-2 | Benzene | 5 | 17.6 µg/l | |
| 100-41-4 | Ethylbenzene | 5 | 17.2 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 17.3 µg/l | |
| 91-20-3 | Naphthalene | 5 | 15.7 µg/l | |
| 108-88-3 | Toluene | 5 | 17.5 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 34.1 µg/l | |
| 95-47-6 | o-Xylene | 5 | 17.1 µg/l | |
| 107-83-5 | 2-Methylpentane | 5 | 24.0 µg/l | |
| 111-84-2 | n-Nonane | 5 | 18.6 µg/l | |
| 109-66-0 | n-Pentane | 5 | 29.5 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 5 | 16.2 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 5 | 21.7 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 5 | 17.5 µg/l | |
| 124-18-5 | n-Decane | 5 | 19.3 µg/l | |

Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-09m.D Vial: 16
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 4:53 pm Operator: mp
Sample : 1115056-ms1 @ 06mw13-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 10:01:19 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.01 | 17.01 | 760268 | 4621474 | 61.258 | 56.560 |
| | Spiked Amount 50.000 | | | | Recovery = | 122.52% | 113.12% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 10.13f | 6.23 | 8949985 | 680 | 205.669m | NoCal # |
| 2) | C9-C10 Aromatic | 13.35 | 12.53 | 537910 | 3462256 | NoCal | 19.800m |
| 3) | Unadjusted C9-C1 | 12.53 | 13.02 | 2400695 | 2756 | 82.742m | NoCal # |
| 4) | n-Pentane | 1.80 | 1.80 | 981731 | 53466 | 29.517 (m) | NoCal # |
| 5) | Methyl tert-buty | 2.76 | 2.57 | 1065578 | 1782684 | NoCal | 17.302 |
| 6) | 2-Methylpentane | 2.76 | 0.00 | 1065578 | 0 | 24.012 | N.D. # |
| 7) | Benzene | 4.89 | 4.89 | 1137684 | 3158197 | NoCal | 17.621 |
| 8) | 2,2,4-Trimethylp | 6.01 | 6.00 | 975341 | 456056 | 21.724 | NoCal # |
| 9) | Toluene | 7.76 | 7.76 | 866837 | 2173795 | NoCal | 17.531 |
| 10) | Ethylbenzene | 9.86 | 9.86 | 719378 | 1609976 | NoCal | 17.201 |
| 11) | m,p-Xylene | 10.13 | 10.13 | 1389311 | 3564177 | NoCal | 34.093 |
| 12) | o-Xylene | 10.57 | 10.57 | 707443 | 1510314 | NoCal | 17.141 |
| 13) | n-Nonane | 10.81 | 10.81 | 589764 | 152646 | 18.635 | NoCal # |
| 14) | n-Decane | 12.64 | 12.53 | 436658 | 1464438 | 19.305 | NoCal # |
| 15) | n-Butylcyclohexa | 13.35 | 13.35 | 537910 | 654756 | 17.515 | NoCal # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 640916 | 1464438 | NoCal | 16.204 |
| 17) | Naphthalene | 15.66 | 15.66 | 461751 | 1486365 | NoCal | 15.747 |

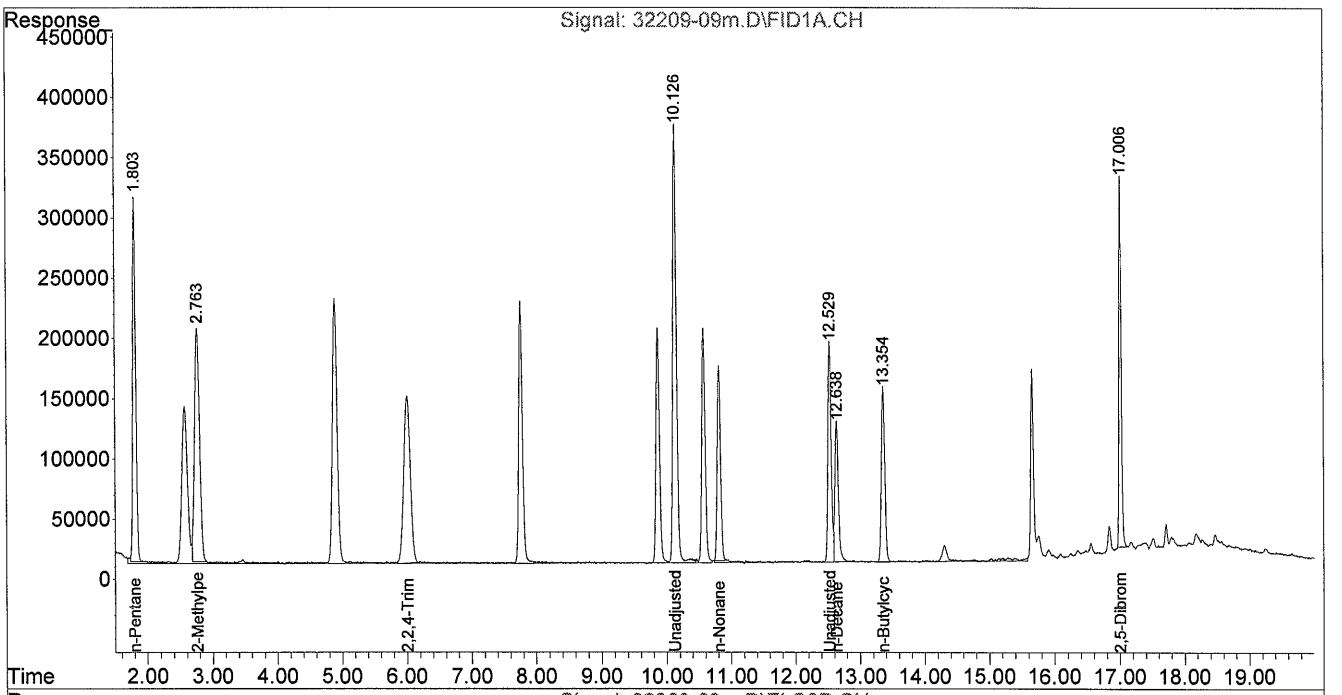
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

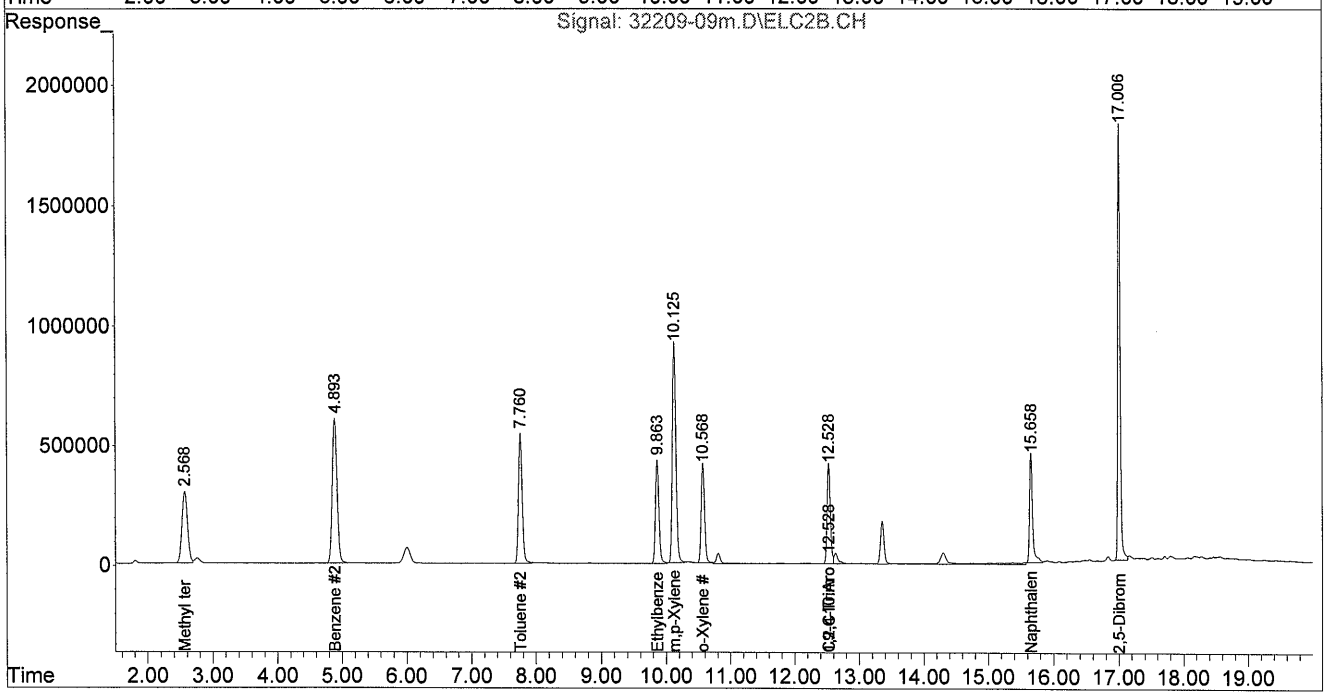
Quantitation Report (QT Reviewed)

Data File : G:\Aug2011\FID1\0801\32209-09m.D Vial: 16
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 01 Aug 2011 4:53 pm Operator: mp
Sample : 1115056-ms1 @ 06mw13-20110719 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 02 10:01:19 2011
Quant Results File: F1060711.RES

Quant Method : C:\MSDCHEM\1\METHODS\F1060711.M
Quant Title :
QLast Update : Wed Jun 08 10:19:22 2011
Response via : Initial Calibration
DataAcq Meth:F1060711.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Data Processing Summary

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115032

Method No.: f 10607 L

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115032-BLK1 | Blank | | QC | 5 | 5 | | | | 30-Jul-11 07:00 | | |
| 1115032-BS1 | LCS | | QC | 5 | 5 | 11G0707 | | | 30-Jul-11 07:00 | | |
| 1115032-BSD1 | LCS Dup | | QC | 5 | 5 | 11G0707 | | | 30-Jul-11 07:00 | | |
| 1115032-DUP1 | Duplicate | | QC | 5 | 5 | | SB31855-01 | | 19-Jul-11 16:00 | | |
| 1115032-MS1 | Matrix Spike | | QC | 5 | 5 | 11G0707 | SB31855-01 | | 19-Jul-11 16:00 | | |
| SB31849-01 | GT-1 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 10:20 | CAM | |
| SB31849-01 | GT-1 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 10:20 | CAM | |
| SB31849-02 | GT-4 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:50 | CAM | |
| SB31849-02 | GT-4 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:50 | CAM | |
| SB31849-03 | GT-107S | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:05 | CAM | |
| SB31849-03 | GT-107S | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:05 | CAM | |
| SB31849-04 | GT-109 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 08:30 | CAM | |
| SB31849-04 | GT-109 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 08:30 | CAM | |
| SB31849-05 | MW-301 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:55 | CAM | |
| SB31849-05 | MW-301 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:55 | CAM | |
| SB31849-06 | SVE-1 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:00 | CAM | |
| SB31849-06 | SVE-1 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:00 | CAM | |
| SB31855-01 | LEI-27 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 16:00 | CAM | |
| SB31855-01 | LEI-27 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 16:00 | CAM | |
| SB31855-02 | LEI-23 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 14:00 | CAM | |
| SB31855-02 | LEI-23 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 14:00 | CAM | |
| SB31899-07 | MW-8 | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 13:40 | CAM | |
| SB31899-07 | MW-8 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 13:40 | CAM | |

Analyst Reviewed 8/1/11 Date

Manager Reviewed 8/1/11 Date

Extracts Received By Date

Printed: 8/1/2011 10:08:51AM

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115032

Method No.: f1060 n

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB31899-08 | MW-2 mp | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 14:45 | **CAM** | |
| SB31899-08 | MW-2 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 14:45 | **CAM** | |
| SB31922-01 | ECS-1 | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:58 | **CAM/GW-2/GW-3** | |
| SB31922-01 | ECS-1 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:58 | **CAM/GW-2/GW-3** | |
| SB31922-06 | ECS-6 | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 10:18 | **CAM/GW-2/GW-3** | |
| SB31922-06 | ECS-6 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 10:18 | **CAM/GW-2/GW-3** | |
| SB32209-03 | TB06-071811 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 10:00 | **Level 4** | |
| SB32209-03 | TB06-071811 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 10:00 | **Level 4** | |

07/30/11
VPH water
mp
fid1

Mot [illegible] 8/1/11

Analyst Reviewed Date | Manager Reviewed Date | Extracts Received By Date

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115046

Method No.: f2060 11

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115046-BLK1 | Blank | | QC | 5 | 5 | | | | 31-Jul-11 07:00 | | |
| 1115046-BS1 | LCS | | QC | 5 | 5 | 11G0707 | | | 31-Jul-11 07:00 | | |
| 1115046-BSD1 | LCS Dup | | QC | 5 | 5 | 11G0707 | | | 31-Jul-11 07:00 | | |
| 1115046-DUP1 | Duplicate | | QC | 5 | 5 | | SB32062-01 | | 19-Jul-11 13:00 | | |
| 1115046-MS1 | Matrix Spike | | QC | 5 | 5 | 11G0707 | SB32062-01 | | 19-Jul-11 13:00 | | |
| SB31835-06 | MCW-2 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 10:15 | **CAM/GW-1/GW-3** | |
| SB31835-06 | MCW-2 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 10:15 | **CAM/GW-1/GW-3** | |
| SB31835-08 | MCW-4 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:05 | **CAM/GW-1/GW-3** | |
| SB31835-08 | MCW-4 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:05 | **CAM/GW-1/GW-3** | |
| SB31835-09 | MCW-5 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:40 | **CAM/GW-1/GW-3** | |
| SB31835-09 | MCW-5 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:40 | **CAM/GW-1/GW-3** | |
| SB31835-10 | MW-1R | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 11:30 | **CAM/GW-1/GW-3** | |
| SB31835-10 | MW-1R | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 11:30 | **CAM/GW-1/GW-3** | |
| SB31855-03 | LEI-21 | B | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:26 | **CAM** | |
| SB31855-03 | LEI-21 | B | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:26 | **CAM** | |
| SB31922-02 | ECS-2 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:56 | **CAM/GW-2/GW-3** | |
| SB31922-02 | ECS-2 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:56 | **CAM/GW-2/GW-3** | |
| SB31922-03 | ECS-3 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:04 | **CAM/GW-2/GW-3** | |
| SB31922-03 | ECS-3 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:04 | **CAM/GW-2/GW-3** | |
| SB31922-04 | ECS-4 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:52 | **CAM/GW-2/GW-3** | |
| SB31922-04 | ECS-4 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:52 | **CAM/GW-2/GW-3** | |
| SB31922-05 | ECS-5 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:16 | **CAM/GW-2/GW-3** | |
| SB31922-05 | ECS-5 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:16 | **CAM/GW-2/GW-3** | |

Analyst Reviewed 8/1/11 Date

Manager Reviewed 8/2/11 Date

Extracts Received By Date

**Printed: 8/1/2011 3:53:52PM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115046

Method No.: f2060611

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB31952-02 | MW-7 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:10 | **CAM** | |
| SB31952-02 | MW-7 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:10 | **CAM** | |
| SB31952-03 | MW-8 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 11:35 | **CAM** | |
| SB31952-03 | MW-8 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 11:35 | **CAM** | |
| SB31952-05 | MW-10 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:50 | **CAM** | |
| SB31952-05 | MW-10 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:50 | **CAM** | |
| SB31952-07 | MW-18 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 09:10 | **CAM** | |
| SB31952-07 | MW-18 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 09:10 | **CAM** | |
| SB32062-01 | OW-6 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 13:00 | **CAM** | |
| SB32062-01 | OW-6 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 13:00 | **CAM** | |
| SB32062-02 | VP-101 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:30 | **CAM** | |
| SB32062-02 | VP-101 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:30 | **CAM** | |
| SB32063-01 | ECS-1 | A | VPH CC | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 11:27 | **CAM** | |
| SB32063-01 | ECS-1 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 11:27 | **CAM** | |
| SB32063-02 | ECS-2 | A | VPH CC | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 12:31 | **CAM** | |
| SB32063-02 | ECS-2 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 12:31 | **CAM** | |
| SB32209-01 | 06MW-DUP01-20110718 | B | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 00:00 | **Level 4** | |
| SB32209-01 | 06MW-DUP01-20110718 | B | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 00:00 | **Level 4** | |
| SB32209-02 | 06MW09-20110718 | B | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 16:20 | **Level 4** | |
| SB32209-02 | 06MW09-20110718 | B | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 16:20 | **Level 4** | |

07/31/11
VPH h20
mp
fid2

Analyst Reviewed Date Manager Reviewed Date Extracts Received By Date

**Printed: 8/1/2011 3:53:52PM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115056

Method No.: F060714

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115056-BLK1 | Blank | | QC | 5 | 5 | | | | 01-Aug-11 07:00 | | |
| 1115056-BS1 | LCS | | QC | 5 | 5 | 11H0001 | | | 01-Aug-11 07:00 | | |
| 1115056-BSD1 | LCS Dup | | QC | 5 | 5 | 11H0001 | | | 01-Aug-11 07:00 | | |
| 1115056-DUP1 | Duplicate | | QC | 5 | 5 | | SB32209-09 | | 19-Jul-11 09:25 | | |
| 1115056-MS1 | Matrix Spike | | QC | 5 | 5 | 11H0001 | SB32209-09 | | 19-Jul-11 09:25 | | |
| SB31952-08 | MW-24 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 14:55 | **CAM** | |
| SB31952-08 | MW-24 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 14:55 | **CAM** | |
| SB32209-04 | 06MW01-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:27 | **Level 4** | |
| SB32209-04 | 06MW01-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:27 | **Level 4** | |
| SB32209-05 | 06MW02-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:07 | **Level 4** | |
| SB32209-05 | 06MW02-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:07 | **Level 4** | |
| SB32209-06 | 06MW06-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:17 | **Level 4** | |
| SB32209-06 | 06MW06-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:17 | **Level 4** | |
| SB32209-07 | 06MW07-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:48 | **Level 4** | |
| SB32209-07 | 06MW07-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:48 | **Level 4** | |
| SB32209-08 | 06MW08-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:56 | **Level 4** | |
| SB32209-08 | 06MW08-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:56 | **Level 4** | |
| SB32209-09 | 06MW13-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:25 | **Level 4/RUN MS/MSD** | |
| SB32209-09 | 06MW13-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:25 | **Level 4/RUN MS/MSD** | |
| SB32209-10 | TB06-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:00 | **Level 4** | |
| SB32209-10 | TB06-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:00 | **Level 4** | |
| SB32360-01 | AECOM-1D | D | VPH CC | 5 | 5 | | | 01-Aug-11 15:00 | 22-Jul-11 15:30 | **CAM** | |
| SB32360-01 | AECOM-1D | D | VPH Targets | 5 | 5 | | | 01-Aug-11 15:00 | 22-Jul-11 15:30 | **CAM** | |

Analyst Reviewed 8/2/11 Date

Manager Reviewed 8/2/11 Date

Extracts Received By Date

**Printed: 8/2/2011 10:20:51AM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115056

Method No.: f1060511

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB32491-01 | So. Influent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:00 | CAM | |
| SB32491-01 | So. Influent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:00 | CAM | |
| SB32491-02 | So. Effluent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:05 | CAM | |
| SB32491-02 | So. Effluent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:05 | CAM | |
| SB32491-03 | So. Mid | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:10 | CAM | |
| SB32491-03 | So. Mid | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:10 | CAM | |
| SB32491-04 | So. Ditch | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:15 | CAM | |
| SB32491-04 | So. Ditch | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:15 | CAM | |
| SB32491-05 | No. Influent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:20 | CAM | |
| SB32491-05 | No. Influent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:20 | CAM | |
| SB32491-06 | No. Effluent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:25 | CAM | |
| SB32491-06 | No. Effluent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:25 | CAM | |
| SB32491-07 | No. Mid | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:30 | CAM | |
| SB32491-07 | No. Mid | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:30 | CAM | |
| SB32491-08 | No. Ditch #1 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:35 | CAM | |
| SB32491-08 | No. Ditch #1 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:35 | CAM | |
| SB32491-09 | No. Ditch #2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:40 | CAM | |
| SB32491-09 | No. Ditch #2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:40 | CAM | |
| SB32493-01 | MW-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:15 | CAM | |
| SB32493-01 | MW-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:15 | CAM | |
| SB32493-02 | MW-3 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:25 | CAM | |
| SB32493-02 | MW-3 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:25 | CAM | |
| SB32506-01 | SP-1 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 29-Jul-11 09:30 | CAM | |

Analyst Reviewed Date Manager Reviewed Date Extracts Received By Date

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115056

Method No.: f10603 11

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB32506-01 | SP-1 mD | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 29-Jul-11 09:30 | **CAM** | |

08/01/11
VPH water
mp
fid1

Analyst Reviewed Date 8/2/11

Manager Reviewed Date

Extracts Received By Date

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115180

Method No.: F 10607 h

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115180-BLK1 | Blank | | QC | 5 | 5 | | | | 02-Aug-11 07:00 | | |
| 1115180-BS1 | LCS | | QC | 5 | 5 | 11H0001 | | | 02-Aug-11 07:00 | | |
| 1115180-BSD1 | LCS Dup | | QC | 5 | 5 | 11H0001 | | | 02-Aug-11 07:00 | | |
| 1115180-DUP1 | Duplicate | | QC | 5 | 5 | | SB32042-02 | | 21-Jul-11 16:30 | | |
| 1115180-MS1 | Matrix Spike | | QC | 5 | 5 | 11H0001 | SB32042-02 | | 21-Jul-11 16:30 | | |
| SB31961-08 | Trip | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 21-Jul-11 00:00 | **CAM/GW-2/3** | |
| SB31961-08 | Trip | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 21-Jul-11 00:00 | **CAM/GW-2/3** | |
| SB32036-01 | LEI-13 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:45 | **CAM/GW-1** | |
| SB32036-01 | LEI-13 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:45 | **CAM/GW-1** | |
| SB32036-02 | LEI-14 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 17:15 | **CAM/GW-1** | |
| SB32036-02 | LEI-14 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 17:15 | **CAM/GW-1** | |
| SB32038-01 | MW-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:00 | **CAM/GW-1** | |
| SB32038-01 | MW-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:00 | **CAM/GW-1** | |
| SB32038-02 | LEI-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:30 | **CAM/GW-1** | |
| SB32038-02 | LEI-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:30 | **CAM/GW-1** | |
| SB32038-03 | OW-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 10:30 | **CAM/GW-1** | |
| SB32038-03 | OW-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 10:30 | **CAM/GW-1** | |
| SB32038-04 | AS-1C | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 12:30 | **CAM/GW-1** | |
| SB32038-04 | AS-1C | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 12:30 | **CAM/GW-1** | |
| SB32040-01 | LEI-32 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:00 | **CAM/GW-1** | |
| SB32040-01 | LEI-32 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:00 | **CAM/GW-1** | |
| SB32040-02 | Trip Blank | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:05 | **CAM/GW-1** | |
| SB32040-02 | Trip Blank | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:05 | **CAM/GW-1** | |

Analyst Reviewed 8/3/11 Date

Manager Reviewed 8/3/11 Date

Extracts Received By Date

**Printed: 8/3/2011 12:01:59PM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115180

Method No.: fvc0711

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB32042-01 | LEI-1 mp | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 15:00 | **CAM/GW-1** | |
| SB32042-01 | LEI-1 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 15:00 | **CAM/GW-1** | |
| SB32042-02 | LEI-19 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:30 | **CAM/GW-1** | |
| SB32042-02 | LEI-19 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:30 | **CAM/GW-1** | |
| SB32209-11 | 06MW03-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:44 | **Level 4** | |
| SB32209-11 | 06MW03-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:44 | **Level 4** | |
| SB32209-12 | 06MW10-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 11:16 | **Level 4** | |
| SB32209-12 | 06MW10-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 11:16 | **Level 4** | |
| SB32209-13 | 06MW11-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 10:59 | **Level 4** | |
| SB32209-13 | 06MW11-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 10:59 | **Level 4** | |
| SB32209-14 | 06MW12-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:50 | **Level 4** | |
| SB32209-14 | 06MW12-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:50 | **Level 4** | |
| SB32209-15 | 06MW04-20110721 | B | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 09:07 | **Level 4** | |
| SB32209-15 | 06MW04-20110721 | B | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 09:07 | **Level 4** | |
| SB32209-16 | 06MW05-20110721 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 08:54 | **Level 4** | |
| SB32209-16 | 06MW05-20110721 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 08:54 | **Level 4** | |

08/02/11 b
VPH water
mp
fid1

Analyst Reviewed 8/3/11 Date

Manager Reviewed Date

Extracts Received By Date

**Printed: 8/3/2011 12:01:59PM**

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S104952 | Instrument: | FID2 |
| | | Calibration: | 1106002 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Cal Standard | S104952-CAL1 | vph001.D | 06/03/11 17:24 |
| Cal Standard | S104952-CAL2 | vph005.D | 06/03/11 18:22 |
| Cal Standard | S104952-CAL3 | vph010.D | 06/03/11 18:52 |
| Cal Standard | S104952-CAL4 | vph020.D | 06/03/11 19:21 |
| Cal Standard | S104952-CAL5 | vph050.D | 06/03/11 20:18 |
| Cal Standard | S104952-CAL6 | vph100.D | 06/03/11 21:16 |
| Cal Standard | S104952-CAL7 | vph200.D | 06/03/11 22:43 |
| Initial Cal Check | S104952-ICV1 | icv001.D | 06/04/11 00:40 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S104984 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Cal Standard | S104984-CAL2 | vph005.D | 06/06/11 20:24 |
| Cal Standard | S104984-CAL3 | vph010.D | 06/06/11 20:51 |
| Cal Standard | S104984-CAL4 | vph020.D | 06/06/11 21:17 |
| Cal Standard | S104984-CAL5 | vph050.D | 06/06/11 21:44 |
| Cal Standard | S104984-CAL6 | vph100.D | 06/06/11 22:10 |
| Cal Standard | S104984-CAL7 | vph200.D | 06/06/11 22:37 |
| Initial Cal Check | S104984-ICV1 | icv020.D | 06/06/11 23:04 |
| Cal Standard | S104984-CAL1 | vph001.D | 06/07/11 08:15 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106694 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115032-BLK1 | blk0730a.D | 07/30/11 08:21 |
| Calibration Check | S106694-CCV1 | ccc0730a.D | 07/30/11 09:29 |
| LCS | 1115032-BS1 | lcs0730a.D | 07/30/11 09:56 |
| LCS Dup | 1115032-BSD1 | lcs0730b.D | 07/30/11 10:23 |
| TB06-071811 | SB32209-03 | 32209-03.D | 07/30/11 20:08 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106699 | Instrument: | FID2 |
| | | Calibration: | 1106002 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115046-BLK1 | blk0731b.D | 07/31/11 17:24 |
| Calibration Check | S106699-CCV1 | ccc0731a.D | 07/31/11 17:53 |
| LCS | 1115046-BS1 | lcs0731a.D | 07/31/11 18:22 |
| LCS Dup | 1115046-BSD1 | lcs0731b.D | 07/31/11 18:51 |
| 06MW-DUP01-20110718 | SB32209-01 | 32209-01.D | 07/31/11 23:50 |
| 06MW09-20110718 | SB32209-02 | 32209-02.D | 08/01/11 00:20 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106728 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115056-BLK1 | blk0801a.D | 08/01/11 10:11 |
| Calibration Check | S106728-CCV1 | ccc0801a.D | 08/01/11 10:37 |
| LCS | 1115056-BS1 | lcs0801a.D | 08/01/11 11:30 |
| 06MW01-20110719 | SB32209-04 | 32209-04.D | 08/01/11 12:23 |
| 06MW02-20110719 | SB32209-05 | 32209-05.D | 08/01/11 12:50 |
| 06MW06-20110719 | SB32209-06 | 32209-06.D | 08/01/11 13:17 |
| 06MW07-20110719 | SB32209-07 | 32209-07.D | 08/01/11 13:44 |
| 06MW08-20110719 | SB32209-08 | 32209-08.D | 08/01/11 14:11 |
| 06MW13-20110719 | SB32209-09 | 32209-09.D | 08/01/11 14:38 |
| TB06-20110719 | SB32209-10 | 32209-10.D | 08/01/11 15:05 |
| LCS Dup | 1115056-BSD1 | lcs0801c.D | 08/01/11 15:32 |
| 06MW13-20110719 | 1115056-MS1 | 32209-09m.D | 08/01/11 16:53 |
| 06MW13-20110719 | 1115056-DUP1 | 32209-09r.D | 08/02/11 09:08 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106786 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115180-BLK1 | blk0802b.D | 08/02/11 14:58 |
| LCS | 1115180-BS1 | lcs0802c.D | 08/02/11 15:51 |
| LCS Dup | 1115180-BSD1 | lcs0802d.D | 08/02/11 16:18 |
| Calibration Check | S106786-CCV1 | ccc0802c.D | 08/02/11 17:12 |
| 06MW03-20110720 | SB32209-11 | 32209-11.D | 08/02/11 23:27 |
| 06MW10-20110720 | SB32209-12 | 32209-12.D | 08/02/11 23:53 |
| 06MW11-20110720 | SB32209-13 | 32209-13.D | 08/03/11 00:20 |
| 06MW12-20110720 | SB32209-14 | 32209-14.D | 08/03/11 00:47 |
| 06MW05-20110721 | SB32209-16 | 32209-16.D | 08/03/11 01:40 |
| 06MW04-20110721 | SB32209-15 | 32209-15r.D | 08/03/11 08:04 |

Method: f10607 11

Calibration: 110 6005

Surrogate Standard ID: 11E1073

Batch: 1115032

Matrix: $H_2O$

Sequence: S106694

Date: 7/30/11

Analyst Initials: np

Cont. from pg.

| Position | Lab ID | Client ID | DF | pH/Wt | Analysis | Comments |
|---|---|---|---|---|---|---|
| 1 | BLK0730A | 1115032 - BLK | R- | | | SYS BLANK ✓ |
| 2 | CCC0730A | CCC | | | | CCC ✓ |
| 3 | LCS0730A | BS | | | | LCS |
| 4 | 1 B | BSD | | | | LCS D |
| 5 | 31855-01 | LGi - 27 | 1:5 | 2 | | ~~N~~ GT: 1.6 |
| 6 | 01D | 1115032 - DUP | | | | DUP |
| 7 | 01M | MS | | | | MS |
| 8 | 02 | LGi - 23 | 1:50 | 2 | | ✓ ESG / GT-5b |
| 9 | 03 | 1 -21 | 1:50 | | | RR 1:5 |
| 10 | 31849-01 | GT-1 | 1:5 | | | ✓ N=4.7 |
| 11 | 02 | -4 | | | | ✓ ND |
| 12 | 03 | -1075 | | | | ✓ ND |
| 13 | 04 | -109 | | | | ✓ ND |
| 14 | 05 | MW-301 | | | | ✓ ND |
| 15 | 06 | SVE-1 | | | | ✓ ND |
| 16 | 31899-07 | MW-8 | | | | ✓ ND |
| 17 | 1 -08 | MW-2 | | | | ✓ ND |
| 18 | 31922-01 | ECS-1 | 1:5 | | | ✓ ND |
| 19 | 02 | 2 | 1:100 | | | MP22 RR 1:50 |
| 20 | 03 | 3 | 1:50 | | | B3 RR 1:5 |
| 21 | 04 | 4 | 1:50 | | | B18 RR 1:20 |
| 22 | 05 | 5 | 1:50 | | | B 27 RR 1:25 |
| 23 | 06 | 6 | 1:5 | | ✓ | ND |
| 24 | 32209-01 | 06MW09 01 (2011 0712) | 1:10 | ✓ | RR 1:5 | |

Signature of Analyst: [signature]

Date: 7-30-11

Signature of Witness: [signature]

Date: 7/30/11

(25) -02 06MW09 - 20110712 1:10 2 RR 1:5

(26) -03 TB 06 - 071811 R- ✓ ND

(27) CCC 0730B 1115032 - CCC @ 50 ppb CCC ✓

Rev. 3/14/11

Method: E200.8 | Batch: 1115046 | Date: 7/31/11

Calibration: 110G007 | Matrix: $H_2O$ | Analyst Initials: [illegible]

Surrogate Standard ID: 11E107B | Sequence: S 106699 | Cont. from pg.

| Position | Lab ID | Client ID | DF | pH/Wt | Analysis | Comments |
|---|---|---|---|---|---|---|
| 1 | Blk0731A | 1115046-Blk1 | 1 | | | Sys Blk ✓ |
| 1 | L B | -Blk1 | 1 | | | L L ✓ |
| 2 | CCV A | Seq-CCV1 | | | | 50ppb CCV ✓ |
| 3 | LCS A | -BS1 | | | | 20ppb LCS ✓ |
| 3 | L B | -BSD1 | | | | L L ✓ |
| 1 | CB01 | Clean-up Blank | | | | ✓ |
| 4 | 32062-01 | OW-L | 5 | 5 | UPW | ND |
| 5 | L -02 | VP-101 | 5 | | | ND |
| 6 | 31835-06 | MW-2 | 5 | | | ET-9 |
| 7 | 31855-03 | LG1-21 | 5 | | | ND |
| 8 | 31922-02 | ECS-2 | 50 | | | MP-48 |
| 9 | -03 | -3 | 5 | | | B-26 |
| 10 | -04 | -4 | 20 | | | B-51 |
| 11 | -05 | -5 | 25 | | | B-53 |
| 12 | 32209-01 | Quality Dupl-20110718 | 5 | | | N-1 |
| 13 | L -02 | " 09 - 11 | 5 | | | N-1 |
| 14 | 32062.010 | 1115046 -DUP | 5 | | | DUP ✓ |
| 14 | 1 -01M | 1 -MS | 5 | | | MS ✓ |
| 15 | CB02 | Blank | 5 | | | ✓ |
| 16 | 31835-08 | MW-4 | 1:5 | 2 | | ND |
| 17 | -09 | 1 -5 | 1:5 | | | ND |
| 18 | -10 | MW-12 | 1:5 | | | ND |
| 19 | 31952-02 | MW-7 | | | | ND |
| 20 | 1 -03 | -8 | | | | ND |
| 21 | 1 -07 | -16 | | | | ND |
| 24 | 1 -05 | MW-10 | 1:5 | 2 | | MP-35 |
| 22 | 32063-01 | ECS-1 | 1:5 | | | ND |
| 23 | 1 -02 | ECS-2 | 1:5 | | | ND |

Signature of Analyst: WB Date: 7/31/11

Signature of Witness: MP Date: 8/1/11

Rev. 3/14/11

25 CCC0731B 1115046 @ 50ppb CCC

VOC-BB-7 Page 83 / 100

SDG32209 Page 222 / 225

Method: f1060711 | Batch: 1115056 | Date: 8/11/11

Calibration: 1106005 | Matrix: H2O | Analyst Initials: MP

Surrogate Standard ID: 1161073 | Sequence: 510672K | Cont. from pg.

| Position | Lab ID | Client ID | DF | pH/Wt | Analysis | Comments |
|---|---|---|---|---|---|---|
| 1 | BLK0801A | 1115056-BLK | | | | SYS Blank |
| 2 | CCC0801A | -CCC | | | | CCC |
| 3 | LCS0801A | -BS | | | | LCS |
| 4 | LCSD0801B | -BSD | | | | LCSD |
| 5 | 32314-02X | 7/22-02 | 1:5000 | | VOHS | N: 9 / [illegible] CO |
| 6 | 32209-04 | 06MW01-20110719 | 1:50 | 1:5 (2) | VOHS | N=25 CO |
| 7 | -05 | 2 | 1:5 | | | ND |
| 8 | -06 | 6 | 1:5 | | | ND |
| 9 | -07 | 7 | 1:5 | | | ND |
| 10 | -08 | 8 | 1:5 | | | ND |
| 11 | -09 | 13 | 1:5 | | | ND |
| 12 | -10 | TB06-20110719 | N- | | | ND |
| 13 | LCS0801C | 1115056-LCS | | | | LCSD |
| 14 | CB01 | Blank | N- | | | Blank |
| 15 | 32209-09D | 1115056-DUP | 1:5 | | | DUP N2 c/o |
| 16 | 1-09M | 1-MS | 1:5 | | | MS |
| 17 | 32360-01 RE1 | AEcom-10 | 1:5 | (2) | | ~~(illegible)~~ ND |
| 18 | 31952-08 | MW-24 | 1:5 | | | ND |
| 19 | 32491-01 | So. influent | 1:100 | | HDS | T=38 |
| 20 | 02 | So. Effluent | 1:5 | | | T=1 |
| 21 | 03 | So mid | 1:5 | | | T=199 |
| 22 | 04 | So Ditch | 1:5 | | | T=5 |
| 23 | 05 | No ~~Effluent~~ inf. | 1:50 | | | T=104 |
| 24 | 06 | No Eff. | 1:5 | | | T=4 |
| 25 | -07 | No mid | 1:5 | | | ND |

Signature of Analyst: [illegible] Date: 8/11/11

Signature of Witness: WR Date: 8-1-11

| | | | | | | |
|---|---|---|---|---|---|---|
| 26 | -08 | No Ditch #1 | 1:5 | (2) | HDS | ND |
| 27 | -09 | No Ditch #2 | 1:5 | | | T=8 |
| 28 | 32493-01 | MW-2 | 1:5 | | ND | |
| 29 | -02 | 1-3 | 1:5 | | ND | |
| 30 | 32506-01 | SP-1 | | | MP=1 | |

(7) 32209-09R 1115056-DUP @ opened 13 1:5

4 End CCC on next page

Rev. 3/14/11

Method: f10603 11

Calibration: 110 6005

Surrogate Standard ID: 11E1073

Batch: 1115180

Matrix: H2O

Sequence: 5106786

Date: 8-2-11 (b)

Analyst Initials: MP

Cont. from pg.

| Position | Lab ID | Client ID | DF | pH/Wt | Analysis | Comments |
|---|---|---|---|---|---|---|
| 1 | BLK0802B | 1115180 - BLK | N- | | | Sys Blank - |
| 2 | CCC0802B | - CCC | | | | CCC - |
| 3 | LCS0802C | - BS | | | | LCS - |
| 4 | 1 D | - BSD | | | | LCS D - |
| 5 | CB02 | Blank | N- | | | Blank - |
| 6 | CCC0802C | 1115180 - CCC | N- | | | ~~Blank~~ CCC - |
| 7 | 31961 - 08 | TRIP | N- | (2) | | ND |
| 8 | 32036 - 01 | LEI - 13 | 1:5 | | | ND |
| 9 | 1 - 02 | 1 - 14 | 1:5 | | | ND |
| 10 | 32038 - 01 | MW - 2 | 1:5 | | | ND |
| 11 | - 02 | LEI - 2 | 1:5 | | | ND |
| 12 | - 03 | OW - 2 | 1:200 | | | MP = 600 |
| 13 | - 04 | AS - 1C | 1:250 | | | MP = 50 |
| 14 | 32042 - 02 | LEI - 19 | 1:5 | | | N = 3 |
| 15 | - 02D | 1115180 - DUP | | | | DUP - |
| 16 | - 02M | 1 - MS | | | | MS - |
| 17 | - 01 | LEI - 1 | 1:5 | (2) | | ND |
| 18 | 32040 - 01 | LEI - 32 | 1:5 | | | ET - 10 |
| 19 | 1 - 02 | Trip Blank | N- | | | ND |
| 20 | 32209 - 11 | OBMW03 - 20110120 | 1:10 | | | N = 13 |
| 21 | - 12 | 10 - | 1:5 | | | N = 2 |
| 22 | - 13 | 11 - | 1:5 | | | ND |
| 23 | - 14 | 12 - | 1:5 | | | ND |
| 24 | - 15 | 04 - 21 | 1:25 | | | MA 1:5 |
| 25 | - 16 | 05 - 24 | 1:5 | | | ND |

Signature of Analyst: [signature]

Date: 8-2-11 (b)

Signature of Witness:

Date:

(26) CCC0802D 1115180 - CCC @ 50 ppb CCC

(27) 32209 - 15R OBMW04 - 20110124 1:5 @ Upton Bvial N=3

CO # 5, 6

Rev. 3/14/11

# Last Page of data Report

Report Date:
17-Aug-11 12:40

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# *Laboratory Report*

Tetra Tech NUS Inc.
661 Andersen Drive, Foster Plaza #7
Pittsburgh, PA 15220

Attn: Tobrena Skeen

Work Order: K1283
Project : CTO-WE56, NSB New London
Project #:

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| K1283-01 | 06MW-DUP01-20110718 | Aqueous | 18-Jul-11 00:00 | 21-Jul-11 10:10 |
| K1283-02 | 06MW09-20110718 | Aqueous | 18-Jul-11 16:20 | 21-Jul-11 10:10 |
| K1283-03 | TB06-071811 | Aqueous | 18-Jul-11 10:00 | 21-Jul-11 10:10 |
| K1283-04 | 06MW01-20110719 | Aqueous | 19-Jul-11 12:27 | 21-Jul-11 10:10 |
| K1283-05 | 06MW02-20110719 | Aqueous | 19-Jul-11 14:07 | 21-Jul-11 10:10 |
| K1283-06 | 06MW06-20110719 | Aqueous | 19-Jul-11 09:17 | 21-Jul-11 10:10 |
| K1283-07 | 06MW07-20110719 | Aqueous | 19-Jul-11 12:48 | 21-Jul-11 10:10 |
| K1283-08 | 06MW08-20110719 | Aqueous | 19-Jul-11 14:56 | 21-Jul-11 10:10 |
| K1283-09 | 06MW13-20110719 | Aqueous | 19-Jul-11 09:25 | 21-Jul-11 10:10 |
| K1283-10 | TB06-20110719 | Aqueous | 19-Jul-11 09:00 | 21-Jul-11 13:30 |
| K1283-11 | 06MW03-20110720 | Aqueous | 20-Jul-11 13:44 | 21-Jul-11 13:30 |
| K1283-12 | 06MW10-20110720 | Aqueous | 20-Jul-11 11:16 | 21-Jul-11 13:30 |
| K1283-13 | 06MW11-20110720 | Aqueous | 20-Jul-11 10:59 | 21-Jul-11 13:30 |
| K1283-14 | 06MW12-20110720 | Aqueous | 20-Jul-11 13:50 | 21-Jul-11 13:30 |
| K1283-15 | 06MW04-20110721 | Aqueous | 21-Jul-11 09:07 | 21-Jul-11 13:30 |
| K1283-16 | 06MW05-20110721 | Aqueous | 21-Jul-11 08:54 | 21-Jul-11 13:30 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Mitkem Laboratories is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-05-030 |

Authorized by:

Yihai Ding
Laboratory Director

*SPECTRUM ANALYTICAL, INC.*
*Featuring*
*HANIBAL TECHNOLOGY*

# * Data Summary Pack *

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www.spectrum-analytical.com

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1283**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**

**HC Due:** 08/11/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** *DoD*
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1283-01A | 06MW-DUP01-20110718 | 07/18/2011 00:00 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-01B | 06MW-DUP01-20110718 | 07/18/2011 00:00 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-02A | 06MW09-20110718 | 07/18/2011 16:20 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-02B | 06MW09-20110718 | 07/18/2011 16:20 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-03A | TB06-071811 | 07/18/2011 10:00 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-04A | 06MW01-20110719 | 07/19/2011 12:27 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-04B | 06MW01-20110719 | 07/19/2011 12:27 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-05A | 06MW02-20110719 | 07/19/2011 14:07 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-05B | 06MW02-20110719 | 07/19/2011 14:07 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-06A | 06MW06-20110719 | 07/19/2011 09:17 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-06B | 06MW06-20110719 | 07/19/2011 09:17 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-07A | 06MW07-20110719 | 07/19/2011 12:48 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-07B | 06MW07-20110719 | 07/19/2011 12:48 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-08A | 06MW08-20110719 | 07/19/2011 14:56 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-08B | 06MW08-20110719 | 07/19/2011 14:56 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J4 |
| K1283-09A | 06MW13-20110719 | 07/19/2011 09:25 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | Y | Y | SUB |
| K1283-09B | 06MW13-20110719 | 07/19/2011 09:25 | 07/21/2011 | Aqueous | CTETPH_W | / | | | Y | | J4 |
| K1283-10A | TB06-20110719 | 07/19/2011 09:00 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K1283**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 08/11/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445,

**Report Level:** LEVEL 4
**Special Program:** *DoD*
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1283-11A | 06MW03-20110720 | 07/20/2011 13:44 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-11B | 06MW03-20110720 | 07/20/2011 13:44 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-12A | 06MW10-20110720 | 07/20/2011 11:16 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-12B | 06MW10-20110720 | 07/20/2011 11:16 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-13A | 06MW11-20110720 | 07/20/2011 10:59 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-13B | 06MW11-20110720 | 07/20/2011 10:59 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-14A | 06MW12-20110720 | 07/20/2011 13:50 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-14B | 06MW12-20110720 | 07/20/2011 13:50 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-15A | 06MW04-20110721 | 07/21/2011 09:07 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-15B | 06MW04-20110721 | 07/21/2011 09:07 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |
| K1283-16A | 06MW05-20110721 | 07/21/2011 08:54 | 07/21/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K1283-16B | 06MW05-20110721 | 07/21/2011 08:54 | 07/21/2011 | Aqueous | CTETPH_W | / | | | | | J2 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# * Semivolatile Organics *

**REPORT NARRATIVE**

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London**

**Laboratory Workorder / SDG #: K1283**

**CT ETPH, CT ETPH by GC-FID**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

Analyses for Volatile Petroleum Hydrocarbons by the Massachusetts method (MA_VPH) were performed by Mitkem's parent company, Spectrum Analytical, Inc. of Agawam, MA. The entire Spectrum report, including any notes on these analyses, follows the "Last Page" of the Mitkem data report.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH.

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510.

## V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

The following analytes were detected below the reporting limit in method blanks associated with these samples:

MB-60579 in batch 60579, and MB-60598 in batch 60598, contained Extractable Total Petroleum Hydrocarbons above the Method Detection Limit but below the Reporting Limit.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on sample: 06MW13-20110719 (K1283-09BMS/MSD).

Percent recoveries and replicate RPDs were within the QC limits.

**E. Dilutions:**

No sample in this SDG required analysis at dilution.

**F. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:___ _____

Date:_____8/17/11_____

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-DUP01-20110718 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-01 **Collection Date:** 07/18/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.86 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 20:29 | 60579 |
| Surrogate: ortho-Terphenyl | 77.0 | | | 50-150 | %REC | 1 | 07/27/2011 20:29 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW09-20110718 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-02 **Collection Date:** 07/18/11 16:20

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | 0.78 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 20:49 | 60579 |
| Surrogate: ortho-Terphenyl | 67.2 | | | 50-150 | %REC | 1 | 07/27/2011 20:49 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW01-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-04 **Collection Date:** 07/19/11 12:27

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 2.5 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 9:43 | 60598 |
| Surrogate: ortho-Terphenyl | 92.4 | | | 50-150 | %REC | 1 | 08/03/2011 9:43 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW02-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-05 **Collection Date:** 07/19/11 14:07

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.23 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:09 | 60579 |
| Surrogate: ortho-Terphenyl | 68.7 | | | 50-150 | %REC | 1 | 07/27/2011 21:09 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW06-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-06 **Collection Date:** 07/19/11 9:17

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.38 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:29 | 60579 |
| Surrogate: ortho-Terphenyl | 71.6 | | | 50-150 | %REC | 1 | 07/27/2011 21:29 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW07-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-07 **Collection Date:** 07/19/11 12:48

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.20 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:49 | 60579 |
| Surrogate: ortho-Terphenyl | 76.1 | | | 50-150 | %REC | 1 | 07/27/2011 21:49 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW08-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-08 **Collection Date:** 07/19/11 14:56

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.19 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 22:09 | 60579 |
| Surrogate: ortho-Terphenyl | 66.5 | | | 50-150 | %REC | 1 | 07/27/2011 22:09 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW13-20110719 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-09 **Collection Date:** 07/19/11 9:25

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.37 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 22:29 | 60579 |
| Surrogate: ortho-Terphenyl | 77.3 | | | 50-150 | %REC | 1 | 07/27/2011 22:29 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW03-20110720 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-11 **Collection Date:** 07/20/11 13:44

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 3.5 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:04 | 60598 |
| Surrogate: ortho-Terphenyl | 88.8 | | | 50-150 | %REC | 1 | 08/03/2011 10:04 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW10-20110720 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-12 **Collection Date:** 07/20/11 11:16

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 1.4 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:24 | 60598 |
| Surrogate: ortho-Terphenyl | 78.5 | | | 50-150 | %REC | 1 | 08/03/2011 10:24 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW11-20110720
**Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-13
**Collection Date:** 07/20/11 10:59

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | 0.26 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:44 | 60598 |
| Surrogate: ortho-Terphenyl | 93.4 | | | 50-150 | %REC | 1 | 08/03/2011 10:44 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW12-20110720 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-14 **Collection Date:** 07/20/11 13:50

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:04 | 60598 |
| Surrogate: ortho-Terphenyl | 92.7 | | | 50-150 | %REC | 1 | 08/03/2011 11:04 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW04-20110721 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-15 **Collection Date:** 07/21/11 9:07

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 1.1 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:24 | 60598 |
| Surrogate: ortho-Terphenyl | 83.5 | | | 50-150 | %REC | 1 | 08/03/2011 11:24 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW05-20110721 **Project:** CTO-WE56, NSB New London
**Lab ID:** K1283-16 **Collection Date:** 07/21/11 8:54

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:45 | 60598 |
| Surrogate: ortho-Terphenyl | 74.4 | | | 50-150 | %REC | 1 | 08/03/2011 11:45 | 60598 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1283
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **MB-60579** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **MB-60579** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 16:06** SeqNo: **1578267**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.07407 | | 0.0025 | 0.1000 | 0 | 74.1 | 50 | 150 | 0 | | | |

Sample ID: **MB-60598** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **07/25/11 9:22** Run ID: **F1_110803A**
Client ID: **MB-60598** Batch ID: **60598** Units: **mg/L** Analysis Date: **08/03/11 8:44** SeqNo: **1578361**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.09679 | | 0.0025 | 0.1000 | 0 | 96.8 | 50 | 150 | 0 | | | |

Sample ID: **LCS-60579** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **LCS-60579** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 16:26** SeqNo: **1578268**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.754 | 0.018 | 0.10 | 5.000 | 0 | 75.1 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.09053 | | 0.0025 | 0.1000 | 0 | 90.5 | 50 | 150 | 0 | | | |

Sample ID: **LCS-60598** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **07/25/11 9:22** Run ID: **F1_110803A**
Client ID: **LCS-60598** Batch ID: **60598** Units: **mg/L** Analysis Date: **08/03/11 9:03** SeqNo: **1578363**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 4.130 | 0.018 | 0.10 | 5.000 | 0 | 82.6 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.09054 | | 0.0025 | 0.1000 | 0 | 90.5 | 50 | 150 | 0 | | | |

Sample ID: **LCSD-60598** SampType: **LCSD** TestCode: **CTETPH_W** Prep Date: **07/25/11 9:22** Run ID: **F1_110803A**
Client ID: **LCSD-60598** Batch ID: **60598** Units: **mg/L** Analysis Date: **08/03/11 9:23** SeqNo: **1578364**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 4.472 | 0.018 | 0.10 | 5.000 | 0 | 89.4 | 60 | 140 | 4.130 | 7.96 | 20 | |
| Surrogate: ortho-Terphenyl | 0.09916 | | 0.0025 | 0.1000 | 0 | 99.2 | 50 | 150 | 0 | | | |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
LOD - Limit of Detection
LOQ - Limit of Quantitation
B - Analyte detected in the associated Method Blank
^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1283
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **K1283-09BMS** SampType: **MS** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **06MW13-20110719** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 22:49** SeqNo: **1578279**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.529 | 0.018 | 0.10 | 5.000 | 0.3716 | 63.2 | 50 | 150 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.07388 | | 0.0025 | 0.1000 | 0 | 73.9 | 50 | 150 | 0 | | | |

Sample ID: **K1283-09BMSD** SampType: **MSD** TestCode: **CTETPH_W** Prep Date: **07/24/11 15:52** Run ID: **F1_110727A**
Client ID: **06MW13-20110719** Batch ID: **60579** Units: **mg/L** Analysis Date: **07/27/11 23:09** SeqNo: **1578280**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.762 | 0.018 | 0.10 | 5.000 | 0.3716 | 67.8 | 50 | 150 | 3.529 | 6.39 | 30 | |
| Surrogate: ortho-Terphenyl | 0.07748 | | 0.0025 | 0.1000 | 0 | 77.5 | 50 | 150 | 0 | | | |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
LOD - Limit of Detection
LOQ - Limit of Quantitation
B - Analyte detected in the associated Method Blank
^ Qualified to the Limit of Detection (LOD)

Report Date:
05-Dec-11 14:50

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# *Laboratory Report*

Tetra Tech NUS Inc.
661 Andersen Drive, Foster Plaza #7
Pittsburgh, PA 15220

Attn: Tobrena Sedlmyer

Work Order: K2139
Project : CTO-WE56, NSB New London
Project #:

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| K2139-01 | 06MW-04-111024 | Aqueous | 24-Oct-11 16:15 | 25-Oct-11 16:30 |
| K2139-02 | 06MW-06-20111024 | Aqueous | 24-Oct-11 13:54 | 25-Oct-11 16:30 |
| K2139-03 | 06MW-08-20111024 | Aqueous | 24-Oct-11 15:34 | 25-Oct-11 16:30 |
| K2139-04 | 06MW-10-20111024 | Aqueous | 24-Oct-11 12:15 | 25-Oct-11 16:30 |
| K2139-05 | 06MW-11-111024 | Aqueous | 24-Oct-11 13:40 | 25-Oct-11 16:30 |
| K2139-06 | 06MW-12-111024 | Aqueous | 24-Oct-11 15:00 | 25-Oct-11 16:30 |
| K2139-07 | 06MWDUP01-111024 | Aqueous | 24-Oct-11 00:00 | 25-Oct-11 16:30 |
| K2139-08 | 06TBMW0-111024 | Aqueous | 24-Oct-11 00:00 | 25-Oct-11 16:30 |
| K2139-09 | 06MW-01-111025 | Aqueous | 25-Oct-11 12:46 | 25-Oct-11 16:30 |
| K2139-10 | 06MW-02-111025 | Aqueous | 25-Oct-11 10:38 | 25-Oct-11 16:30 |
| K2139-11 | 06MW-03-111025 | Aqueous | 25-Oct-11 09:10 | 25-Oct-11 16:30 |
| K2139-12 | 06MW-05-111025 | Aqueous | 25-Oct-11 09:20 | 25-Oct-11 16:30 |
| K2139-13 | 06MW-07-111025 | Aqueous | 25-Oct-11 11:30 | 25-Oct-11 16:30 |
| K2139-14 | 06MW-09-111025 | Aqueous | 25-Oct-11 10:25 | 25-Oct-11 16:30 |
| K2139-15 | 06MW-13-111025 | Aqueous | 25-Oct-11 12:40 | 25-Oct-11 16:30 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K2139**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 11/15/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445, 1

**Report Level:** LEVEL 4
**Special Program:** DoD
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K2139-01A | 06MW-04-111024 | 10/24/2011 16:15 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-01B | 06MW-04-111024 | 10/24/2011 16:15 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-02A | 06MW-06-20111024 | 10/24/2011 13:54 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | Y | Y | SUB |
| K2139-02B | 06MW-06-20111024 | 10/24/2011 13:54 | 10/25/2011 | Aqueous | CTETPH_W | / | | | Y | | I2 |
| K2139-03A | 06MW-08-20111024 | 10/24/2011 15:34 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-03B | 06MW-08-20111024 | 10/24/2011 15:34 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-04A | 06MW-10-20111024 | 10/24/2011 12:15 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-04B | 06MW-10-20111024 | 10/24/2011 12:15 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-05A | 06MW-11-111024 | 10/24/2011 13:40 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-05B | 06MW-11-111024 | 10/24/2011 13:40 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-06A | 06MW-12-111024 | 10/24/2011 15:00 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-06B | 06MW-12-111024 | 10/24/2011 15:00 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-07A | 06MWDUP01-111024 | 10/24/2011 00:00 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-07B | 06MWDUP01-111024 | 10/24/2011 00:00 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-08A | 06TBMW0-111024 | 10/24/2011 00:00 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-09A | 06MW-01-111025 | 10/25/2011 12:46 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-09B | 06MW-01-111025 | 10/25/2011 12:46 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-10A | 06MW-02-111025 | 10/25/2011 10:38 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K2139**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 11/15/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445, 1

**Report Level:** LEVEL 4
**Special Program:** DoD
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K2139-10B | 06MW-02-111025 | 10/25/2011 10:38 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-11A | 06MW-03-111025 | 10/25/2011 09:10 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-11B | 06MW-03-111025 | 10/25/2011 09:10 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-12A | 06MW-05-111025 | 10/25/2011 09:20 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-12B | 06MW-05-111025 | 10/25/2011 09:20 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-13A | 06MW-07-111025 | 10/25/2011 11:30 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-13B | 06MW-07-111025 | 10/25/2011 11:30 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-14A | 06MW-09-111025 | 10/25/2011 10:25 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-14B | 06MW-09-111025 | 10/25/2011 10:25 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-15A | 06MW-13-111025 | 10/25/2011 12:40 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-15B | 06MW-13-111025 | 10/25/2011 12:40 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Sample Transmittal Documentation

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000173-1

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Hand Deliver** | **Mitkem Laboratory**<br>**175 Metrocenter Blvd**<br>**Warwick, RI 02886** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Ed Lawler**<br>**401-732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/2011 | 06MW-04-111024 | 16:15 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-04 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-04-111024 | 16:15 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-04 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-06-20111024 | 13:54 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-06 | GW | ETPH | 4°C | 4 | Glass - Amber | 1L | LAB QC MS/MSD |
| 10/24/2011 | 06MW-06-20111024 | 13:54 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-06 | GW | VPH | 4°C/HCL | 4 | Glass - Clear | 40ml vials | LAB QC MS/MSD |
| 10/24/2011 | 06MW-08-20111024 | 15:34 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-08 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-08-20111024 | 15:34 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-08 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-10-20111024 | 12:15 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-10 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-10-20111024 | 12:15 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-10 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-11-111024 | 13:40 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-11 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-11-111024 | 13:40 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-11 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-12-111024 | 15:00 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-12 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-12-111024 | 15:00 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-12 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MWDUP01-111024 | 00:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MWDUP01-111024 | 00:00 | **CT DPH ETPH - Mitkem SOP 60.0050** | QC | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06TBMW0-111024 | 09:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 10/25/2011 | 06MW-01-111025 | 12:46 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-01 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-01-111025 | 12:46 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-01 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-02-111025 | 10:38 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-02 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-02-111025 | 10:38 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-02 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-03-111025 | 09:10 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-03 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-03-111025 | 09:10 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-03 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-05-111025 | 09:20 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-05 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-05-111025 | 09:20 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-05 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-07-111025 | 11:30 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-07 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |

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| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/2011 | 06MW-07-111025 | 11:30 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-07 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-09-111025 | 10:25 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-09 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-09-111025 | 10:25 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-09 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-13-111025 | 12:40 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-13 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-13-111025 | 12:40 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-13 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |

| 1. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
|---|---|---|---|---|---|
| **Robin Clark** | 10/25/2011 | 16:00 | **Hand Deliver** | 10/25/2011 | 16:00 |
| 2. Relinquished By: Robin | Date: 10/25/11 | Time: 1630 | Received By: Damisonner | Date: 10-25-11 | Time: 16:30 |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |

Comments:

5°C 4°C 2°C



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Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

| | |
|---|---|
| Received By: Dania McKun | Page 01 of 01 |
| Reviewed By: | Log-in Date 10/25/2011 |
| Work Order: K2139 | Client Name: Tetra Tech NUS Inc. |
| Project Name/Event: CTO-WE56, NSB New London | |

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s) — Present / Absent
   Intact / Broken
2. Custody Seal Nos. — N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists — Present / Absent
4. Airbill — AirBill / Sticker
   Present / Absent
5. Airbill No. — Courier N/A
6. Sample Tags — Present / Absent
   Sample Tag Numbers — Listed / Not Listed on Chain-of-Custody
7. Sample Condition — Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle — Present / Absent

| | |
|---|---|
| 9. Cooler Temperature | 5 °C |
| 10. Does information on TR/COCs and sample tags agree? | Yes / No |
| 11. Date Received at Laboratory | 10/25/2011 |
| 12. Time Received | 16:30 |

Sample Transfer

| Fraction (1) TVOA/VOA | Fraction (2) SVOA/PEST/ARO |
|---|---|
| Area # | Area # |
| By | By |
| On | On |

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

| Lab Sample ID | Preservation (pH) HNO3 | H2SO4 | HCl | NaOH | H3PO4 | VOA Matrix | Soil HeadSpace or Air Bubble > or equal to 1/4" |
|---|---|---|---|---|---|---|---|
| K2139-01 | | | | | | H | |
| K2139-02 | | | | | | H | |
| K2139-03 | | | | | | H | |
| K2139-04 | | | | | | H | |
| K2139-05 | | | | | | H | |
| K2139-06 | | | | | | H | |
| K2139-07 | | | | | | H | |
| K2139-08 | | | | | | H | |
| K2139-09 | | | | | | H | |
| K2139-10 | | | | | | H | |
| K2139-11 | | | | | | H | |
| K2139-12 | | | | | | H | |
| K2139-13 | | | | | | H | |
| K2139-14 | | | | | | H | |
| K2139-15 | | | | | | H | |

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A= Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No



WO: K2139 / CID:000 759 / CWID:001 267

Sample Condition Form

# * Semivolatile Organics *

# REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : Tetra Tech NUS Inc.

Project: CTO-WE56, NSB New London

Laboratory Workorder / SDG #: K2139

CT ETPH, CT ETPH by GC-FID

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

Analyses for Volatile Petroleum Hydrocarbons by the Massachusetts method (MA_VPH) were performed by Mitkem's parent company, Spectrum Analytical, Inc. of Agawam, MA. The entire Spectrum report, including any notes on these analyses, follows the "Last Page" of the Mitkem data report.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: 06MW-06-20111024 (K2139-02BMS) and 06MW-06-20111024 (K2139-02BMSD).

Percent recoveries were within the QC limits.

Replicate RPDs were within the advisory QC limits.

### E. Dilutions:

No sample in this SDG required analysis at dilution.

F. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:

Date: 12/5/11

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-04-111024 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-01 **Collection Date:** 10/24/11 16:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.68 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 18:02 | 62548 |
| Surrogate: ortho-Terphenyl | 51.9 | | | 50-150 | %REC | 1 | 11/10/2011 18:02 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7104.D
Lab Smp Id: K2139-01B BN: 62548 Client Smp ID: 06MW-04-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 18:02 Operator: TM
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 11 15:04:05 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

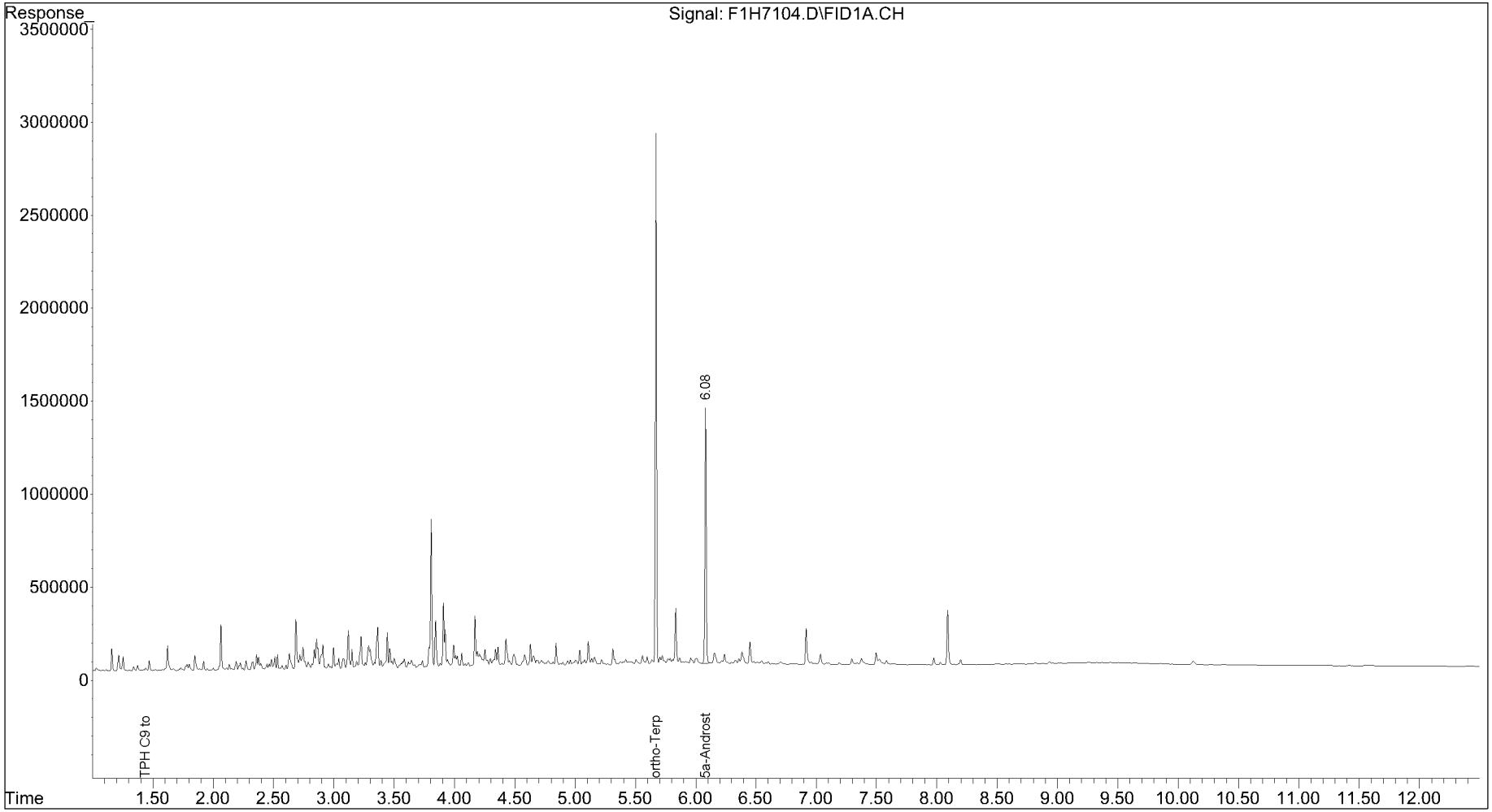
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10370309 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 19852550 | 51.872 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 51.87% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 226046669 | 675.531 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 276053352 | |
| Corrected Range Area (IS,SS): | | 245830493 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

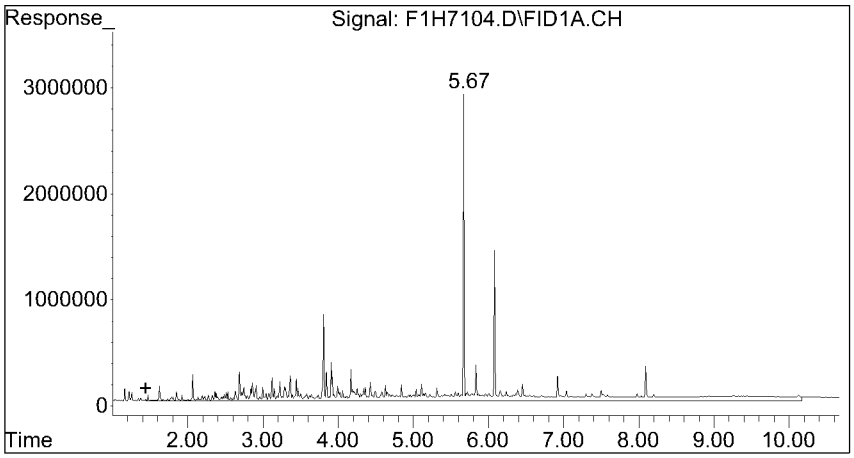
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7104.D
Lab Smp Id: K2139-01B BN: 62548 Client Smp ID: 06MW-04-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 18:02 Operator: TM
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 11 15:04:05 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 226046669
Conc: 675.53 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-06-20111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-02
**Collection Date:** 10/24/11 13:54

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.31 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 18:23 | 62548 |
| Surrogate: ortho-Terphenyl | 59.2 | | | 50-150 | %REC | 1 | 11/10/2011 18:23 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7105.D
Lab Smp Id: K2139-02B BN: 62548 Client Smp ID: 06MW-06-20111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 18:23 Operator: TM
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 11 15:04:06 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

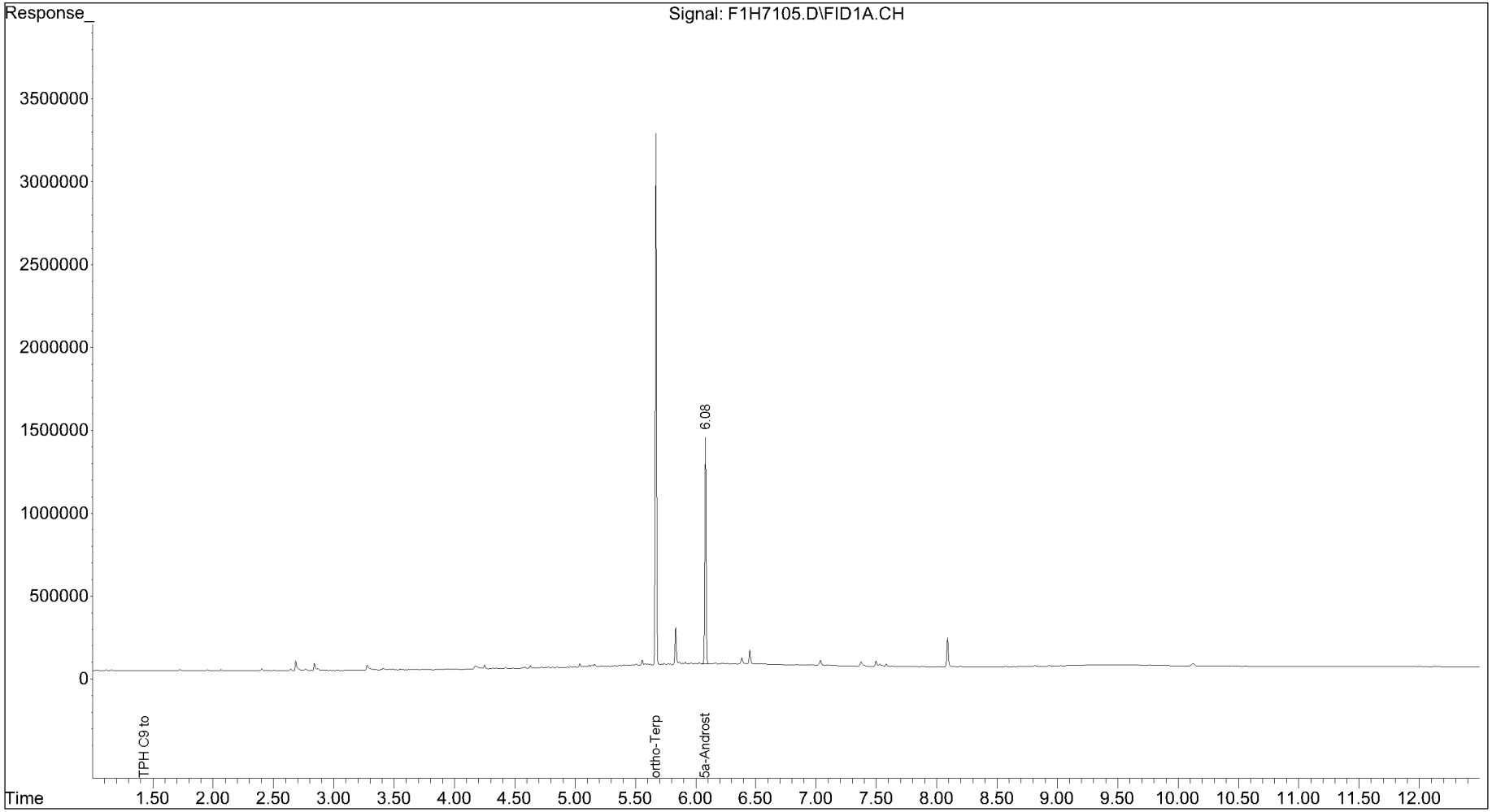
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10204894 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 22639339 | 59.154 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 59.15% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 103553795 | 309.466 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 156181852 | |
| Corrected Range Area (IS,SS): | | 123337619 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

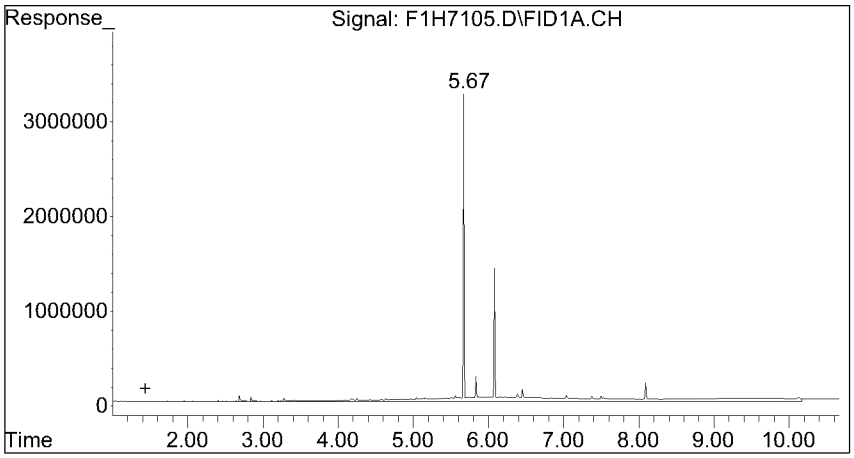
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7105.D
Lab Smp Id: K2139-02B BN: 62548 Client Smp ID: 06MW-06-20111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 18:23 Operator: TM
ALS Vial : 24 Sample Multiplier: 1

Quant Time: Nov 11 15:04:06 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 103553795
Conc: 309.47 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-08-20111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-03
**Collection Date:** 10/24/11 15:34

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.21 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 19:24 | 62548 |
| Surrogate: ortho-Terphenyl | 68.8 | | | 50-150 | %REC | 1 | 11/10/2011 19:24 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7108.D
Lab Smp Id: K2139-03B BN: 62548 Client Smp ID: 06MW-08-20111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 19:24 Operator: TM
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 11 15:04:09 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

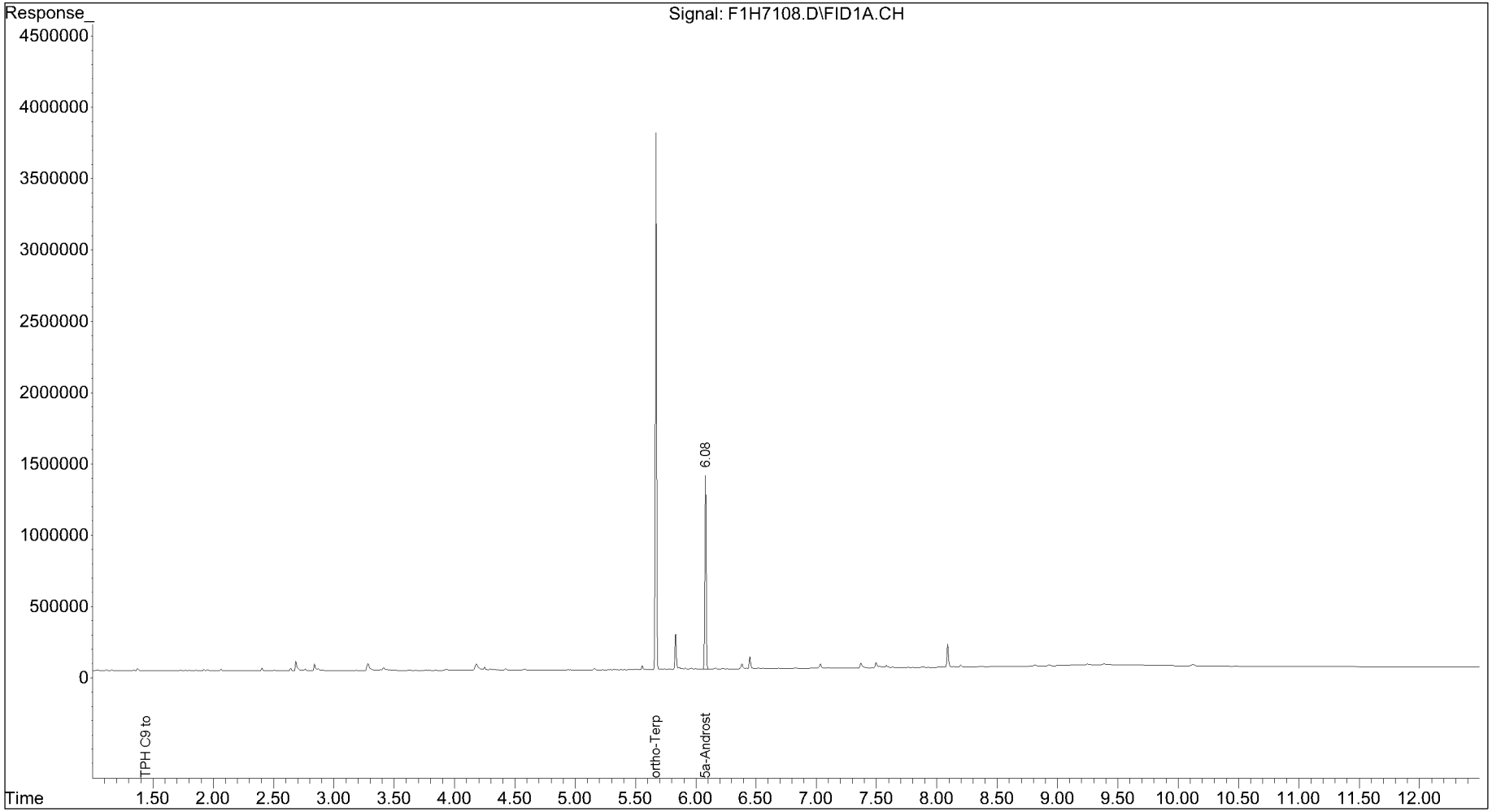
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10433851 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 26346876 | 68.841 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 68.84% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 69605683 | 208.014 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 126170234 | |
| Corrected Range Area (IS,SS): | | 89389507 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

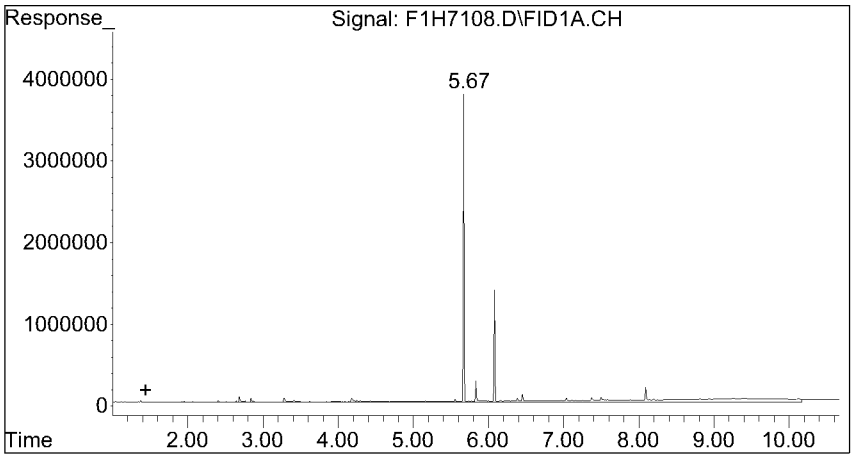
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7108.D
Lab Smp Id: K2139-03B BN: 62548 Client Smp ID: 06MW-08-20111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 19:24 Operator: TM
ALS Vial : 27 Sample Multiplier: 1

Quant Time: Nov 11 15:04:09 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 69605683
Conc: 208.01 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-10-20111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-04
**Collection Date:** 10/24/11 12:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 1.1 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 19:44 | 62548 |
| Surrogate: ortho-Terphenyl | 72.1 | | | 50-150 | %REC | 1 | 11/10/2011 19:44 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7109.D
Lab Smp Id: K2139-04B BN: 62548 Client Smp ID: 06MW-10-20111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 19:44 Operator: TM
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 11 15:04:10 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

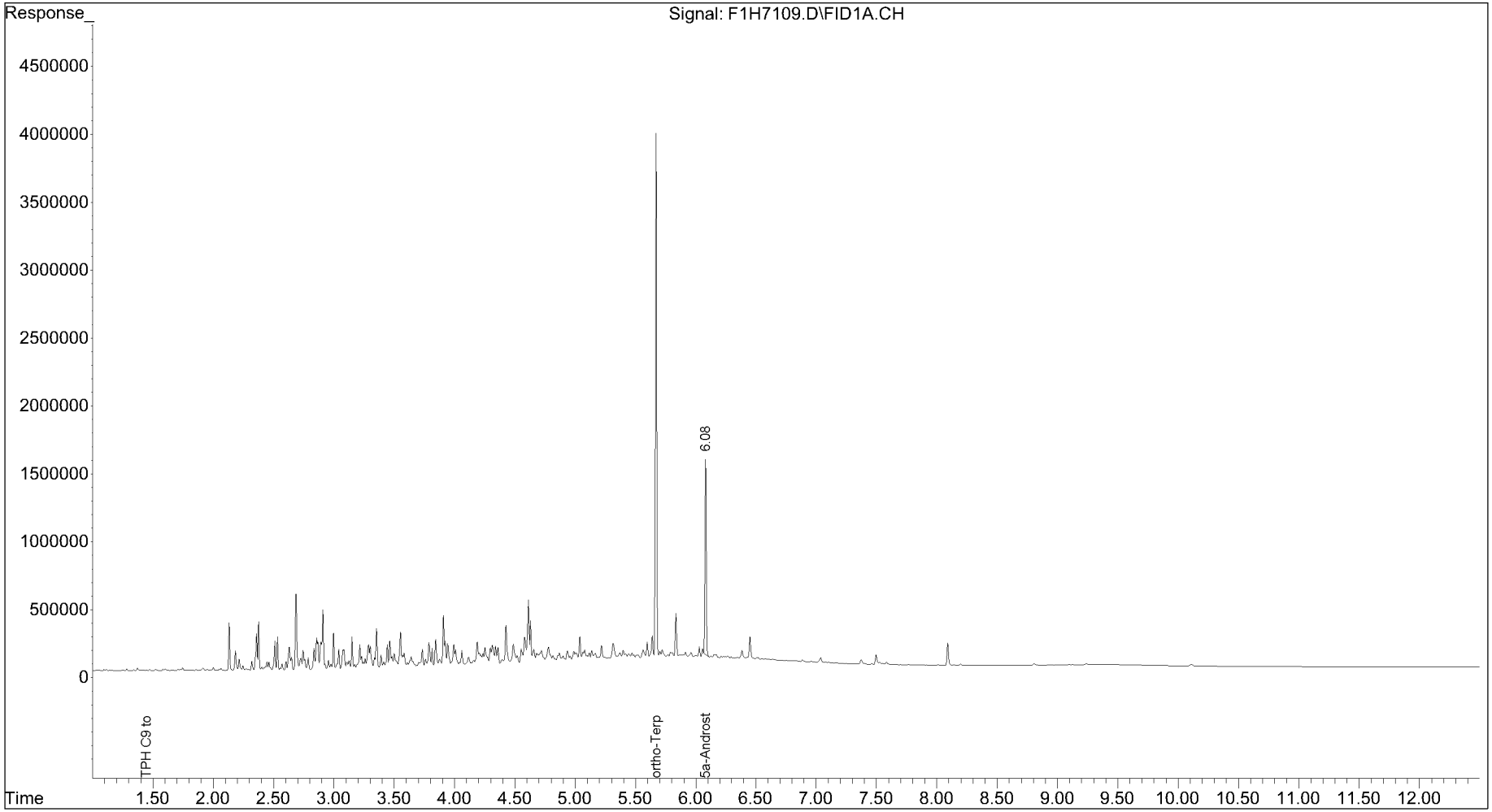
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10623022 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 27597796 | 72.110 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 72.11% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 370720757 | 1107.884 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 428725399 | |
| Corrected Range Area (IS,SS): | | 390504581 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

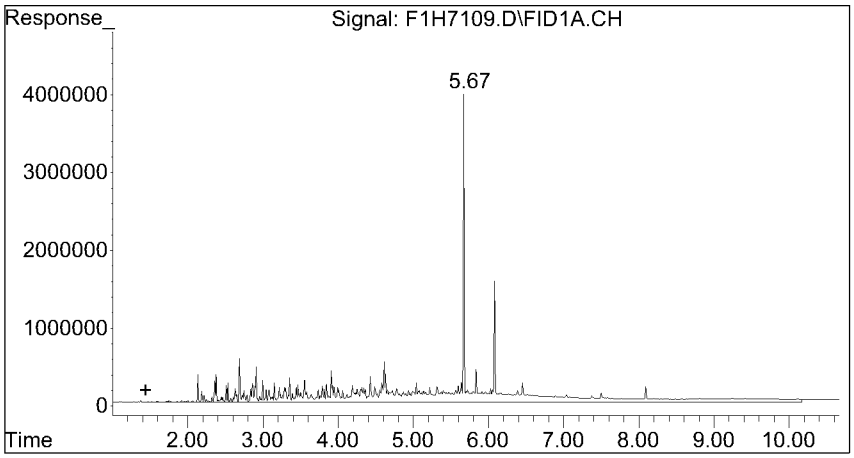
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7109.D
Lab Smp Id: K2139-04B BN: 62548 Client Smp ID: 06MW-10-20111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 19:44 Operator: TM
ALS Vial : 28 Sample Multiplier: 1

Quant Time: Nov 11 15:04:10 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 370720757
Conc: 1107.88 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-11-111024 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-05 **Collection Date:** 10/24/11 13:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.64 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 20:04 | 62548 |
| Surrogate: ortho-Terphenyl | 65.5 | | | 50-150 | %REC | 1 | 11/10/2011 20:04 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7110.D
Lab Smp Id: K2139-05B BN: 62548 Client Smp ID: 06MW-11-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 20:04 Operator: TM
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 11 15:04:11 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

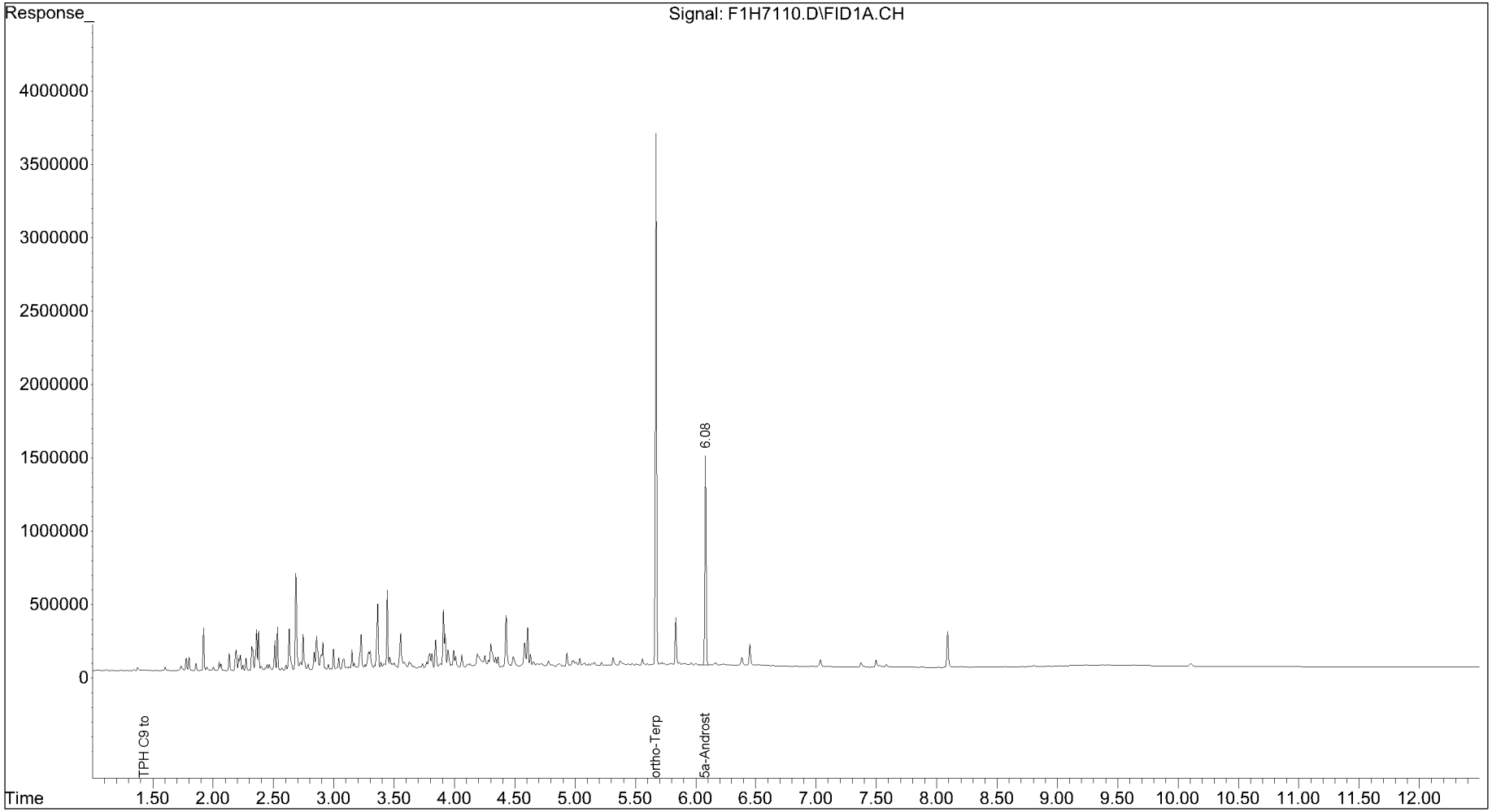
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10728886 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 25059410 | 65.477 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 65.48% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 215389000 | 643.681 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 270961121 | |
| Corrected Range Area (IS,SS): | | 235172824 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

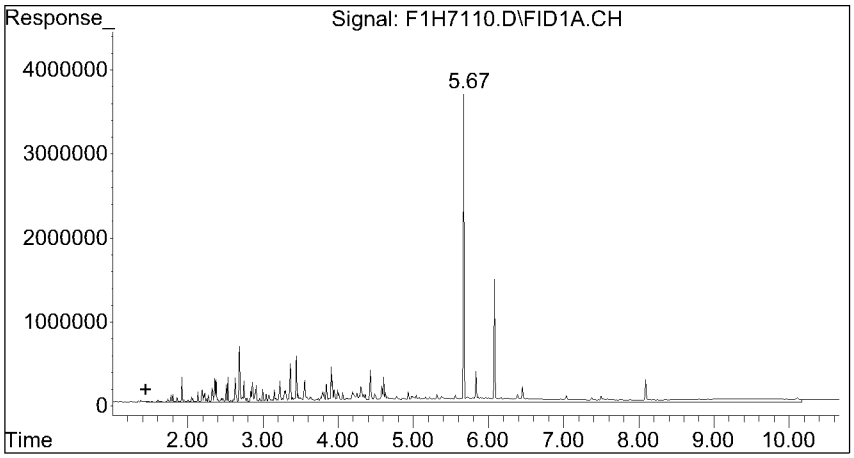
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7110.D
Lab Smp Id: K2139-05B BN: 62548 Client Smp ID: 06MW-11-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 20:04 Operator: TM
ALS Vial : 29 Sample Multiplier: 1

Quant Time: Nov 11 15:04:11 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 215389000
Conc: 643.68 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-12-111024 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-06 **Collection Date:** 10/24/11 15:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 20:24 | 62548 |
| Surrogate: ortho-Terphenyl | 72.0 | | | 50-150 | %REC | 1 | 11/10/2011 20:24 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7111.D
Lab Smp Id: K2139-06B BN: 62548 Client Smp ID: 06MW-12-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 20:24 Operator: TM
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 14 11:02:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

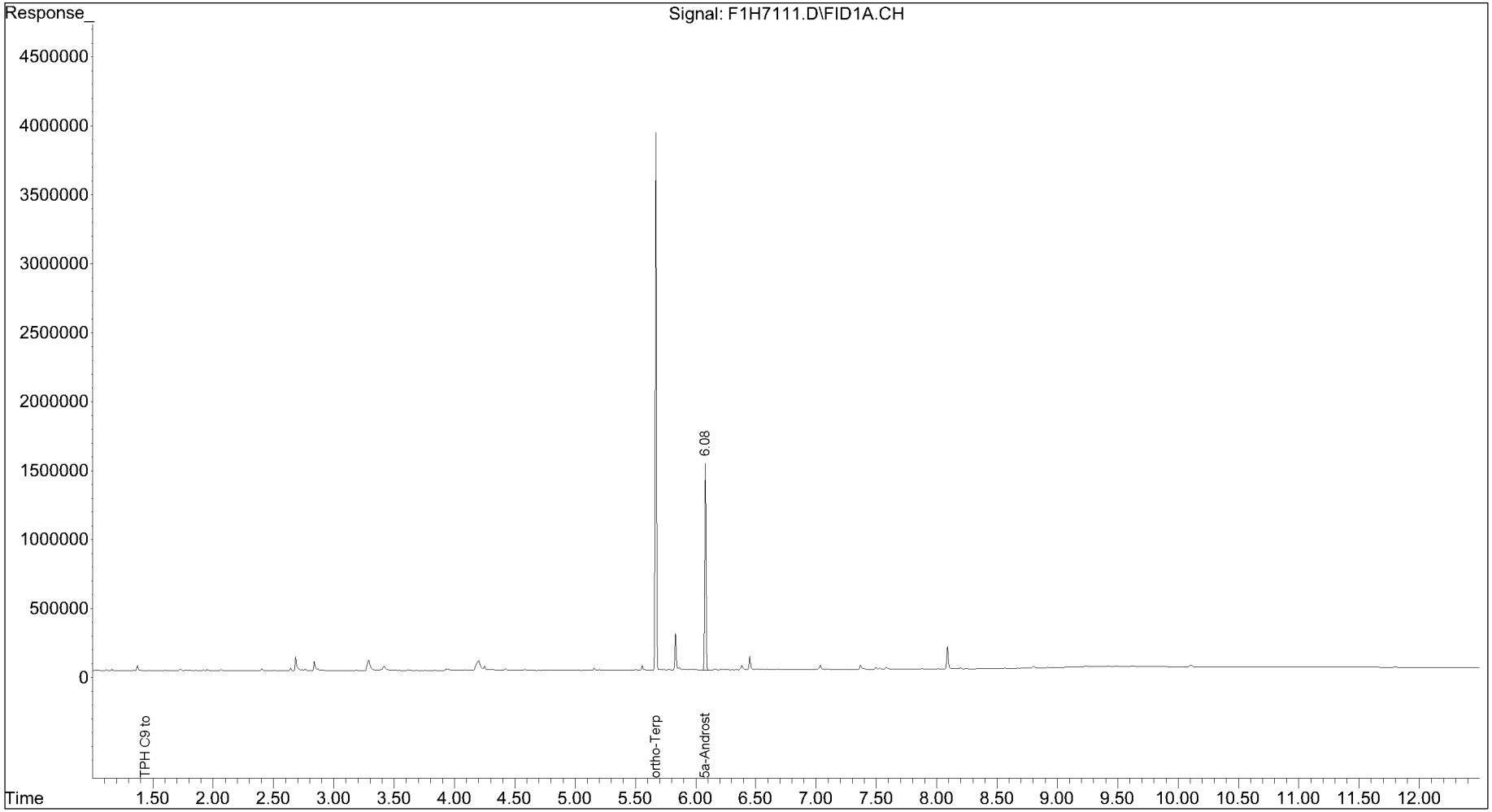
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 11226032 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 27552010 | 71.990 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 71.99% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 24470142 | 73.128 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Corrected Range Area (IS,SS): | | 44253966 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

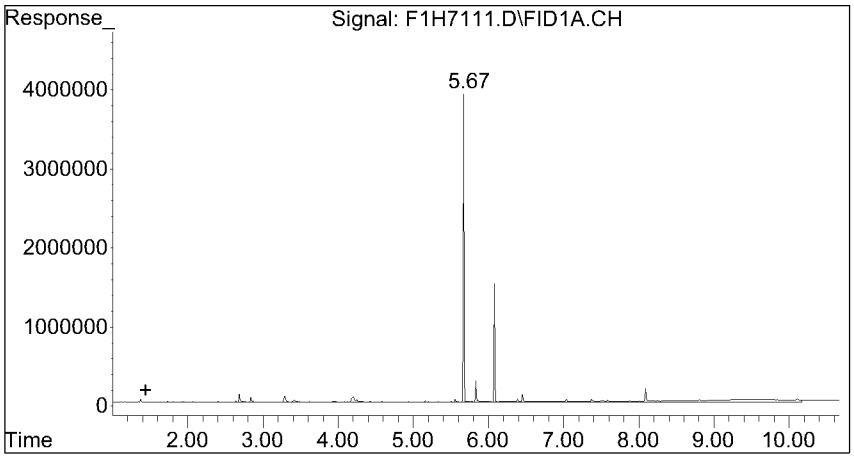
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7111.D
Lab Smp Id: K2139-06B BN: 62548 Client Smp ID: 06MW-12-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 20:24 Operator: TM
ALS Vial : 30 Sample Multiplier: 1

Quant Time: Nov 14 11:02:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 24470142
Conc: 73.13 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MWDUP01-111024 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-07 **Collection Date:** 10/24/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.28 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 21:46 | 62548 |
| Surrogate: ortho-Terphenyl | 55.4 | | | 50-150 | %REC | 1 | 11/10/2011 21:46 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7115.D
Lab Smp Id: K2139-07B BN: 62548 Client Smp ID: 06MWDUP01-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 21:46 Operator: TM
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 11 15:52:34 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

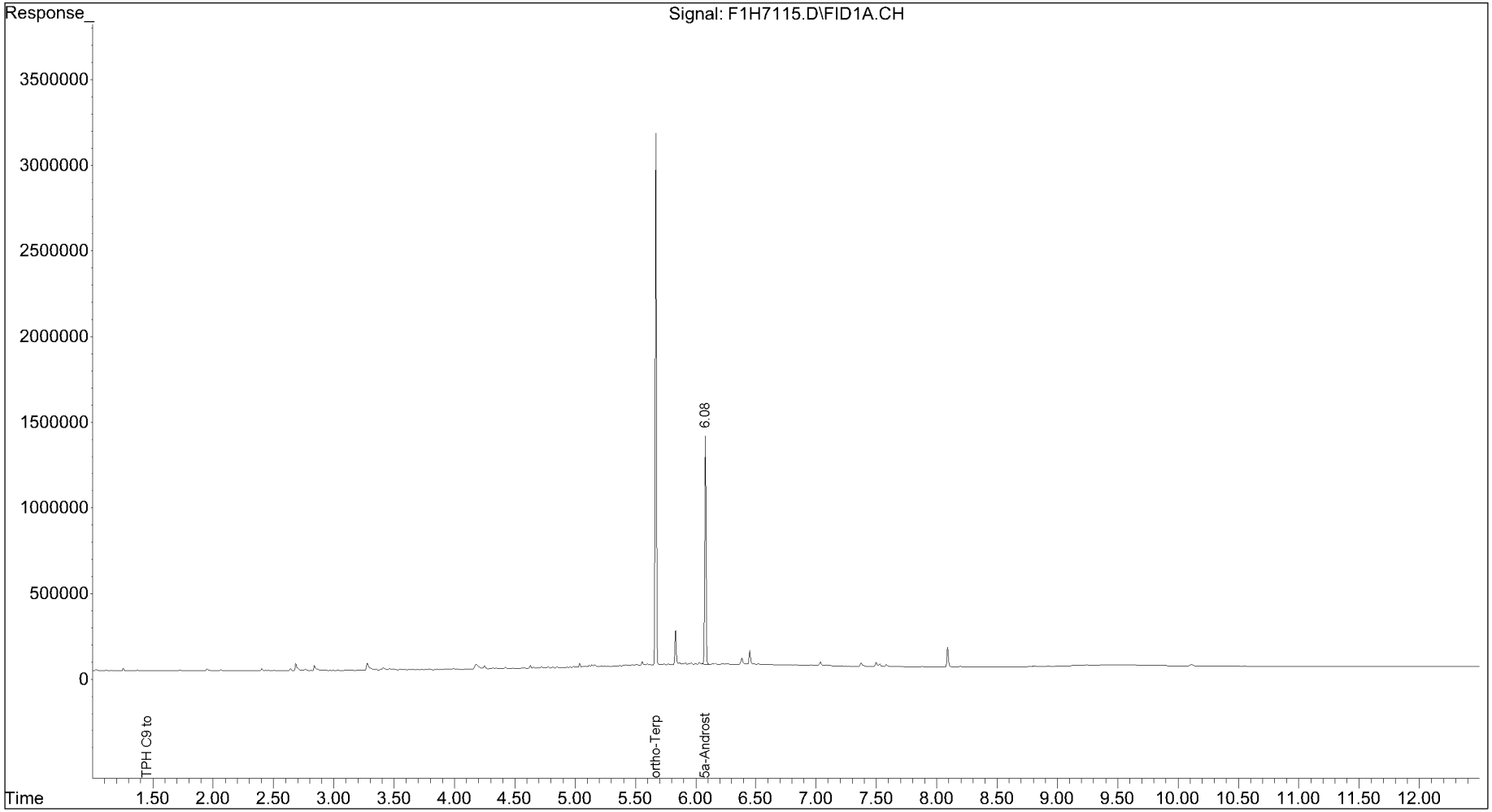
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10082589 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 21199536 | 55.392 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 55.39% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 92496214 | 276.421 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 146511234 | |
| Corrected Range Area (IS,SS): | | 115229109 | |
| Instrument Blank Area (F1H7114): | | 22732895 | |

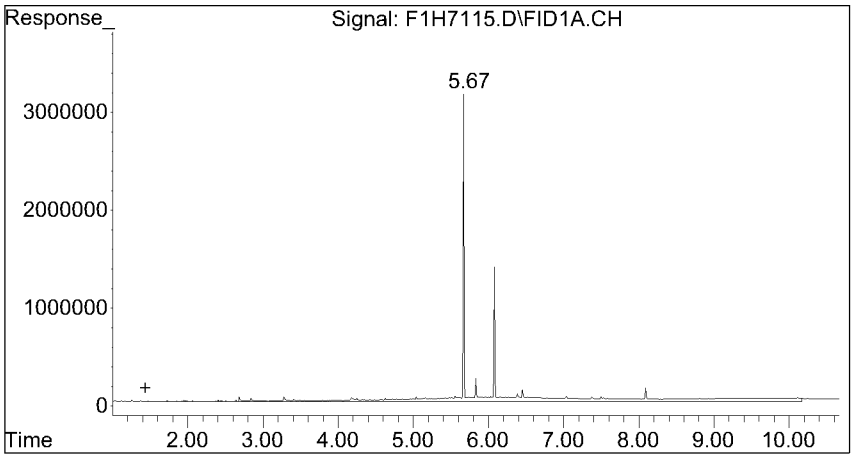
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7115.D
Lab Smp Id: K2139-07B BN: 62548 Client Smp ID: 06MWDUP01-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 21:46 Operator: TM
ALS Vial : 31 Sample Multiplier: 1

Quant Time: Nov 11 15:52:34 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 92496214
Conc: 276.42 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-01-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-09 **Collection Date:** 10/25/11 12:46

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 2.8 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 3:49 | 62553 |
| Surrogate: ortho-Terphenyl | 76.6 | | | 50-150 | %REC | 1 | 11/11/2011 3:49 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7133.D
Lab Smp Id: K2139-09B BN: 62553 Client Smp ID: 06MW-01-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 3:49 Operator: TM
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Nov 11 15:53:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

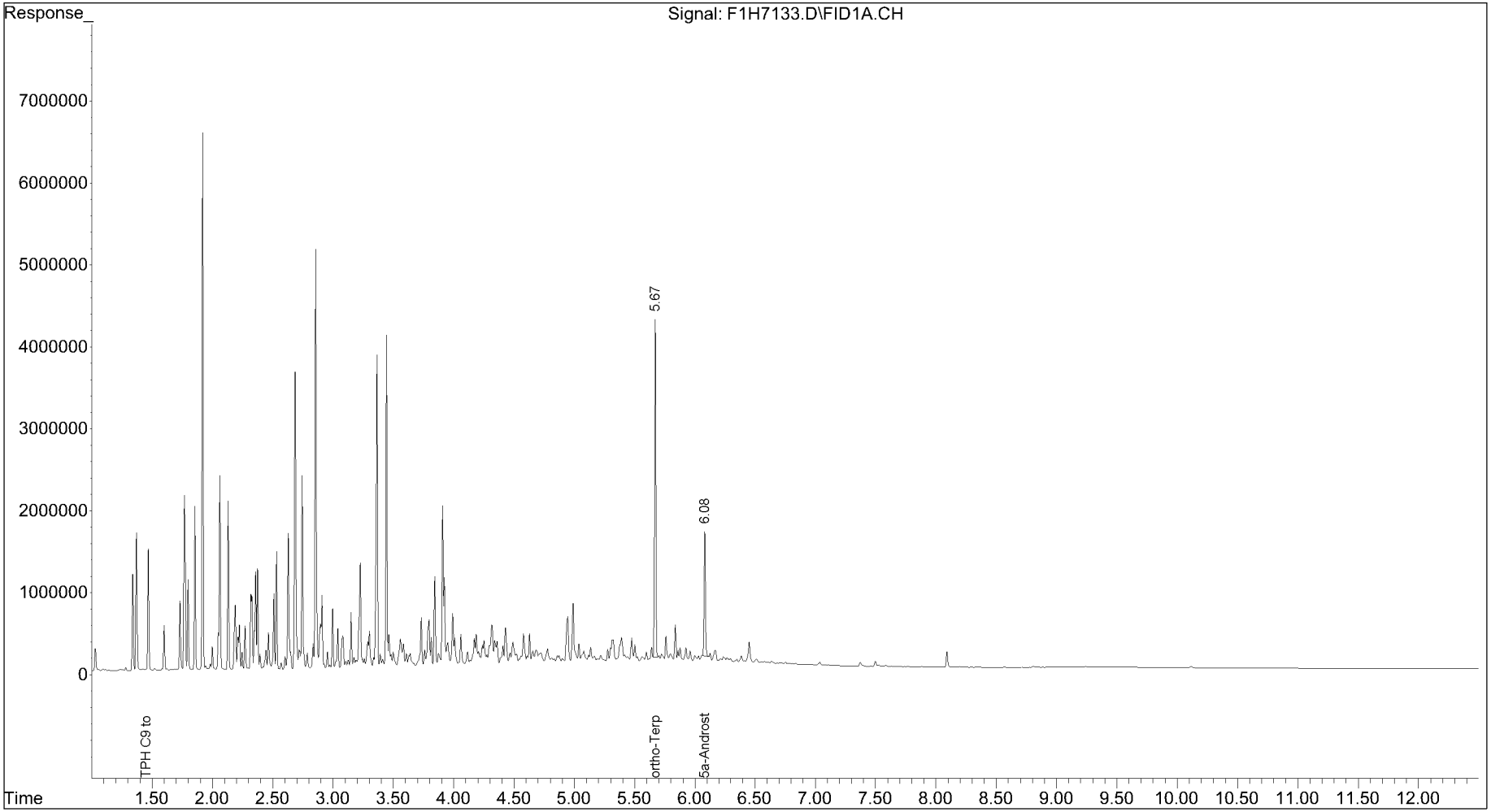
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 11233256 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 29330069 | 76.636 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 76.64% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 927960536 | 2773.172 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 993295843 | |
| Corrected Range Area (IS,SS): | | 952732517 | |
| Instrument Blank Area (F1H7127): | | 24771981 | |

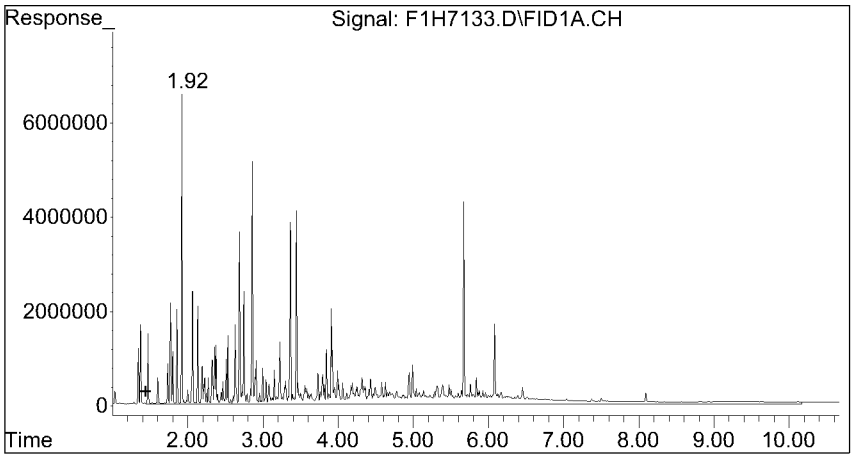
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7133.D
Lab Smp Id: K2139-09B BN: 62553 Client Smp ID: 06MW-01-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 3:49 Operator: TM
ALS Vial : 46 Sample Multiplier: 1

Quant Time: Nov 11 15:53:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 927960536
Conc: 2773.17 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-02-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-10 **Collection Date:** 10/25/11 10:38

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.66 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:09 | 62553 |
| Surrogate: ortho-Terphenyl | 67.6 | | | 50-150 | %REC | 1 | 11/11/2011 4:09 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7134.D
Lab Smp Id: K2139-10B BN: 62553 Client Smp ID: 06MW-02-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 4:09 Operator: TM
ALS Vial : 47 Sample Multiplier: 1

Quant Time: Nov 11 15:53:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

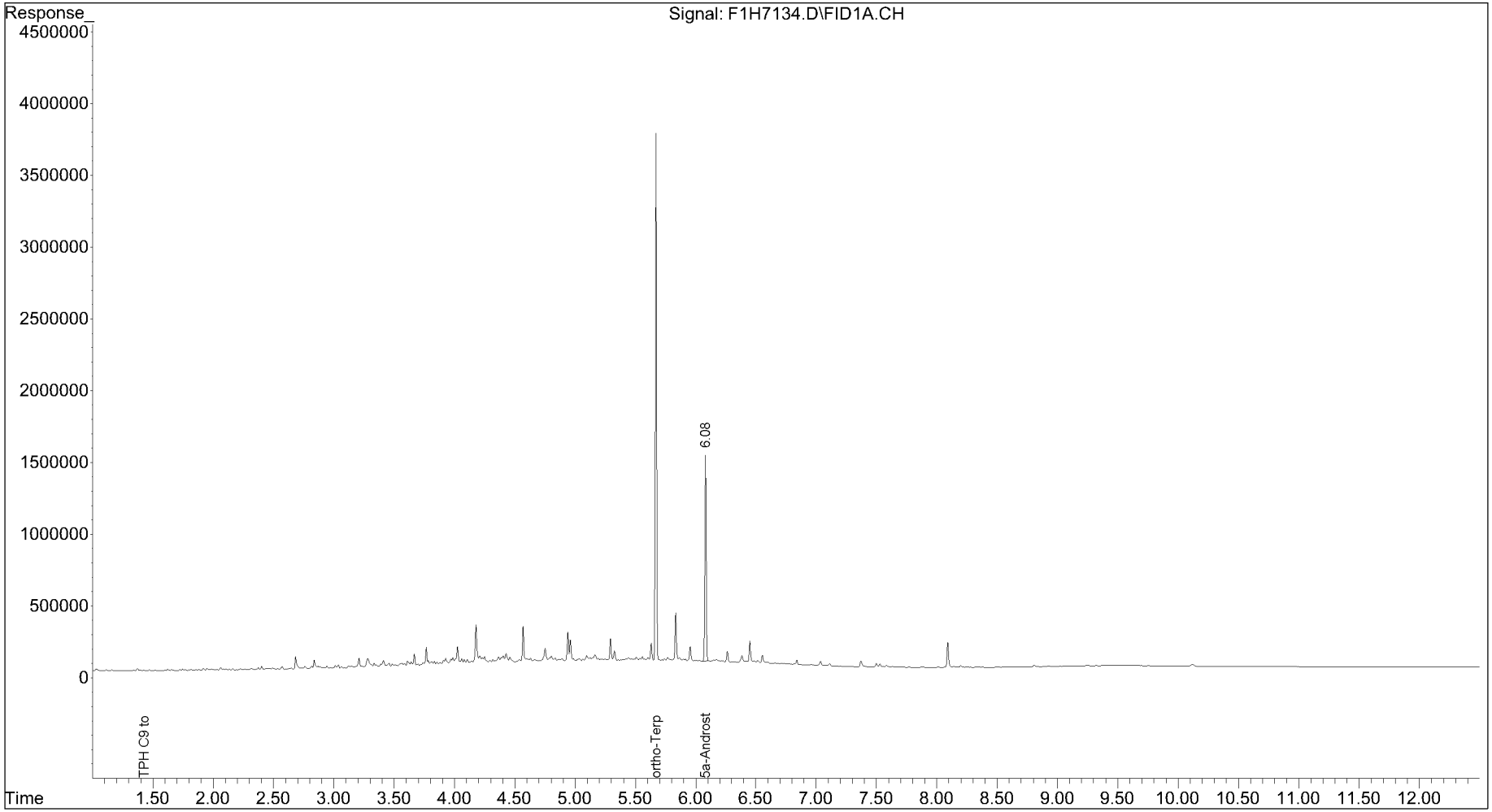
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10756856 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 25864768 | 67.581 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 67.58% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 221753340 | 662.701 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 283146944 | |
| Corrected Range Area (IS,SS): | | 246525321 | |
| Instrument Blank Area (F1H7127): | | 24771981 | |

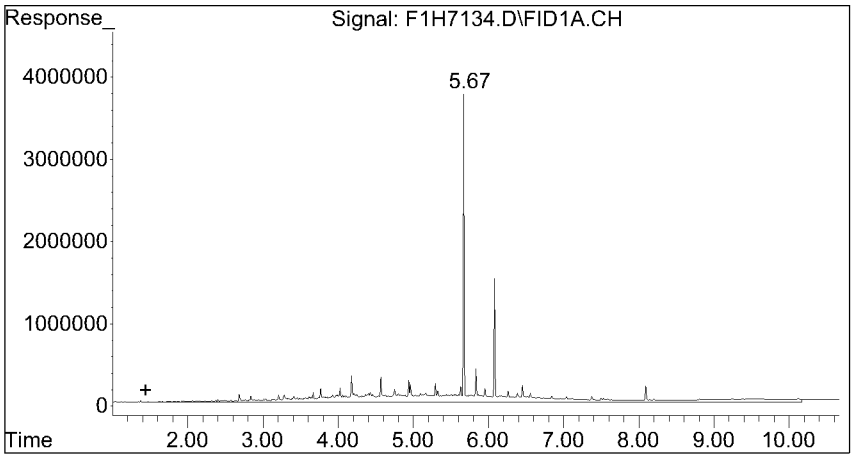
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7134.D
Lab Smp Id: K2139-10B BN: 62553 Client Smp ID: 06MW-02-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 4:09 Operator: TM
ALS Vial : 47 Sample Multiplier: 1

Quant Time: Nov 11 15:53:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 221753340
Conc: 662.70 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-03-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-11 **Collection Date:** 10/25/11 9:10

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 3.5 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:30 | 62553 |
| Surrogate: ortho-Terphenyl | 75.1 | | | 50-150 | %REC | 1 | 11/11/2011 4:30 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7135.D
Lab Smp Id: K2139-11B BN: 62553 Client Smp ID: 06MW-03-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 4:30 Operator: TM
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Nov 11 15:53:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

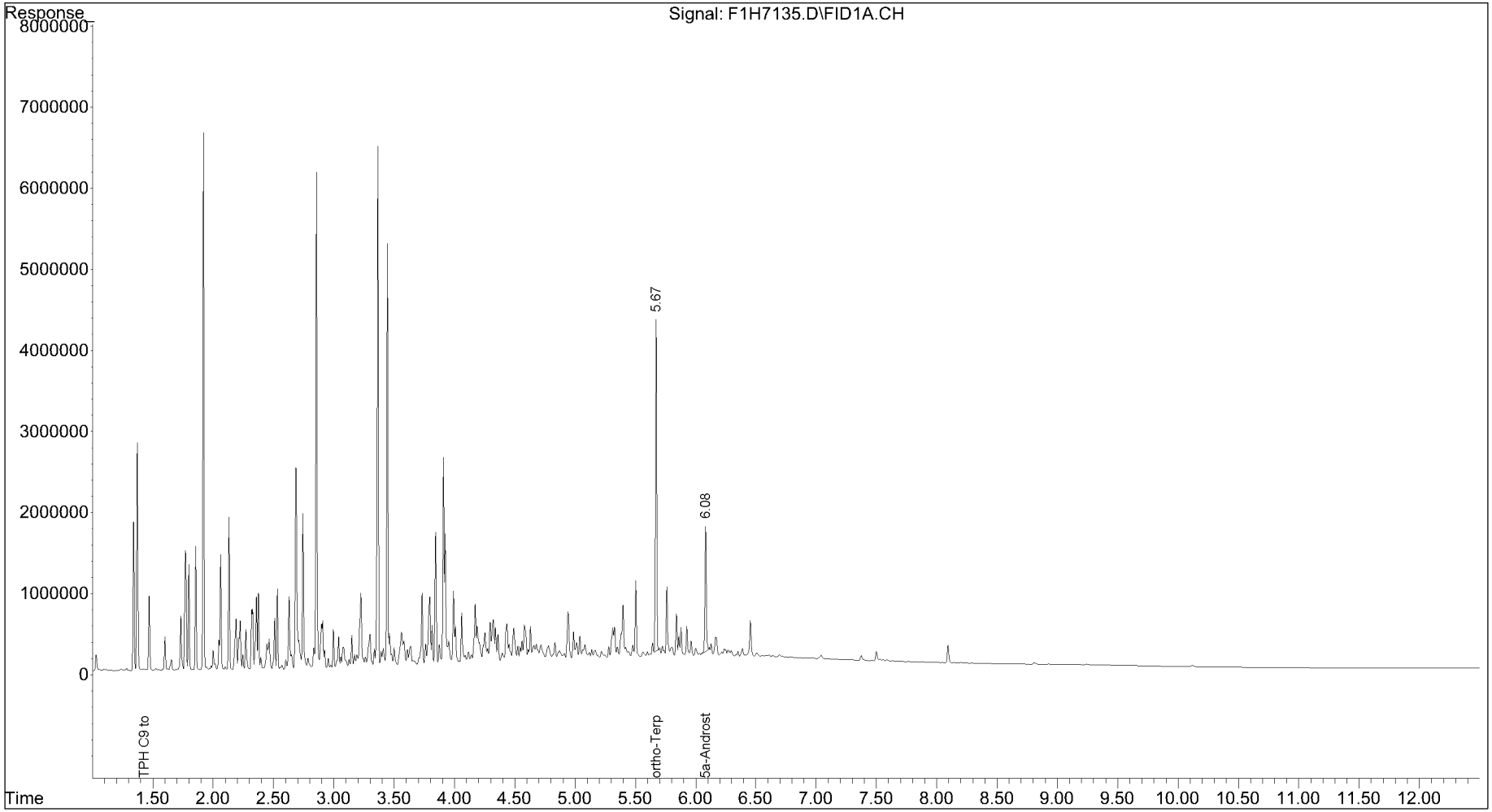
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 11838655 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 28748384 | 75.116 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 75.12% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 1167731298 | 3489.717 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 1233090318 | |
| Corrected Range Area (IS,SS): | | 1192503279 | |
| Instrument Blank Area (F1H7127): | | 24771981 | |

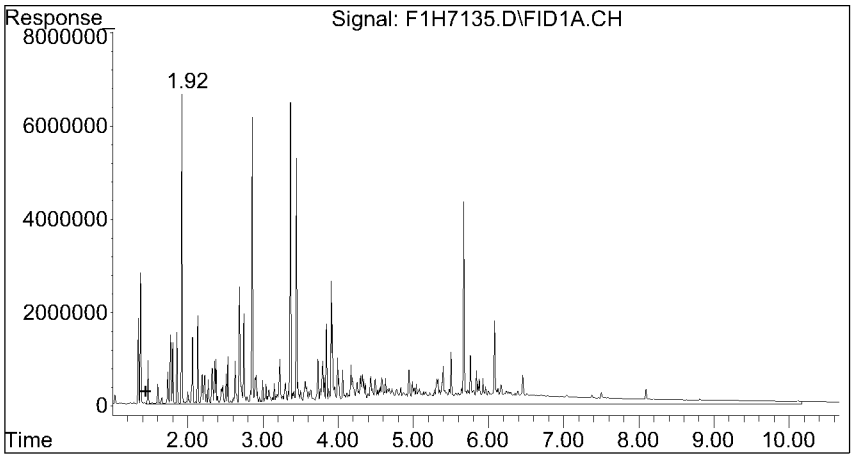
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7135.D
Lab Smp Id: K2139-11B BN: 62553 Client Smp ID: 06MW-03-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 4:30 Operator: TM
ALS Vial : 48 Sample Multiplier: 1

Quant Time: Nov 11 15:53:28 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1167731298
Conc: 3489.72 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-05-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-12 **Collection Date:** 10/25/11 9:20

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.11 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:50 | 62553 |
| Surrogate: ortho-Terphenyl | 67.6 | | | 50-150 | %REC | 1 | 11/11/2011 4:50 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7136.D
Lab Smp Id: K2139-12B BN: 62553 Client Smp ID: 06MW-05-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 4:50 Operator: TM
ALS Vial : 49 Sample Multiplier: 1

Quant Time: Nov 11 15:53:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

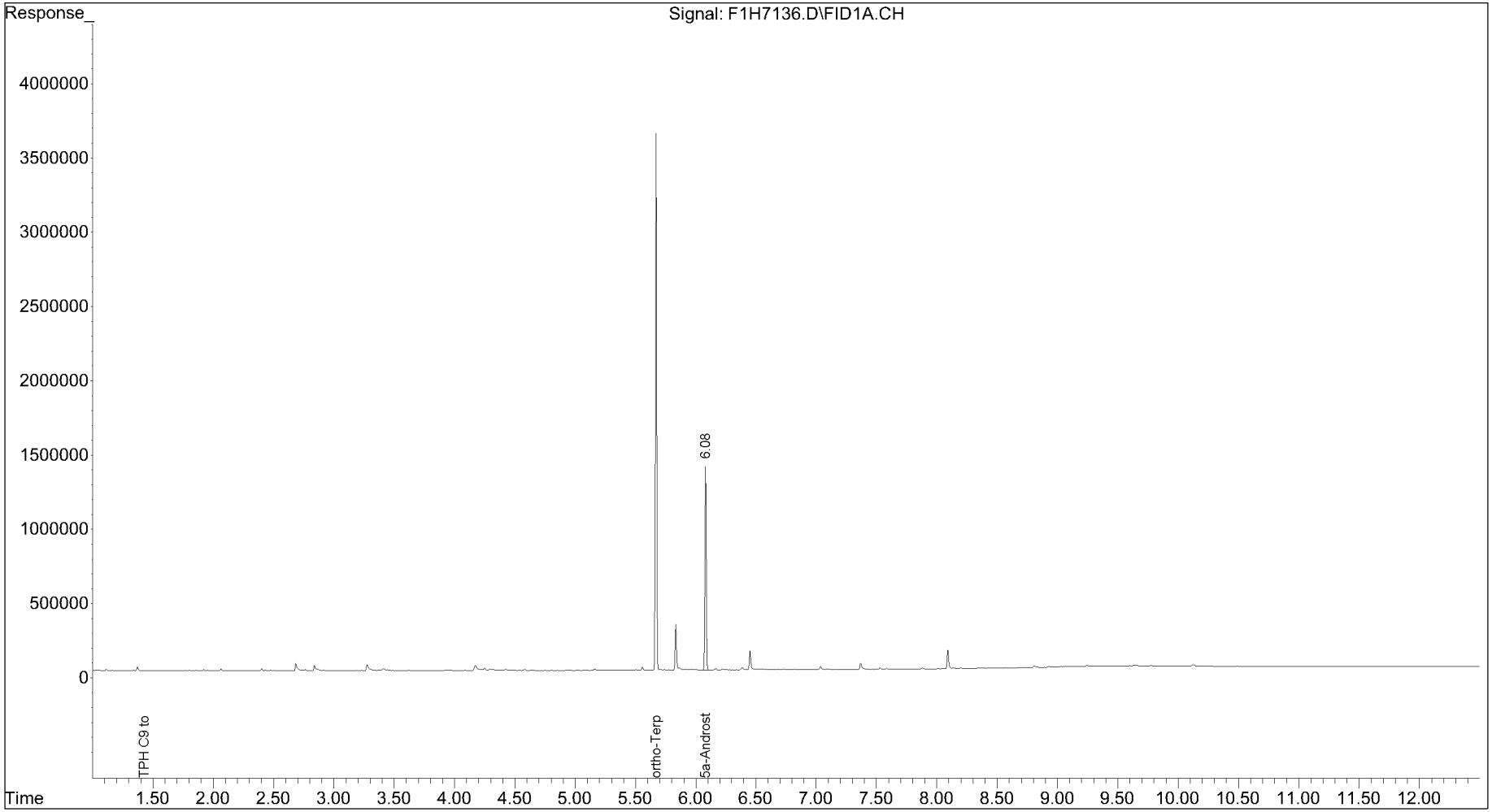
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10147180 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 25890018 | 67.647 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 67.65% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 35739534 | 106.806 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 96548713 | |
| Corrected Range Area (IS,SS): | | 60511515 | |
| Instrument Blank Area (F1H7127): | | 24771981 | |

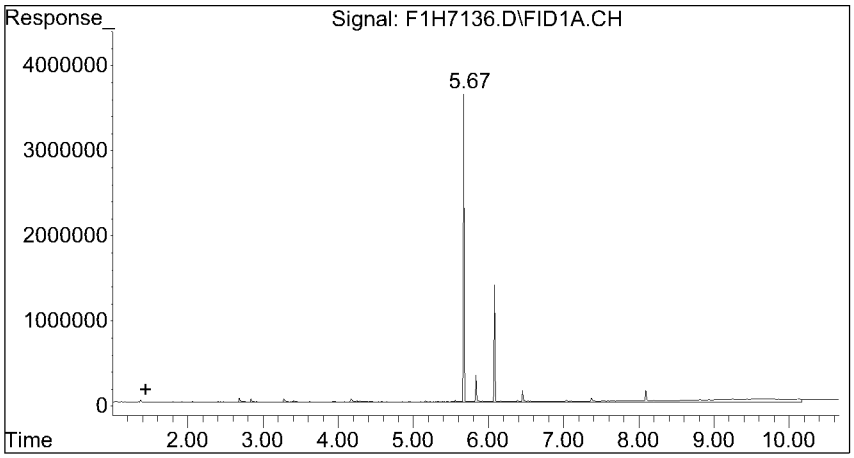
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7136.D
Lab Smp Id: K2139-12B BN: 62553 Client Smp ID: 06MW-05-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 4:50 Operator: TM
ALS Vial : 49 Sample Multiplier: 1

Quant Time: Nov 11 15:53:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 35739534
Conc: 106.81 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-07-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-13 **Collection Date:** 10/25/11 11:30

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.19 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 5:10 | 62553 |
| Surrogate: ortho-Terphenyl | 67.4 | | | 50-150 | %REC | 1 | 11/11/2011 5:10 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7137.D
Lab Smp Id: K2139-13B BN: 62553 Client Smp ID: 06MW-07-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 5:10 Operator: TM
ALS Vial : 50 Sample Multiplier: 1

Quant Time: Nov 11 15:53:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

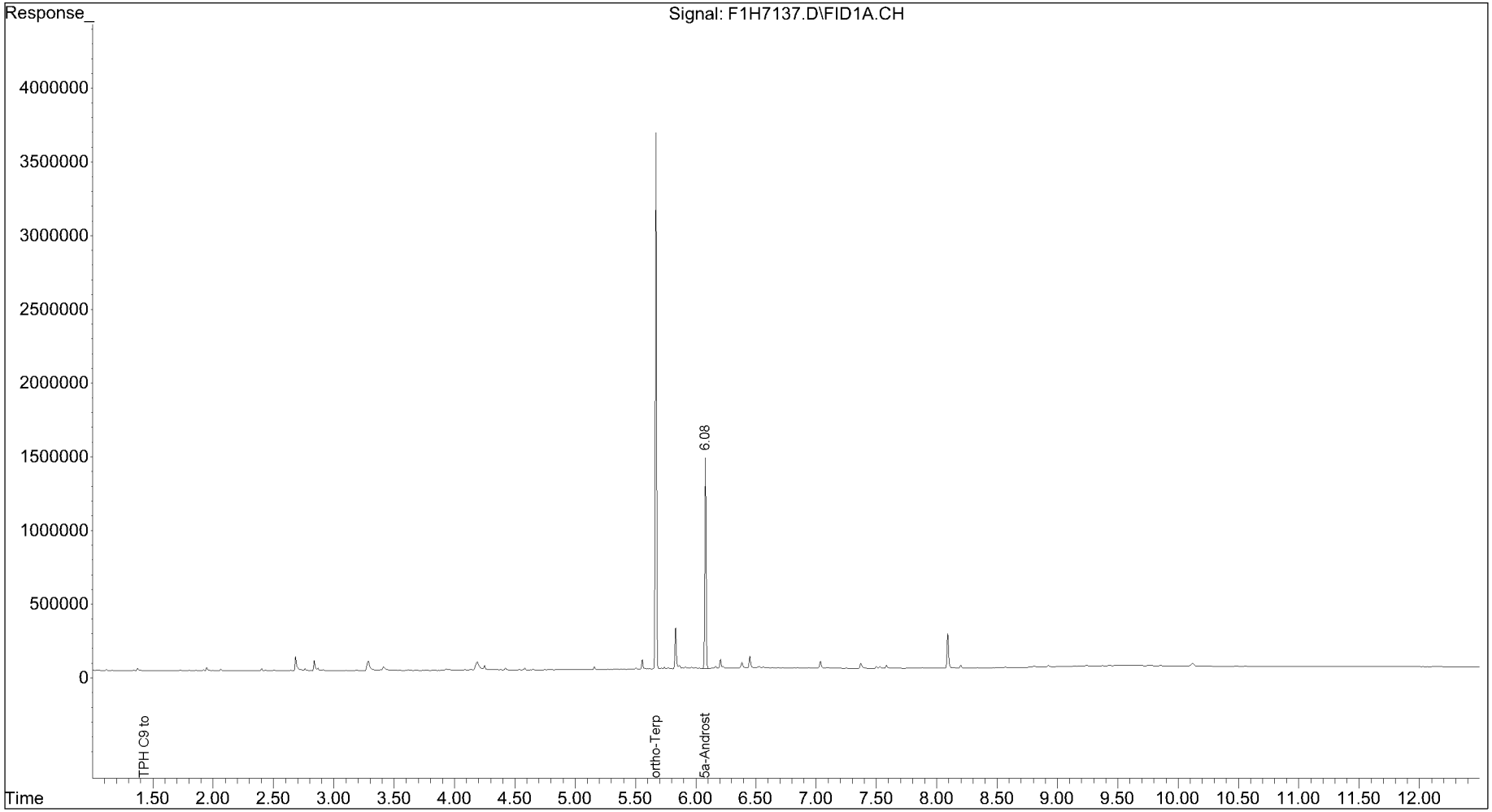
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10506359 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 25794530 | 67.398 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 67.40% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 62261700 | 186.067 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 123334570 | |
| Corrected Range Area (IS,SS): | | 87033681 | |
| Instrument Blank Area (F1H7127): | | 24771981 | |

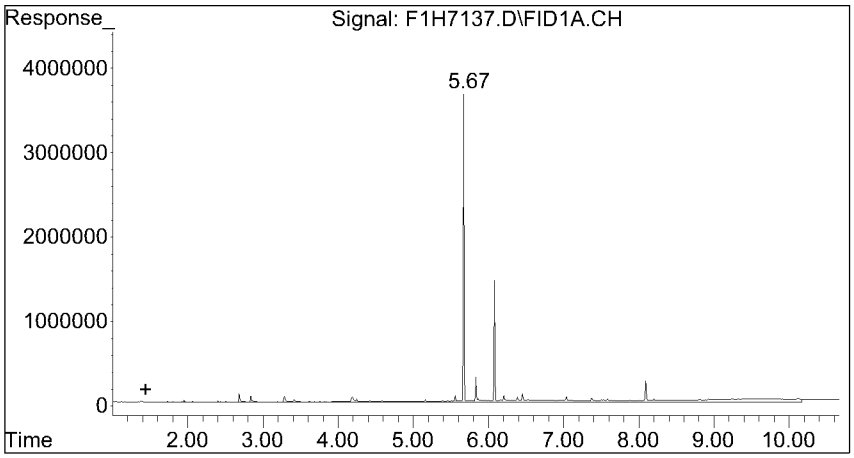
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7137.D
Lab Smp Id: K2139-13B BN: 62553 Client Smp ID: 06MW-07-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 5:10 Operator: TM
ALS Vial : 50 Sample Multiplier: 1

Quant Time: Nov 11 15:53:30 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 62261700
Conc: 186.07 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-09-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-14 **Collection Date:** 10/25/11 10:25

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.97 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 6:31 | 62553 |
| Surrogate: ortho-Terphenyl | 78.7 | | | 50-150 | %REC | 1 | 11/11/2011 6:31 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7141.D
Lab Smp Id: K2139-14B BN: 62553 Client Smp ID: 06MW-09-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 6:31 Operator: TM
ALS Vial : 51 Sample Multiplier: 1

Quant Time: Nov 14 10:18:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

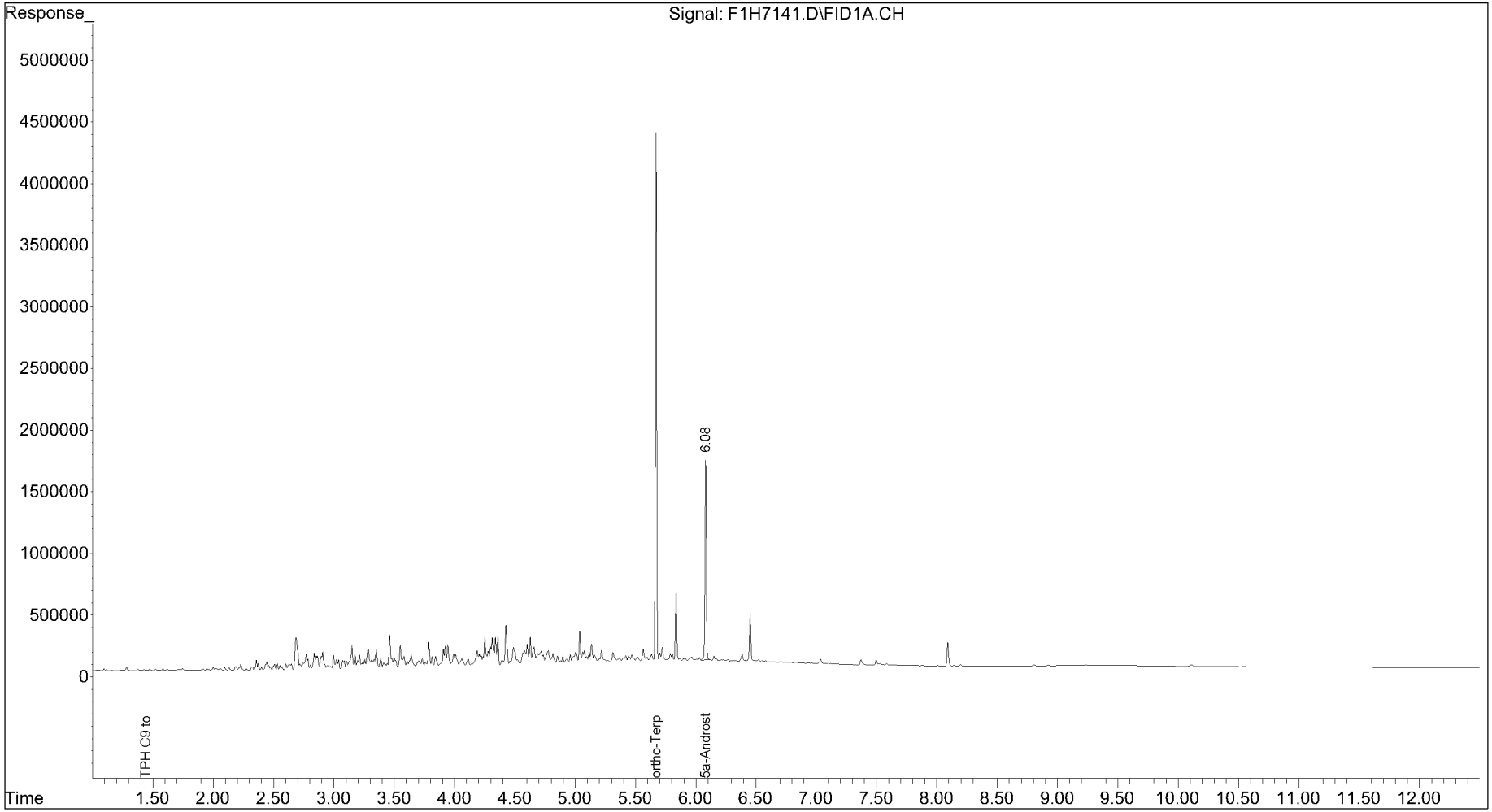
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 12460424 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 30122255 | 78.706 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 78.71% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 323088021 | 965.535 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 395810053 | |
| Corrected Range Area (IS,SS): | | 353227374 | |
| Instrument Blank Area (F1H7140): | | 30139353 | |

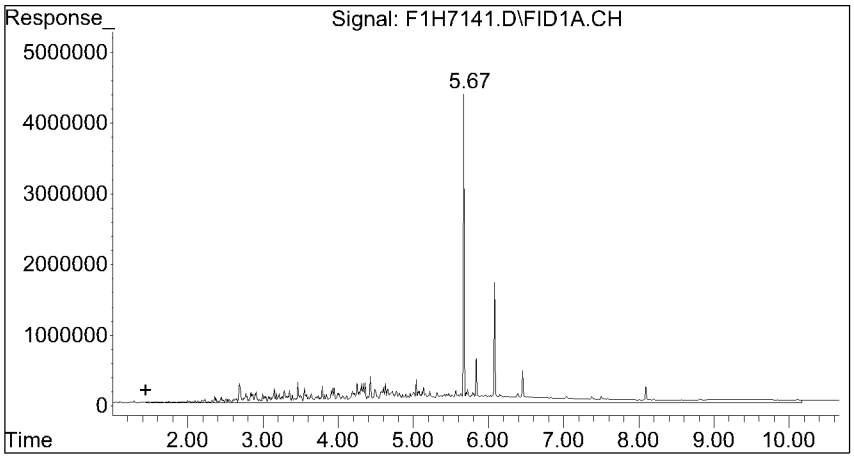
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7141.D
Lab Smp Id: K2139-14B BN: 62553 Client Smp ID: 06MW-09-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 6:31 Operator: TM
ALS Vial : 51 Sample Multiplier: 1

Quant Time: Nov 14 10:18:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 323088021
Conc: 965.54 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-13-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-15 **Collection Date:** 10/25/11 12:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.49 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 6:51 | 62553 |
| Surrogate: ortho-Terphenyl | 51.3 | | | 50-150 | %REC | 1 | 11/11/2011 6:51 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7142.D
Lab Smp Id: K2139-15B BN: 62553 Client Smp ID: 06MW-13-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 6:51 Operator: TM
ALS Vial : 52 Sample Multiplier: 1

Quant Time: Nov 14 10:18:42 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

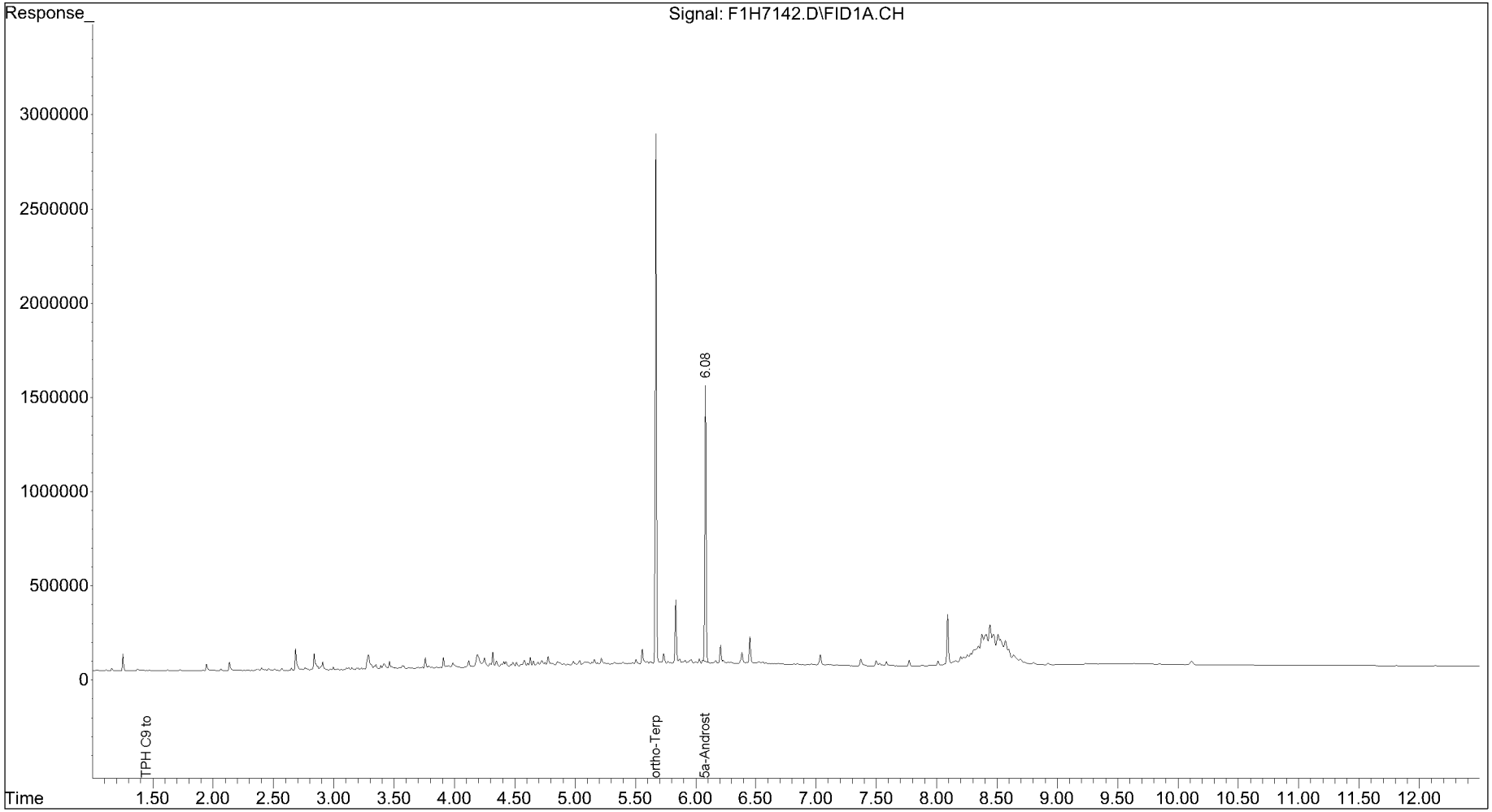
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10971154 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 19638673 | 51.313 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 51.31% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 163260356 | 487.897 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 224009536 | |
| Corrected Range Area (IS,SS): | | 193399709 | |
| Instrument Blank Area (F1H7140): | | 30139353 | |

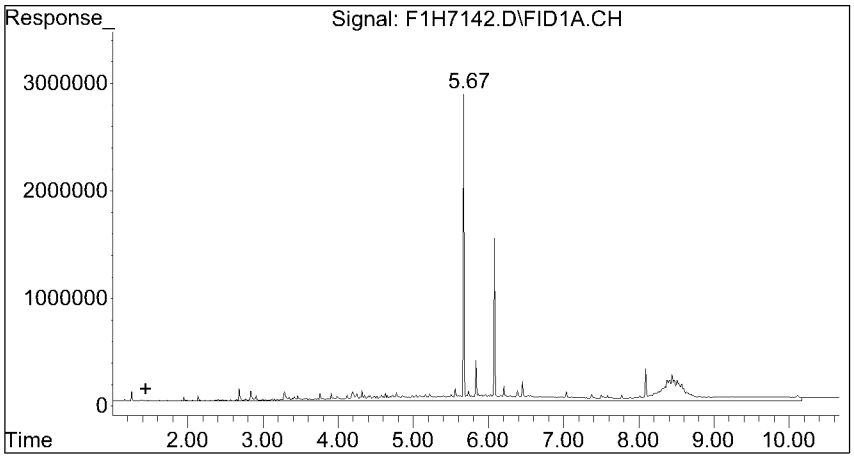
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7142.D
Lab Smp Id: K2139-15B BN: 62553 Client Smp ID: 06MW-13-111025
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 6:51 Operator: TM
ALS Vial : 52 Sample Multiplier: 1

Quant Time: Nov 14 10:18:42 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 163260356
Conc: 487.90 ug/mL m

Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files
5 =F1H5057.D 20 =F1H5059.D 50 =F1H5061.D
80 =F1H5062.D 100 =F1H5056.D 120 =F1H5063.D

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:29 Operator: TM
Lab Smp Id: FSTD1001A
Misc : TPH F ICAL L5 100 PPM
ALS Vial : 1 Sample Multiplier: 1

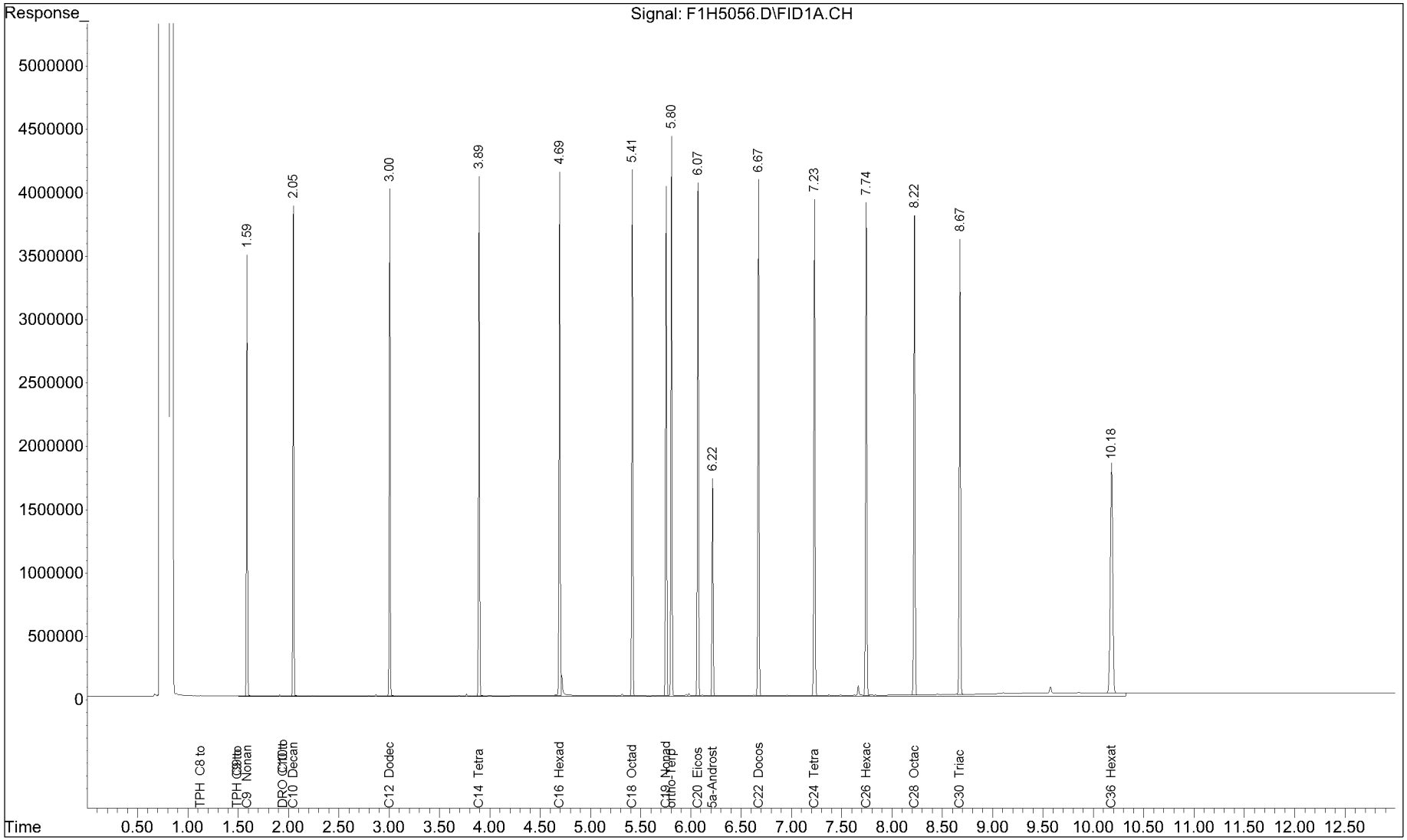
Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 12879904 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 31160170 | 100.000 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.00% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 31160170 | 100.000 ug/mL |
| Spiked Amount 100.000 | | Recovery = 100.00% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 291167731 | 1000.000 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 388570246 | |
| 4) H TPH C9 to C36 | 1.50 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 499855743 | |
| 14) T C9 Nonane | 1.59 | 22421438 | 100.000 ug/mL |
| 15) TD C10 Decane | 2.05 | 23376618 | 100.000 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 25406186 | 100.000 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 27157899 | 100.000 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 29466778 | 100.000 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 29700224 | 100.000 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 29939007 | 100.000 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 30251072 | 100.000 ug/mL |
| 22) TD C22 Docosane | 6.67 | 31208588 | 100.000 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 31254521 | 100.000 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 31693702 | 100.000 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 31652142 | 100.000 ug/mL |
| 26) T C30 Triacontane | 8.67 | 31717215 | 100.000 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 30122876 | 100.000 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 291167731 | 1000.000 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 388570246 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 529800277 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 405368266 | 1400.000 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 499855743 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5056.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:29 Operator: TM
Lab Smp Id: FSTD1001A
Misc : TPH F ICAL L5 100 PPM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: May 23 09:22:03 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

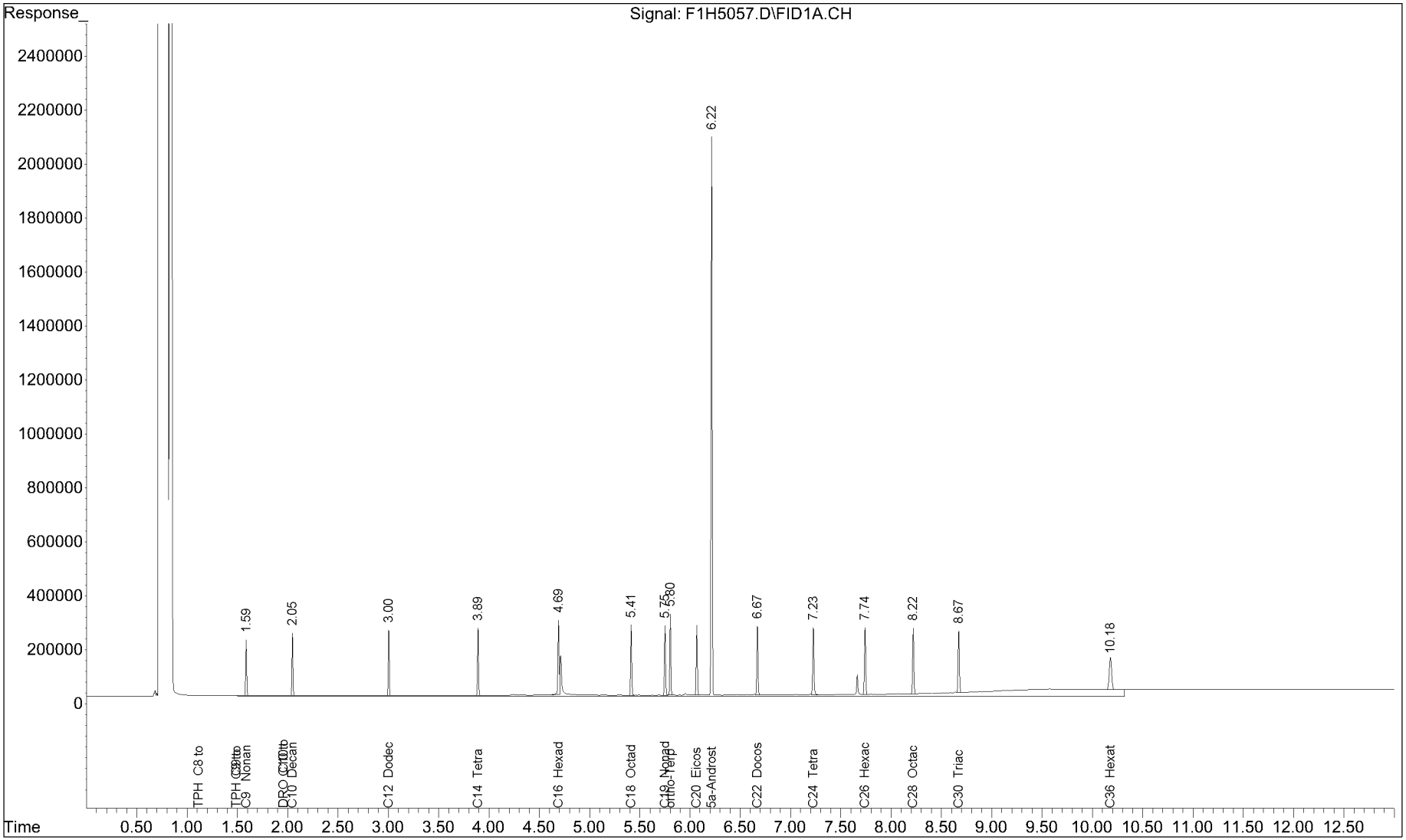
Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15503589 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 2090961 | 6.710 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 6.71% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 2090961 | 5.575 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 5.58% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 18698109 | 64.218 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 4) H TPH C9 to C36 | 1.50 | 25997358 | 89.786 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |
| 14) T C9 Nonane | 1.59 | 1399638 | 5.186 ug/mL |
| 15) TD C10 Decane | 2.05 | 1441090 | 5.121 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 1534860 | 5.019 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 1662279 | 5.085 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 2162678 | 6.097 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 1877639 | 5.252 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 1895661 | 5.260 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 1924161 | 5.284 ug/mL |
| 22) TD C22 Docosane | 6.67 | 1985758 | 5.286 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 2071922 | 5.507 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 2016132 | 5.285 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 2021589 | 5.306 ug/mL |
| 26) T C30 Triacontane | 8.67 | 2024974 | 5.304 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 1978977 | 5.458 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 18698109 | 53.350 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 58956024 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 119238564 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 25997358 | 74.591 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 89796655 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5057.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 17:50 Operator: TM
Lab Smp Id: FSTD0051A
Misc : TPH F ICAL L1 5 PPM
ALS Vial : 2 Sample Multiplier: 1

Quant Time: May 23 09:25:18 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

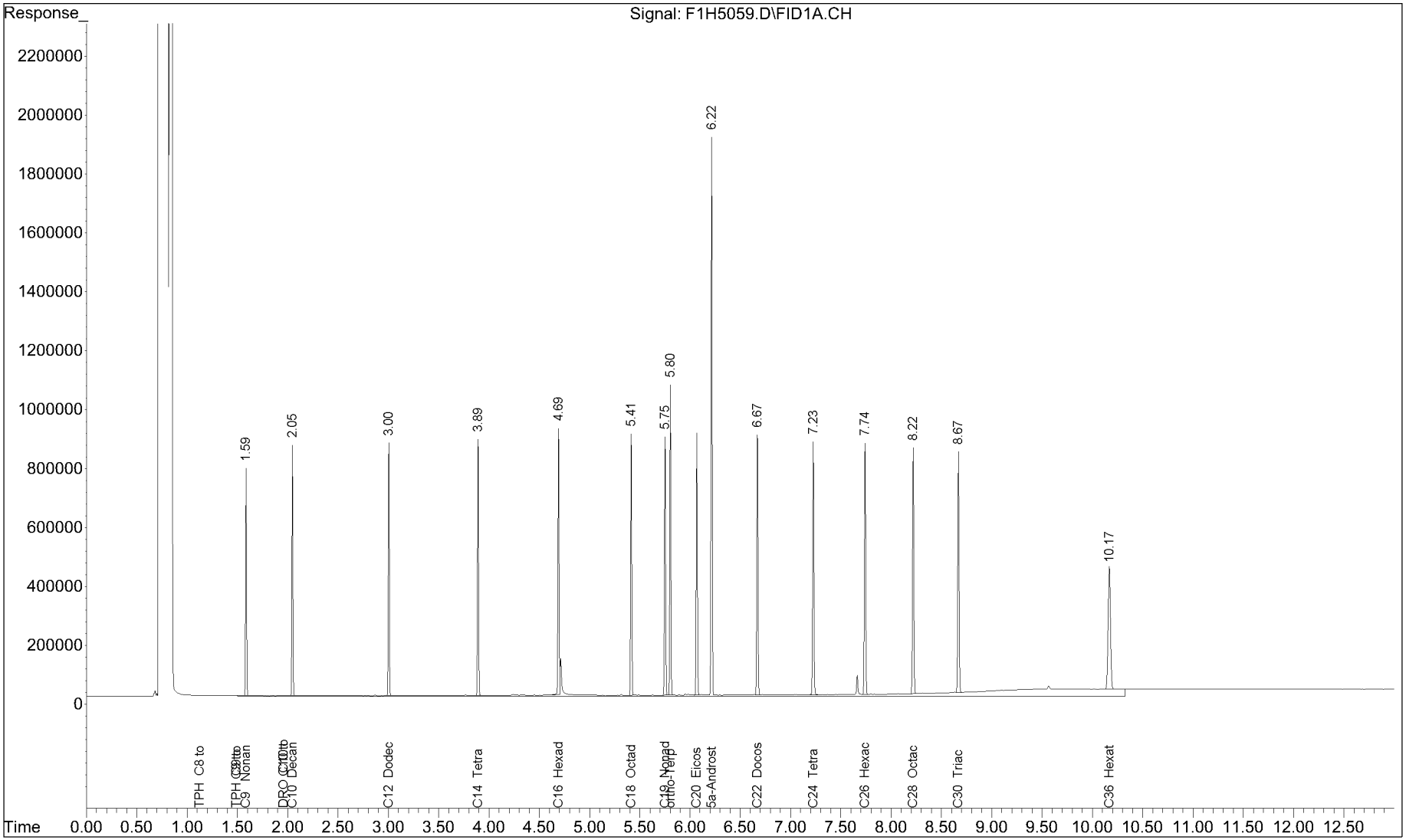
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 13906086 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 7298444 | 23.422 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 23.42% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 7298444 | 21.694 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 21.69% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 63855144 | 219.307 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 4) H TPH C9 to C36 | 1.50 | 89149659 | 307.892 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |
| 14) T C9 Nonane | 1.59 | 4983455 | 20.586 ug/mL |
| 15) TD C10 Decane | 2.05 | 5152139 | 20.413 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 5497093 | 20.040 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 5864184 | 20.000 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 6608052 | 20.771 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 6463647 | 20.157 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 6520032 | 20.171 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 6596335 | 20.196 ug/mL |
| 22) TD C22 Docosane | 6.67 | 6818376 | 20.236 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 6921619 | 20.512 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 6962914 | 20.348 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 6970784 | 20.398 ug/mL |
| 26) T C30 Triacontane | 8.67 | 7008221 | 20.465 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 6782807 | 20.856 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 63855144 | 203.124 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 110144088 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 182160830 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 89149659 | 285.171 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 153586457 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5059.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 18:31 Operator: TM
Lab Smp Id: FSTD0201A
Misc : TPH F ICAL L2 20 PPM
ALS Vial : 4 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

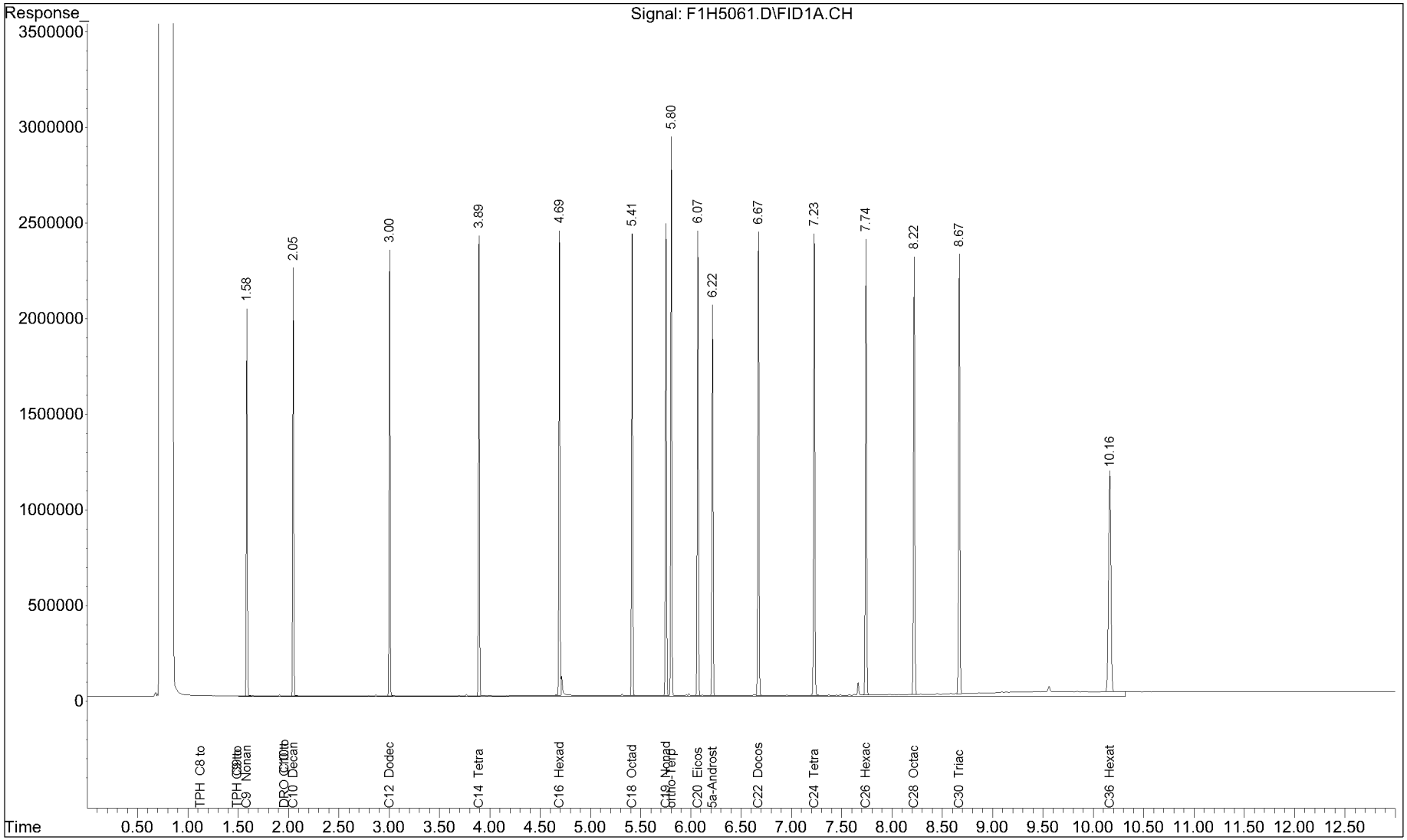
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15053093 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 20182457 | 64.770 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 64.77% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 20182457 | 55.419 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 55.42% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 173750855 | 596.738 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 4) H TPH C9 to C36 | 1.50 | 242968339 | 839.128 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |
| 14) T C9 Nonane | 1.59 | 13257207 | 50.591 ug/mL |
| 15) TD C10 Decane | 2.05 | 13779883 | 50.437 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 14777313 | 49.767 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 15781216 | 49.720 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 17147383 | 49.791 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 17533656 | 50.513 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 17761896 | 50.762 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 18028005 | 50.991 ug/mL |
| 22) TD C22 Docosane | 6.67 | 18786198 | 51.505 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 19014894 | 52.056 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 19402113 | 52.380 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 19500193 | 52.714 ug/mL |
| 26) T C30 Triacontane | 8.67 | 19609585 | 52.901 ug/mL |
| 27) T C36 Hexatriacontane | 10.16 | 18588796 | 52.801 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 173750855 | 510.588 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 244350205 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 348639223 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 242968339 | 717.984 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 320484358 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5061.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:12 Operator: TM
Lab Smp Id: FSTD0501A
Misc : TPH F ICAL L3 50 PPM
ALS Vial : 6 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

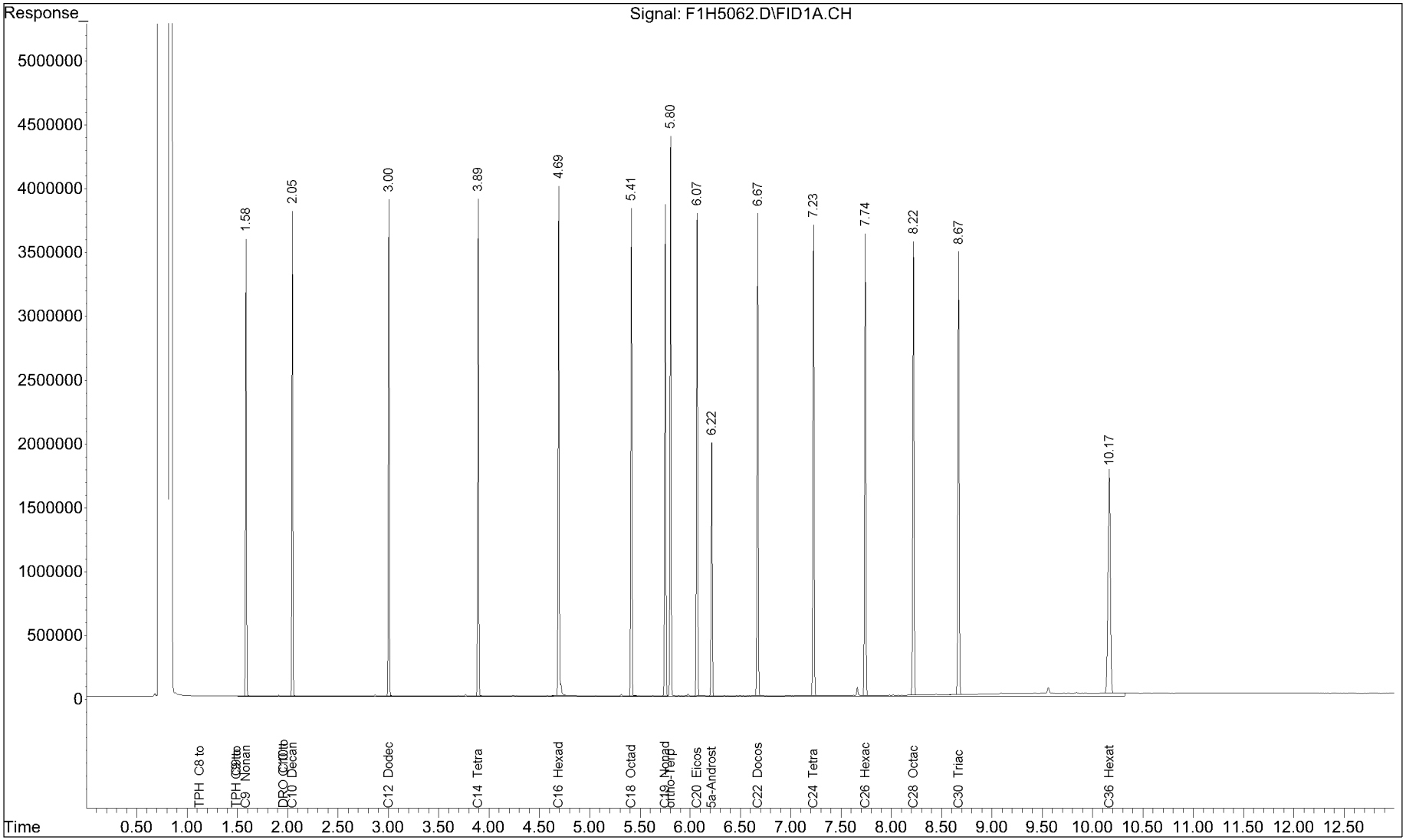
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14536430 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 31352221 | 100.616 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 100.62% |
| 13) S ortho-Terphenyl ISTD | 5.80 | 31352221 | 89.150 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 89.15% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 274825832 | 943.875 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 365334852 | |
| 4) H TPH C9 to C36 | 1.50 | 382959416 | 1322.608 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 470032072 | |
| 14) T C9 Nonane | 1.59 | 21842610 | 86.317 ug/mL |
| 15) TD C10 Decane | 2.05 | 22687679 | 85.993 ug/mL |
| 16) TD C12 Dodecane | 3.00 | 24359575 | 84.954 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 25785396 | 84.126 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 28335914 | 85.204 ug/mL |
| 19) TD C18 Octadecane | 5.41 | 27889846 | 83.203 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 28065799 | 83.061 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 28311223 | 82.923 ug/mL |
| 22) TD C22 Docosane | 6.67 | 29127607 | 82.696 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 29156572 | 82.657 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 29588757 | 82.720 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 29583262 | 82.813 ug/mL |
| 26) T C30 Triacontane | 8.67 | 29723267 | 83.034 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 28501908 | 83.836 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 274825832 | 836.314 ug/mL |
| Integration Range: | | 1.95 to | 8.35 minutes |
| Raw Range Area: | | 365334852 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.12 to | 12.24 minutes |
| Raw Range Area: | | 498002342 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 382959416 | 1171.887 ug/mL |
| Integration Range: | | 1.50 to | 10.32 minutes |
| Raw Range Area: | | 470032072 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5062.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:32 Operator: TM
Lab Smp Id: FSTD0801A
Misc : TPH F ICAL L4 80 PPM
ALS Vial : 7 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

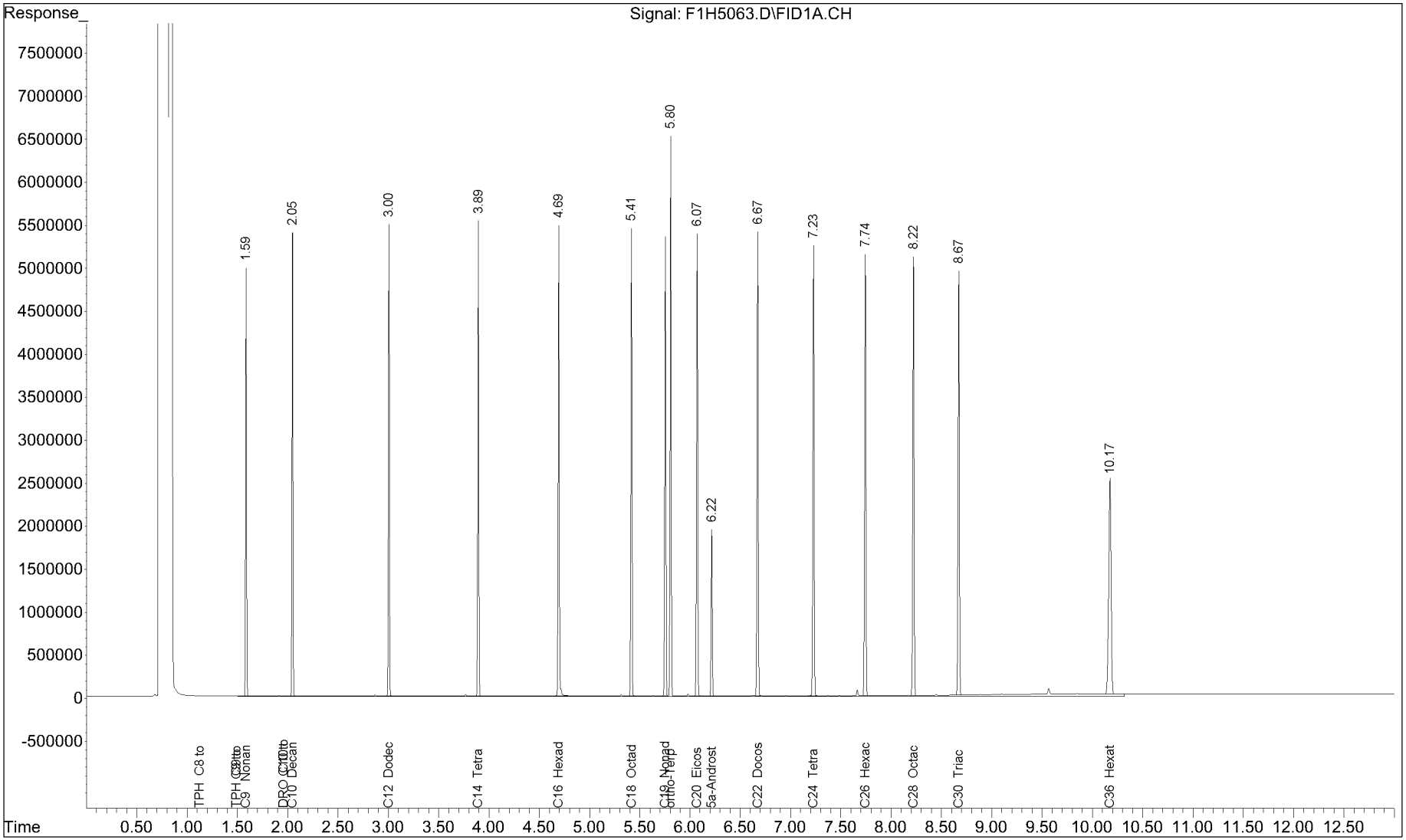
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14100029 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.80 | 45746602 | 146.811 ug/mL |
| Spiked Amount 100.000 | | Recovery = 146.81% | |
| 13) S ortho-Terphenyl ISTD | 5.80 | 45746602 | 134.107 ug/mL |
| Spiked Amount 100.000 | | Recovery = 134.11% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 395690120 | 1358.977 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 4) H TPH C9 to C36 | 1.50 | 552048300 | 1906.581 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |
| 14) T C9 Nonane | 1.59 | 31667314 | 129.015 ug/mL |
| 15) TD C10 Decane | 2.05 | 32763279 | 128.026 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 34951392 | 125.666 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 36965118 | 124.334 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 40004367 | 124.013 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 40127166 | 123.416 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 40442665 | 123.394 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 40830301 | 123.292 ug/mL |
| 22) TD C22 Docosane | 6.67 | 42060359 | 123.109 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 42170824 | 123.251 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 42892741 | 123.624 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 42924573 | 123.878 ug/mL |
| 26) T C30 Triacontane | 8.67 | 43120936 | 124.190 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 41127265 | 124.717 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 395690120 | 1241.380 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 513280501 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 682482642 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 552048300 | 1741.598 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 654296444 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5063.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 19:53 Operator: TM
Lab Smp Id: FSTD1201A
Misc : TPH F ICAL L6 120 PPM
ALS Vial : 8 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

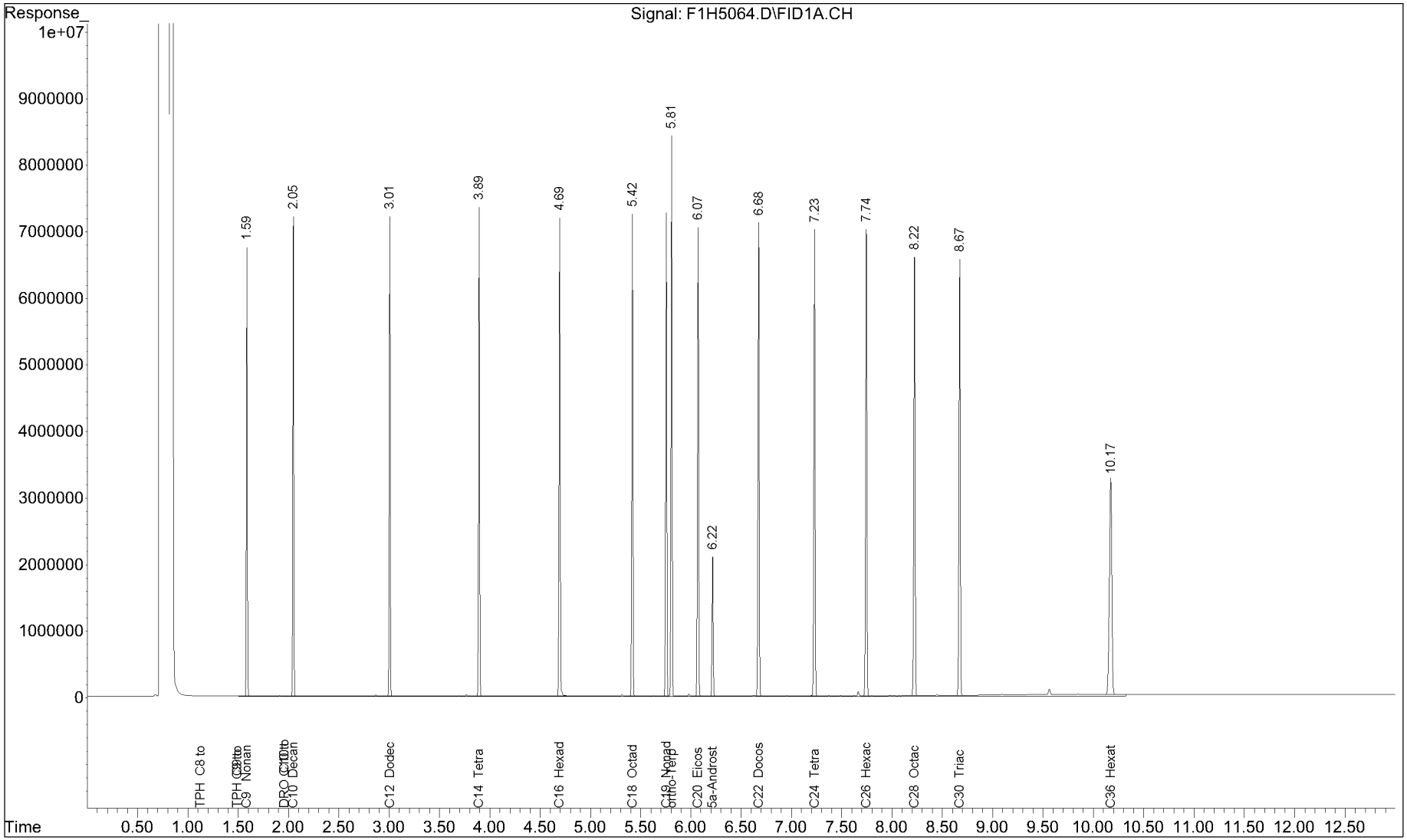
Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 15380119 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.81 | 61137451 | 196.204 ug/mL |
| Spiked Amount 100.000 | | Recovery = 196.20% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 61137451 | 164.309 ug/mL |
| Spiked Amount 100.000 | | Recovery = 164.31% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 528997686 | 1816.814 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 4) H TPH C9 to C36 | 1.50 | 737982176 | 2548.732 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |
| 14) T C9 Nonane | 1.59 | 42564959 | 158.980 ug/mL |
| 15) TD C10 Decane | 2.05 | 44140472 | 158.128 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 46705175 | 153.950 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 49224939 | 151.790 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 52797715 | 150.050 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 53530164 | 150.936 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 54017181 | 151.094 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 54585598 | 151.109 ug/mL |
| 22) TD C22 Docosane | 6.68 | 56328880 | 151.151 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 56536079 | 151.484 ug/mL |
| 24) TD C26 Hexacosane | 7.74 | 57567895 | 152.111 ug/mL |
| 25) TD C28 Octacosane | 8.22 | 57580771 | 152.345 ug/mL |
| 26) T C30 Triacontane | 8.67 | 57728590 | 152.422 ug/mL |
| 27) T C36 Hexatriacontane | 10.17 | 54673759 | 151.997 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 528997686 | 1521.470 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 676657184 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 885034126 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 737982176 | 2134.406 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 856970456 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5064.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:13 Operator: TM
Lab Smp Id: FSTD1501A
Misc : TPH F ICAL L7 150 PPM
ALS Vial : 9 Sample Multiplier: 1

Quant Time: May 23 09:25:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

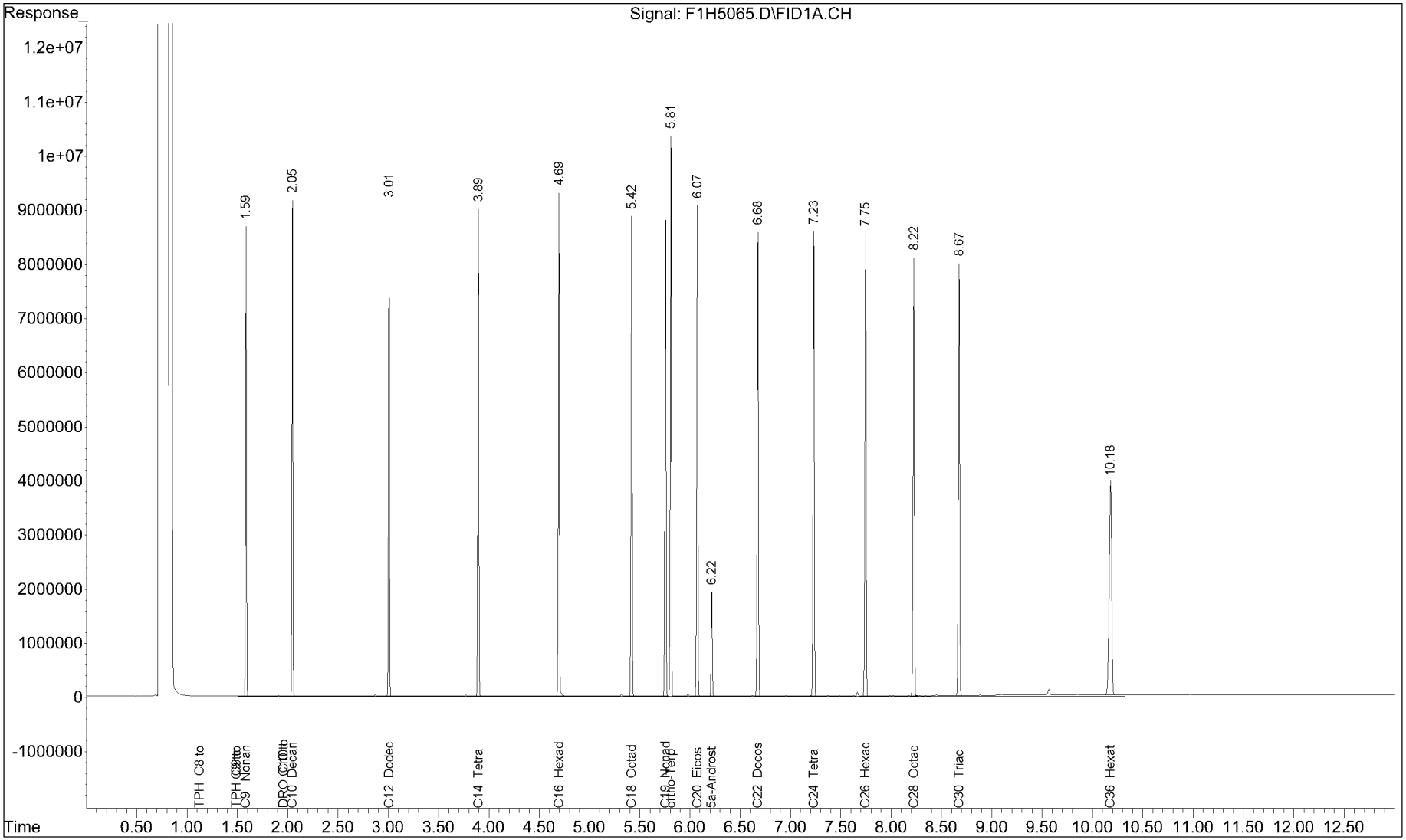
Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.22 | 14242463 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.81 | 76537919 | 245.627 ug/mL |
| Spiked Amount 100.000 | | Recovery = 245.63% | |
| 13) S ortho-Terphenyl ISTD | 5.81 | 76537919 | 222.129 ug/mL |
| Spiked Amount 100.000 | | Recovery = 222.13% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.95 | 660496170 | 2268.439 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 4) H TPH C9 to C36 | 1.50 | 920044983 | 3177.513 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |
| 14) T C9 Nonane | 1.59 | 53995894 | 217.783 ug/mL |
| 15) TD C10 Decane | 2.05 | 55714988 | 215.535 ug/mL |
| 16) TD C12 Dodecane | 3.01 | 59169932 | 210.615 ug/mL |
| 17) TD C14 Tetradecane | 3.89 | 62307058 | 207.476 ug/mL |
| 18) TD C16 Hexadecane | 4.69 | 66177089 | 203.097 ug/mL |
| 19) TD C18 Octadecane | 5.42 | 67106255 | 204.329 ug/mL |
| 20) T C19 Nonadecane | 5.75 | 67536447 | 203.999 ug/mL |
| 21) TD C20 Eicosane | 6.07 | 68088820 | 203.546 ug/mL |
| 22) TD C22 Docosane | 6.68 | 69997641 | 202.832 ug/mL |
| 23) TD C24 Tetracosane | 7.23 | 69969405 | 202.452 ug/mL |
| 24) TD C26 Hexacosane | 7.75 | 71069497 | 202.786 ug/mL |
| 25) TD C28 Octacosane | 8.23 | 70895485 | 202.555 ug/mL |
| 26) T C30 Triacontane | 8.68 | 70905826 | 202.169 ug/mL |
| 27) T C36 Hexatriacontane | 10.18 | 67110646 | 201.476 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.95 | 660496170 | 2051.420 ug/mL |
| Integration Range: | | 1.95 to 8.35 minutes | |
| Raw Range Area: | | 836585454 | |
| 29) H TPH C8 to C40 ISTD | 1.12 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.12 to 12.24 minutes | |
| Raw Range Area: | | 1082289494 | |
| 30) H TPH C9 to C36 ISTD | 1.50 | 920044983 | 2873.524 ug/mL |
| Integration Range: | | 1.50 to 10.32 minutes | |
| Raw Range Area: | | 1054181648 | |

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5065.D
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 20:34 Operator: TM
Lab Smp Id: FSTD2001A
Misc : TPH F ICAL L8 200 PPM
ALS Vial : 10 Sample Multiplier: 1

Quant Time: May 23 09:25:15 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Continuing Cal File: O:\F1.I\110520.B\F1H5056.D



Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15  Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 3 | H | DRO C10 to C28 | 336.012 | 377.100 E3 | -12.2 | 54 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 372.820 E3 | -11.4 | 54 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.03 |
| 14 | | C9 Nonane | 0.730 | 0.589 | 19.3 | 52 | 0.02 |
| 15 | | C10 Decane | 0.756 | 0.659 | 12.8 | 52 | 0.02 |
| 16 | | C12 Dodecane | 0.808 | 0.728 | 9.9 | 53 | 0.02 |
| 17 | | C14 Tetradecane | 0.859 | 0.782 | 9.0 | 54 | 0.02 |
| 18 | | C16 Hexadecane | 0.957 | 0.835 | 12.7 | 55 | 0.02 |
| 19 | | C18 Octadecane | 0.941 | 0.863 | 8.3 | 54 | 0.02 |
| 20 | | C19 Nonadecane | 0.950 | 0.872 | 8.2 | 55 | 0.02 |
| 21 | | C20 Eicosane | 0.960 | 0.891 | 7.2 | 55 | 0.02 |
| 22 | | C22 Docosane | 0.991 | 0.907 | 8.5 | 55 | 0.02 |
| 23 | | C24 Tetracosane | 1.001 | 0.910 | 9.1 | 55 | 0.02 |
| 24 | | C26 Hexacosane | 1.011 | 0.917 | 9.3 | 55 | 0.02 |
| 25 | | C28 Octacosane | 1.011 | 0.898 | 11.2 | 54 | 0.02 |
| 26 | | C30 Triacontane | 1.015 | 0.901 | 11.2 | 55 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.861 | 11.2 | 57 | 0.04 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.839 | 9.8 | 54 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 2 | S | ortho-Terphenyl | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 13 | S | ortho-Terphenyl ISTD | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15  Operator: TM
ALS Vial : 11 Sample Multiplier: 1

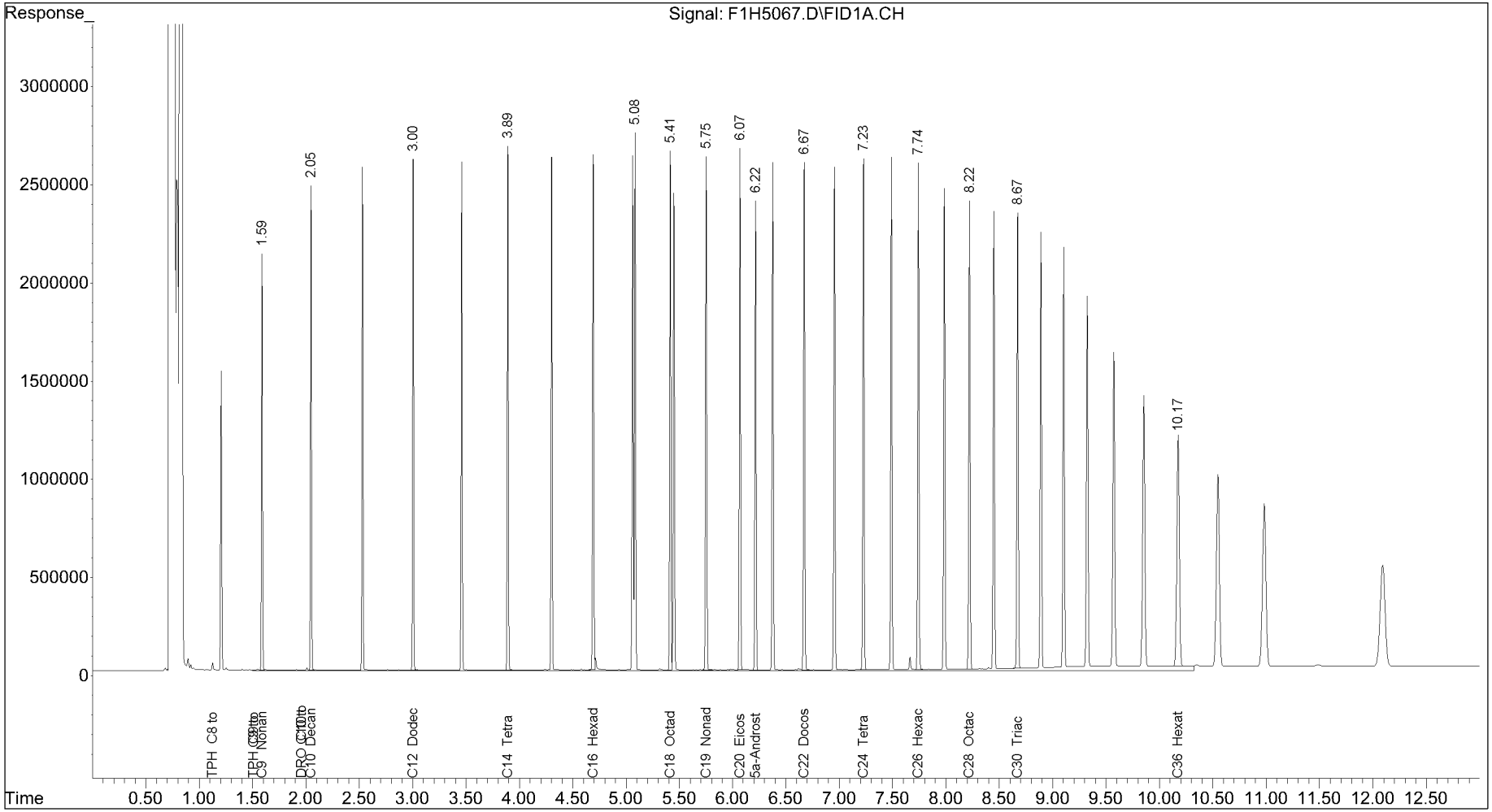
Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| | Compound | R.T. | Response | Conc Units |
|---|---|---|---|---|
| Internal Standards | | | | |
| 11) I | 5a-Androstane | 6.22 | 17977097 | 40.000 ug/mL |
| System Monitoring Compounds | | | | |
| Target Compounds | | | | |
| 3) H | DRO C10 to C28 | 1.95 | 188549953 | 561.141 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 4) H | TPH C9 to C36 | 1.50 | 260974037 | 779.910 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |
| 14) T | C9 Nonane | 1.59 | 13244545 | 40.397 ug/mL |
| 15) TD | C10 Decane | 2.05 | 14819509 | 43.634 ug/mL |
| 16) TD | C12 Dodecane | 3.00 | 16369493 | 45.093 ug/mL |
| 17) TD | C14 Tetradecane | 3.89 | 17572579 | 45.515 ug/mL |
| 18) TD | C16 Hexadecane | 4.69 | 18757962 | 43.602 ug/mL |
| 19) TD | C18 Octadecane | 5.41 | 19397875 | 45.849 ug/mL |
| 20) T | C19 Nonadecane | 5.75 | 19584711 | 45.894 ug/mL |
| 21) TD | C20 Eicosane | 6.07 | 20013327 | 46.381 ug/mL |
| 22) TD | C22 Docosane | 6.67 | 20387078 | 45.770 ug/mL |
| 23) TD | C24 Tetracosane | 7.23 | 20452636 | 45.460 ug/mL |
| 24) TD | C26 Hexacosane | 7.74 | 20597516 | 45.348 ug/mL |
| 25) TD | C28 Octacosane | 8.22 | 20181978 | 44.399 ug/mL |
| 26) T | C30 Triacontane | 8.67 | 20236921 | 44.371 ug/mL |
| 27) T | C36 Hexatriacontane | 10.18 | 19357909 | 44.387 ug/mL |
| 28) H | DRO C10 to C28 ISTD | 1.95 | 188549953 | 451.335 ug/mL |
| | Integration Range: | | 1.95 to 8.35 minutes | |
| | Raw Range Area: | | 433268919 | |
| 29) H | TPH C8 to C40 ISTD | 1.12 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.12 to 12.24 minutes | |
| | Raw Range Area: | | 720712646 | |
| 30) H | TPH C9 to C36 ISTD | 1.50 | 260974037 | 627.299 ug/mL |
| | Integration Range: | | 1.50 to 10.32 minutes | |
| | Raw Range Area: | | 626902248 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV Client Smp ID: FICV
Misc : TPH F ICV Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7099.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 16:22  Operator: TM
ALS Vial : 1  Sample Multiplier: 1

Quant Time: Nov 11 08:14:58 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 393.537 | E3 | -2.8 | 106 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 357.961 | E3 | -6.5 | 107 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 361.520 | E3 | -8.0 | 106 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 106 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.042 | | 1.5 | 106 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.789 | | -8.1 | 106 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.816 | | -7.9 | 107 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.838 | | -3.7 | 107 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.866 | | -0.8 | 107 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.905 | | 5.4 | 107 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.937 | | 0.4 | 107 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.946 | | 0.4 | 107 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.963 | | -0.3 | 107 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.005 | | -1.4 | 107 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.019 | | -1.8 | 106 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.055 | | -4.4 | 106 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.071 | | -5.9 | 106 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.091 | | -7.5 | 105 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.095 | | -12.9 | 104 | 0.03 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.947 | | -1.8 | 107 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.957 | | -3.3 | 106 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.957 | | -3.3 | 106 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7112.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 20:45  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 08:15:56 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 378.466 | E3 | 1.1 | 102 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 343.671 | E3 | -2.3 | 102 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 347.119 | E3 | -3.7 | 102 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 102 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.038 | | 1.9 | 102 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.784 | | -7.4 | 102 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.810 | | -7.1 | 102 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.832 | | -3.0 | 102 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.859 | | 0.0 | 102 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.897 | | 6.3 | 102 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | | 1.2 | 102 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.940 | | 1.1 | 103 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.958 | | 0.2 | 103 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.002 | | -1.1 | 103 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.017 | | -1.6 | 103 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.054 | | -4.3 | 102 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.069 | | -5.7 | 102 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.089 | | -7.3 | 102 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.090 | | -12.4 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.943 | | -1.4 | 102 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.952 | | -2.8 | 102 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.952 | | -2.8 | 102 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7125.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 1:09  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 08:16:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 379.458 | E3 | 0.9 | 102 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 344.312 | E3 | -2.5 | 102 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 347.727 | E3 | -3.9 | 102 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 103 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.038 | | 1.9 | 102 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.774 | | -6.0 | 101 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.800 | | -5.8 | 101 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.823 | | -1.9 | 101 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.853 | | 0.7 | 102 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.893 | | 6.7 | 102 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | | 1.2 | 102 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.942 | | 0.8 | 103 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.961 | | -0.1 | 103 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.006 | | -1.5 | 103 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.021 | | -2.0 | 103 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.058 | | -4.6 | 103 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.072 | | -6.0 | 103 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.091 | | -7.5 | 102 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.092 | | -12.6 | 101 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.942 | | -1.3 | 102 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.951 | | -2.7 | 102 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.951 | | -2.7 | 102 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7138.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 5:30  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 10:50:48 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 351.131 | E3 | 8.3 | 95 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 317.748 | E3 | 5.4 | 95 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 320.877 | E3 | 4.1 | 94 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 95 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.037 | | 2.0 | 95 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.763 | | -4.5 | 92 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.791 | | -4.6 | 93 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.816 | | -1.0 | 93 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.850 | | 1.0 | 94 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.891 | | 6.9 | 94 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.928 | | 1.4 | 95 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.939 | | 1.2 | 95 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.959 | | 0.1 | 95 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.003 | | -1.2 | 96 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.018 | | -1.7 | 95 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.055 | | -4.4 | 95 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.070 | | -5.8 | 95 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.088 | | -7.2 | 94 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.091 | | -12.5 | 93 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.938 | | -0.9 | 95 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.947 | | -2.3 | 94 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.947 | | -2.3 | 94 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7151.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 9:45  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 13:09:37 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 391.915 | E3 | -2.4 | 106 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 353.800 | E3 | -5.3 | 105 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 356.767 | E3 | -6.6 | 105 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 106 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.036 | | 2.1 | 106 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.761 | | -4.2 | 103 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.789 | | -4.4 | 103 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.816 | | -1.0 | 104 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.848 | | 1.3 | 105 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.886 | | 7.4 | 105 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.923 | | 1.9 | 105 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.935 | | 1.6 | 106 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.955 | | 0.5 | 106 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.001 | | -1.0 | 106 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.018 | | -1.7 | 106 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.054 | | -4.3 | 106 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.067 | | -5.5 | 105 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.083 | | -6.7 | 105 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.074 | | -10.7 | 102 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.936 | | -0.6 | 105 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.943 | | -1.8 | 105 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.943 | | -1.8 | 105 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7099.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 16:22  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

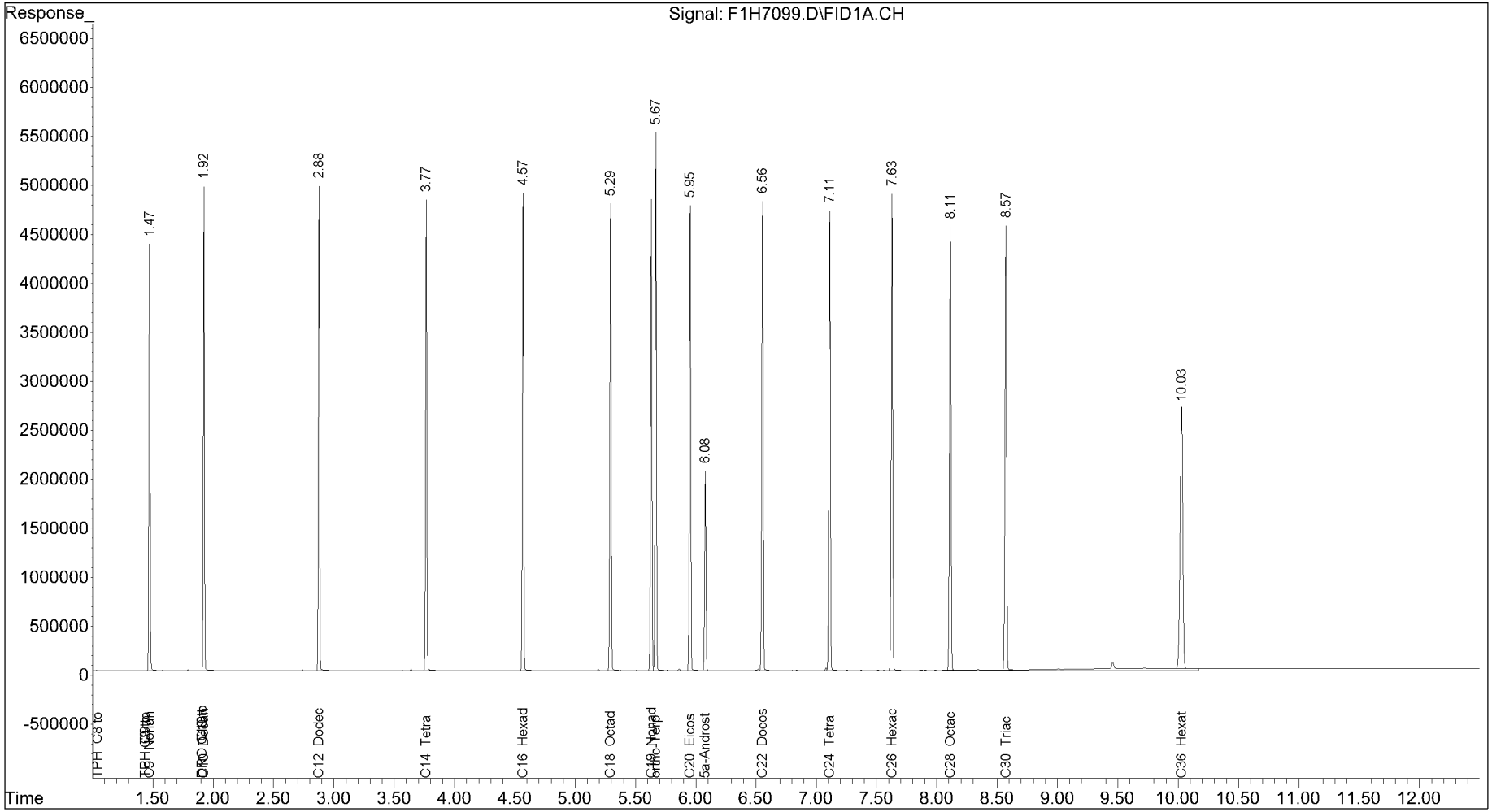
Quant Time: Nov 11 08:14:58 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 15114070 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 39353671 | 102.826 ug/mL |
| Spiked Amount 100.000 | | Recovery = 102.83% | |
| 13) S ortho-Terphenyl ISTD | 5.67 | 39353671 | 98.446 ug/mL |
| Spiked Amount 100.000 | | Recovery = 98.45% | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 357960853 | 1065.322 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 454919947 | |
| 4) H TPH C9 to C36 | 1.44 | 506128268 | 1512.544 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 586499434 | |
| 14) T C9 Nonane | 1.47 | 29827600 | 108.211 ug/mL |
| 15) TD C10 Decane | 1.92 | 30814949 | 107.918 ug/mL |
| 16) TD C12 Dodecane | 2.88 | 31658098 | 103.729 ug/mL |
| 17) TD C14 Tetradecane | 3.77 | 32721644 | 100.807 ug/mL |
| 18) TD C16 Hexadecane | 4.57 | 34187977 | 94.522 ug/mL |
| 19) TD C18 Octadecane | 5.29 | 35398213 | 99.516 ug/mL |
| 20) T C19 Nonadecane | 5.63 | 35735499 | 99.605 ug/mL |
| 21) TD C20 Eicosane | 5.95 | 36401392 | 100.342 ug/mL |
| 22) TD C22 Docosane | 6.56 | 37957786 | 101.360 ug/mL |
| 23) TD C24 Tetracosane | 7.11 | 38502972 | 101.793 ug/mL |
| 24) TD C26 Hexacosane | 7.63 | 39865895 | 104.397 ug/mL |
| 25) TD C28 Octacosane | 8.11 | 40451927 | 105.850 ug/mL |
| 26) T C30 Triacontane | 8.57 | 41227027 | 107.518 ug/mL |
| 27) T C36 Hexatriacontane | 10.03 | 41377289 | 112.849 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 357960853 | 1019.170 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 454919947 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 506128268 | 1447.025 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 612524478 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 506128268 | 1447.025 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 586499434 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7099.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 10 Nov 2011  16:22  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Nov 11 08:14:58 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7101.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 10 Nov 2011  17:02  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

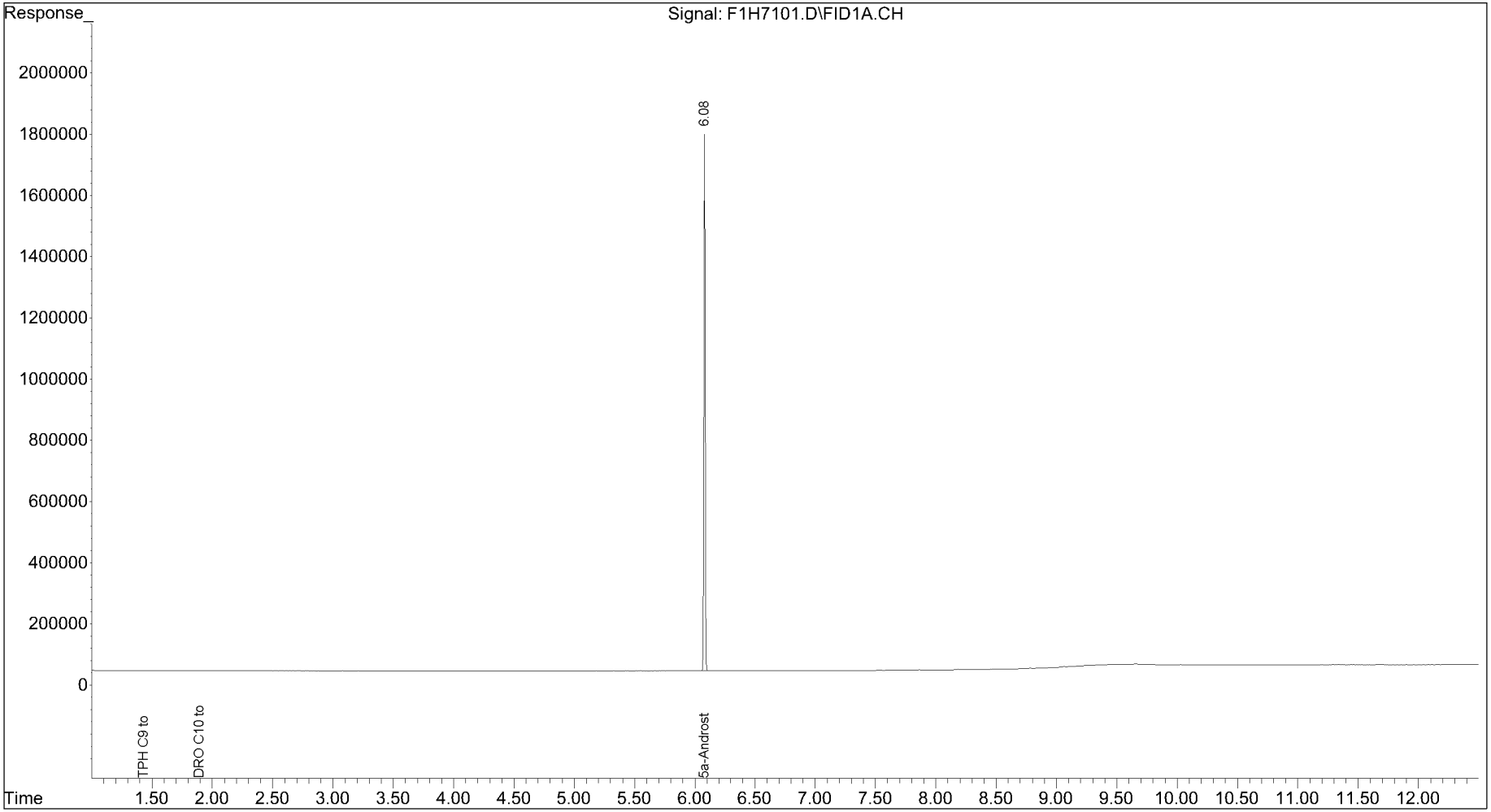
Quant Time: Nov 11 08:15:32 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 13060929 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 2862973 | 8.520 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 15923902 | |
| 4) H TPH C9 to C36 | 1.44 | 19783824 | 59.123 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 32844753 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7101.D
Lab Smp Id: IBLK Client Smp ID: IBLK
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 17:02 Operator: TM
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Nov 11 08:15:32 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7112.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 10 Nov 2011  20:45  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

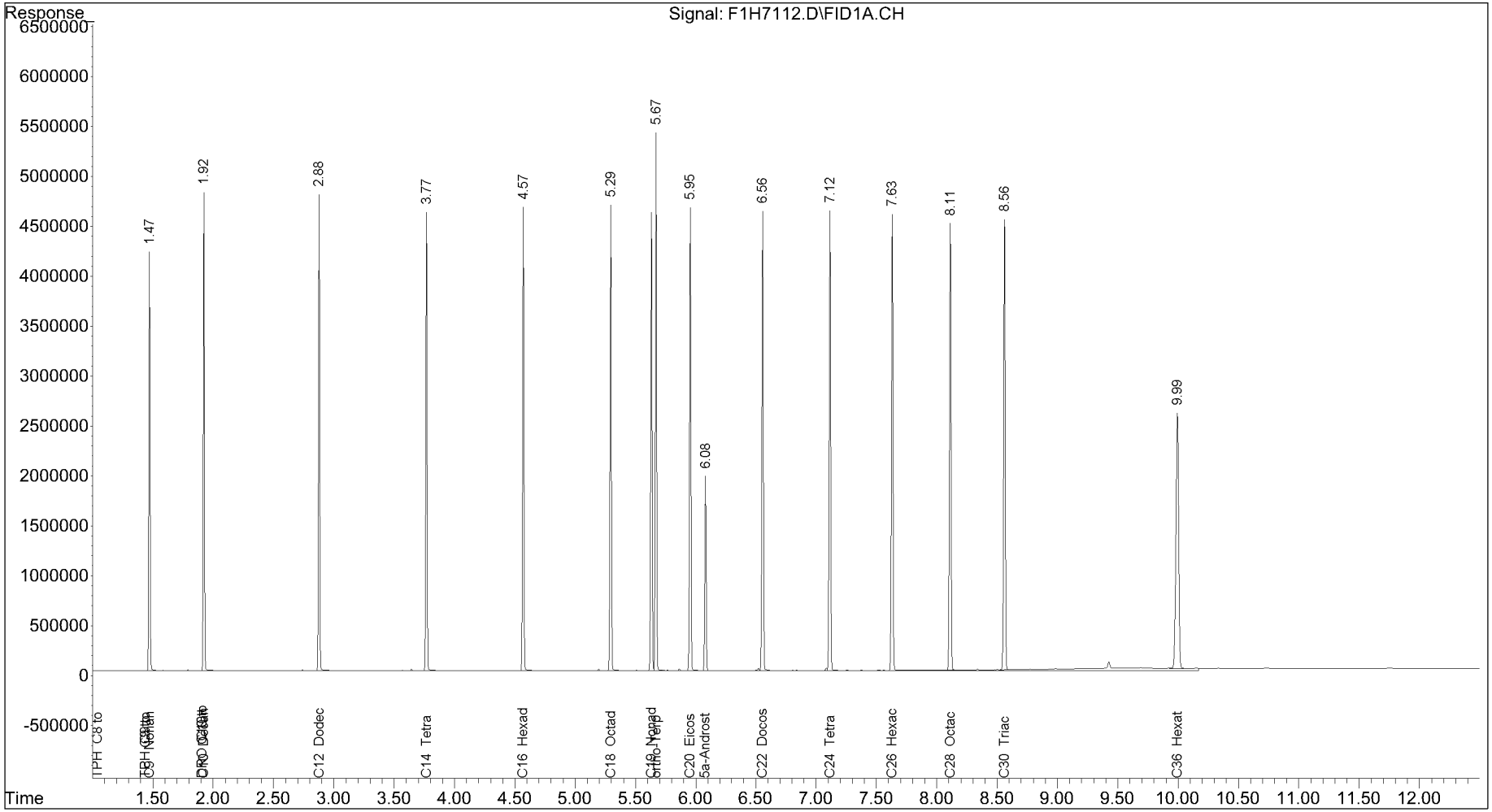
Quant Time: Nov 11 08:15:56 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 14581014 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 37846561 | 98.888 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 98.89% |
| 13) S ortho-Terphenyl ISTD | 5.67 | 37846561 | 98.137 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 98.14% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 343671015 | 1022.794 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 437883840 | |
| 4) H TPH C9 to C36 | 1.44 | 485966454 | 1452.291 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 567645690 | |
| 14) T C9 Nonane | 1.47 | 28576979 | 107.464 ug/mL |
| 15) TD C10 Decane | 1.92 | 29544550 | 107.252 ug/mL |
| 16) TD C12 Dodecane | 2.88 | 30316277 | 102.964 ug/mL |
| 17) TD C14 Tetradecane | 3.77 | 31298658 | 99.948 ug/mL |
| 18) TD C16 Hexadecane | 4.57 | 32699249 | 93.711 ug/mL |
| 19) TD C18 Octadecane | 5.29 | 33912253 | 98.823 ug/mL |
| 20) T C19 Nonadecane | 5.63 | 34263396 | 98.993 ug/mL |
| 21) TD C20 Eicosane | 5.95 | 34937181 | 99.826 ug/mL |
| 22) TD C22 Docosane | 6.56 | 36509256 | 101.056 ug/mL |
| 23) TD C24 Tetracosane | 7.12 | 37066529 | 101.577 ug/mL |
| 24) TD C26 Hexacosane | 7.63 | 38409161 | 104.259 ug/mL |
| 25) TD C28 Octacosane | 8.11 | 38977901 | 105.722 ug/mL |
| 26) T C30 Triacontane | 8.56 | 39705537 | 107.335 ug/mL |
| 27) T C36 Hexatriacontane | 9.99 | 39749526 | 112.372 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 343671015 | 1014.256 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 437883840 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 485966454 | 1440.176 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 596492184 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 485966454 | 1440.176 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 567645690 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7112.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 10 Nov 2011  20:45  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Nov 11 08:15:56 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7114.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 10 Nov 2011  21:25  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

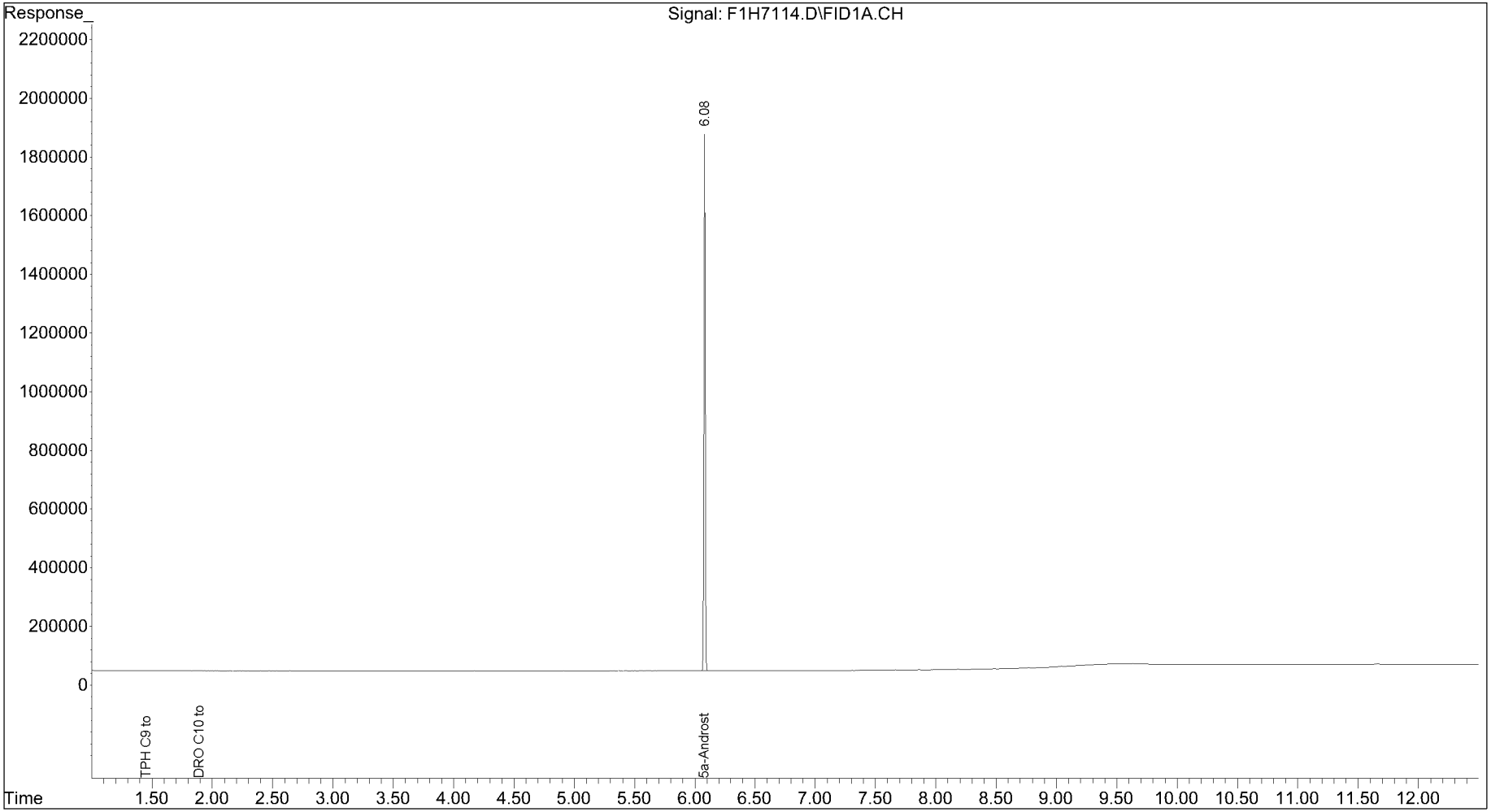
Quant Time: Nov 11 08:16:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 13772023 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 3377018 | 10.050 ug/mL |
| Integration Range: | | 1.90 to | 8.27 minutes |
| Raw Range Area: | | 17149041 | |
| 4) H TPH C9 to C36 | 1.44 | 22732895 | 67.936 ug/mL |
| Integration Range: | | 1.44 to | 10.17 minutes |
| Raw Range Area: | | 36504918 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7114.D
Lab Smp Id: IBLK Client Smp ID: IBLK
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 21:25 Operator: TM
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Nov 11 08:16:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7125.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 11 Nov 2011  1:09  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

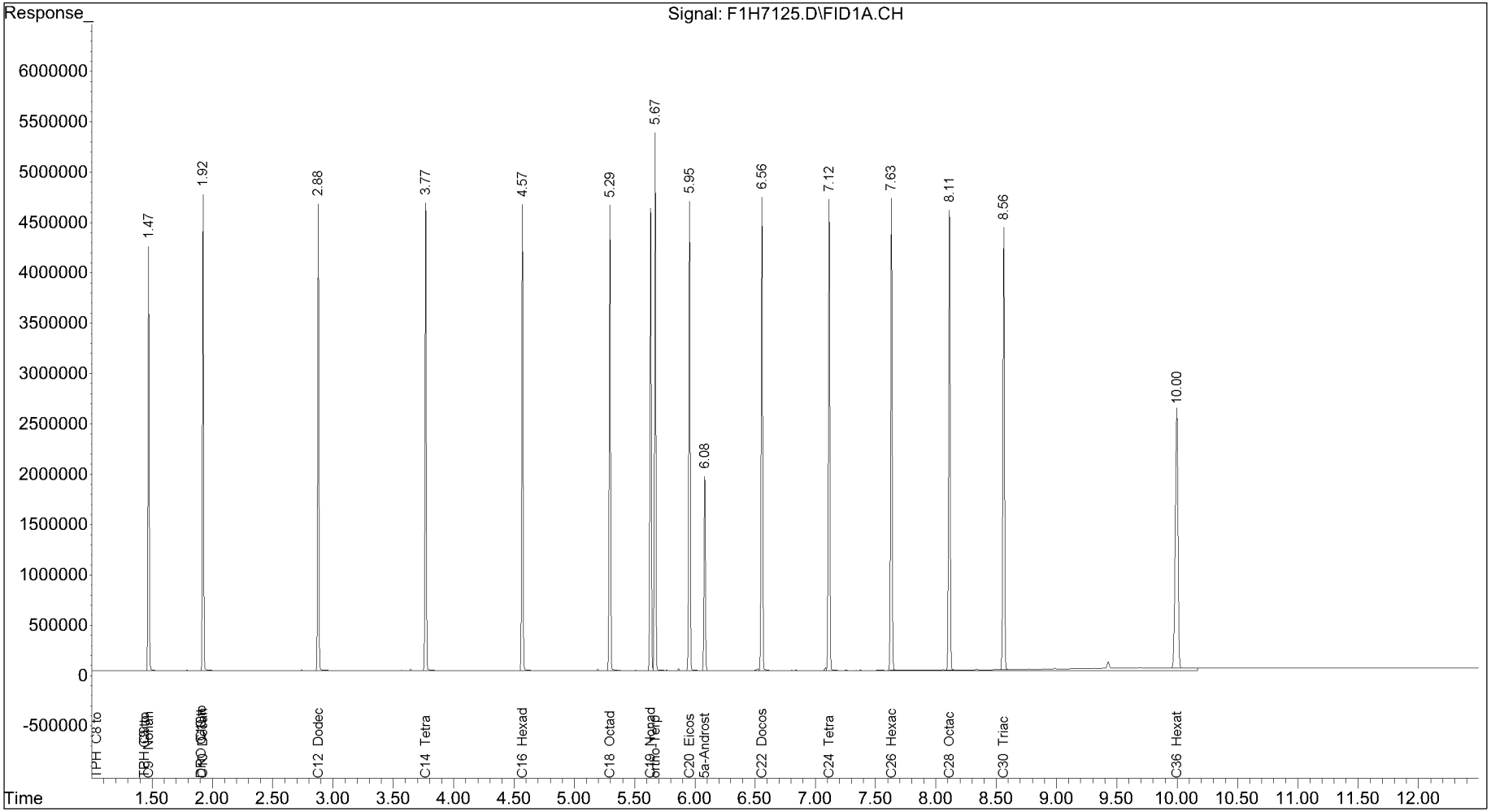
Quant Time: Nov 11 08:16:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 14623725 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 37945838 | 99.148 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 99.15% |
| 13) S ortho-Terphenyl ISTD | 5.67 | 37945838 | 98.107 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 98.11% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 344311513 | 1024.701 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 439673202 | |
| 4) H TPH C9 to C36 | 1.44 | 486817360 | 1454.834 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 570538024 | |
| 14) T C9 Nonane | 1.47 | 28294520 | 106.091 ug/mL |
| 15) TD C10 Decane | 1.92 | 29262682 | 105.918 ug/mL |
| 16) TD C12 Dodecane | 2.88 | 30100598 | 101.933 ug/mL |
| 17) TD C14 Tetradecane | 3.77 | 31167097 | 99.237 ug/mL |
| 18) TD C16 Hexadecane | 4.57 | 32661137 | 93.329 ug/mL |
| 19) TD C18 Octadecane | 5.29 | 34008552 | 98.815 ug/mL |
| 20) T C19 Nonadecane | 5.63 | 34423865 | 99.166 ug/mL |
| 21) TD C20 Eicosane | 5.95 | 35135611 | 100.100 ug/mL |
| 22) TD C22 Docosane | 6.56 | 36764473 | 101.465 ug/mL |
| 23) TD C24 Tetracosane | 7.12 | 37333485 | 102.010 ug/mL |
| 24) TD C26 Hexacosane | 7.63 | 38673326 | 104.669 ug/mL |
| 25) TD C28 Octacosane | 8.11 | 39204552 | 106.026 ug/mL |
| 26) T C30 Triacontane | 8.56 | 39876809 | 107.483 ug/mL |
| 27) T C36 Hexatriacontane | 10.00 | 39910654 | 112.498 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 344311513 | 1013.179 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 439673202 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 486817360 | 1438.484 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 600960655 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 486817360 | 1438.484 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 570538024 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7125.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 11 Nov 2011  1:09  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Nov 11 08:16:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7127.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 11 Nov 2011  1:49  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

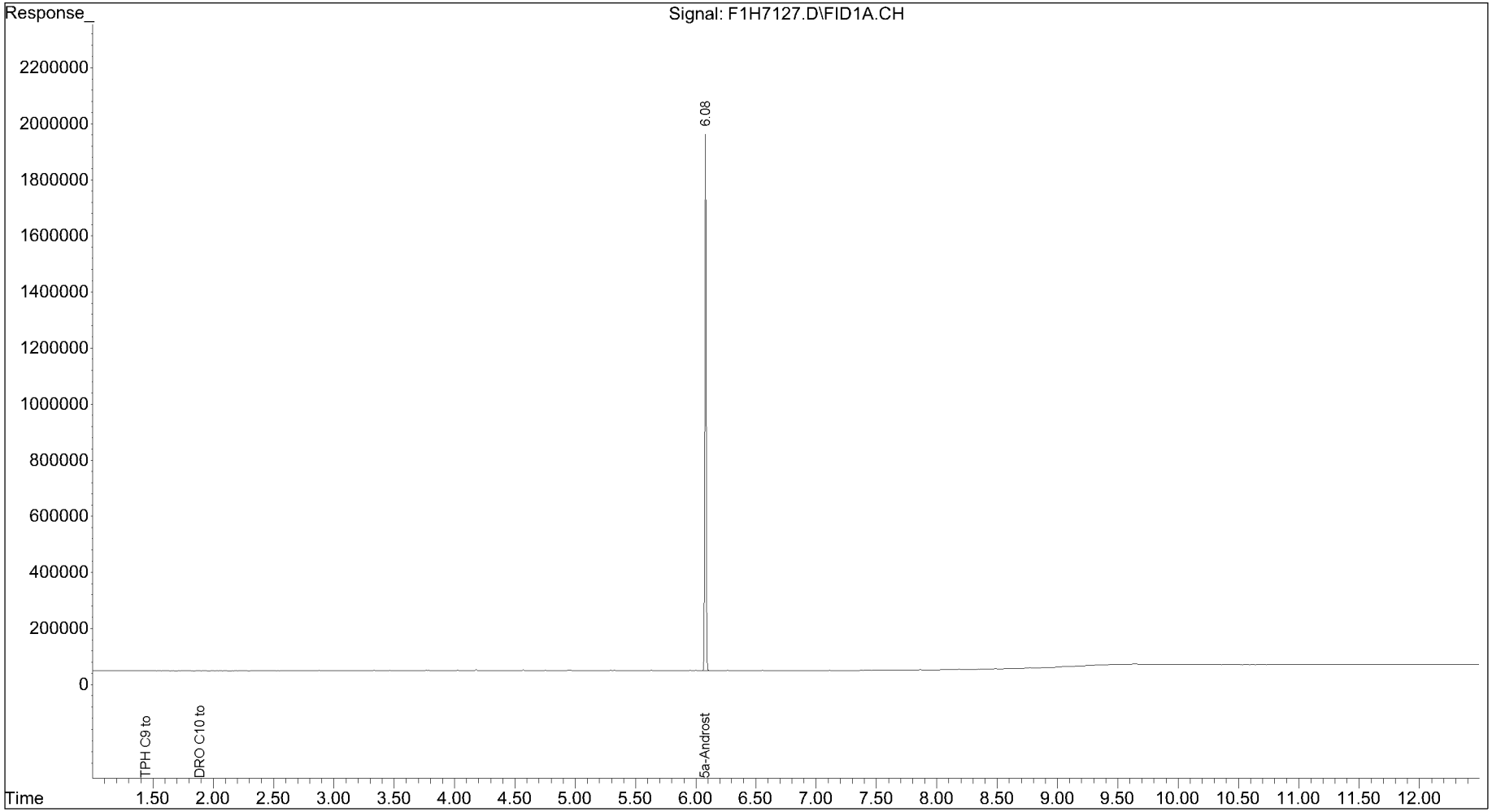
Quant Time: Nov 11 10:50:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 14334980 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 5631072 | 16.759 ug/mL |
| Integration Range: | | 1.90 to | 8.27 minutes |
| Raw Range Area: | | 19966052 | |
| 4) H TPH C9 to C36 | 1.44 | 24771981 | 74.030 ug/mL |
| Integration Range: | | 1.44 to | 10.17 minutes |
| Raw Range Area: | | 39106962 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7127.D
Lab Smp Id: IBLK Client Smp ID: IBLK
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 1:49 Operator: TM
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Nov 11 10:50:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7138.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011  5:30  Operator: TM
ALS Vial : 1  Sample Multiplier: 1

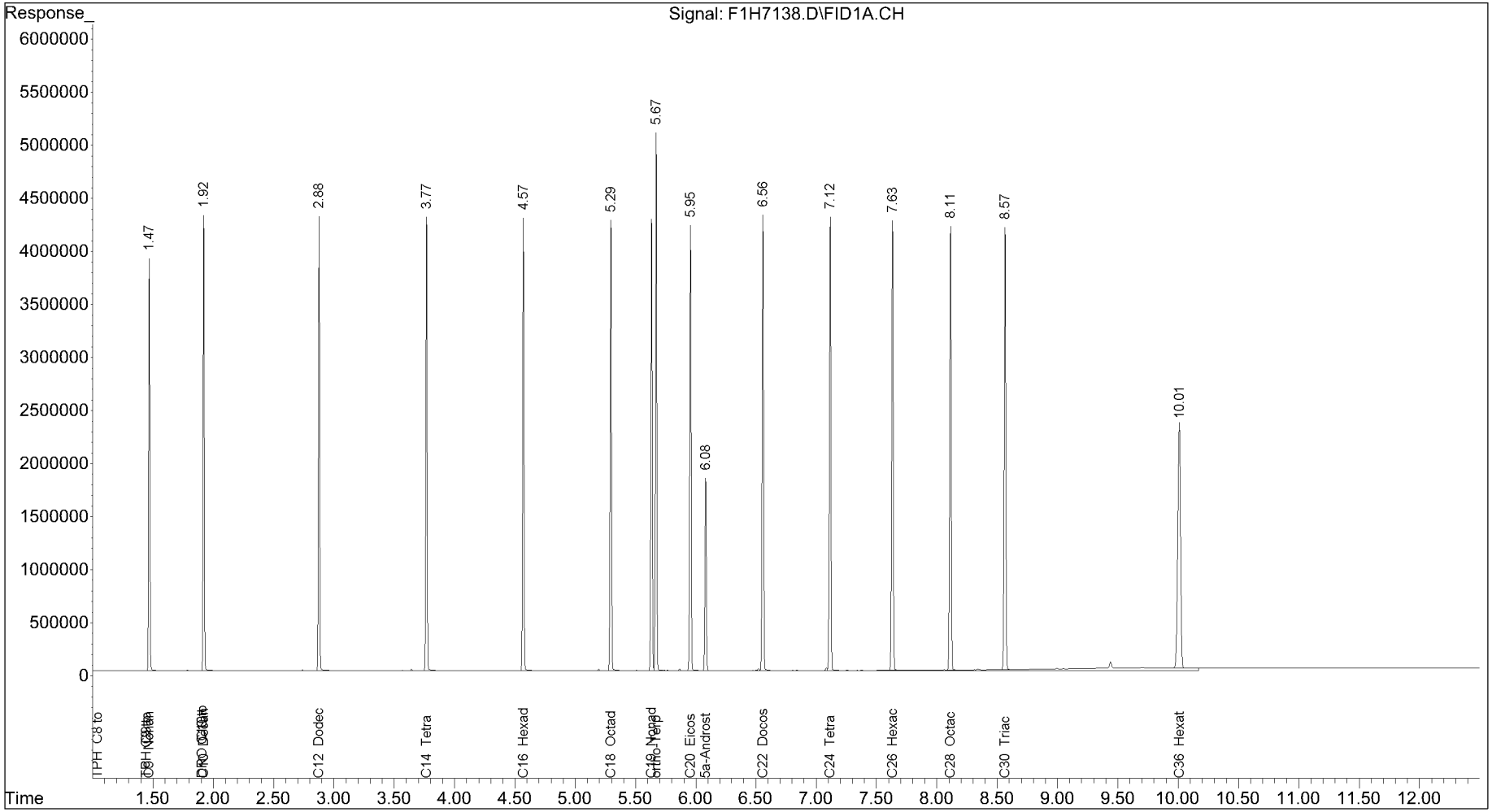
Quant Time: Nov 11 10:50:48 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 13549709 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 35113057 | 91.746 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 91.75% |
| 13) S ortho-Terphenyl ISTD | 5.67 | 35113057 | 97.979 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 97.98% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 317748051 | 945.645 ug/mL |
| Integration Range: | | 1.90 to | 8.27 minutes |
| Raw Range Area: | | 405998762 | |
| 4) H TPH C9 to C36 | 1.44 | 449227819 | 1342.499 ug/mL |
| Integration Range: | | 1.44 to | 10.17 minutes |
| Raw Range Area: | | 528508172 | |
| 14) T C9 Nonane | 1.47 | 25837842 | 104.558 ug/mL |
| 15) TD C10 Decane | 1.92 | 26795132 | 104.674 ug/mL |
| 16) TD C12 Dodecane | 2.88 | 27652233 | 101.064 ug/mL |
| 17) TD C14 Tetradecane | 3.77 | 28791336 | 98.939 ug/mL |
| 18) TD C16 Hexadecane | 4.57 | 30167100 | 93.035 ug/mL |
| 19) TD C18 Octadecane | 5.29 | 31434485 | 98.575 ug/mL |
| 20) T C19 Nonadecane | 5.63 | 31810672 | 98.902 ug/mL |
| 21) TD C20 Eicosane | 5.95 | 32471419 | 99.843 ug/mL |
| 22) TD C22 Docosane | 6.56 | 33977227 | 101.206 ug/mL |
| 23) TD C24 Tetracosane | 7.12 | 34496068 | 101.728 ug/mL |
| 24) TD C26 Hexacosane | 7.63 | 35729606 | 104.367 ug/mL |
| 25) TD C28 Octacosane | 8.11 | 36233445 | 105.758 ug/mL |
| 26) T C30 Triacontane | 8.57 | 36869684 | 107.255 ug/mL |
| 27) T C36 Hexatriacontane | 10.01 | 36961570 | 112.444 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 317748051 | 1009.126 ug/mL |
| Integration Range: | | 1.90 to | 8.27 minutes |
| Raw Range Area: | | 405998762 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 449227819 | 1432.629 ug/mL |
| Integration Range: | | 1.05 to | 12.22 minutes |
| Raw Range Area: | | 559415138 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 449227819 | 1432.629 ug/mL |
| Integration Range: | | 1.44 to | 10.17 minutes |
| Raw Range Area: | | 528508172 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7138.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 11 Nov 2011  5:30  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Nov 11 10:50:48 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7140.D
Lab Smp Id: IBLK  Client Smp ID: IBLK
Misc  : TPH F  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 11 Nov 2011  6:11  Operator: TM
ALS Vial  : 100  Sample Multiplier: 1

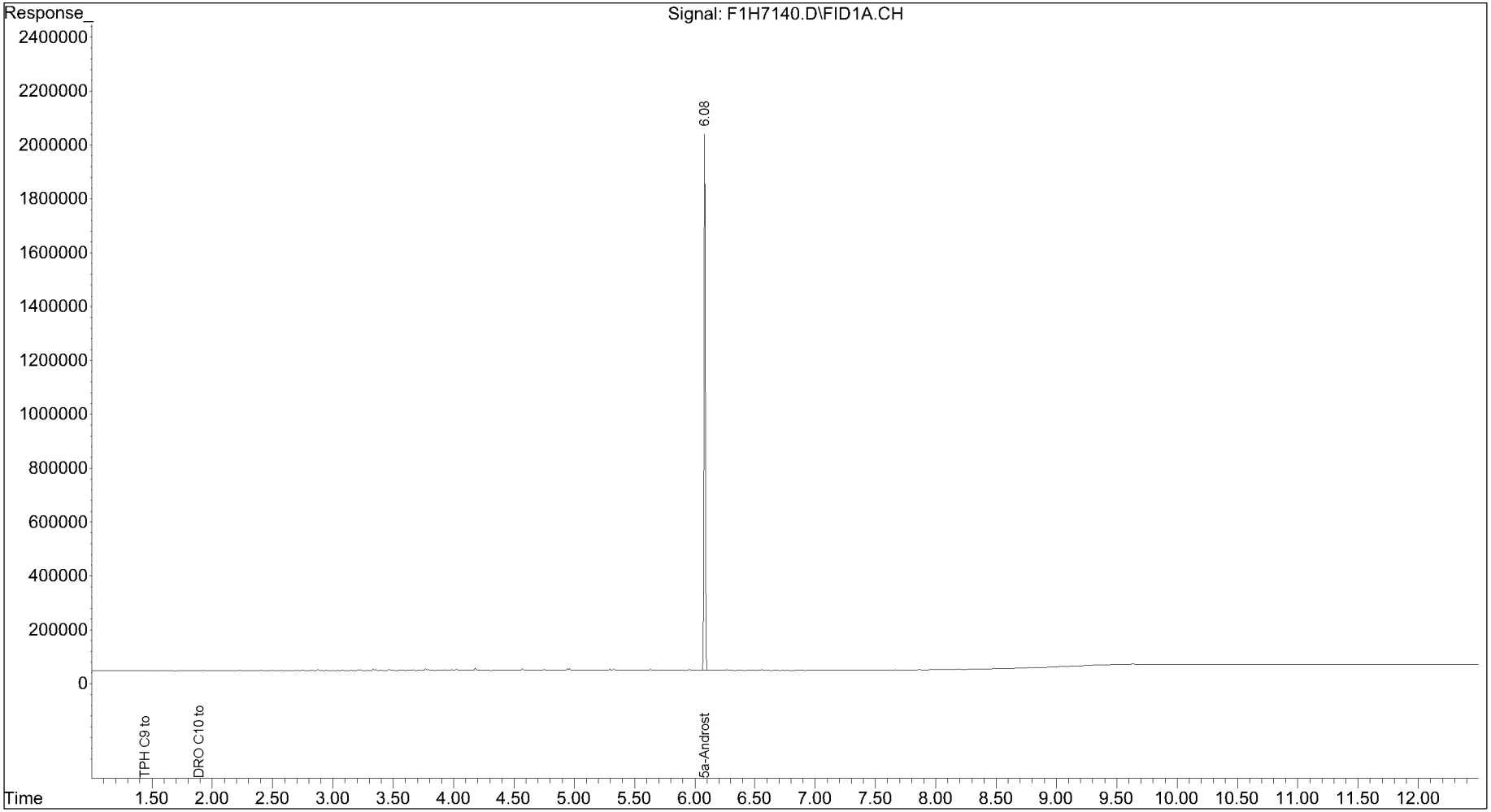
Quant Time: Nov 11 13:08:54 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 14692210 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 9836399 | 29.274 ug/mL |
| Integration Range: | | 1.90 to | 8.27 minutes |
| Raw Range Area: | | 24528609 | |
| 4) H TPH C9 to C36 | 1.44 | 30139353 | 90.070 ug/mL |
| Integration Range: | | 1.44 to | 10.17 minutes |
| Raw Range Area: | | 44831563 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7140.D
Lab Smp Id: IBLK Client Smp ID: IBLK
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 6:11 Operator: TM
ALS Vial : 100 Sample Multiplier: 1

Quant Time: Nov 11 13:08:54 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25



Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7151.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 9:45  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

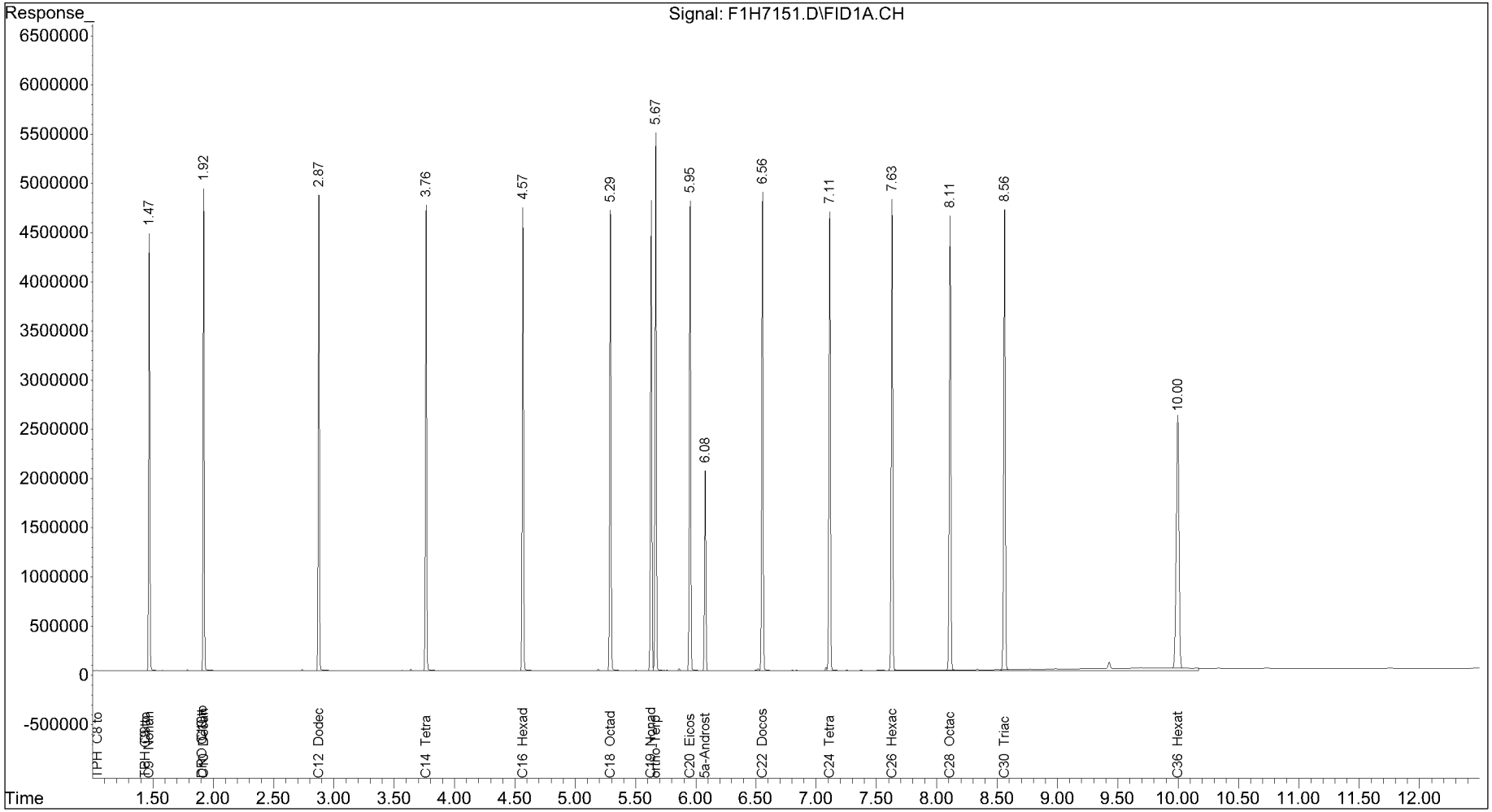
Quant Time: Nov 11 13:09:37 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 15125569 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 39191519 | 102.403 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 102.40% |
| 13) S ortho-Terphenyl ISTD | 5.67 | 39191519 | 97.966 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 97.97% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 353799941 | 1052.939 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 451201823 | |
| 4) H TPH C9 to C36 | 1.44 | 499473829 | 1492.657 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 583474590 | |
| 14) T C9 Nonane | 1.47 | 28778201 | 104.324 ug/mL |
| 15) TD C10 Decane | 1.92 | 29852993 | 104.470 ug/mL |
| 16) TD C12 Dodecane | 2.88 | 30841204 | 100.975 ug/mL |
| 17) TD C14 Tetradecane | 3.76 | 32047958 | 98.656 ug/mL |
| 18) TD C16 Hexadecane | 4.57 | 33500567 | 92.551 ug/mL |
| 19) TD C18 Octadecane | 5.29 | 34900583 | 98.042 ug/mL |
| 20) T C19 Nonadecane | 5.63 | 35343992 | 98.439 ug/mL |
| 21) TD C20 Eicosane | 5.95 | 36101431 | 99.439 ug/mL |
| 22) TD C22 Docosane | 6.56 | 37856138 | 101.012 ug/mL |
| 23) TD C24 Tetracosane | 7.11 | 38502098 | 101.713 ug/mL |
| 24) TD C26 Hexacosane | 7.63 | 39855527 | 104.290 ug/mL |
| 25) TD C28 Octacosane | 8.11 | 40341441 | 105.481 ug/mL |
| 26) T C30 Triacontane | 8.56 | 40953350 | 106.723 ug/mL |
| 27) T C36 Hexatriacontane | 10.00 | 40598346 | 110.640 ug/mL |
| 28) H DRO C10 to C28 ISTD | 1.90 | 353799941 | 1006.557 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 451201823 | |
| 29) H TPH C8 to C40 ISTD | 1.05 | 499473829 | 1426.915 ug/mL |
| Integration Range: | | 1.05 to 12.22 minutes | |
| Raw Range Area: | | 613024420 | |
| 30) H TPH C9 to C36 ISTD | 1.44 | 499473829 | 1426.915 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 583474590 | |

(f)=RT Delta > 1/2 Window  (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7151.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc  : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date  : 11 Nov 2011  9:45  Operator: TM
ALS Vial  : 1  Sample Multiplier: 1

Quant Time: Nov 11 13:09:37 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title  : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj.  : 1
Signal Phase : DB-5MS
Signal Info  : 0.25



**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K2139
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **MB-62548** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **MB-62548** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 17:22** SeqNo: **1642256**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.05801 | | 0.0025 | 0.1000 | 0 | 58.0 | 50 | 150 | 0 | | | |

Sample ID: **MB-62553** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **10/31/11 9:00** Run ID: **F1_111110A**
Client ID: **MB-62553** Batch ID: **62553** Units: **mg/L** Analysis Date: **11/11/11 3:09** SeqNo: **1642271**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.07441 | | 0.0025 | 0.1000 | 0 | 74.4 | 50 | 150 | 0 | | | |

Sample ID: **LCS-62548** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **LCS-62548** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 17:42** SeqNo: **1642257**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.383 | 0.018 | 0.10 | 5.000 | 0 | 67.7 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.07394 | | 0.0025 | 0.1000 | 0 | 73.9 | 50 | 150 | 0 | | | |

Sample ID: **LCS-62553** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **10/31/11 9:00** Run ID: **F1_111110A**
Client ID: **LCS-62553** Batch ID: **62553** Units: **mg/L** Analysis Date: **11/11/11 3:29** SeqNo: **1642272**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.341 | 0.018 | 0.10 | 5.000 | 0 | 66.8 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.07048 | | 0.0025 | 0.1000 | 0 | 70.5 | 50 | 150 | 0 | | | |

Sample ID: **K2139-02BMS** SampType: **MS** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **06MW-06-20111024** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 18:43** SeqNo: **1642260**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.299 | 0.018 | 0.10 | 5.000 | 0.3095 | 59.8 | 50 | 150 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.06486 | | 0.0025 | 0.1000 | 0 | 64.9 | 50 | 150 | 0 | | | |



**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K2139
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **K2139-02BMSD** SampType: **MSD** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **06MW-06-20111024** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 19:03** SeqNo: **1642261**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.464 | 0.018 | 0.10 | 5.000 | 0.3095 | 63.1 | 50 | 150 | 3.299 | 4.88 | 30 | |
| Surrogate: ortho-Terphenyl | 0.06994 | | 0.0025 | 0.1000 | 0 | 69.9 | 50 | 150 | 0 | | | |



**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

m11.11.16.A

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7102.D
Lab Smp Id: MB-62548 BN: 62548 Client Smp ID: MB-62548
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 17:22 Operator: TM
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 14 13:05:42 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

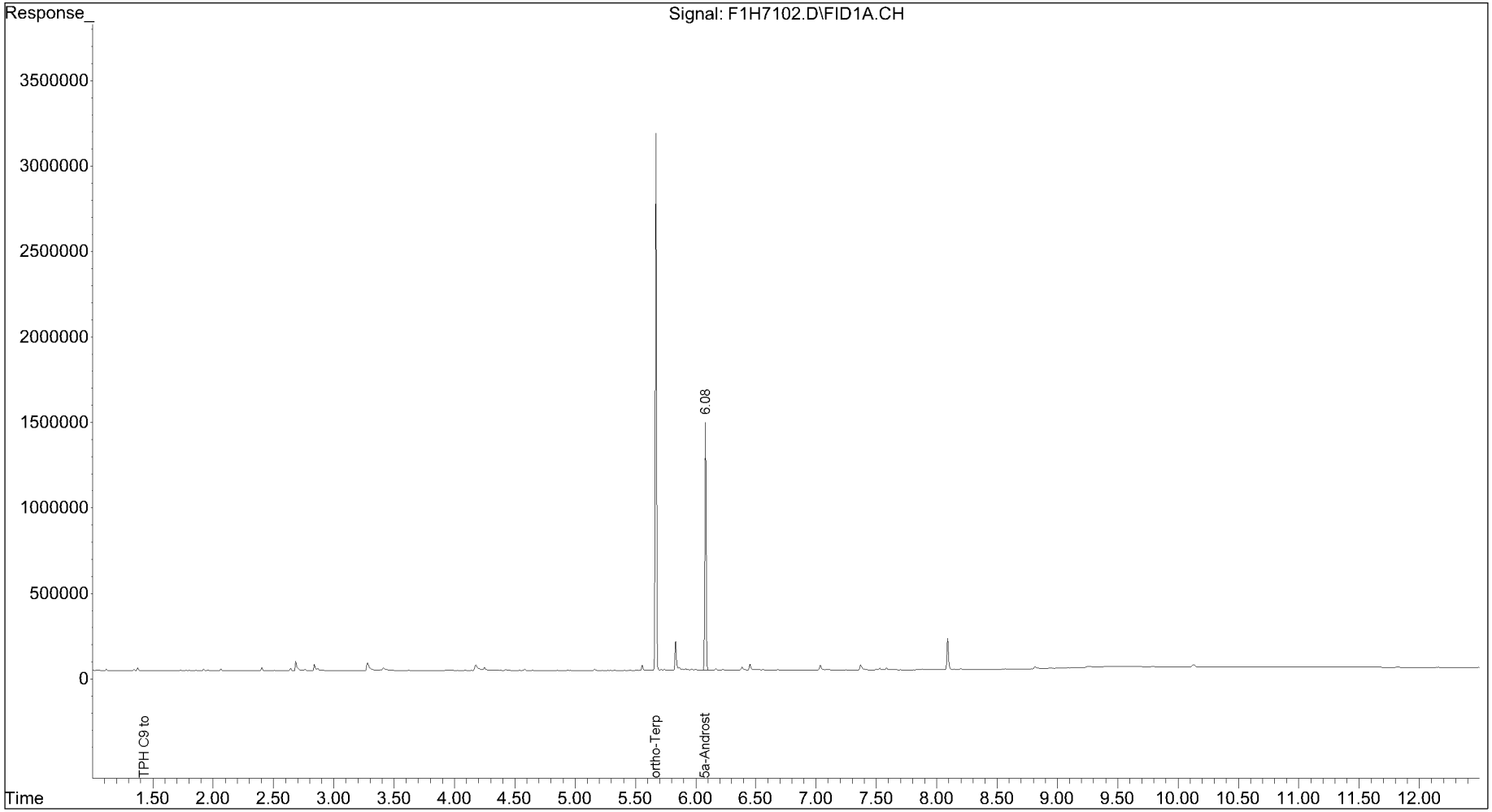
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10857961 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 22201547 | 58.010 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 58.01% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 21796533 | 65.138 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 74639865 | |
| Corrected Range Area (IS,SS): | | 41580357 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

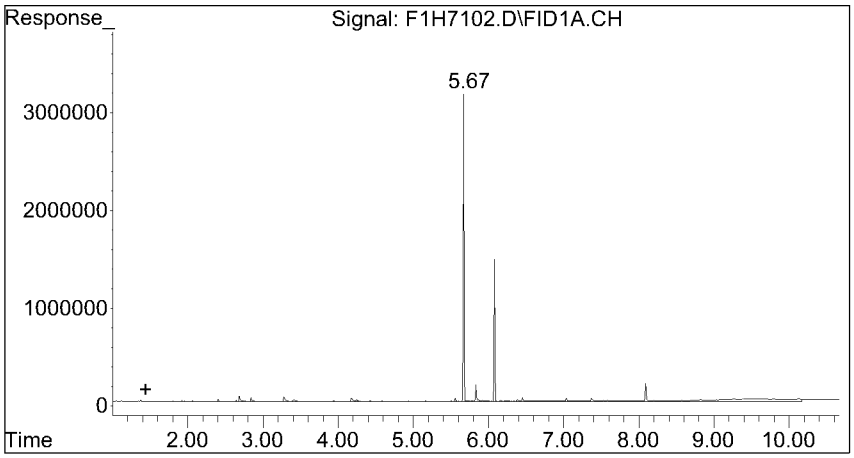
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7102.D
Lab Smp Id: MB-62548 BN: 62548 Client Smp ID: MB-62548
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 17:22 Operator: TM
ALS Vial : 21 Sample Multiplier: 1

Quant Time: Nov 14 13:05:42 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 21796533
Conc: 65.14 ug/mL m

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7131.D
Lab Smp Id: MB-62553 BN: 62553 Client Smp ID: MB-62553
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 3:09 Operator: TM
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Nov 14 13:07:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

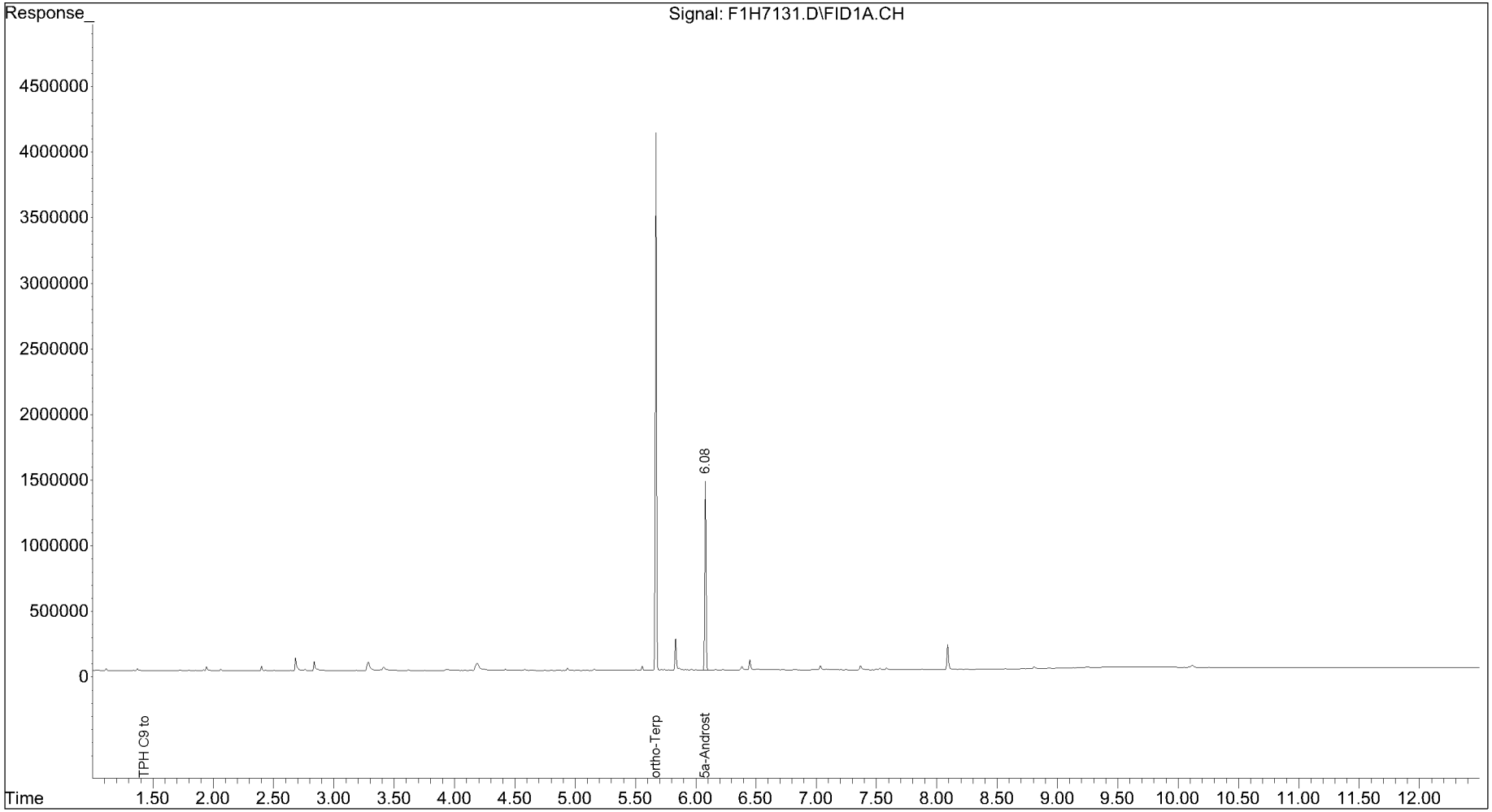
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10836943 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 28477124 | 74.407 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 74.41% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 29880037 | 89.295 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 93966085 | |
| Corrected Range Area (IS,SS): | | 54652018 | |
| Instrument Blank Area (F1H7127): | | 24771981 | |

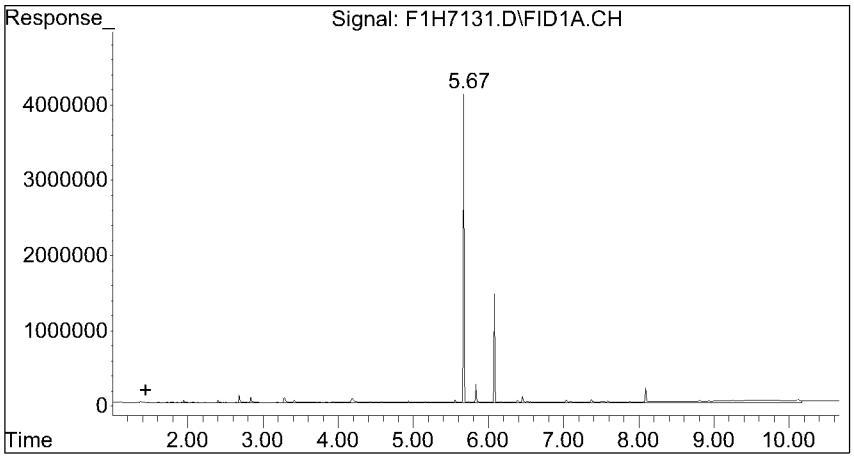
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7131.D
Lab Smp Id: MB-62553 BN: 62553 Client Smp ID: MB-62553
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 3:09 Operator: TM
ALS Vial : 44 Sample Multiplier: 1

Quant Time: Nov 14 13:07:44 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 29880037
Conc: 89.30 ug/mL m

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7103.D
Lab Smp Id: LCS-62548 BN: 62548 Client Smp ID: LCS-62548
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 17:42 Operator: TM
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 11 15:04:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

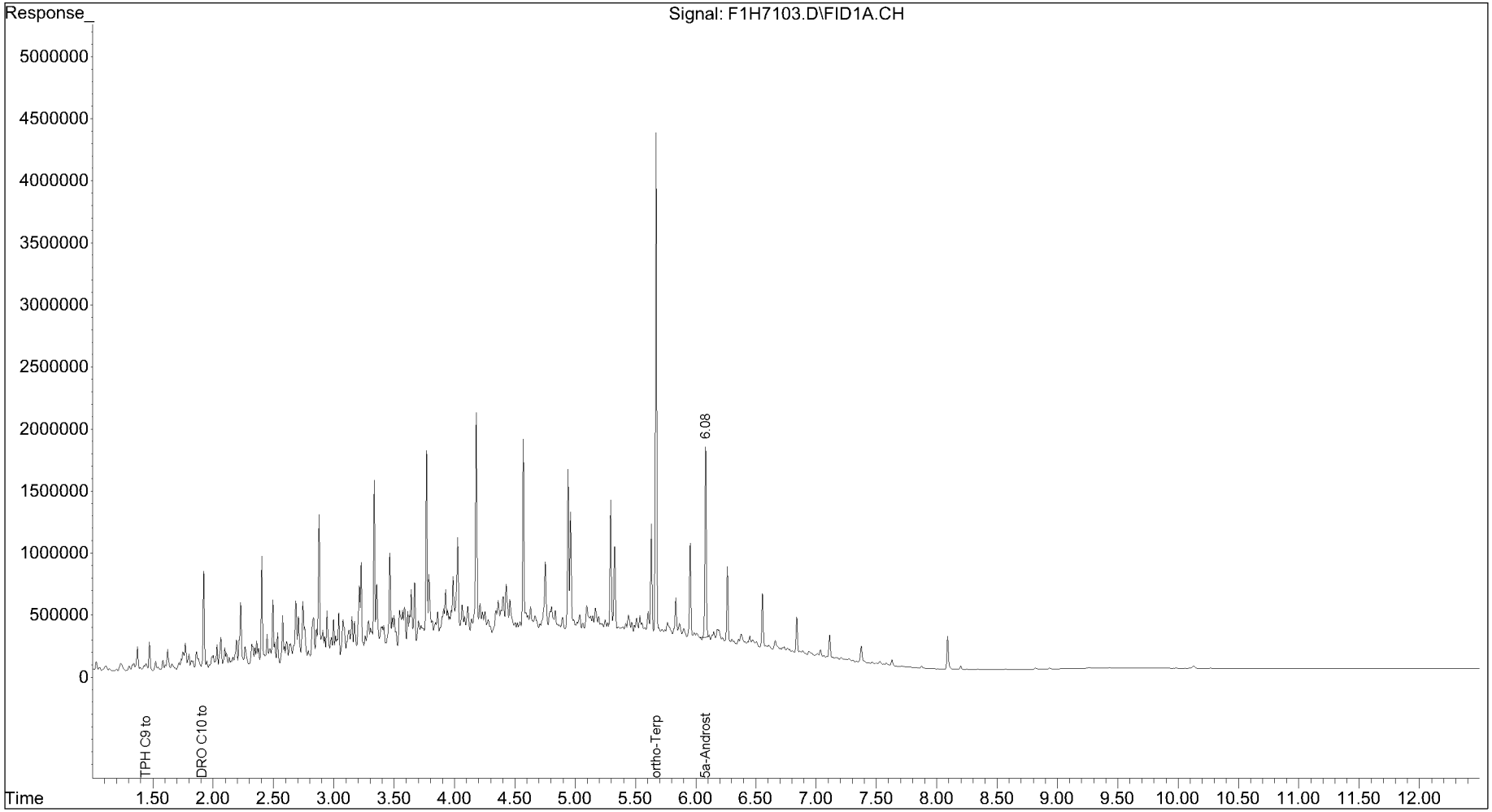
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 11848932 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 28296511 | 73.935 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 73.94% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 1111256067 | 3307.193 ug/mL |
| Integration Range: | | | 1.90 to 8.27 minutes |
| Raw Range Area: | | 1154264483 | |
| Corrected Range Area (IS,SS): | | 1114119040 | |
| Instrument Blank Area (F1H7101): | | 2862973 | |
| 4) H TPH C9 to C36 | 1.44 | 1132090010 | 3383.205 ug/mL |
| Integration Range: | | | 1.44 to 10.17 minutes |
| Raw Range Area: | | 1192019277 | |
| Corrected Range Area (IS,SS): | | 1151873834 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

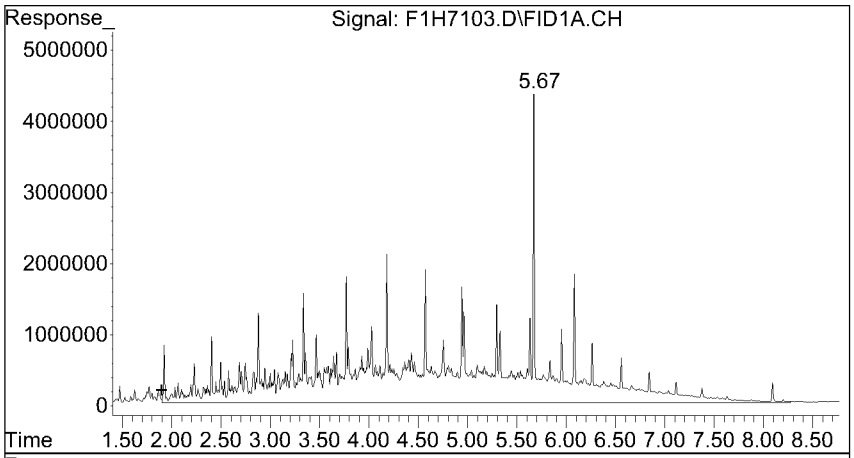
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7103.D
Lab Smp Id: LCS-62548 BN: 62548 Client Smp ID: LCS-62548
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 17:42 Operator: TM
ALS Vial : 22 Sample Multiplier: 1

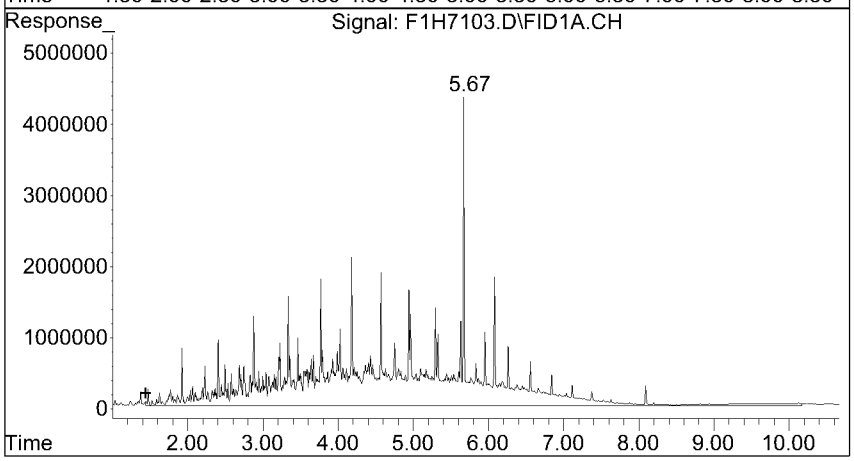
Quant Time: Nov 11 15:04:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#3 DRO C10 to C28

R.T.: 1.900 min
Delta R.T.: 0.000 min
Response: 1111256067
Conc: 3307.19 ug/mL m




#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1132090010
Conc: 3383.20 ug/mL m

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7103.D
Lab Smp Id: LCS-62548 BN: 62548 Client Smp ID: LCS-62548
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 17:42 Operator: TM
ALS Vial : 22 Sample Multiplier: 1

Quant Time: Nov 11 15:04:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

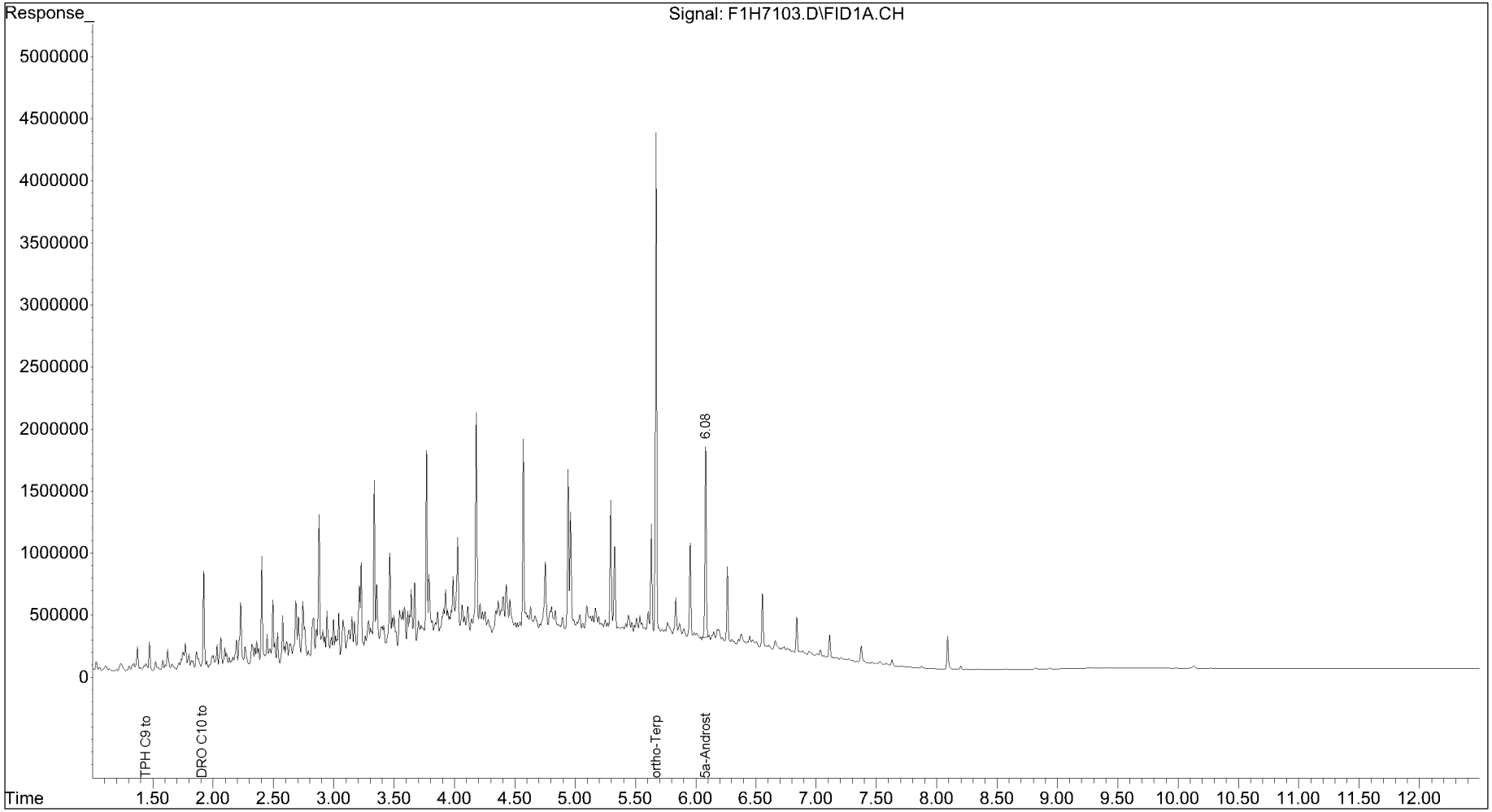
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 11848932 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 28296511 | 73.935 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 73.94% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 1111256067 | 3307.193 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 1154264483 | |
| Corrected Range Area (IS,SS): | | 1114119040 | |
| Instrument Blank Area (F1H7101): | | 2862973 | |
| 4) H TPH C9 to C36 | 1.44 | 1132090010 | 3383.205 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 1192019277 | |
| Corrected Range Area (IS,SS): | | 1151873834 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

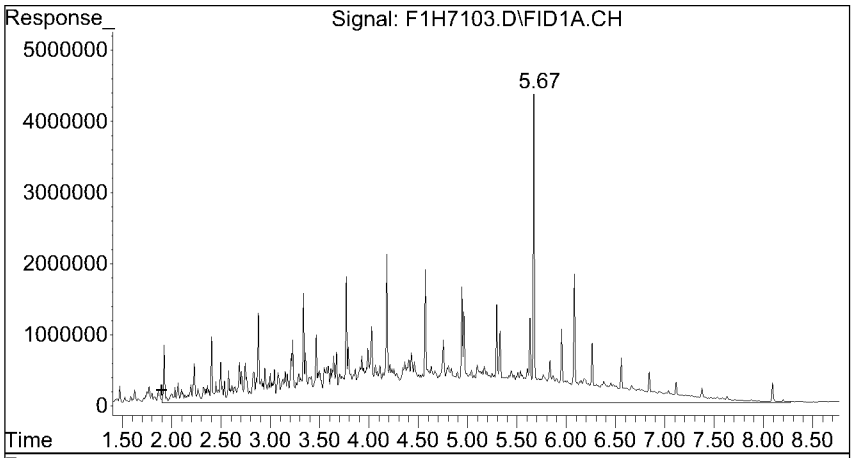
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7103.D
Lab Smp Id: LCS-62548 BN: 62548 Client Smp ID: LCS-62548
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 17:42 Operator: TM
ALS Vial : 22 Sample Multiplier: 1

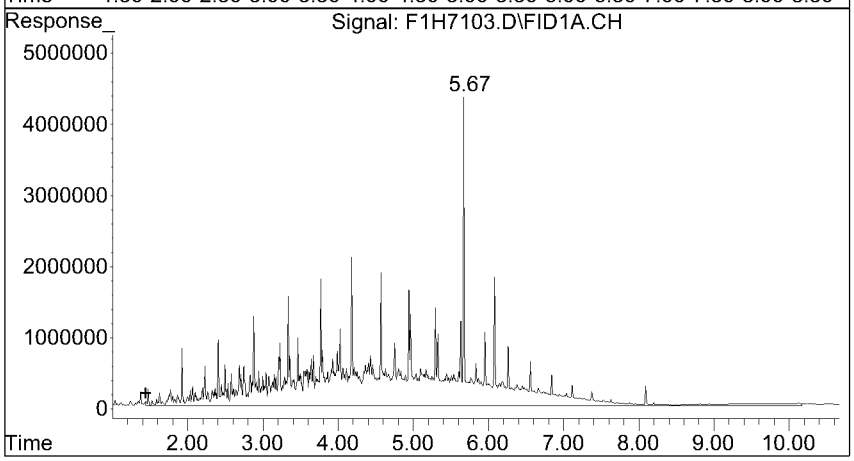
Quant Time: Nov 11 15:04:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#3 DRO C10 to C28

R.T.: 1.900 min
Delta R.T.: 0.000 min
Response: 1111256067
Conc: 3307.19 ug/mL m




#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1132090010
Conc: 3383.20 ug/mL m

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7132.D
Lab Smp Id: LCS-62553 BN: 62553 Client Smp ID: LCS-62553
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 3:29 Operator: TM
ALS Vial : 45 Sample Multiplier: 1

Quant Time: Nov 11 15:53:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

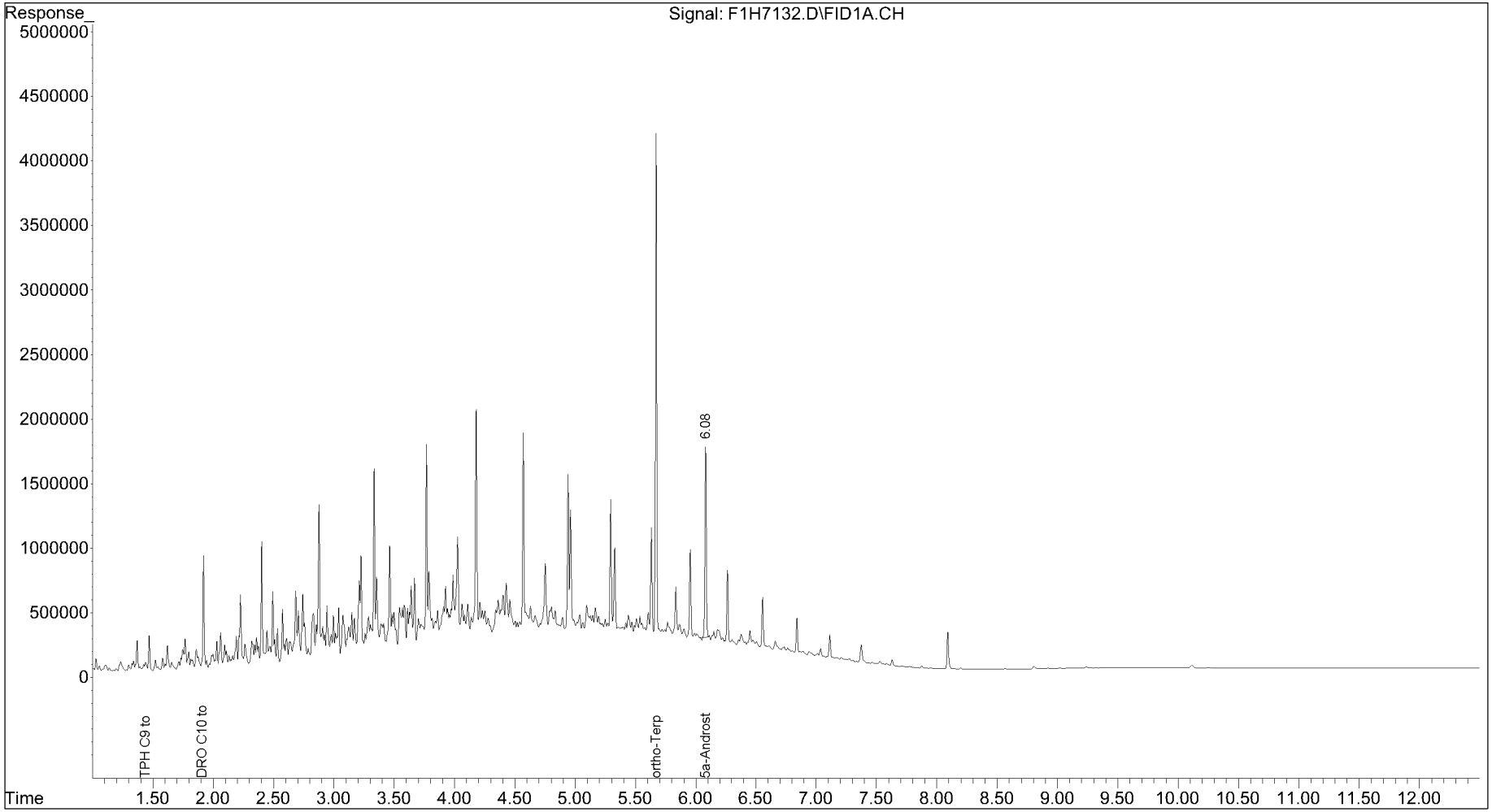
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 11362708 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 26973492 | 70.478 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 70.48% |
| Target Compounds | | | |
| 3) H DRO C10 to C28 | 1.90 | 1094489265 | 3257.294 ug/mL |
| Integration Range: | | 1.90 to 8.27 minutes | |
| Raw Range Area: | | 1138456537 | |
| Corrected Range Area (IS,SS): | | 1100120337 | |
| Instrument Blank Area (F1H7127): | | 5631072 | |
| 4) H TPH C9 to C36 | 1.44 | 1117871022 | 3340.712 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 1180979204 | |
| Corrected Range Area (IS,SS): | | 1142643003 | |
| Instrument Blank Area (F1H7127): | | 24771981 | |

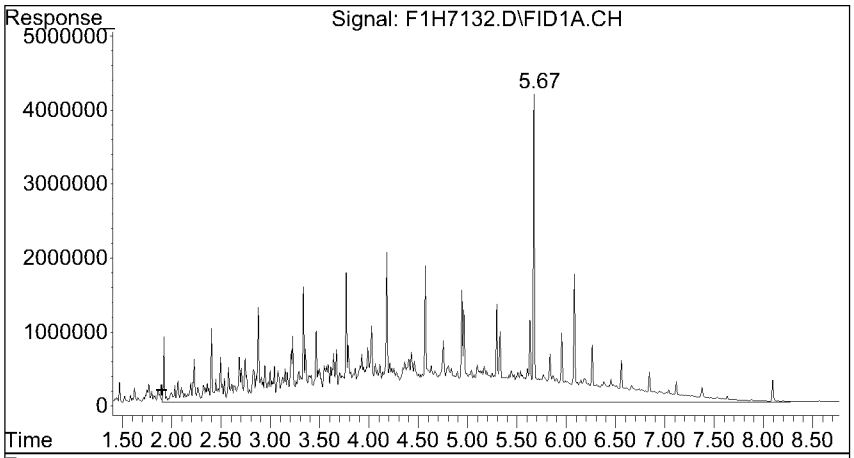
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7132.D
Lab Smp Id: LCS-62553 BN: 62553 Client Smp ID: LCS-62553
Misc : TPH/ME DRO F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 3:29 Operator: TM
ALS Vial : 45 Sample Multiplier: 1

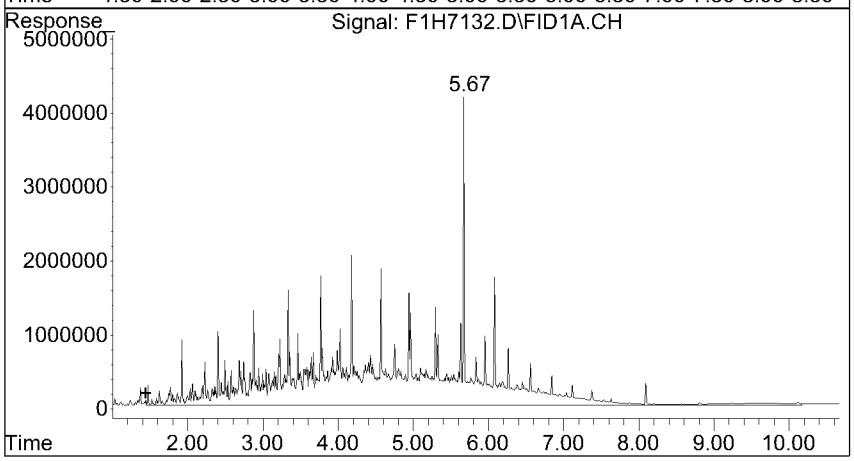
Quant Time: Nov 11 15:53:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#3 DRO C10 to C28

R.T.: 1.900 min
Delta R.T.: 0.000 min
Response: 1094489265
Conc: 3257.29 ug/mL m




#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1117871022
Conc: 3340.71 ug/mL m

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7106.D
Lab Smp Id: K2139-02BMS BN: 62548 Client Smp ID: 06MW-06-20111024MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 18:43 Operator: TM
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 11 15:04:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

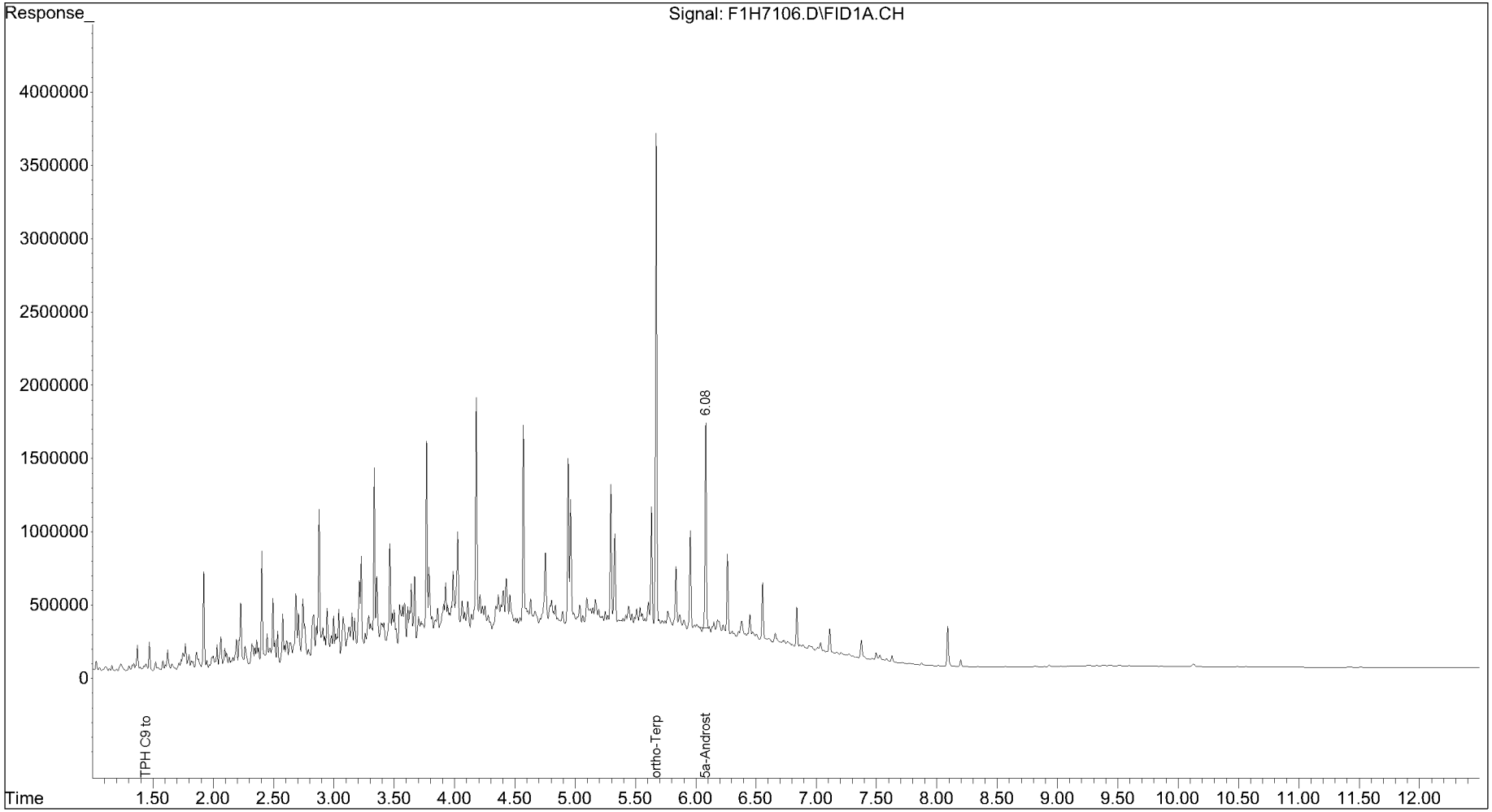
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10599305 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 24823830 | 64.862 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 64.86% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 1104043116 | 3299.388 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 1159250075 | |
| Corrected Range Area (IS,SS): | | 1123826940 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

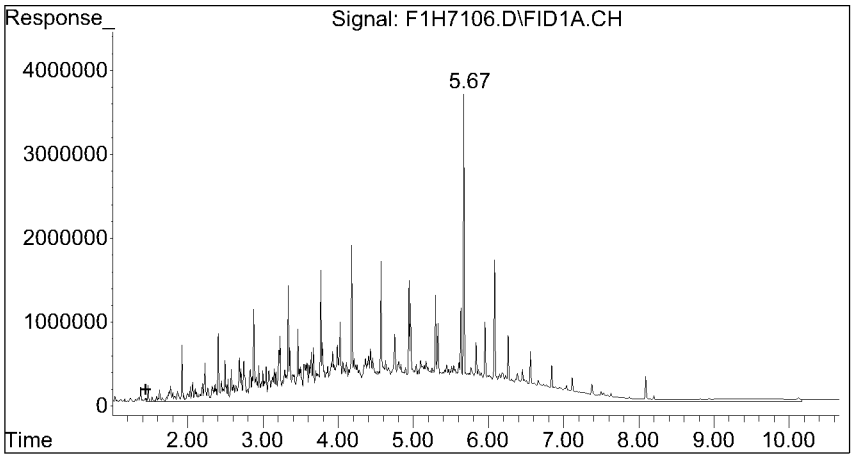
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7106.D
Lab Smp Id: K2139-02BMS BN: 62548 Client Smp ID: 06MW-06-20111024MS
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 18:43 Operator: TM
ALS Vial : 25 Sample Multiplier: 1

Quant Time: Nov 11 15:04:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1104043116
Conc: 3299.39 ug/mL m

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7107.D
Lab Smp Id: K2139-02BMSD BN: 62548Client Smp ID: 06MW-06-20111024MSD
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 19:03 Operator: TM
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 11 15:04:08 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

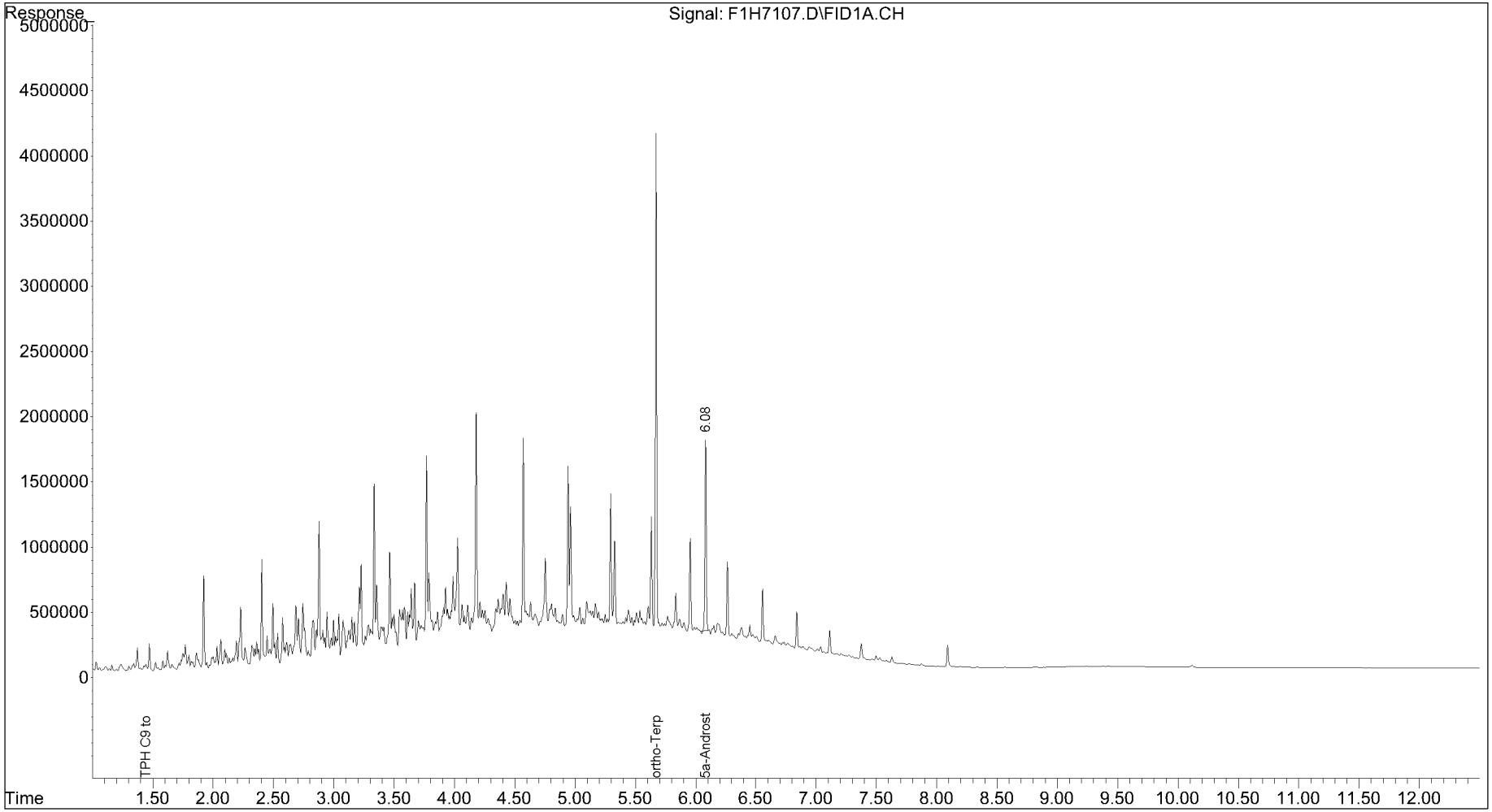
| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 11188705 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 26766886 | 69.939 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 69.94% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 1159238813 | 3464.338 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 1216978228 | |
| Corrected Range Area (IS,SS): | | 1179022637 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

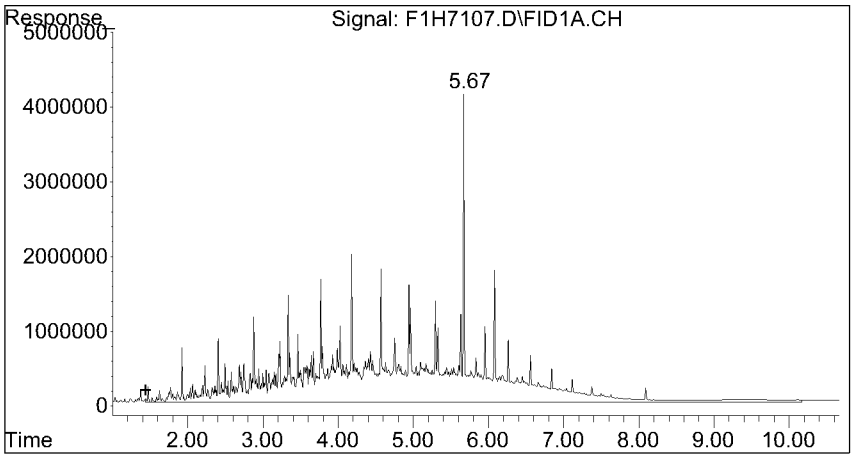
Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7107.D
Lab Smp Id: K2139-02BMSD BN: 62548Client Smp ID: 06MW-06-20111024MSD
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 19:03 Operator: TM
ALS Vial : 26 Sample Multiplier: 1

Quant Time: Nov 11 15:04:08 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25






#4 TPH C9 to C36

R.T.: 1.440 min
Delta R.T.: 0.000 min
Response: 1159238813
Conc: 3464.34 ug/mL m

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: **10/31/2011 11:00:00**
Prep End Date: **11/8/2011 10:31:00**
Prep Batch ID: **62548**

Prep Code: **TPH_W_PR**
Technician: **Courtney J Anderson**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: **mL / mL**

QC Matrix: NASO4
QC Matrix Lot: 106147

Filter?: FILTER
Filter Lot: FC003284

Solvent (1): MECL2
Solvent (1) Lot: DE 980

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-62548 | BatchQC | | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | | | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| LCS-62548 | BatchQC | | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | | | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-01B | 06MW-04-111024 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-02B | 06MW-06-20111024 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-02BMS | 06MW-06-20111024 | A | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-02BMSD | 06MW-06-20111024 | A | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-03B | 06MW-08-20111024 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-04B | 06MW-10-20111024 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-05B | 06MW-11-111024 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-06B | 06MW-12-111024 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-07B | 06MWDUP01-111024 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2158-02B | LIMW9004 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-03B | LIPZ05 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-04B | LIMW08 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-05B | LIMW09R | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-05BMS | LIMW09R | A | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-05BMSD | LIMW09R | A | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-07B | LIMW01 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-08B | LIMW05R | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-09B | LIMW07R | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-10B | MAMW32SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-11B | MAMW31SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2158-12B | MAMW9002 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |

Jodie B Warner — 11/08/2011
Analyst Reviewed — Date

Timothy McDaniel — 11/08/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

JW 11/8/11

**Logbook ID: 50.0147-10/11**

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: **10/31/2011 9:00:00**
Prep End Date: **11/8/2011 2:55:00 P**
Prep Batch ID: **62553**

Prep Code: **TPH_W_PR**
Technician: **Courtney J Anderson**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: **mL / mL**

QC Matrix: NASO4
QC Matrix Lot: 106147

Solvent (1): MECL2
Solvent (1) Lot: DE 980

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Filter?: FILTER
Filter Lot: FC003284

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-62553 | BatchQC | | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | | | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| LCS-62553 | BatchQC | | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | | | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-09B | 06MW-01-111025 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-10B | 06MW-02-111025 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-11B | 06MW-03-111025 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-12B | 06MW-05-111025 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-13B | 06MW-07-111025 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-14B | 06MW-09-111025 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2139-15B | 06MW-13-111025 | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/15/11 | 01 | 11/08/11 | JBW | R21 | 7 | ☐ | ☑ | Turbo Vap 1 |
| K2159-02B | MAMW35SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2159-03B | MAMW09SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap 1 |
| K2159-04B | MAMW14SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-05B | MAMW11SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-06B | MAMW19SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-07B | MAMW19S | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-09B | MAMW12SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-10B | MAMW19DR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-11B | MAMW37SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-11BMS | MAMW37SR | A | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-11BMSD | MAMW37SR | A | 1000 | 1 | OFW110906A | 1 | OFW110701A | 1 | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |
| K2159-12B | MAMW36SR | A | 1000 | 1 | OFW110906A | 1 | | | CJA | JBW | 11/14/11 | 01 | 11/08/11 | JBW | R21 | 3 | ☐ | ☑ | Turbo Vap |

Jodie B Warner — 11/08/2011
Analyst Reviewed — Date

Timothy McDaniel — 11/08/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

**Logbook ID: 50.0147-10/11**

JW 11/8/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | MM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700 | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

MM 5/24/11

# Injection Log

AQ: TPH-AGF
QT: TPH0520F

Directory: O:\F1.I\111110A.B

INJECT MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| | | | | ICAL 7159 | | |
| 1 | 1 | F1h7090.d | 1. | | | 10 Nov 2011 13:24 |
| 2 | 96 | F1h7091.d | 1. | QC | TPH F | 10 Nov 2011 13:44 |
| 3 | 1 | F1h7092.d | 1. | FSTD1001Q FW111102A | TPH F CCAL L5 100... | 10 Nov 2011 14:04 |
| 4 | 100 | F1h7093.d | 1. | IBLK | TPH F | 10 Nov 2011 14:24 |
| 5 | 16 | F1h7094.d | 1. | MB-62896,,62896 | TPH F | 10 Nov 2011 14:43 |
| 6 | 17 | F1h7095.d | 1. | LCS-62896,,62896 | TPH F | 10 Nov 2011 15:02 |
| 7 | 18 | F1h7096.d | 1. | K2329-01E,,62896 | TPH F | 10 Nov 2011 15:22 |
| 8 | 19 | F1h7097.d | 1. | K2329-02E,,62896 | TPH F | 10 Nov 2011 15:42 |
| 9 | 20 | F1h7098.d | 1. | K2346-01E,,62896 | TPH F | 10 Nov 2011 16:03 |
| 10 | 1 | F1h7099.d | 1. | FSTD1001R | TPH F CCAL L5 100... | 10 Nov 2011 16:22 |
| 11 | 96 | F1h7100.d | 1. | QC | TPH F | 10 Nov 2011 16:42 |
| 12 | 100 | F1h7101.d | 1. | IBLK | TPH F | 10 Nov 2011 17:02 |
| 13 | 21 | F1h7102.d | 1. | MB-62548,,62548 RR | TPH/ME DRO F | 10 Nov 2011 17:22 |
| 14 | 22 | F1h7103.d | 1. | LCS-62548,,62548 | TPH/ME DRO F | 10 Nov 2011 17:42 |
| 15 | 23 | F1h7104.d | 1. | K2139-01B,,62548 | TPH F | 10 Nov 2011 18:02 |
| 16 | 24 | F1h7105.d | 1. | K2139-02B,,62548 | TPH F | 10 Nov 2011 18:23 |
| 17 | 25 | F1h7106.d | 1. | K2139-02BMS,,62548 | TPH F | 10 Nov 2011 18:43 |
| 18 | 26 | F1h7107.d | 1. | K2139-02BMSD,,62548 | TPH F | 10 Nov 2011 19:03 |
| 19 | 27 | F1h7108.d | 1. | K2139-03B,,62548 | TPH F | 10 Nov 2011 19:24 |
| 20 | 28 | F1h7109.d | 1. | K2139-04B,,62548 | TPH F | 10 Nov 2011 19:44 |
| 21 | 29 | F1h7110.d | 1. | K2139-05B,,62548 | TPH F | 10 Nov 2011 20:04 |
| 22 | 30 | F1h7111.d | 1. | K2139-06B,,62548 | TPH F | 10 Nov 2011 20:24 |
| 23 | 1 | F1h7112.d | 1. | FSTD1001S | TPH F CCAL L5 100... | 10 Nov 2011 20:45 |
| 24 | 96 | F1h7113.d | 1. | QC | TPH F | 10 Nov 2011 21:05 |
| 25 | 100 | F1h7114.d | 1. | IBLK | TPH F | 10 Nov 2011 21:25 |
| 26 | 31 | F1h7115.d | 1. | K2139-07B,,62548 | TPH F | 10 Nov 2011 21:46 |
| 27 | 32 | F1h7116.d | 1. | K2158-02B,,62548 | ME DRO F | 10 Nov 2011 22:06 |
| 28 | 33 | F1h7117.d | 1. | K2158-03B,,62548 | ME DRO F | 10 Nov 2011 22:26 |
| 29 | 34 | F1h7118.d | 1. | K2158-04B,,62548 | ME DRO F | 10 Nov 2011 22:46 |
| 30 | 35 | F1h7119.d | 1. | K2158-05B,,62548 | ME DRO F | 10 Nov 2011 23:07 |
| 31 | 36 | F1h7120.d | 1. | K2158-05BMS,,62548 | ME DRO F | 10 Nov 2011 23:27 |
| 32 | 37 | F1h7121.d | 1. | K2158-05BMSD,,62548 | ME DRO F | 10 Nov 2011 23:47 |
| 33 | 38 | F1h7122.d | 1. | K2158-07B,,62548 | ME DRO F | 11 Nov 2011 00:08 |
| 34 | 39 | F1h7123.d | 1. | K2158-08B,,62548 RR | ME DRO F | 11 Nov 2011 00:28 |
| 35 | 40 | F1h7124.d | 1. | K2158-09B,,62548 | ME DRO F | 11 Nov 2011 00:48 |
| 36 | 1 | F1h7125.d | 1. | FSTD1001T | TPH F CCAL L5 100... | 11 Nov 2011 01:09 |
| 37 | 96 | F1h7126.d | 1. | QC | TPH F | 11 Nov 2011 01:29 |
| 38 | 100 | F1h7127.d | 1. | IBLK | TPH F | 11 Nov 2011 01:49 |
| 39 | 41 | F1h7128.d | 1. | K2158-10B,,62548 | ME DRO F | 11 Nov 2011 02:09 |
| 40 | 42 | F1h7129.d | 1. | K2158-11B,,62548 | ME DRO F | 11 Nov 2011 02:29 |
| 41 | 43 | F1h7130.d | 1. | K2158-12B,,62548 | ME DRO F | 11 Nov 2011 02:49 |
| 42 | 44 | F1h7131.d | 1. | MB-62553,,62553 RR | TPH/ME DRO F | 11 Nov 2011 03:09 |
| 43 | 45 | F1h7132.d | 1. | LCS-62553,,62553 | TPH/ME DRO F | 11 Nov 2011 03:29 |
| 44 | 46 | F1h7133.d | 1. | K2139-09B,,62553 | TPH F | 11 Nov 2011 03:49 |
| 45 | 47 | F1h7134.d | 1. | K2139-10B,,62553 | TPH F | 11 Nov 2011 04:09 |
| 46 | 48 | F1h7135.d | 1. | K2139-11B,,62553 | TPH F | 11 Nov 2011 04:30 |
| 47 | 49 | F1h7136.d | 1. | K2139-12B,,62553 | TPH F | 11 Nov 2011 04:50 |
| 48 | 50 | F1h7137.d | 1. | K2139-13B,,62553 | TPH F | 11 Nov 2011 05:10 |
| 49 | 1 | F1h7138.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 11 Nov 2011 05:30 |
| 50 | 96 | F1h7139.d | 1. | QC | TPH F | 11 Nov 2011 05:50 |
| 51 | 100 | F1h7140.d | 1. | IBLK | TPH F | 11 Nov 2011 06:11 |

Cpr ~~tot~~ 11/14/11 11/14/11

# Injection Log

AQ: TPH0ACeF
CT: TPH0520F

Directory: O:\F1.I\111111A.B

INLET MAINT: NONE

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h7138.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 11 Nov 2011 05:30 |
| 2 | 96 | F1h7139.d | 1. | QC | TPH F | 11 Nov 2011 05:50 |
| 3 | 100 | F1h7140.d | 1. | IBLK | TPH F | 11 Nov 2011 06:11 |
| 4 | 51 | F1h7141.d | 1. | K2139-14B,,62553 | TPH F | 11 Nov 2011 06:31 |
| 5 | 52 | F1h7142.d | 1. | K2139-15B,,62553 | TPH F | 11 Nov 2011 06:51 |
| 6 | 53 | F1h7143.d | 1. | K2159-02B,,62553 | ME DRO F | 11 Nov 2011 07:11 |
| 7 | 54 | F1h7144.d | 1. | K2159-03B,,62553 | ME DRO F | 11 Nov 2011 07:30 |
| 8 | 55 | F1h7145.d | 1. | K2159-04B,,62553 | ME DRO F | 11 Nov 2011 07:49 |
| 9 | 56 | F1h7146.d | 1. | K2159-05B,,62553 | ME DRO F | 11 Nov 2011 08:08 |
| 10 | 57 | F1h7147.d | 1. | K2159-06B,,62553 | ME DRO F | 11 Nov 2011 08:28 |
| 11 | 2 | F1h7148.d | 1. | MB-62727,,62727 moved to | TPH F NA | 11 Nov 2011 08:47 |
| 12 | 3 | F1h7149.d | 1. | LCS-62727,,62727 111111B | TPH F | 11 Nov 2011 09:07 |
| 13 | 4 | F1h7150.d | 1. | K2257-06A,,62727 for ext TPH | TPH F | 11 Nov 2011 09:27 |
| 14 | 1 | F1h7151.d | 1. | FSTD1001V | TPH F CCAL L5 100... | 11 Nov 2011 09:45 |
| 15 | 96 | F1h7152.d | 1. | QC | TPH F | 11 Nov 2011 10:06 |
| 16 | 100 | F1h7153.d | 1. | IBLK | TPH F | 11 Nov 2011 10:26 |
| 17 | 58 | F1h7154.d | 1. | K2159-07B,,62553 | ME DRO F | 11 Nov 2011 10:46 |
| 18 | 59 | F1h7155.d | 1. | K2159-09B,,62553 | ME DRO F | 11 Nov 2011 11:05 |
| 19 | 60 | F1h7156.d | 1. | K2159-10B,,62553 | ME DRO F | 11 Nov 2011 11:25 |
| 20 | 61 | F1h7157.d | 1. | K2159-11B,,62553 | ME DRO F | 11 Nov 2011 11:45 |
| 21 | 62 | F1h7158.d | 1. | K2159-11BMS,,62553 | ME DRO F | 11 Nov 2011 12:05 |
| 22 | 63 | F1h7159.d | 1. | K2159-11BMSD,,62553 | ME DRO F | 11 Nov 2011 12:26 |
| 23 | 64 | F1h7160.d | 1. | K2159-12B,,62553 | ME DRO F | 11 Nov 2011 12:46 |
| 24 | 39 | F1h7161.d | 1. | K2158-08B,,62548 | ME DRO F | 11 Nov 2011 13:03 |
| 25 | 1 | F1h7162.d | 1. | FSTD1001W | TPH F CCAL L5 100... | 11 Nov 2011 13:23 |
| 26 | 96 | F1h7163.d | 1. | QC | TPH F | 11 Nov 2011 13:43 |
| 27 | 100 | F1h7164.d | 1. | IBLK | TPH F | 11 Nov 2011 14:04 |
| 28 | 2 | F1h7165.d | 1. | MB-62727,,62727 | ME DRO F | 11 Nov 2011 14:23 |
| 29 | 3 | F1h7166.d | 1. | LCS-62727,,62727 | ME DRO F | 11 Nov 2011 14:43 |
| 30 | 4 | F1h7167.d | 1. | K2233-02B,,62727 | ME DRO F | 11 Nov 2011 15:02 |
| 31 | 5 | F1h7168.d | 1. | K2233-03B,,62727 | ME DRO F | 11 Nov 2011 15:21 |
| 32 | 6 | F1h7169.d | 1. | K2233-04B,,62727 | ME DRO F | 11 Nov 2011 15:40 |
| 33 | 7 | F1h7170.d | 1. | K2233-05B,,62727 | ME DRO F | 11 Nov 2011 15:59 |
| 34 | 8 | F1h7171.d | 1. | K2233-06B,,62727 | ME DRO F | 11 Nov 2011 16:20 |
| 35 | 9 | F1h7172.d | 1. | K2233-07B,,62727 | ME DRO F | 11 Nov 2011 16:40 |
| 36 | 10 | F1h7173.d | 1. | K2233-09B,,62727 | ME DRO F | 11 Nov 2011 17:00 |
| 37 | 31 | F1h7174.d | 1. | MB-62548,,62548 | ME DRO F | 11 Nov 2011 17:20 |
| 38 | 1 | F1h7175.d | 1. | FSTD1001X | TPH F CCAL L5 100... | 11 Nov 2011 17:40 |
| 39 | 96 | F1h7176.d | 1. | QC | TPH F | 11 Nov 2011 18:00 |
| 40 | 100 | F1h7177.d | 1. | IBLK | TPH F | 11 Nov 2011 18:20 |
| 41 | 11 | F1h7178.d | 1. | K2233-10B,,62727 | ME DRO F | 11 Nov 2011 18:40 |
| 42 | 12 | F1h7179.d | 1. | K2233-10BMS,,62727 | ME DRO F | 11 Nov 2011 19:00 |
| 43 | 13 | F1h7180.d | 1. | K2233-10BMSD,,62727 | ME DRO F | 11 Nov 2011 19:20 |
| 44 | 14 | F1h7181.d | 1. | K2233-11B,,62727 | ME DRO F | 11 Nov 2011 19:41 |
| 45 | 15 | F1h7182.d | 1. | K2233-12B,,62727 | ME DRO F | 11 Nov 2011 20:01 |
| 46 | | F1h7183.d | 1. | K2259-02B,,62727 yes 11/14/11 | | Unrecognized:Un |
| 47 | 17 | F1h7184.d | 1. | K2259-03B,,62727 | ME DRO F | 11 Nov 2011 20:41 |
| 48 | 18 | F1h7185.d | 1. | K2259-04B,,62727 | ME DRO F | 11 Nov 2011 21:01 |
| 49 | 19 | F1h7186.d | 1. | MB-62607,,62607 | ME DRO F | 11 Nov 2011 21:21 |
| 50 | 20 | F1h7187.d | 1. | LCS-62607,,62607 | ME DRO F | 11 Nov 2011 21:41 |
| 51 | 1 | F1h7188.d | 1. | FSTD1001Y | TPH F CCAL L5 100... | 11 Nov 2011 22:02 |
| 52 | 96 | F1h7189.d | 1. | QC | TPH F | 11 Nov 2011 22:22 |
| 53 | 100 | F1h7190.d | 1. | IBLK | TPH F | 11 Nov 2011 22:42 |
| 54 | 21 | F1h7191.d | 1. | LCSD-62607,,62607 | ME DRO F | 11 Nov 2011 23:02 |
| 55 | 22 | F1h7192.d | 1. | K2171-02B,,62607 | ME DRO F | 11 Nov 2011 23:22 |

<CONT>

# Injection Log

AQ : TPH = ACF
QT : TPH0520F

Directory: O:\F1.I\111111A.B

INLET MAINT: NONE

<CONT>

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 56 | 23 | F1h7193.d | 1. | K2171-03B,,62607 | ME DRO F | 11 Nov 2011 23:42 |
| 57 | 24 | F1h7194.d | 1. | K2171-04B,,62607 | ME DRO F | 12 Nov 2011 00:02 |
| 58 | 25 | F1h7195.d | 1. | K2171-05B,,62607 | | 12 Nov 2011 00:22 |
| 59 | 26 | F1h7196.d | 1. | K2171-07B,,62607 | ME DRO F | 12 Nov 2011 00:42 |
| 60 | 27 | F1h7197.d | 1. | K2171-08B,,62607 | ME DRO F | 12 Nov 2011 01:03 |
| 61 | 28 | F1h7198.d | 1. | K2171-09B,,62607 | | 12 Nov 2011 01:23 |
| 62 | 29 | F1h7199.d | 1. | K2171-10B,,62607 | ME DRO F | 12 Nov 2011 01:43 |
| 63 | 30 | F1h7200.d | 1. | K2171-11B,,62607 | ME DRO F | 12 Nov 2011 02:03 |
| 64 | 1 | F1h7201.d | 1. | FSTD1001Y | TPH F CCAL L5 100... | 12 Nov 2011 02:23 |
| 65 | 98 | F1h7202.d | 1. | QC | TPH F | 12 Nov 2011 02:43 |
| 66 | 100 | F1h7203.d | 1. | IBLK | TPH F | 12 Nov 2011 03:03 |
| 67 | 32 | F1h7204.d | 1. | MB-62553,,62553 | ME DRO F | 12 Nov 2011 03:23 |
| 68 | 33 | F1h7205.d | 1. | MB-62839,,62839 | DRO F | 12 Nov 2011 03:43 |
| 69 | 34 | F1h7206.d | 1. | LCS-62839,,62839 | DRO F | 12 Nov 2011 04:03 |
| 70 | 35 | F1h7207.d | 1. | LCSD-62839,,62839 | DRO F | 12 Nov 2011 04:23 |
| 71 | 36 | F1h7208.d | 1. | K2134-13A,,62839 | DRO F | 12 Nov 2011 04:42 |
| 72 | 1 | F1h7209.d | 1. | FSTD1001Z | TPH F CCAL L5 100... | 12 Nov 2011 05:02 |
| 73 | 98 | F1h7210.d | 1. | QC | TPH F | 12 Nov 2011 05:22 |
| 74 | 100 | F1h7211.d | 1. | IBLK | TPH F | 12 Nov 2011 05:43 |
| 75 | 37 | F1h7212.d | 1. | MB-62952,,62952 | TPH F | 12 Nov 2011 06:03 |
| 76 | 38 | F1h7213.d | 1. | LCS-62952,,62952 | TPH F | 12 Nov 2011 06:23 |
| 77 | 39 | F1h7214.d | 1. | LCSD-62952,,62952 | TPH F | 12 Nov 2011 06:43 |
| 78 | 40 | F1h7215.d | 1. | K2334-01A,,62952 | TPH F | 12 Nov 2011 07:03 |
| 79 | 41 | F1h7216.d | 1. | K2334-02A,,62952 | TPH F | 12 Nov 2011 07:23 |
| 80 | 42 | F1h7217.d | 1. | K2334-03A,,62952 | TPH F | 12 Nov 2011 07:43 |
| 81 | 43 | F1h7218.d | 1. | K2334-04A,,62952 | TPH F | 12 Nov 2011 08:03 |
| 82 | 44 | F1h7219.d | 1. | K2334-05A,,62952 | TPH F | 12 Nov 2011 08:23 |
| 83 | 1 | F1h7220.d | 1. | FSTD1001A | TPH F CCAL L5 100... | 12 Nov 2011 08:43 |
| 84 | 96 | F1h7221.d | 1. | QC | TPH F | 12 Nov 2011 09:03 |
| 85 | 100 | F1h7222.d | 1. | IBLK | TPH F | 12 Nov 2011 09:23 |

Ver 11/14/11

**Client:** TETRA_NAVY

**Work Order:** K2139 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Aqueous**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 01A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 01A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 01B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 01B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 01B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 01B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 01B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02A | 003 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02A | 004 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 02B | 001 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 02B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 02B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02B | 003 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 02B | 003 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 02B | 003 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 02B | 004 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 02B | 004 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 02B | 004 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 03A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 03A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 03B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 03B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 03B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 03B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 03B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 04A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 04A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |

**Client:** TETRA_NAVY

**Work Order:** K2139 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Aqueous**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 04B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 04B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 04B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 04B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 04B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 05A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 05A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 05B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 05B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 05B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 05B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 05B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 06A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 06A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 06B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 06B | 001 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 06B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 06B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 06B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 07A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 07A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 07B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 07B | 001 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 07B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 07B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 07B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 08A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 08A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 09A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 09A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |

**Client:** TETRA_NAVY

**Work Order:** K2139 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Aqueous**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 09B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 09B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 09B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 09B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 09B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 10A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 10A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 10B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 10B | 001 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 10B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 10B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 10B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 11A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 11A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 11B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 11B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 11B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 11B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 11B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 12A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 12A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 12B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 12B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 12B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 12B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 12B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 13A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 13A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 13B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 13B | 001 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 13B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 13B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 13B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |

**Client:** TETRA_NAVY

**Work Order:** K2139 **Profile Name:** CTO-WE56_NSB-NLON

**MATRIX** **Aqueous**

| Samp # | Bottle | Test | Status | Received | Date |
|---|---|---|---|---|---|
| 14A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 14A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 14B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 14B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 14B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 14B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 14B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 15A | 001 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 15A | 002 | CTETPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 15B | 001 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 15B | 001 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |
| 15B | 002 | CTETPH_W | In | LOGIN: cnadeau | 10/27/2011 3:23:00 PM |
| 15B | 002 | CTETPH_W | Consumed | Courtney J Anderson | 10/31/2011 8:39:00 AM |
| 15B | 002 | MAVPH_W | In | LOGIN: sng | 10/26/2011 11:03:00 AM |

# Last Page of Data Report

# SPECTRUM ANALYTICAL, INC.

**Featuring**

## Hanibal Technology

**Quality Assurance/Quality Control Data Deliverable**

**Level IV**

## Prepared for

**Spectrum Analytical, Inc.-- RI Division**

**Project/Number: See Chain of Custody / K2139**

**Work Order: SB38520**

**SDG# 38520**

**Submitted on November 3rd, 2011**

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**Laboratory Name:** Spectrum Analytical, Inc. featuring Hanibal Technology
**City/Sate:** Agawam, MA
**Client Name:** Spectrum Analytical, Inc.-- RI Division
**Project Name/Number:** See Chain of Custody / K2139
**SDG#:** 38520
**Associated Work Orders:** SB38520


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NY Lab ID #11393/11840
FL Lab ID #E87600/E87936
NJ Lab ID#MA011/MA012

# SPECTRUM ANALYTICAL, INC.

**Featuring**

## Hanibal Technology

Spectrum Analytical, Inc.-- RI Division

Client Project: See Chain of Custody

Samples collected between October 24th, 2011 and October 25th, 2011

Project Number: K2139

Spectrum Analytical, Inc. Project ID: SB38520

11/28/2011

Prepared for: Spectrum Analytical, Inc.-- RI Division
175 Metro Center Boulevard
Warwick, RI 02886-1755
Attn: Edward Lawler

Prepared By: Spectrum Analytical, Inc.
830 Silver Street
Agawam, MA 01001
(800)789-9115

# SDG38520

## SB38520 General Narrative

Spectrum Analytical, Inc. submits the enclosed data for the site characterization of See Chain of Custody. Samples submitted for analysis by Spectrum Analytical, Inc.-- RI Division. This deliverable contains data for fifteen Aqueous samples submitted on November 3rd, 2011.

In addition to USEPA SW846 method analytical guidelines, the analysis was performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and within the guidelines established by the New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) requirements.

The following observations and/or deviations are observed for the following analyses:

### 1. Overall Observations:

All of the attached submittals are original other than logbook pages and copies of quality assurance data, which may may be shared by other cases. For these, the originals are archived within the laboratory.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.

Nicole Leja

Nicole Leja

Laboratory Director

Date: 11/28/2011

***SPECTRUM ANALYTICAL, INC.***

**Featuring**

***HANIBAL TECHNOLOGY***

# Sample Transmittal Documentation

✓ SB 38520 M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W |
|---|---|---|---|---|---|
| 06MW-04-111024 38520.01 | 10/24/2011 4:15:00 PM | Aqueous | | K2139-01A | X |
| 06MW-06-20111024 .02 | 10/24/2011 1:54:00 PM | Aqueous | X | K2139-02A | X |
| 06MW-08-20111024 .03 | 10/24/2011 3:34:00 PM | Aqueous | | K2139-03A | X |
| 06MW-10-20111024 .04 | 10/24/2011 12:15:00 PM | Aqueous | | K2139-04A | X |
| 06MW-11-111024 .05 | 10/24/2011 1:40:00 PM | Aqueous | | K2139-05A | X |
| 06MW-12-111024 .06 | 10/24/2011 3:00:00 PM | Aqueous | | K2139-06A | X |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | [signature] | 10/29/11 10:17 | **Received by:** | [signature] | 11-3-11 |
| **Relinquished by:** | [signature] | | **Received by:** | [signature] | 11/3/11 1425 |



175 Metro Center Blvd * Warwick * RI * 02886-1755 * 401-732-3400 * 401-732-3499
www.spectrum-analytical.com

SB 38520 M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06MWDUP01-111024 38520 .07 | 10/24/2011 | Aqueous | | K2139-07A | X | | | | | | | | | | |
| 06TBMW0-111024 .08 | 10/24/2011 | Aqueous | | K2139-08A | X | | | | | | | | | | |
| 06MW-01-111025 .09 | 10/25/2011 12:46:00 PM | Aqueous | | K2139-09A | X | | | | | | | | | | |
| 06MW-02-111025 .10 | 10/25/2011 10:38:00 AM | Aqueous | | K2139-10A | X | | | | | | | | | | |
| 06MW-03-111025 .11 | 10/25/2011 9:10:00 AM | Aqueous | | K2139-11A | X | | | | | | | | | | |
| 06MW-05-111025 .12 | 10/25/2011 9:20:00 AM | Aqueous | | K2139-12A | X | | | | | | | | | | |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| Relinquished by: | Edward A. Lawler | 10/29/11 10:17 | Received by: | [illegible] | 11-3-11 |
| Relinquished by: | [illegible] | | Received by: | [illegible] | 11/3/11 14:25 |



175 Metro Center Blvd * Warwick * RI * 02886-1755 * 401-732-3400 * 401-732-3499
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SB 38520M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06MW-07-111025 38520.13 | 10/25/2011 11:30:00 AM | Aqueous | | K2139-13A | X | | | | | | | | | | |
| 06MW-09-111025 14 | 10/25/2011 10:25:00 AM | Aqueous | | K2139-14A | X | | | | | | | | | | |
| 06MW-13-111025 15 | 10/25/2011 12:40:00 PM | Aqueous | | K2139-15A | X | | | | | | | | | | |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| Relinquished by: | Edward A Lawler | 10/29/11 10:17 | Received by: | | 11.3.11 |
| Relinquished by: | | | Received by: | | 11/3/11 1425 |

10/29/2011
Page 3 of 3
3.1

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***SPECTRUM ANALYTICAL, INC.***

**Featuring**

***HANIBAL TECHNOLOGY***

# Form 1 Summary Pack

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-04-111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-01 | | File ID: | 38520-01.D | |
| Sampled: | 10/24/11 16:15 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 13:59 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 55.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 72.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 36.0 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 55.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 109 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 6.8 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-06-20111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-02 | | File ID: | 38520-02.D | |
| Sampled: | 10/24/11 13:54 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 11:28 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 64.6 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 14.0 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.42 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 64.6 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 20.4 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-08-20111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-03 | | File ID: | 38520-03.D | |
| Sampled: | 10/24/11 15:34 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 14:29 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 48.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 9.40 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 4.46 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 48.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 13.9 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-10-20111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-04 | | File ID: | 38520-04.D | |
| Sampled: | 10/24/11 12:15 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 14:59 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 125 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 72.7 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 198 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 18.3 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-11-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-05 | File ID: | 38520-05.D |
| Sampled: | 10/24/11 13:40 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 15:30 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 55.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 146 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 85.0 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 55.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 231 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 10.9 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-12-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-06 | File ID: | 38520-06.D |
| Sampled: | 10/24/11 15:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 16:00 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 49.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 10.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 9.82 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 49.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 20.0 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MWDUP01-111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-07 | | File ID: | 38520-07.D | |
| Sampled: | 10/24/11 00:00 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 16:30 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 53.3 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 9.52 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.69 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 53.3 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 16.2 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06TBMW0-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-08 | File ID: | 38520-08.D |
| Sampled: | 10/24/11 00:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 13:28 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 8.53 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 4.22 µg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 1.12 µg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 8.53 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 4.68 µg/l | U |
| 71-43-2 | Benzene | 1 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 1 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 1 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 1 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-01-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-09 | | File ID: | 38520-09.D | |
| Sampled: | 10/25/11 12:46 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 17:01 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 118 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 796 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 509 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 288 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1310 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 44.2 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 128 µg/l | |
| 108-88-3 | Toluene | 5 | 16.7 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 58.3 µg/l | |
| 95-47-6 | o-Xylene | 5 | 50.5 µg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-02-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-10 | | File ID: | 38520-10.D | |
| Sampled: | 10/25/11 10:38 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 17:31 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 64.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 56.8 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 21.5 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 64.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 78.3 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 8.0 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-03-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-11 | | File ID: | 38520-11.D | |
| Sampled: | 10/25/11 09:10 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 18:02 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 138 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 714 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 459 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 406 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1170 µg/l | |
| 71-43-2 | Benzene | 5 | 39.5 µg/l | |
| 100-41-4 | Ethylbenzene | 5 | 73.7 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 155 µg/l | |
| 108-88-3 | Toluene | 5 | 12.0 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 109 µg/l | |
| 95-47-6 | o-Xylene | 5 | 33.8 µg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-05-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-12 | | File ID: | 38520-12.D | |
| Sampled: | 10/25/11 09:20 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 18:32 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 50.3 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 23.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 13.4 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 50.3 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 36.6 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-07-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-13 | | File ID: | 38520-13.D | |
| Sampled: | 10/25/11 11:30 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 19:02 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 53.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 15.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.46 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 53.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 21.7 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-09-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-14 | | File ID: | 38520-14.D | |
| Sampled: | 10/25/11 10:25 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 19:32 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 63.7 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 47.0 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 19.0 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 63.7 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 66.0 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-13-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-15 | | File ID: | 38520-15.D | |
| Sampled: | 10/25/11 12:40 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 20:03 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 62.2 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 27.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 8.20 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 63.8 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 36.1 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | J |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

*SPECTRUM ANALYTICAL, INC.*

**Featuring**

***HANIBAL TECHNOLOGY***

# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

# CROSS REFERENCE TABLE

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Project Number: | K2139 | | |

| Client Sample ID: | Lab Sample ID: |
|---|---|
| 06MW-04-111024 | SB38520-01 |
| 06MW-06-20111024 | SB38520-02 |
| 06MW-08-20111024 | SB38520-03 |
| 06MW-10-20111024 | SB38520-04 |
| 06MW-11-111024 | SB38520-05 |
| 06MW-12-111024 | SB38520-06 |
| 06MWDUP01-111024 | SB38520-07 |
| 06TBMW0-111024 | SB38520-08 |
| 06MW-01-111025 | SB38520-09 |
| 06MW-02-111025 | SB38520-10 |
| 06MW-03-111025 | SB38520-11 |
| 06MW-05-111025 | SB38520-12 |
| 06MW-07-111025 | SB38520-13 |
| 06MW-09-111025 | SB38520-14 |
| 06MW-13-111025 | SB38520-15 |

**CASE NARRATIVE**

**Spectrum Analytical, Inc. Lab Reference No. SB38520**

**Client: Spectrum Analytical, Inc.-- RI Division**

**Project: See Chain of Custody / K2139**

**SDG #: 38520**

## I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

## II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

## III. METHODS

Analyses were performed according to MADEP VPH 5/2004 Rev. 1.1.

## IV. PREPARATION

Aqueous samples were prepared according to VPH - EPA 5030B.

## V. INSTRUMENTATION

The following equipment was used to analyze MADEP VPH 5/2004 Rev. 1.1:

FID2 details: GC/FID/PID Tekmar Solatek 72 Multi-matrix vial autosampler Tekmar Velocity sample concentrator Supelco vocarb 3000 (K) trap and conditions used Hewlett Packard 6890N series gas chromatograph OI analytical Photo ionization detector and flame ionization detector Column – DB-MTBE, 30 meters, 0.45mm diameter 2.55um film

## VI. ANALYSIS

### A. Calibration:

All quality control samples were within the acceptance criteria.

### B. Blanks:

All blanks were within the acceptance criteria.

### C. Surrogates:

All method criteria were met.

### D. Spikes:

#### 1. Laboratory Control Samples (LCS):

All method criteria were met.

**2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):**

A matrix spike was analyzed:

In batch 1122848 from source sample 06MW-06-20111024 (SB38520-02).

All method criteria were met.

**E. Duplicates:**

A duplicate was analyzed.

In batch 1122848 from source sample 06MW-06-20111024 (SB38520-02).

All method criteria were met.

**F. Internal Standards:**

Internal standards were within the acceptance criteria.

**G. Samples:**

All method criteria were met.

# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## QC Summary

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 38520

Client: Spectrum Analytical, Inc.-- RI Division Project: See Chain of Custody

Spike ID: 11H0419

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1122848-BLK1)** | 108 | 105 | | | | | 0 |
| **LCS (1122848-BS1)** | 115 | 109 | | | | | 0 |
| **LCS Dup (1122848-BSD1)** | 109 | 103 | | | | | 0 |
| **Duplicate (1122848-DUP1)** | 117 | 112 | | | | | 0 |
| **Matrix Spike (1122848-MS1)** | 110 | 104 | | | | | 0 |
| **Calibration Check (S110143-CCV1)** | 98 | 95 | | | | | 0 |
| **Calibration Check (S110143-CCV2)** | 99 | 96 | | | | | 0 |
| **06MW-04-111024 (SB38520-01)** | 115 | 110 | | | | | 0 |
| **06MW-06-20111024 (SB38520-02)** | 121 | 118 | | | | | 0 |
| **06MW-08-20111024 (SB38520-03)** | 116 | 113 | | | | | 0 |
| **06MW-10-20111024 (SB38520-04)** | 117 | 114 | | | | | 0 |
| **06MW-11-111024 (SB38520-05)** | 122 | 115 | | | | | 0 |
| **06MW-12-111024 (SB38520-06)** | 117 | 110 | | | | | 0 |
| **06MWDUP01-111024 (SB38520-07)** | 115 | 110 | | | | | 0 |
| **06TBMW0-111024 (SB38520-08)** | 107 | 102 | | | | | 0 |
| **06MW-01-111025 (SB38520-09)** | 120 | 119 | | | | | 0 |
| **06MW-02-111025 (SB38520-10)** | 123 | 115 | | | | | 0 |
| **06MW-03-111025 (SB38520-11)** | 120 | 121 | | | | | 0 |
| **06MW-05-111025 (SB38520-12)** | 114 | 118 | | | | | 0 |
| **06MW-07-111025 (SB38520-13)** | 118 | 112 | | | | | 0 |
| **06MW-09-111025 (SB38520-14)** | 120 | 115 | | | | | 0 |
| **06MW-13-111025 (SB38520-15)** | 120 | 115 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values
* Values outside of QC limits

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1122848 | Laboratory ID: | 1122848-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 09:45 | Spike ID: | 11K0001 |
| | | File ID: | lcs1104a.D |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 49.6 µg/l | 83 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 61.0 µg/l | 102 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 193 µg/l | 97 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 82.2 µg/l | 103 | 70 - 130 |
| Benzene | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 21.9 µg/l | 110 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 14.1 µg/l | 71 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 24.3 µg/l | 121 | 70 - 130 |
| Toluene | 20.0 µg/l | 21.7 µg/l | 108 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 42.9 µg/l | 107 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 21.7 µg/l | 109 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 20.9 µg/l | 104 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 20.5 µg/l | 103 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 21.8 µg/l | 109 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 20.0 µg/l | 100 | 70 - 130 |
| n-Decane | 20.0 µg/l | 22.4 µg/l | 112 | 70 - 130 |

File ID: lcs1104b.D

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 50.8 µg/l | 85 | 2 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 59.8 µg/l | 100 | 2 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 20.6 µg/l | 103 | 3 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 195 µg/l | 98 | 1 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 80.3 µg/l | 100 | 2 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 21.2 µg/l | 106 | 0.05 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 22.1 µg/l | 110 | 0.7 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1122848 | Laboratory ID: | 1122848-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 10:14 | Spike ID: | 11K0001 |
| | | File ID: | lcs1104b.D |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 14.1 µg/l | 70 | 0.5 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 22.9 µg/l | 114 | 6 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 21.8 µg/l | 109 | 0.6 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 43.3 µg/l | 108 | 0.8 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 21.9 µg/l | 110 | 0.9 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 20.6 µg/l | 103 | 1 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 20.5 µg/l | 103 | 0.2 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 21.3 µg/l | 107 | 0.8 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 21.8 µg/l | 109 | 0.3 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 21.1 µg/l | 105 | 0.5 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 19.9 µg/l | 99 | 0.8 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 21.6 µg/l | 108 | 4 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIb (Organic) / FORM V (Inorganic)
# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

**06MW-06-20111024**

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1122848 | Laboratory ID: | 1122848-MS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 1 ml / 5 ml |
| Source Sample Name: | 06MW-06-20111024 | % Solids: | |
| | | Spike ID: | 11K0001 |
| | | File ID: | 38520-02m.D |

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | MS CONCENTRATION | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 12.9 µg/l | 56.3 | 72 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 2.80 µg/l | 65.1 | 104 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 1.28 µg/l | 22.5 | 106 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 12.9 µg/l | 216 | 101 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 4.08 µg/l | 87.5 | 104 | 70 - 130 |
| Benzene | 20.0 µg/l | BRL µg/l | 23.2 | 116 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | BRL µg/l | 24.0 | 120 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | BRL µg/l | 16.9 | 85 | 70 - 130 |
| Naphthalene | 20.0 µg/l | BRL µg/l | 23.1 | 116 | 70 - 130 |
| Toluene | 20.0 µg/l | BRL µg/l | 24.5 | 123 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | BRL µg/l | 46.9 | 117 | 70 - 130 |
| o-Xylene | 20.0 µg/l | BRL µg/l | 23.8 | 119 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | BRL µg/l | 23.1 | 116 | 70 - 130 |
| n-Nonane | 20.0 µg/l | BRL µg/l | 24.3 | 122 | 70 - 130 |
| n-Pentane | 20.0 µg/l | BRL µg/l | 22.9 | 114 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | BRL µg/l | 23.7 | 118 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | BRL µg/l | 24.4 | 122 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | BRL µg/l | 23.5 | 118 | 70 - 130 |
| n-Decane | 20.0 µg/l | BRL µg/l | 25.4 | 127 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

# FORM IIIc - DUPLICATES

**06MW-06-20111024**

## MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA
Client: Spectrum Analytical, Inc.-- RI Division
Matrix: Aqueous
Batch: 1122848
Preparation: VPH - EPA 5030B
Source Sample Name: 06MW-06-20111024

SDG: 38520
Project: See Chain of Custody
Laboratory ID: 1122848-DUP1
Lab Source ID: SB38520-02
Initial/Final: 5 ml / 5 ml
% Solids:
File ID: 38520-02d.D

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION | C | DUPLICATE CONCENTRATION | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 50 | 64.6 µg/l | | 66.9 µg/l | | 3 | | MADEP VPH 5/2004 Rev. 1.1 |
| C9-C12 Aliphatic Hydrocarbons | 50 | 14.0 µg/l | | 13.5 µg/l | | 3 | | MADEP VPH 5/2004 Rev. 1.1 |
| C9-C10 Aromatic Hydrocarbons | 50 | 6.42 µg/l | | 6.10 µg/l | | 5 | | MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C5-C8 Aliphatic Hydrocarl | 50 | 64.6 µg/l | | 66.9 µg/l | | 3 | | MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C9-C12 Aliphatic Hydroca | 50 | 20.4 µg/l | | 19.6 µg/l | | 4 | | MADEP VPH 5/2004 Rev. 1.1 |
| Benzene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Ethylbenzene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Methyl tert-butyl ether | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Naphthalene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Toluene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| m,p-Xylene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| o-Xylene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IV - METHOD BLANK SUMMARY

**1122848-BLK1**

## MADEP VPH 5/2004 Rev. 1.1

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | SDG: | 38520 | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | Project: | See Chain of Custody | |
| Matrix: | Aqueous | Laboratory ID: | 1122848-BLK1 | File ID: | blk1104c.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 08:47 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1122848-BLK1 | blk1104c.D | 11/04/11 | 8:47 |
| LCS | 1122848-BS1 | lcs1104a.D | 11/04/11 | 9:45 |
| LCS Dup | 1122848-BSD1 | lcs1104b.D | 11/04/11 | 10:14 |
| 06MW-06-20111024 | SB38520-02 | 38520-02.D | 11/04/11 | 11:28 |
| Duplicate | 1122848-DUP1 | 38520-02d.D | 11/04/11 | 11:59 |
| Matrix Spike | 1122848-MS1 | 38520-02m.D | 11/04/11 | 12:27 |
| 06TBMW0-111024 | SB38520-08 | 38520-08.D | 11/04/11 | 13:28 |
| 06MW-04-111024 | SB38520-01 | 38520-01.D | 11/04/11 | 13:59 |
| 06MW-08-20111024 | SB38520-03 | 38520-03.D | 11/04/11 | 14:29 |
| 06MW-10-20111024 | SB38520-04 | 38520-04.D | 11/04/11 | 14:59 |
| 06MW-11-111024 | SB38520-05 | 38520-05.D | 11/04/11 | 15:30 |
| 06MW-12-111024 | SB38520-06 | 38520-06.D | 11/04/11 | 16:00 |
| 06MWDUP01-111024 | SB38520-07 | 38520-07.D | 11/04/11 | 16:30 |
| 06MW-01-111025 | SB38520-09 | 38520-09.D | 11/04/11 | 17:01 |
| 06MW-02-111025 | SB38520-10 | 38520-10.D | 11/04/11 | 17:31 |
| 06MW-03-111025 | SB38520-11 | 38520-11.D | 11/04/11 | 18:02 |
| 06MW-05-111025 | SB38520-12 | 38520-12.D | 11/04/11 | 18:32 |
| 06MW-07-111025 | SB38520-13 | 38520-13.D | 11/04/11 | 19:02 |
| 06MW-09-111025 | SB38520-14 | 38520-14.D | 11/04/11 | 19:32 |
| 06MW-13-111025 | SB38520-15 | 38520-15.D | 11/04/11 | 20:03 |

# FORM VIIIa - INTERNAL STANDARD AREA AND RT SUMMARY

Laboratory: SDG:

Client: Project:

Sequence: Instrument:

Matrix: Calibration:

Analyzed: File ID:

| | IS1 Area # | RT # | IS2 Area # | RT # | IS3 Area # | RT # | IS4 Area # | RT # | IS5 Area # | RT # | IS6 Area # | RT # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Column to be used to flag internal standard area values
* Values outside of QC limits

Area Upper Limit = 200% of internal standard area
Area Lower Limit = 50% of internal standard area
RT Limit = +/- 0.50

# Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

## MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA **SDG:** 38520

**Client:** Spectrum Analytical, Inc.-- RI Division **Project:** See Chain of Custody

**Matrix:** Aqueous

| Analyte | MDL | MRL | Units |
|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 1.11 | 15.0 | µg/l |
| C9-C12 Aliphatic Hydrocarbons | 0.844 | 5.00 | µg/l |
| C9-C10 Aromatic Hydrocarbons | 0.224 | 5.00 | µg/l |
| Unadjusted C5-C8 Aliphatic Hydrocarbo | 1.42 | 15.0 | µg/l |
| Unadjusted C9-C12 Aliphatic Hydrocarb | 0.936 | 5.00 | µg/l |
| Benzene | 0.3 | 1.0 | µg/l |
| Ethylbenzene | 0.3 | 1.0 | µg/l |
| Methyl tert-butyl ether | 0.3 | 1.0 | µg/l |
| Naphthalene | 0.2 | 1.0 | µg/l |
| Toluene | 0.3 | 1.0 | µg/l |
| m,p-Xylene | 0.6 | 2.0 | µg/l |
| o-Xylene | 0.2 | 1.0 | µg/l |
| 2-Methylpentane | 0.5 | 1.0 | µg/l |
| n-Nonane | 0.4 | 2.0 | µg/l |
| n-Pentane | 0.2 | 2.0 | µg/l |
| 1,2,4-Trimethylbenzene | 0.2 | 1.0 | µg/l |
| 2,2,4-Trimethylpentane | 0.3 | 1.0 | µg/l |
| n-Butylcyclohexane | 0.3 | 1.0 | µg/l |
| n-Decane | 0.5 | 1.0 | µg/l |

# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Sample Data

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-04-111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-01 | | File ID: | 38520-01.D | |
| Sampled: | 10/24/11 16:15 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 13:59 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 55.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 72.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 36.0 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 55.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 109 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 6.8 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-01.D Vial: 9
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 1:59 pm Operator: mp
Sample : sb38520-01 @ 06mw-04-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 13:19:01 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 6.00 | 737953 | 423 | 6.350m | NoCal | # |
| 2) | C9-C10 Aromatic | 12.99 | 13.36 | 935 | 45044 | NoCal | 0.712 | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.36 | 605651 | 45044 | 19.583m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.78 | 4.77f | 1118 | 1170 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.00 | 2297 | 423 | <MDL | NoCal | # |
| 9) | Toluene | 7.75 | 7.75 | 1126 | 202 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.88 | 9.89 | 817 | 816 | NoCal | <MDL | |
| 11) | m,p-Xylene | 9.99f | 9.98f | 2018 | 4081 | NoCal | <MDL | |
| 12) | o-Xylene | 10.62 | 10.62 | 1874 | 610 | NoCal | <MDL | |
| 13) | n-Nonane | 10.62f | 10.73 | 1874 | 592 | <MDL | NoCal | # |
| 14) | n-Decane | 12.67 | 12.53 | 5139 | 6224 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.20 | 13.36 | 4891 | 45044 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.54 | 12.53 | 3706 | 6224 | NoCal | <MDL | |
| 17) | Naphthalene | 15.65 | 15.65 | 8965 | 17124 | NoCal | 0.312 | |

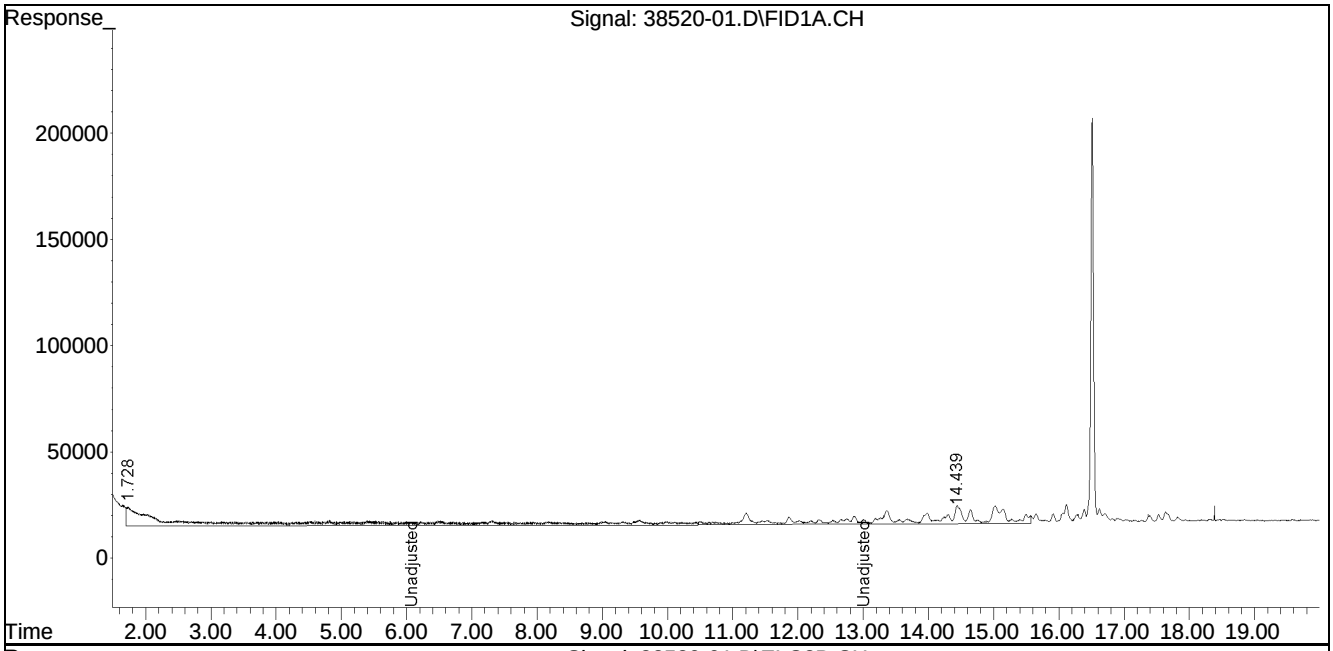
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

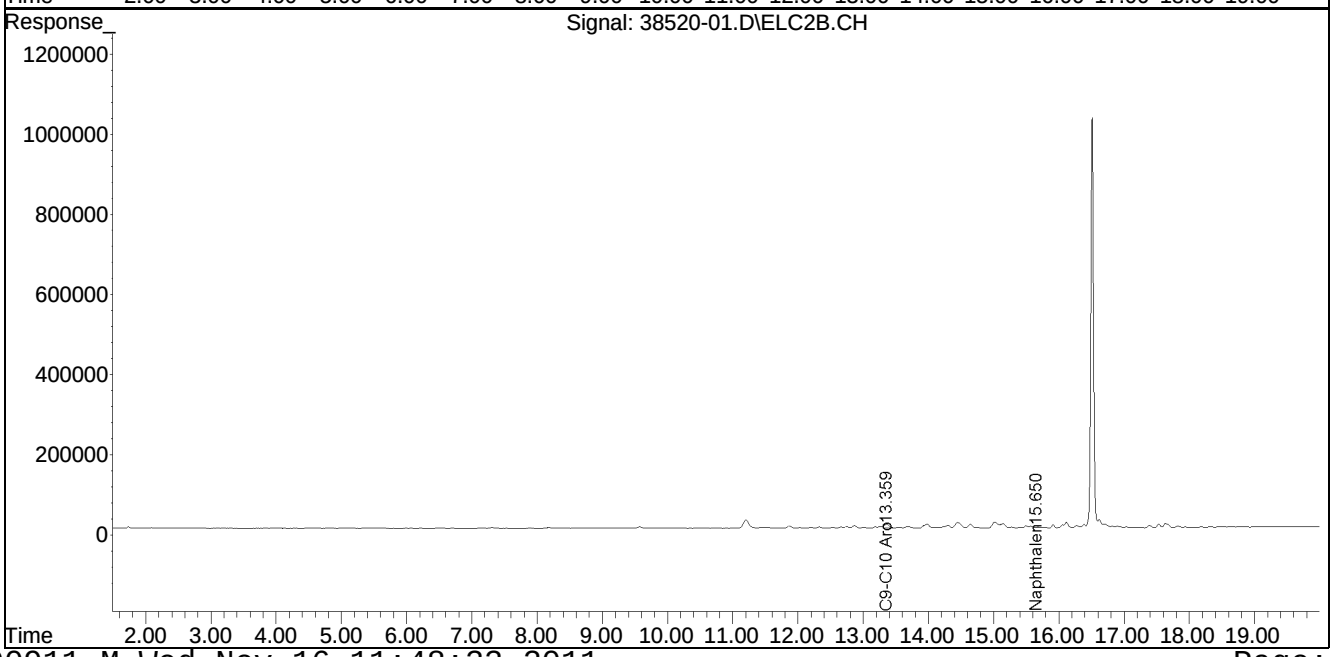
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-01.D Vial: 9
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 1:59 pm Operator: mp
Sample : sb38520-01 @ 06mw-04-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 13:19:01 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-06-20111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-02 | | File ID: | 38520-02.D | |
| Sampled: | 10/24/11 13:54 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 11:28 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 64.6 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 14.0 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.42 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 64.6 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 20.4 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-02.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 11:28 am Operator: mp
Sample : sb38520-02 @ 06mw-06-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 10:48:43 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 5.99 | 1141835 | 47 | 13.236m | NoCal | # |
| 2) | C9-C10 Aromatic | 12.93 | 0.00 | 506 | 0 | NoCal | N.D. | |
| 3) | Unadjusted C9-C1 | 13.03 | 0.00 | 522777 | 0 | 16.904m | N.D. | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 3.05 | 0 | 653 | N.D. | NoCal | |
| 7) | Benzene | 0.00 | 4.88 | 0 | 110 | N.D. | <MDL | |
| 8) | 2,2,4-Trimethylp | 0.00 | 5.99 | 0 | 47 | N.D. | NoCal | |
| 9) | Toluene | 7.79 | 0.00 | 1748 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.90 | 0.00 | 612 | 0 | NoCal | N.D. | |
| 11) | m,p-Xylene | 10.06 | 0.00 | 1784 | 0 | NoCal | N.D. | |
| 12) | o-Xylene | 10.51 | 0.00 | 1405 | 0 | NoCal | N.D. | |
| 13) | n-Nonane | 10.79 | 0.00 | 353 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.74 | 12.42 | 962 | 853 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.33 | 0.00 | 728 | 0 | <MDL | N.D. | # |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.42f | 0 | 853 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.50f | 0 | 3116 | N.D. | <MDL | |

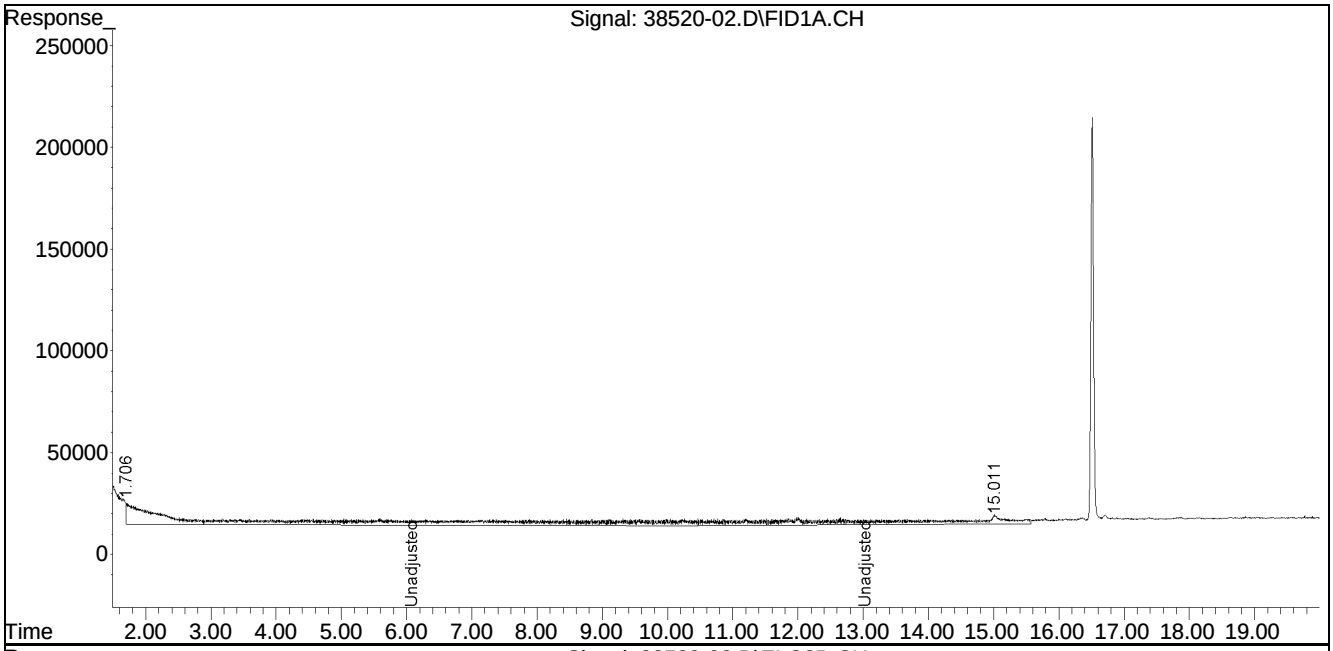
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

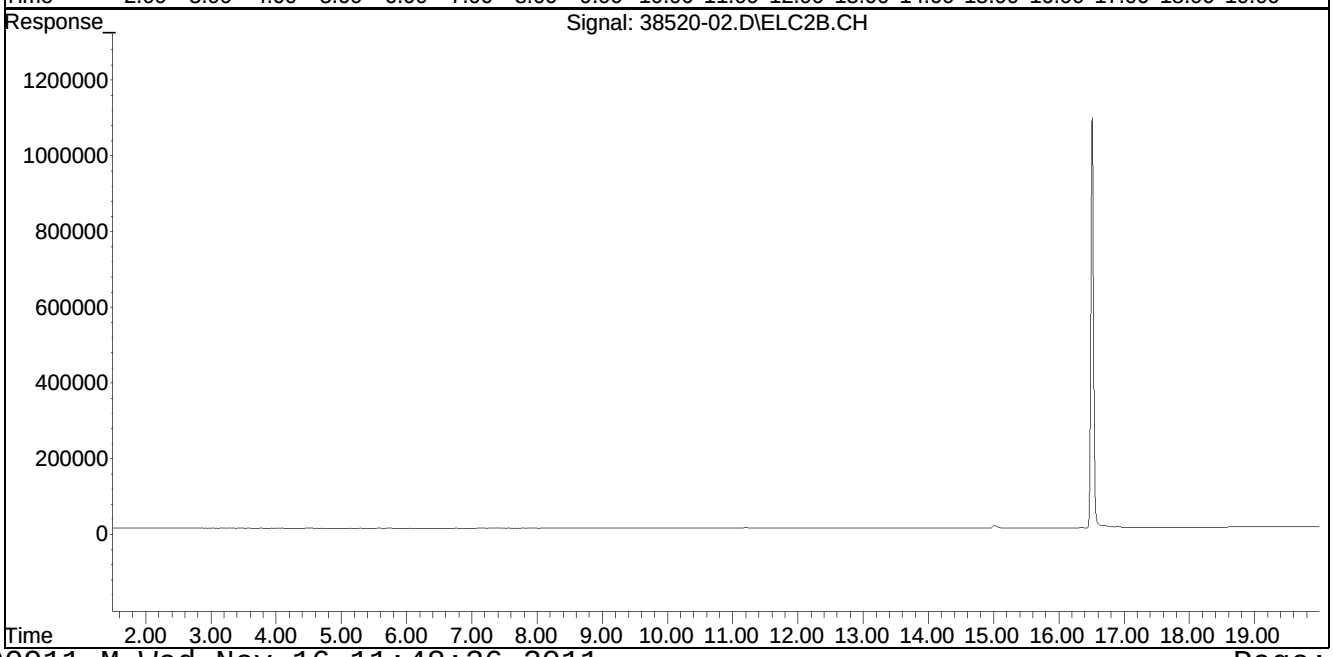
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-02.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 11:28 am Operator: mp
Sample : sb38520-02 @ 06mw-06-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 10:48:43 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-08-20111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-03 | | File ID: | 38520-03.D | |
| Sampled: | 10/24/11 15:34 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 14:29 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 48.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 9.40 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 4.46 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 48.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 13.9 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-03.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 2:29 pm Operator: mp
Sample : sb38520-03 @ 06mw-08-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 13:49:23 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 6.00 | 675933 | 195 | 5.293m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.34 | 13.19 | 714 | 381 | NoCal | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.19 | 191913 | 381 | 6.205m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.87 | 0.00 | 834 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 6.04 | 6.00 | 912 | 195 | <MDL | NoCal | # |
| 9) | Toluene | 7.77 | 7.76 | 1106 | 122 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.80 | 9.81 | 766 | 1412 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.09 | 10.19 | 1190 | 40 | NoCal | <MDL | |
| 12) | o-Xylene | 10.64 | 10.40f | 684 | 554 | NoCal | <MDL | |
| 13) | n-Nonane | 10.75 | 10.81 | 986 | 31 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.52 | 0 | 225 | N.D. | NoCal | |
| 15) | n-Butylcyclohexa | 13.34 | 13.19 | 714 | 381 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.52 | 0 | 225 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.64 | 0 | 295 | N.D. | <MDL | |

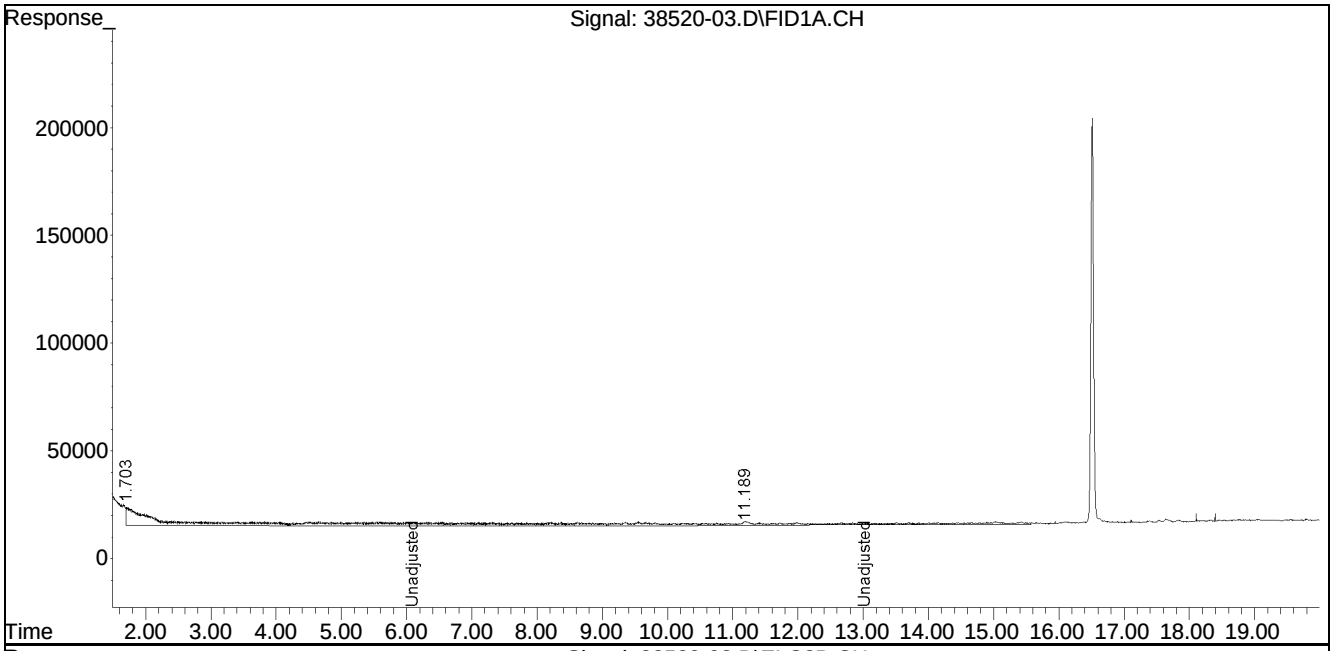
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

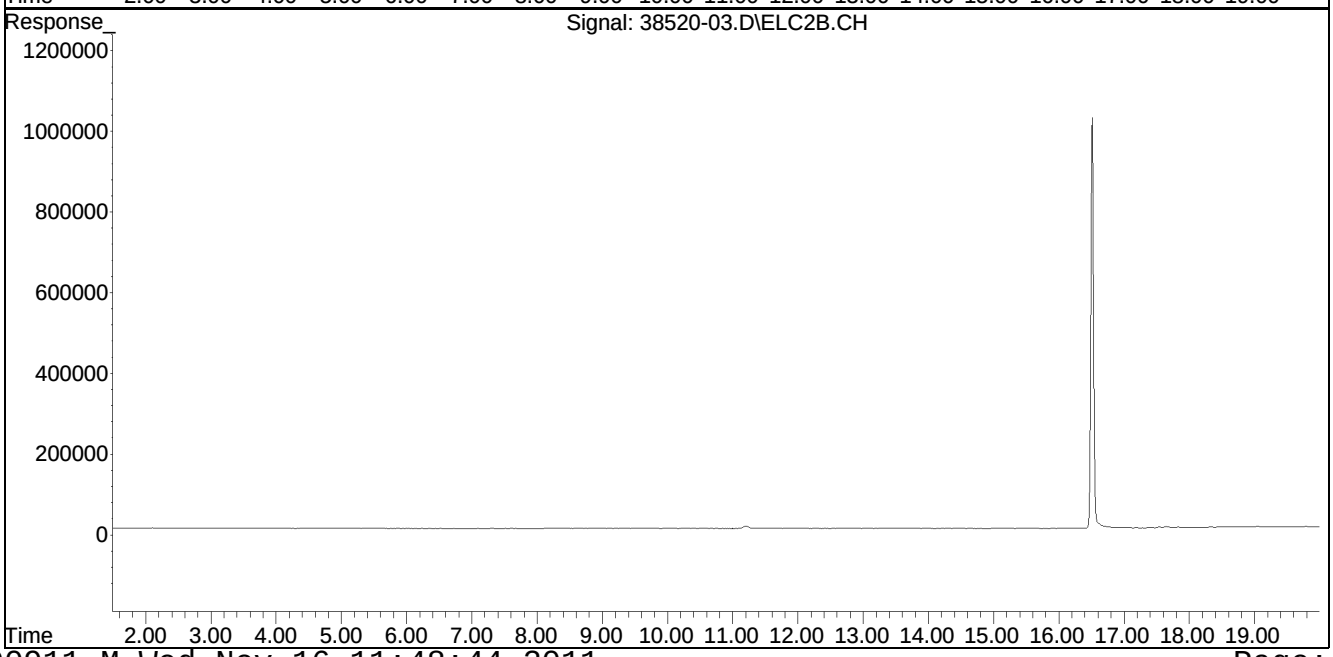
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-03.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 2:29 pm Operator: mp
Sample : sb38520-03 @ 06mw-08-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 13:49:23 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-10-20111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-04 | | File ID: | 38520-04.D | |
| Sampled: | 10/24/11 12:15 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 14:59 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 125 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 72.7 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 198 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 18.3 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-04.D Vial: 11
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 2:59 pm Operator: mp
Sample : sb38520-04 @ 06mw-10-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 14:19:42 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.17f | 17.17f | 8748 | 19263 | 0.779 | 0.391 | # |
| | Spiked Amount 50.000 | | | | Recovery = | 1.56% | 0.78% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 6.00 | 704044 | 1160 | 5.772m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.18 | 13.36 | 18532 | 222846 | NoCal | 3.520 | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.36 | 1297652 | 222846 | 41.959m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.81 | 4.92 | 1173 | 689 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.99 | 6.00 | 1632 | 1160 | <MDL | NoCal | # |
| 9) | Toluene | 7.71 | 7.78 | 738 | 61 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.73f | 9.93 | 686 | 828 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.03 | 10.03 | 913 | 510 | NoCal | <MDL | |
| 12) | o-Xylene | 10.49 | 10.50 | 14244 | 27107 | NoCal | 0.451 | |
| 13) | n-Nonane | 10.71 | 10.81 | 599 | 67 | <MDL | NoCal | # |
| 14) | n-Decane | 12.65 | 12.53 | 16152 | 196359 | 0.561 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.36 | 13.36 | 128454 | 222846 | 3.979 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 99641 | 196359 | NoCal | 3.102 | |
| 17) | Naphthalene | 15.65 | 15.65 | 23888 | 42921 | NoCal | 0.781 | |

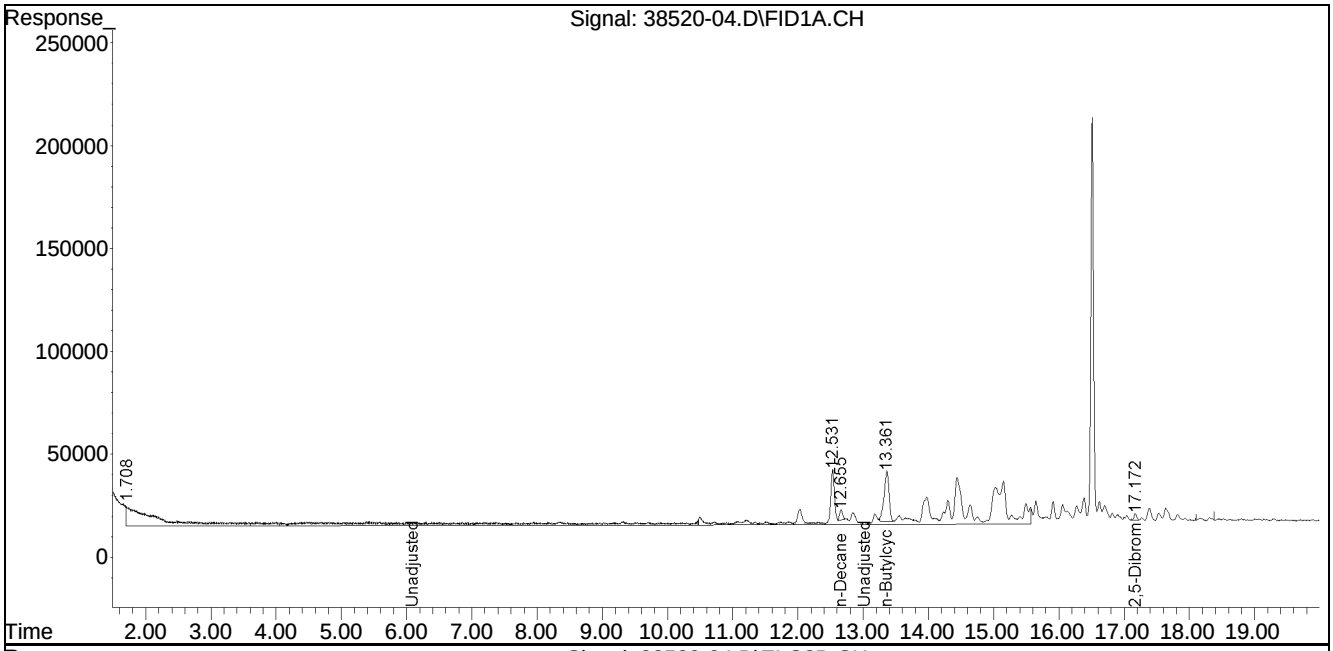
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

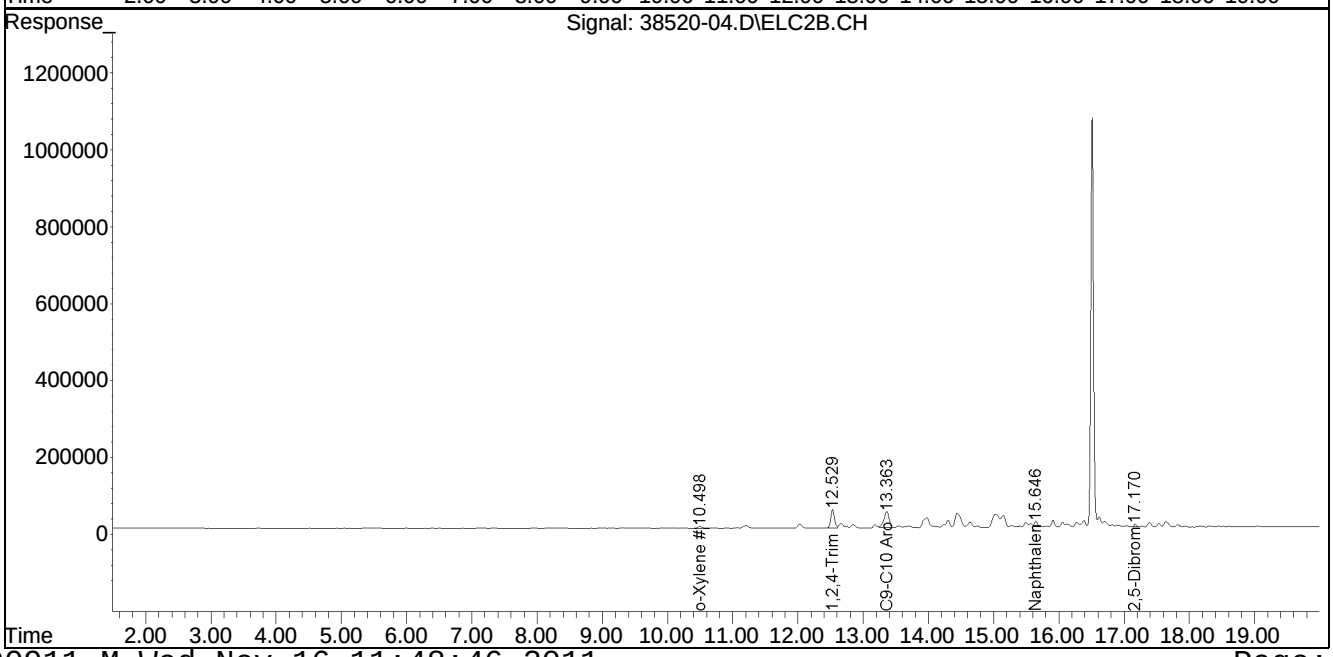
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-04.D Vial: 11
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 2:59 pm Operator: mp
Sample : sb38520-04 @ 06mw-10-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 14:19:42 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-11-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-05 | File ID: | 38520-05.D |
| Sampled: | 10/24/11 13:40 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 15:30 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 55.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 146 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 85.0 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 55.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 231 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 10.9 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-05.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 3:30 pm Operator: mp
Sample : sb38520-05 @ 06mw-11-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 14:50:13 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.17f | 17.17f | 6462 | 14597 | 0.575 | <MDL | # |
| | Spiked Amount 50.000 | | | Recovery | = | 1.15% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 6.10 | 709395 | 67 | 5.864m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.18 | 13.35 | 28848 | 180477 | NoCal | 2.851 | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.35 | 1259563 | 180477 | 40.727m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 2.95 | 0 | 130 | N.D. | NoCal | |
| 7) | Benzene | 4.83 | 4.83 | 930 | 76 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.01 | 6.10f | 1005 | 67 | <MDL | NoCal | # |
| 9) | Toluene | 7.79 | 0.00 | 868 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.87 | 0.00 | 814 | 0 | NoCal | N.D. | |
| 11) | m,p-Xylene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 12) | o-Xylene | 10.50 | 10.50 | 14835 | 25089 | NoCal | 0.417 | |
| 13) | n-Nonane | 10.69f | 0.00 | 1023 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.66 | 12.53 | 13431 | 52685 | 0.466 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.36 | 13.35 | 104943 | 180477 | 3.250 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 25142 | 52685 | NoCal | 0.832 | |
| 17) | Naphthalene | 15.65 | 15.65 | 16709 | 29535 | NoCal | 0.537 | |

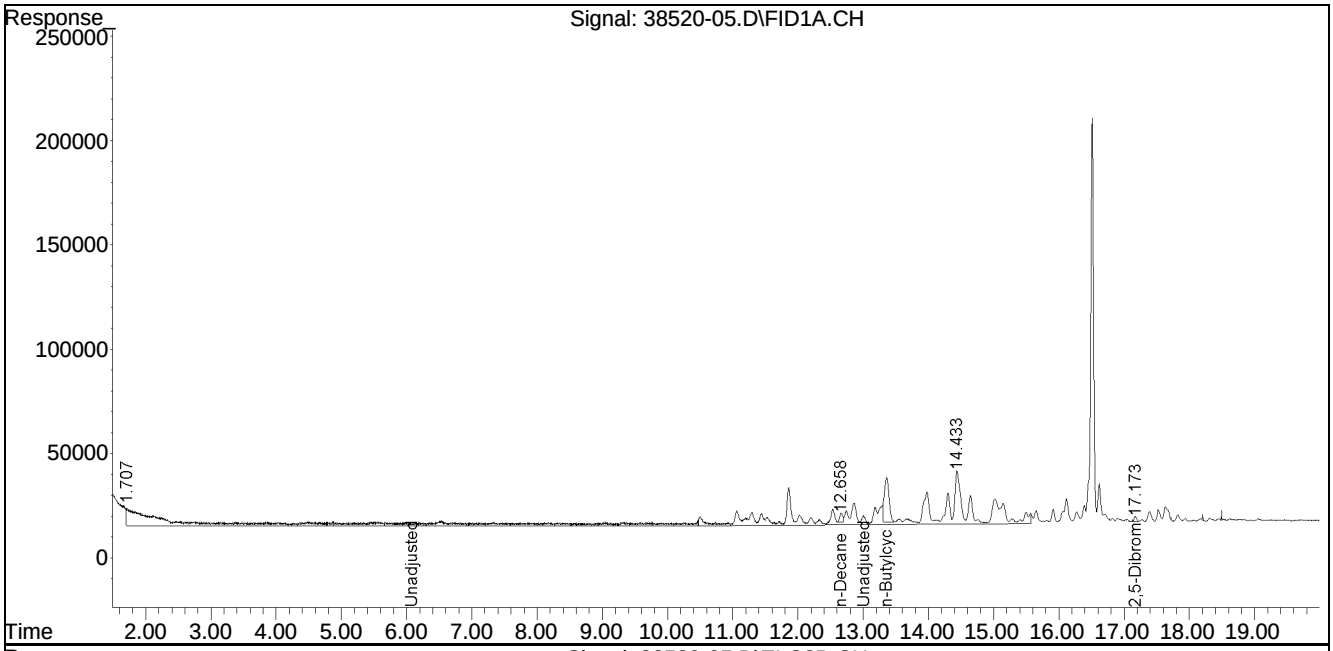
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

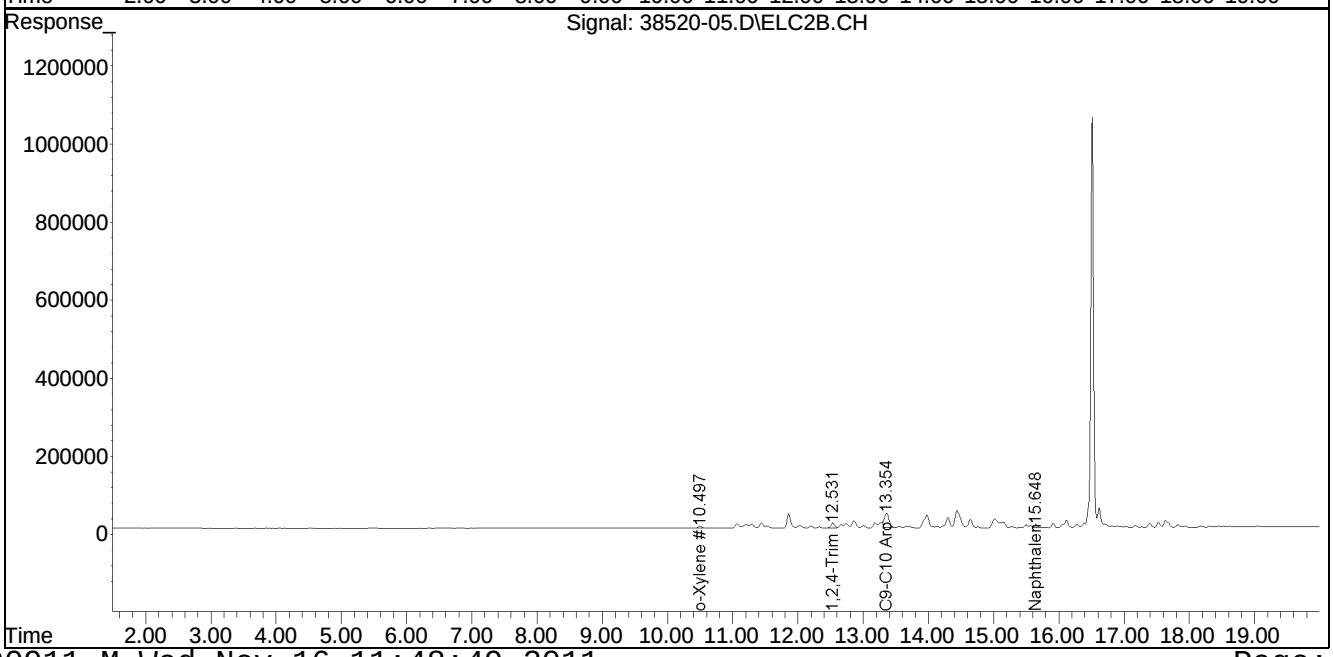
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-05.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 3:30 pm Operator: mp
Sample : sb38520-05 @ 06mw-11-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 14:50:13 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-12-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-06 | File ID: | 38520-06.D |
| Sampled: | 10/24/11 15:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 16:00 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 49.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 10.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 9.82 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 49.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 20.0 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-06.D Vial: 13
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 4:00 pm Operator: mp
Sample : sb38520-06 @ 06mw-12-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 15:20:36 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 17.18f | 0 | 4344 | N.D. | <MDL | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 6.12 | 702618 | 1125 | 5.748m | NoCal | # |
| 2) | C9-C10 Aromatic | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 3) | Unadjusted C9-C1 | 13.03 | 0.00 | 202732 | 0 | 6.555m | N.D. | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.69 | 0.00 | 849 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.69 | 0.00 | 849 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.90 | 4.90 | 3633 | 618 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.00 | 6.12f | 1994 | 1125 | <MDL | NoCal | # |
| 9) | Toluene | 7.67 | 7.62f | 698 | 201 | NoCal | <MDL | |
| 10) | Ethylbenzene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 11) | m,p-Xylene | 0.00 | 10.29f | 0 | 132 | N.D. | <MDL | |
| 12) | o-Xylene | 10.52 | 10.58 | 815 | 74 | NoCal | <MDL | |
| 13) | n-Nonane | 10.75 | 10.76 | 982 | 456 | <MDL | NoCal | # |
| 14) | n-Decane | 12.77 | 12.66 | 971 | 2151 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.66f | 0 | 2151 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.75 | 0 | 75 | N.D. | <MDL | |

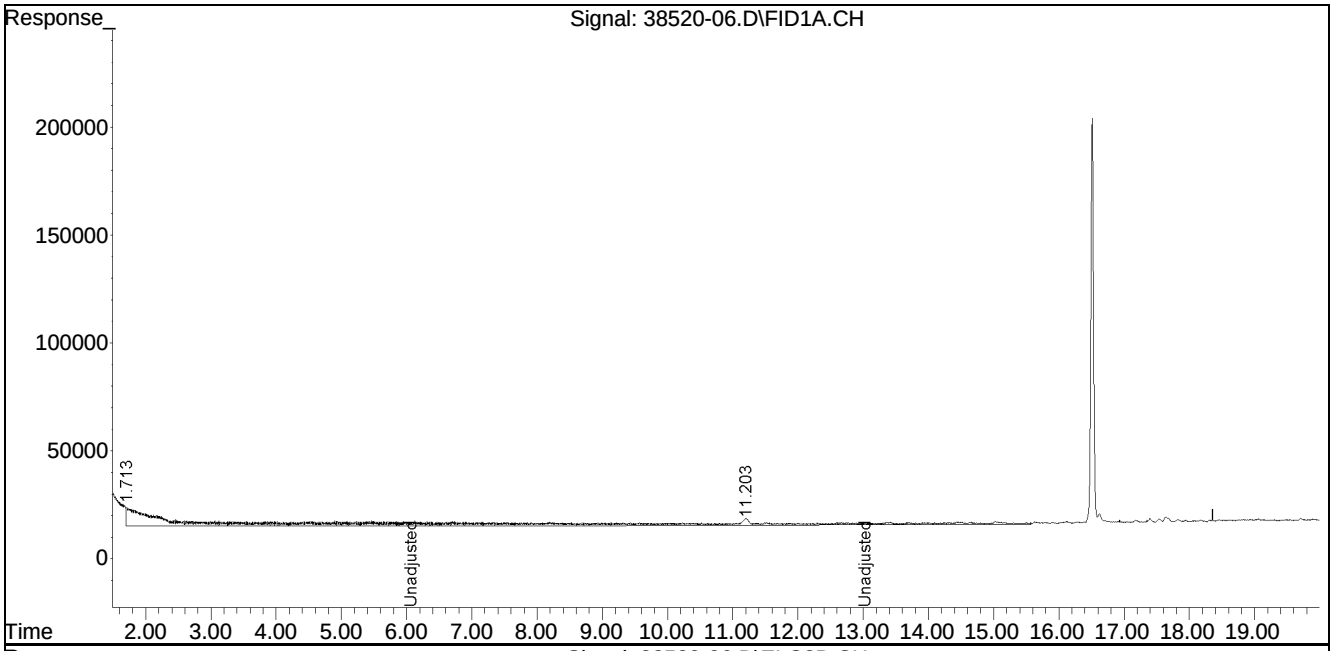
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

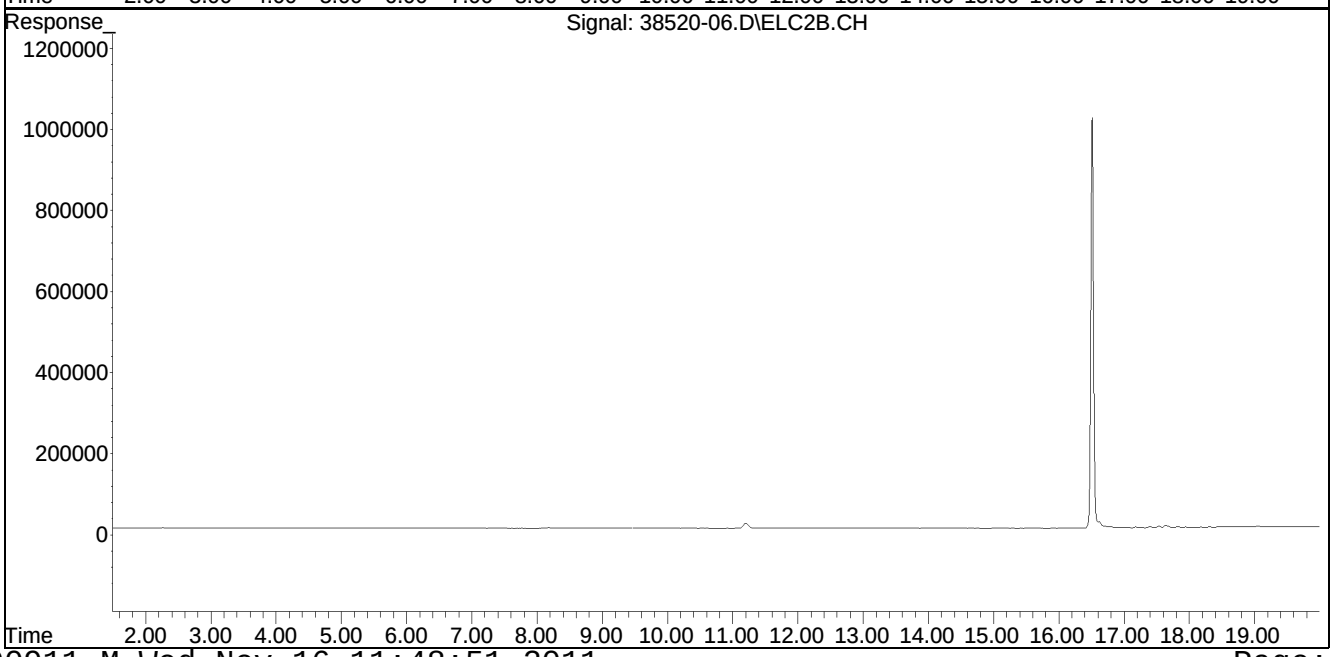
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-06.D Vial: 13
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 4:00 pm Operator: mp
Sample : sb38520-06 @ 06mw-12-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 15:20:36 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MWDUP01-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-07 | File ID: | 38520-07.D |
| Sampled: | 10/24/11 00:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 16:30 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 53.3 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 9.52 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.69 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 53.3 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 16.2 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-07.D Vial: 14
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 4:30 pm Operator: mp
Sample : sb38520-07 @ 06mwdup01-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 15:50:57 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 668217 | 0 | 5.162m | N.D. | # |
| 2) | C9-C10 Aromatic | 0.00 | 13.35 | 0 | 114 | N.D. | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.35 | 176722 | 114 | 5.714m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.90 | 0.00 | 2244 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 5.99 | 0.00 | 1213 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.71 | 7.81 | 680 | 343 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.96f | 9.99f | 737 | 770 | NoCal | <MDL | |
| 11) | m,p-Xylene | 9.96f | 9.99f | 737 | 770 | NoCal | <MDL | |
| 12) | o-Xylene | 10.64 | 10.59 | 1585 | 141 | NoCal | <MDL | |
| 13) | n-Nonane | 10.64f | 10.84 | 1585 | 114 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.52 | 0 | 132 | N.D. | NoCal | |
| 15) | n-Butylcyclohexa | 0.00 | 13.35 | 0 | 114 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.52 | 0 | 132 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.66 | 0 | 201 | N.D. | <MDL | |

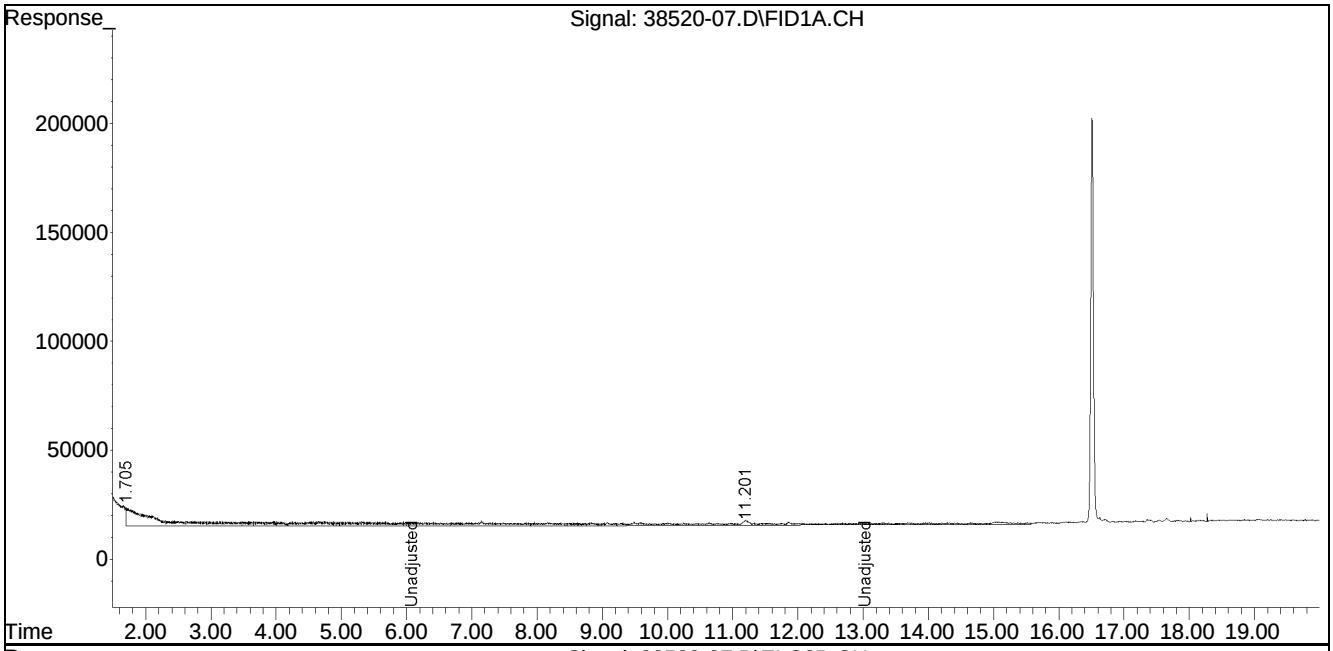
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

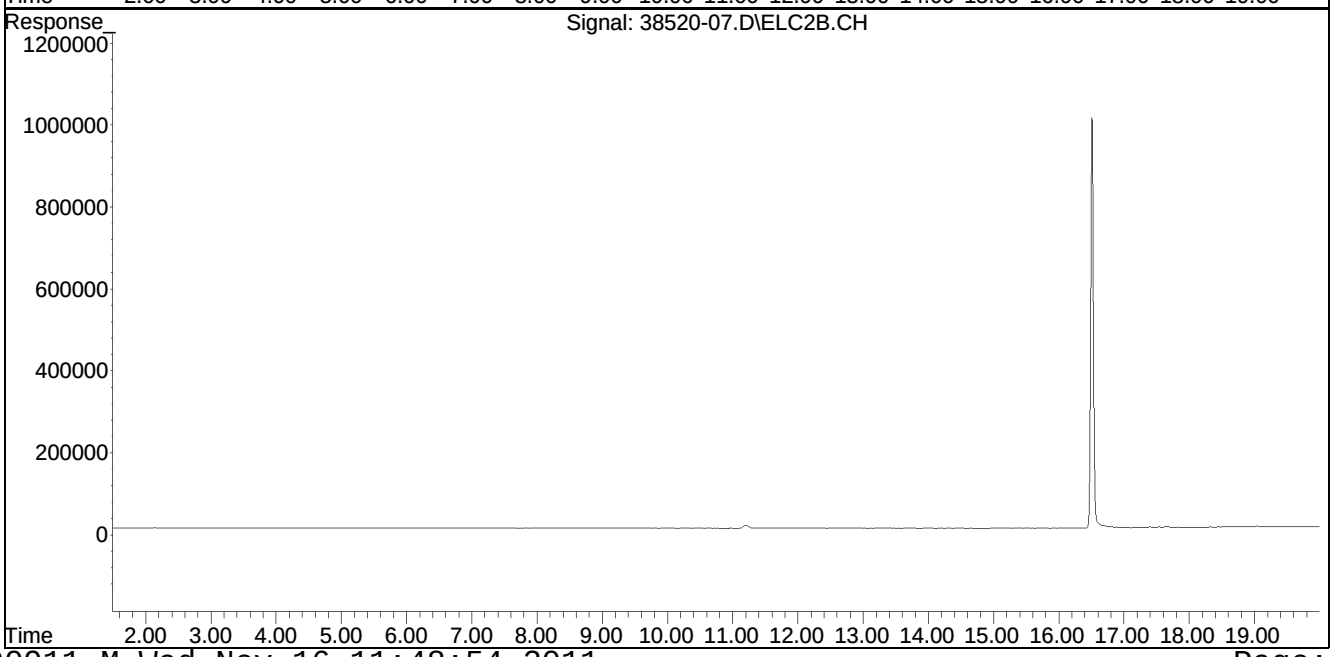
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-07.D Vial: 14
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 4:30 pm Operator: mp
Sample : sb38520-07 @ 06mwdup01-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 15:50:57 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06TBMW0-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-08 | File ID: | 38520-08.D |
| Sampled: | 10/24/11 00:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 13:28 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 8.53 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 4.22 µg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 1.12 µg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 8.53 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 4.68 µg/l | U |
| 71-43-2 | Benzene | 1 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 1 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 1 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 1 | 1.1 µg/l | U |

Quantitation Report (QT Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-08.D Vial: 8
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 1:28 pm Operator: mp
Sample : sb38520-08 @ 06tbmw0-20111024 r-- vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 12:48:38 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 696131 | 0 | 5.637m | N.D. | # |
| 2) | C9-C10 Aromatic | 13.08 | 0.00 | 543 | 0 | NoCal | N.D. | |
| 3) | Unadjusted C9-C1 | 13.03 | 0.00 | 198177 | 0 | 6.408m | N.D. | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.75 | 0.00 | 576 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.75 | 0.00 | 576 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.83 | 4.89 | 805 | 15 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 1005 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.74 | 7.92f | 509 | 591 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.71f | 0.00 | 546 | 0 | NoCal | N.D. | |
| 11) | m,p-Xylene | 10.09 | 0.00 | 534 | 0 | NoCal | N.D. | |
| 12) | o-Xylene | 10.63 | 0.00 | 463 | 0 | NoCal | N.D. | |
| 13) | n-Nonane | 10.77 | 0.00 | 861 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.63 | 0.00 | 542 | 0 | <MDL | N.D. | # |
| 15) | n-Butylcyclohexa | 13.08f | 0.00 | 543 | 0 | <MDL | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.52 | 0.00 | 754 | 0 | NoCal | N.D. | |
| 17) | Naphthalene | 0.00 | 15.63 | 0 | 64 | N.D. | <MDL | |

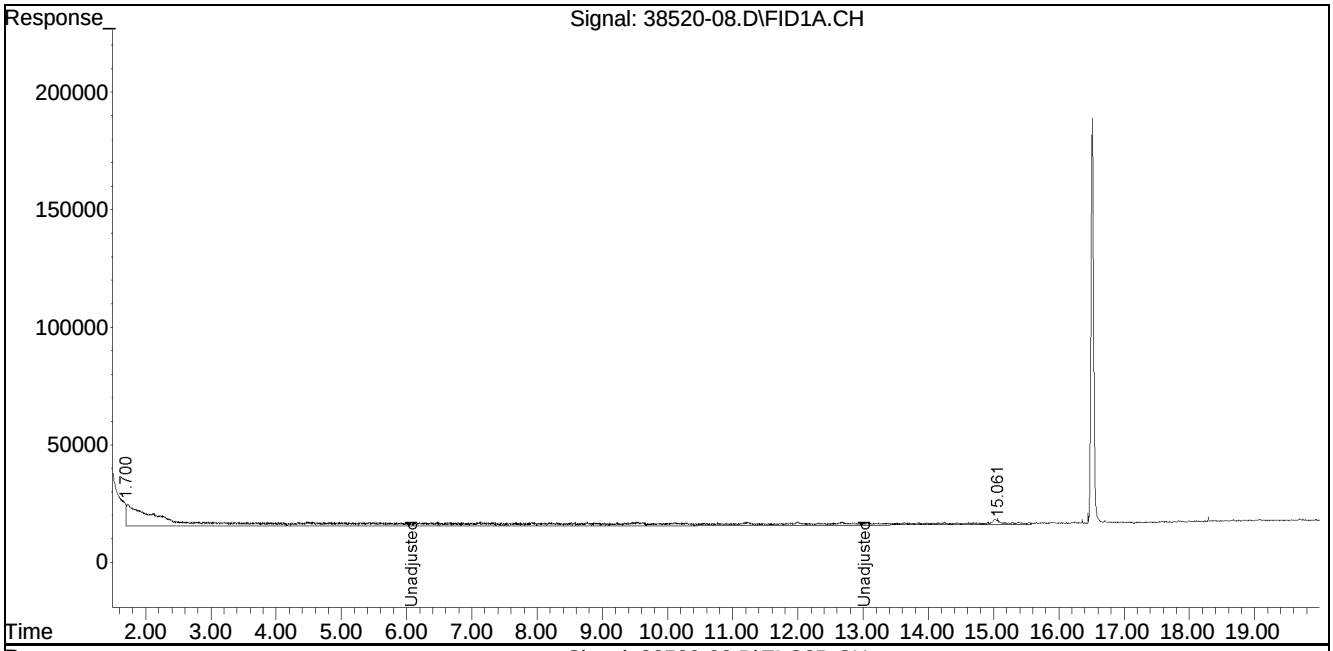
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

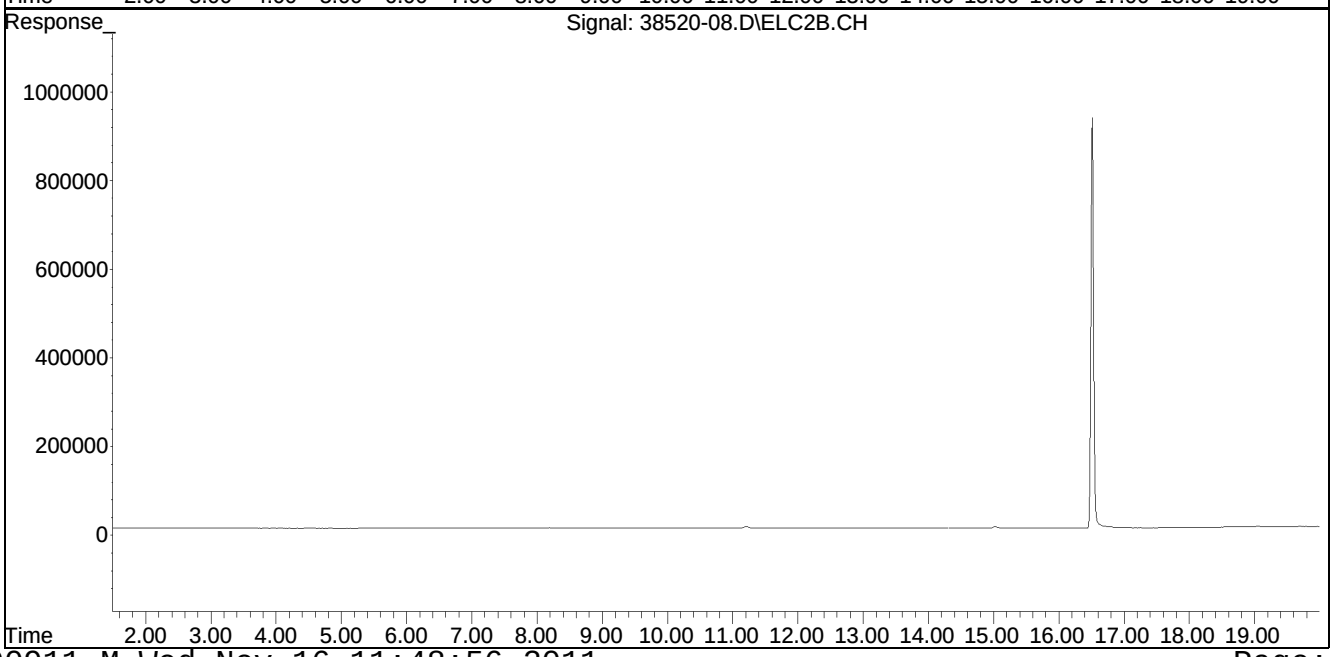
Quantitation Report (QT Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-08.D Vial: 8
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 1:28 pm Operator: mp
Sample : sb38520-08 @ 06tbmw0-20111024 r-- vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 12:48:38 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-01-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-09 | | File ID: | 38520-09.D | |
| Sampled: | 10/25/11 12:46 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 17:01 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 118 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 796 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 509 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 288 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1310 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 44.2 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 128 µg/l | |
| 108-88-3 | Toluene | 5 | 16.7 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 58.3 µg/l | |
| 95-47-6 | o-Xylene | 5 | 50.5 µg/l | |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-09.D Vial: 15
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 5:01 pm Operator: mp
Sample : sb38520-09 @ 06mw-01-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 16:21:13 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.17f | 17.17f | 15259 | 32853 | 1.359 | 0.667 | # |
| | Spiked Amount 50.000 | | | Recovery | = | 2.72% | 1.33% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 1919284 | 0 | 26.491m | N.D. | # |
| 2) | C9-C10 Aromatic | 13.17 | 13.25 | 104542 | 53488 | NoCal | 0.845 | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.25 | 6861934 | 53488 | 221.876m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 3.03 | 0 | 683 | N.D. | NoCal | |
| 7) | Benzene | 4.78 | 4.86 | 1062 | 7992 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 866 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.74 | 0.00 | 865 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.97f | 9.97f | 344597 | 710161 | NoCal | 11.743 | |
| 11) | m,p-Xylene | 9.97f | 9.97f | 344597 | 710161 | NoCal | 10.115 | |
| 12) | o-Xylene | 10.49 | 10.49 | 103334 | 173576 | NoCal | 2.887 | |
| 13) | n-Nonane | 10.71 | 0.00 | 1546 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.65 | 12.52 | 39070 | 645593 | 1.357 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.17 | 13.25 | 104542 | 53488 | 3.238 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.52 | 12.52 | 342545 | 645593 | NoCal | 10.198 | |
| 17) | Naphthalene | 15.65 | 15.65 | 57344 | 99906 | NoCal | 1.817 | |

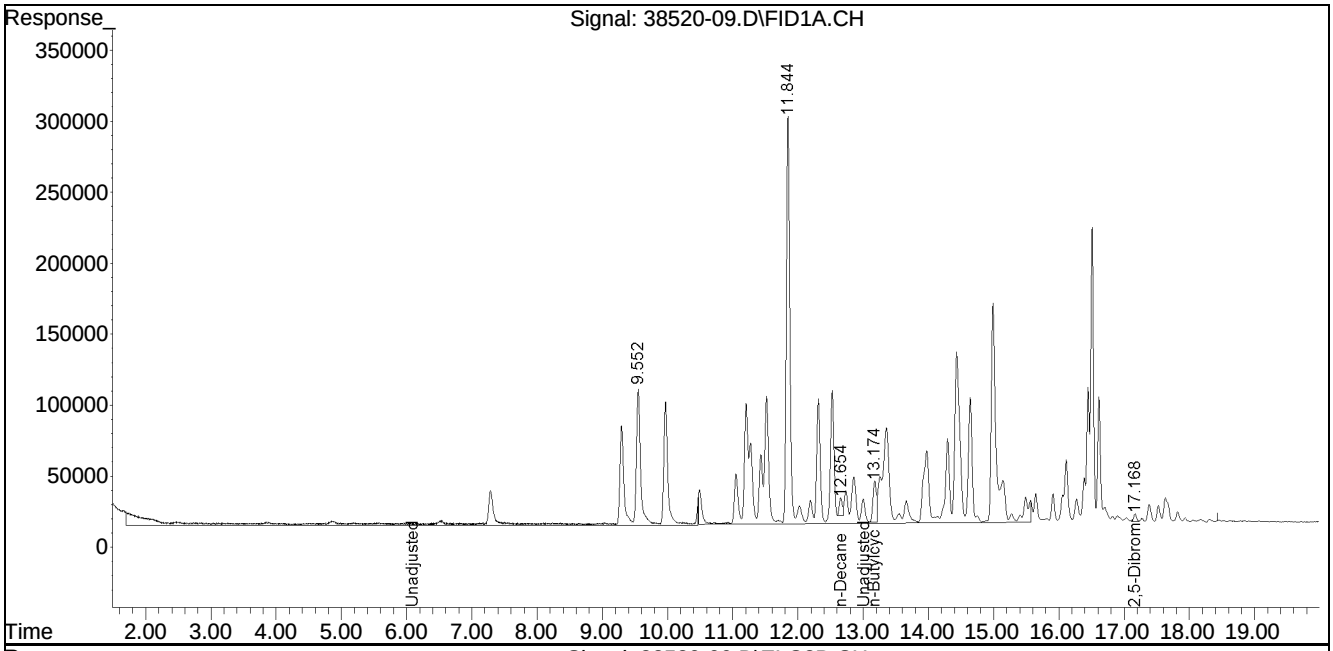
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

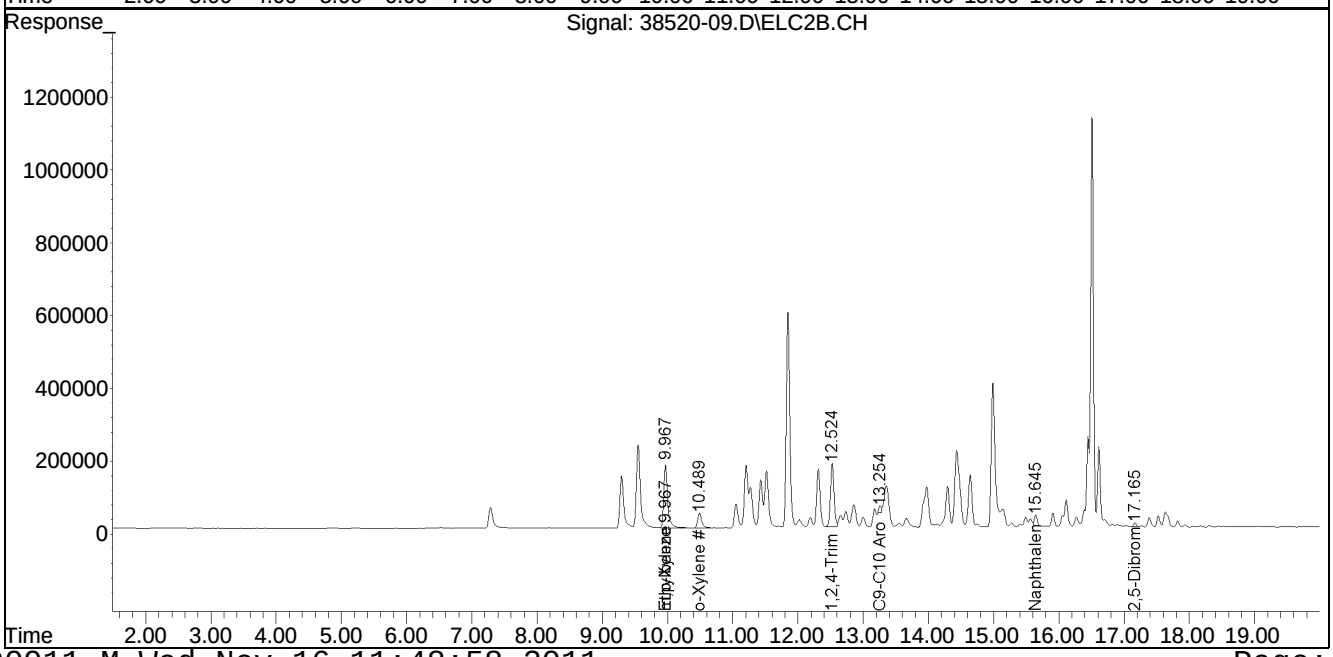
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-09.D Vial: 15
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 5:01 pm Operator: mp
Sample : sb38520-09 @ 06mw-01-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 16:21:13 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-02-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-10 | | File ID: | 38520-10.D | |
| Sampled: | 10/25/11 10:38 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 17:31 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 64.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 56.8 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 21.5 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 64.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 78.3 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 8.0 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-10.D Vial: 16
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 5:31 pm Operator: mp
Sample : sb38520-10 @ 06mw-02-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 16:51:41 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 17.17f | 0 | 9076 | N.D. | <MDL | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 0.00 | 5.99 | 0 | 410 | N.D. m | NoCal | |
| 2) | C9-C10 Aromatic | 0.00 | 13.19 | 0 | 7263 | N.D. | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.19 | 442002 | 7263 | 14.292m | NoCal | # |
| 4) | n-Pentane | 0.00 | 1.83 | 0 | 483 | N.D. | NoCal | |
| 5) | Methyl tert-buty | 2.74 | 0.00 | 793 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.74 | 2.99 | 793 | 143 | <MDL | NoCal | # |
| 7) | Benzene | 4.91 | 4.91 | 1282 | 2009 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.06 | 5.99 | 1064 | 410 | <MDL | NoCal | # |
| 9) | Toluene | 7.79 | 7.79 | 334 | 43 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.79 | 9.86 | 182 | 466 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.14 | 10.20 | 525 | 171 | NoCal | <MDL | |
| 12) | o-Xylene | 10.50 | 10.50 | 694 | 2828 | NoCal | <MDL | |
| 13) | n-Nonane | 10.78 | 10.81 | 48 | 82 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.54 | 0 | 14037 | N.D. | NoCal | |
| 15) | n-Butylcyclohexa | 0.00 | 13.19 | 0 | 7263 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.54 | 0 | 14037 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.65 | 0 | 5005 | N.D. | <MDL | |

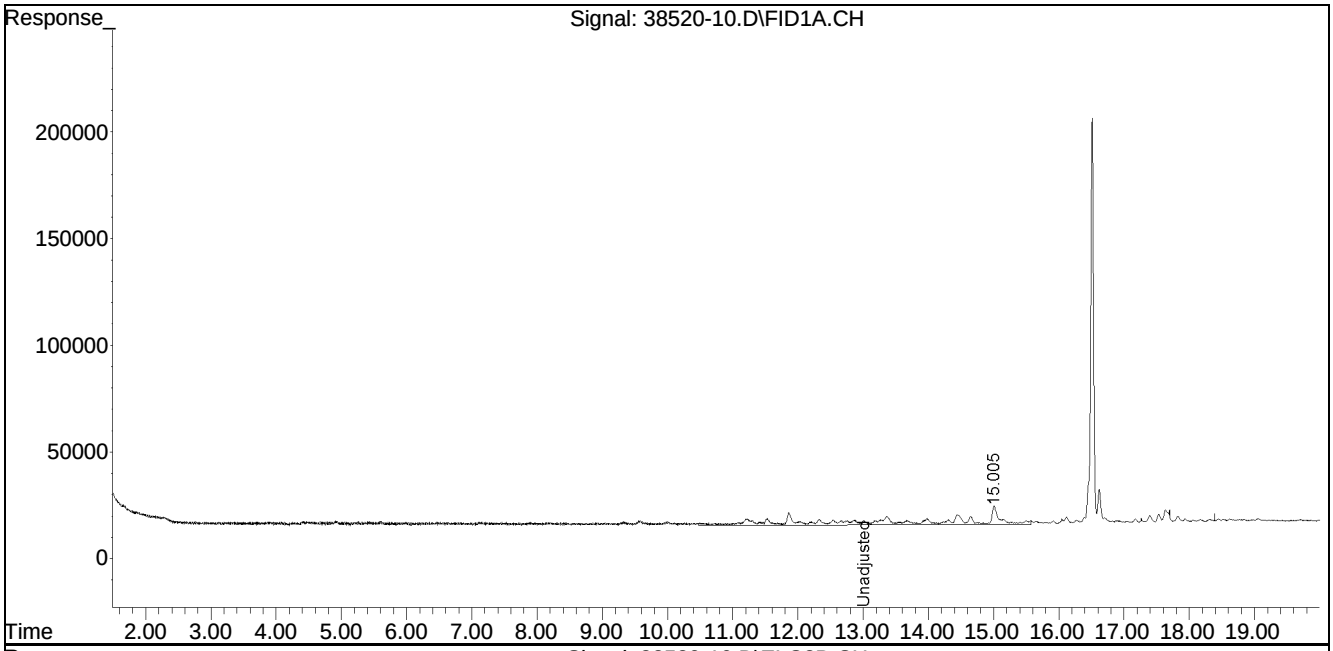
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

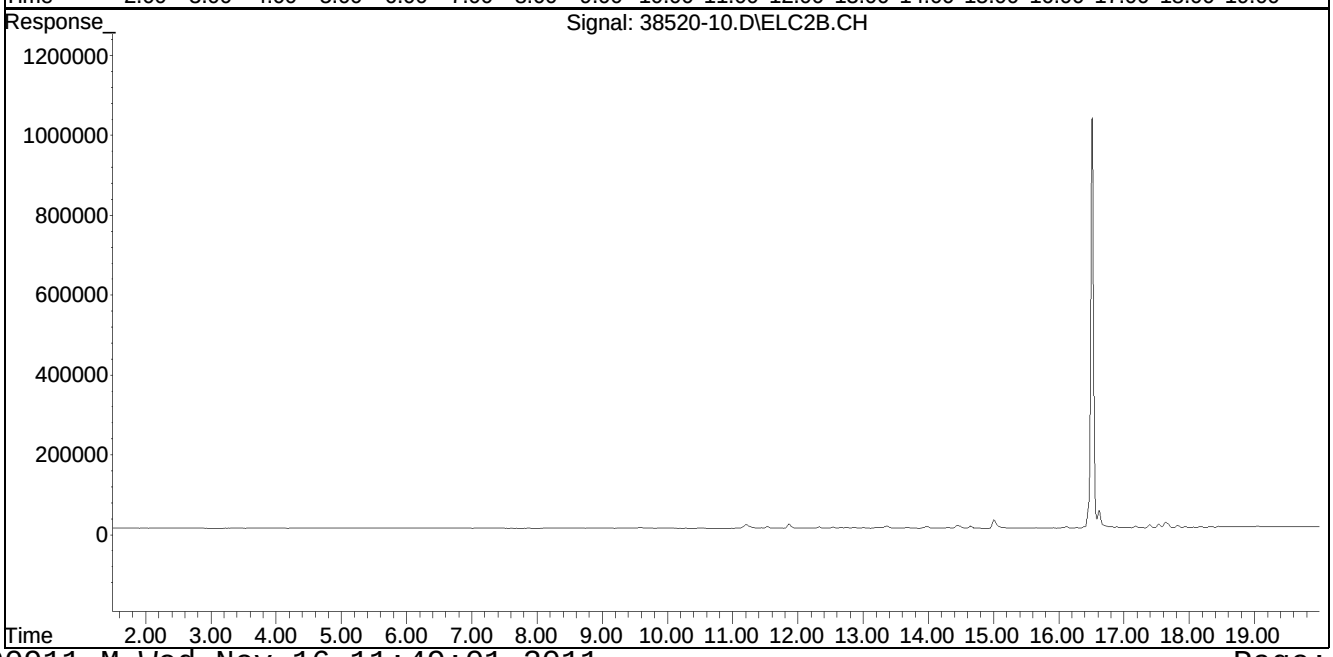
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-10.D Vial: 16
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 5:31 pm Operator: mp
Sample : sb38520-10 @ 06mw-02-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 16:51:41 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-03-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-11 | | File ID: | 38520-11.D | |
| Sampled: | 10/25/11 09:10 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 18:02 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 138 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 714 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 459 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 406 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1170 µg/l | |
| 71-43-2 | Benzene | 5 | 39.5 µg/l | |
| 100-41-4 | Ethylbenzene | 5 | 73.7 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 155 µg/l | |
| 108-88-3 | Toluene | 5 | 12.0 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 109 µg/l | |
| 95-47-6 | o-Xylene | 5 | 33.8 µg/l | |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-11.D Vial: 17
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 6:02 pm Operator: mp
Sample : sb38520-11 @ 06mw-03-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 17:22:00 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.17f | 17.16f | 20707 | 55757 | 1.844 | 1.133 | # |
| | Spiked Amount 50.000 | | | Recovery | = | 3.69% | 2.27% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 5.98 | 2720187 | 17 | 40.145m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.18 | 13.26 | 84279 | 49931 | NoCal | 0.789 | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.26 | 6253763 | 49931 | 202.212m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 3.01 | 0 | 158 | N.D. | NoCal | |
| 7) | Benzene | 4.85 | 0.00 | 10398 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 6.05 | 5.98 | 2524 | 17 | <MDL | NoCal | # |
| 9) | Toluene | 7.77 | 7.89f | 1202 | 4793 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.97f | 9.97f | 220784 | 474924 | NoCal | 7.853 | |
| 11) | m,p-Xylene | 9.97f | 9.97f | 220784 | 474924 | NoCal | 6.765 | |
| 12) | o-Xylene | 10.49 | 10.49 | 90030 | 149838 | NoCal | 2.492 | |
| 13) | n-Nonane | 0.00 | 10.84 | 0 | 847 | N.D. | NoCal | |
| 14) | n-Decane | 12.65 | 12.53 | 37153 | 641586 | 1.290 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.36 | 13.26 | 258218 | 49931 | 7.998 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.53 | 333868 | 641586 | NoCal | 10.135 | |
| 17) | Naphthalene | 15.65 | 15.64 | 36632 | 62909 | NoCal | 1.144 | |

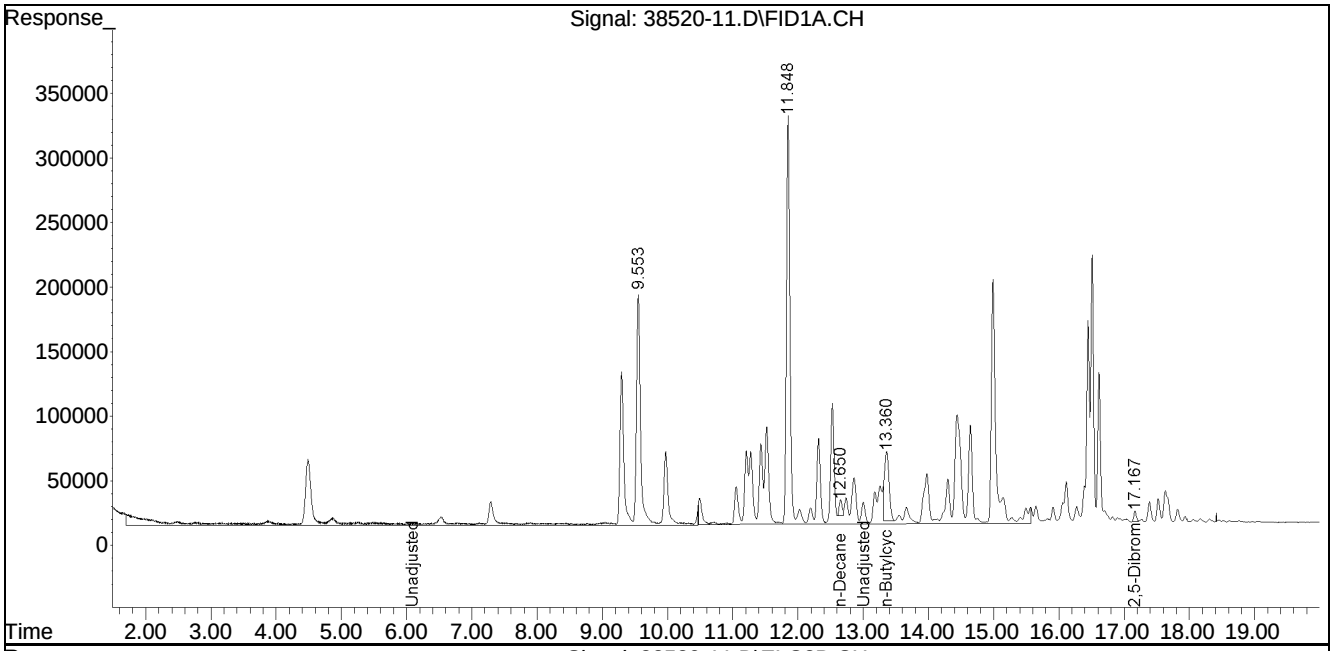
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

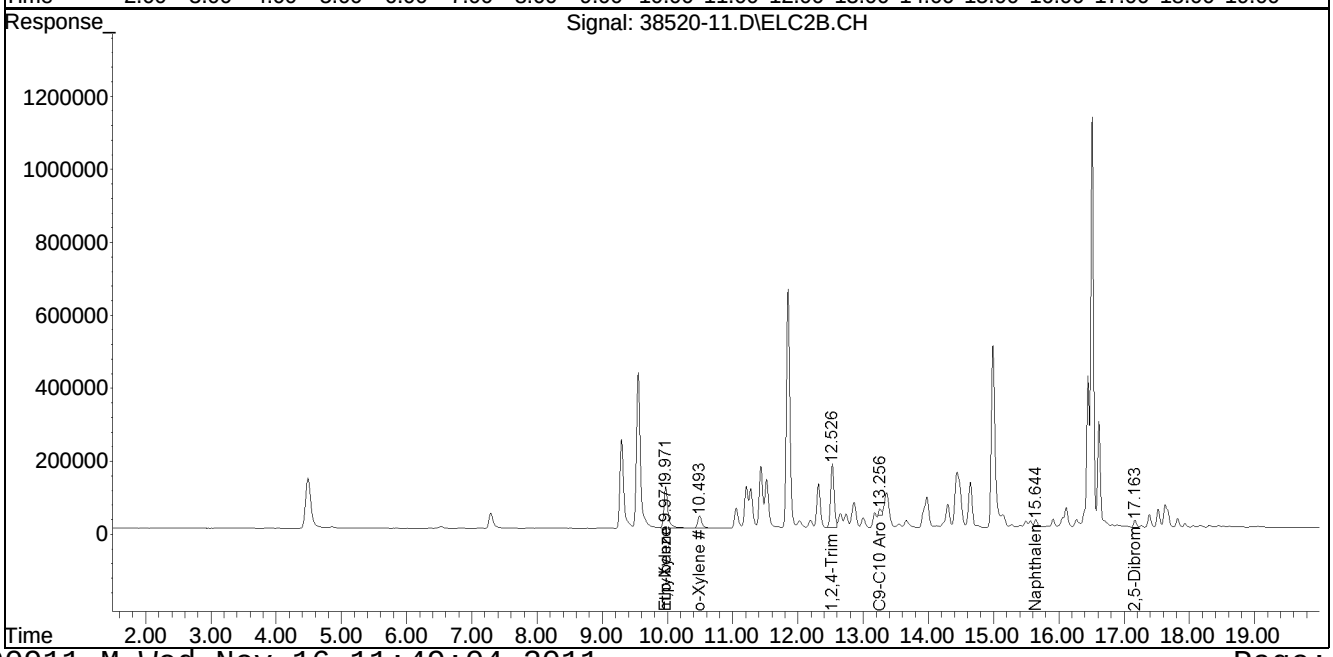
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-11.D Vial: 17
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 6:02 pm Operator: mp
Sample : sb38520-11 @ 06mw-03-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 17:22:00 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-05-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-12 | | File ID: | 38520-12.D | |
| Sampled: | 10/25/11 09:20 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 18:32 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 50.3 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 23.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 13.4 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 50.3 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 36.6 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-12.D Vial: 18
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 6:32 pm Operator: mp
Sample : sb38520-12 @ 06mw-05-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 17:52:15 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.17f | 17.17f | 6024 | 13564 | 0.536 | <MDL | # |
| | Spiked Amount 50.000 | | | Recovery | = | 1.07% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 5.94 | 664979 | 60 | 5.106m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.12 | 0.00 | 514 | 0 | NoCal | N.D. | |
| 3) | Unadjusted C9-C1 | 13.03 | 0.00 | 320556 | 0 | 10.365m | N.D. | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.81 | 0.00 | 564 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.81 | 0.00 | 564 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.86 | 4.85 | 4310 | 464 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.02 | 5.94 | 671 | 60 | <MDL | NoCal | # |
| 9) | Toluene | 7.77 | 7.74 | 572 | 19 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.87 | 9.88 | 732 | 413 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.14 | 10.15 | 773 | 80 | NoCal | <MDL | |
| 12) | o-Xylene | 0.00 | 10.65 | 0 | 698 | N.D. | <MDL | |
| 13) | n-Nonane | 10.82 | 10.65f | 534 | 698 | <MDL | NoCal | # |
| 14) | n-Decane | 12.54 | 12.55 | 1998 | 3573 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.33 | 0.00 | 791 | 0 | <MDL | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.54 | 12.55 | 1998 | 3573 | NoCal | <MDL | |
| 17) | Naphthalene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |

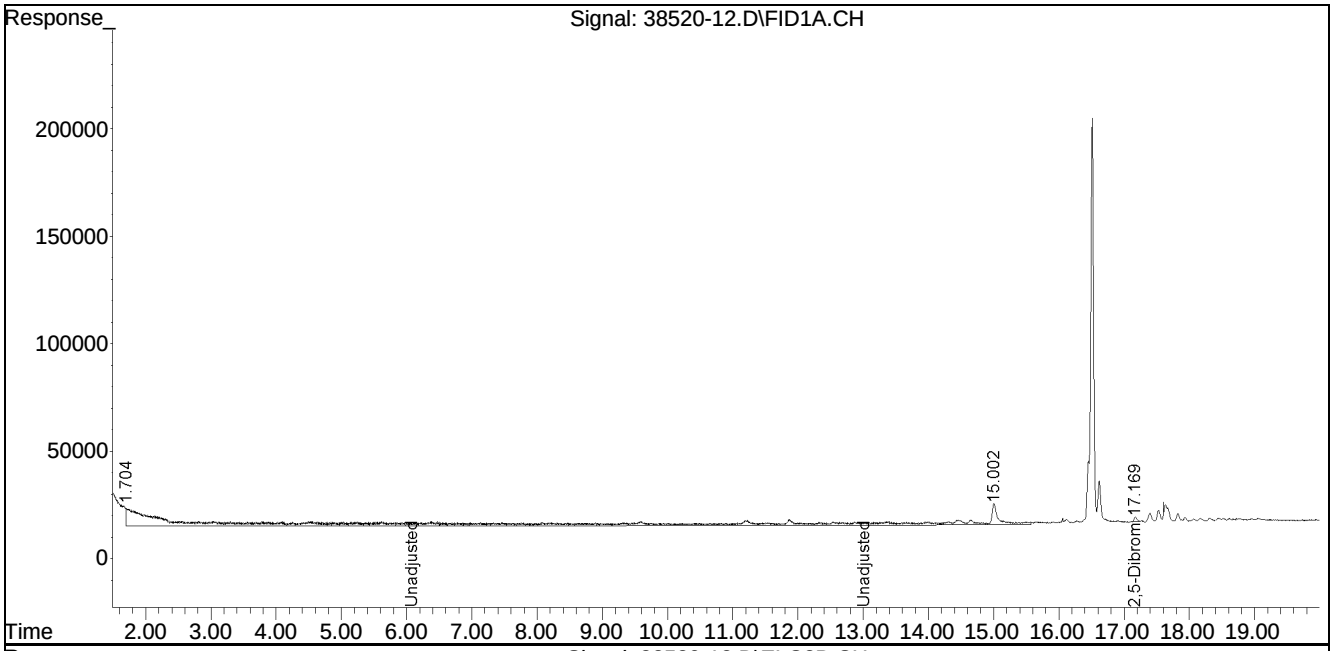
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

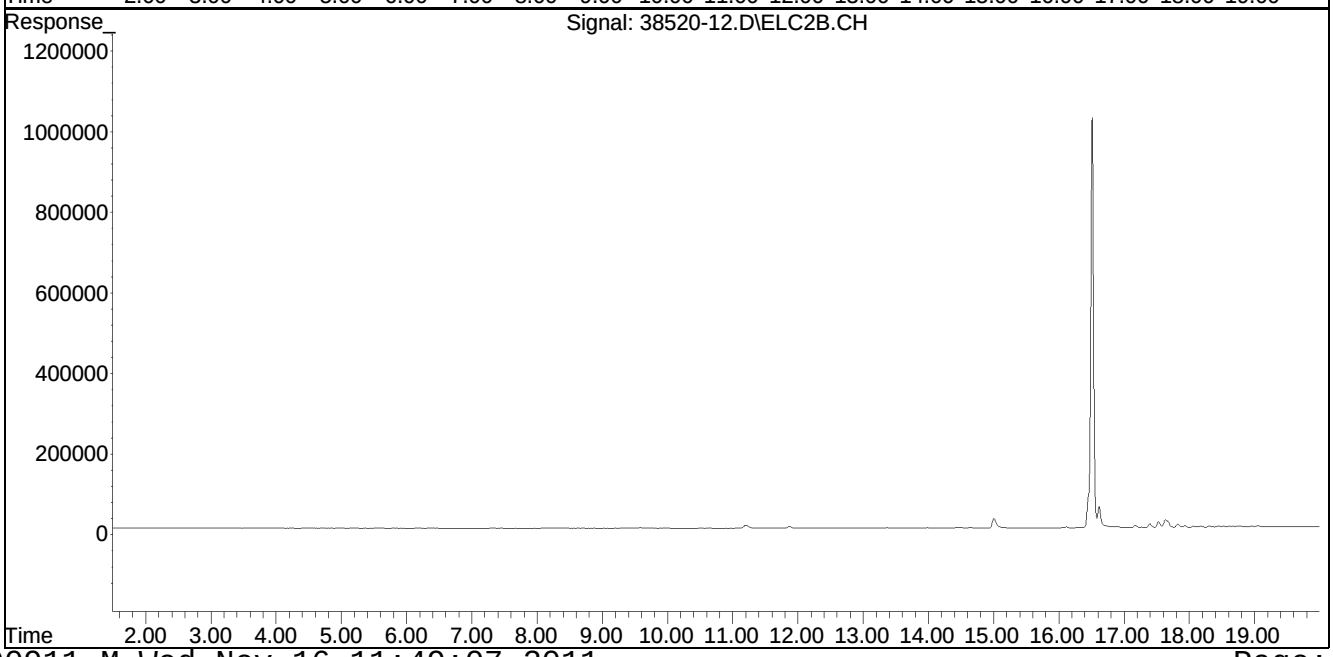
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-12.D Vial: 18
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 6:32 pm Operator: mp
Sample : sb38520-12 @ 06mw-05-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 17:52:15 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-07-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-13 | | File ID: | 38520-13.D | |
| Sampled: | 10/25/11 11:30 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 19:02 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 53.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 15.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.46 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 53.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 21.7 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-13.D Vial: 19
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 7:02 pm Operator: mp
Sample : sb38520-13 @ 06mw-07-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 18:22:37 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 17.17f | 0 | 6011 | N.D. | <MDL | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 714805 | 0 | 5.956m | N.D. | # |
| 2) | C9-C10 Aromatic | 0.00 | 13.36 | 0 | 135 | N.D. | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.36 | 217728 | 135 | 7.040m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 2.97 | 0 | 437 | N.D. | NoCal | |
| 7) | Benzene | 4.89 | 4.82 | 2015 | 349 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 6.01 | 0.00 | 340 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.70 | 7.79 | 325 | 32 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.91 | 0.00 | 222 | 0 | NoCal | N.D. | |
| 11) | m,p-Xylene | 10.14 | 10.06 | 457 | 152 | NoCal | <MDL | |
| 12) | o-Xylene | 10.53 | 10.53 | 247 | 458 | NoCal | <MDL | |
| 13) | n-Nonane | 10.95f | 10.83 | 230 | 40 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.83f | 0 | 81 | N.D. | NoCal | |
| 15) | n-Butylcyclohexa | 0.00 | 13.36 | 0 | 135 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 17) | Naphthalene | 0.00 | 15.65 | 0 | 1110 | N.D. | <MDL | |

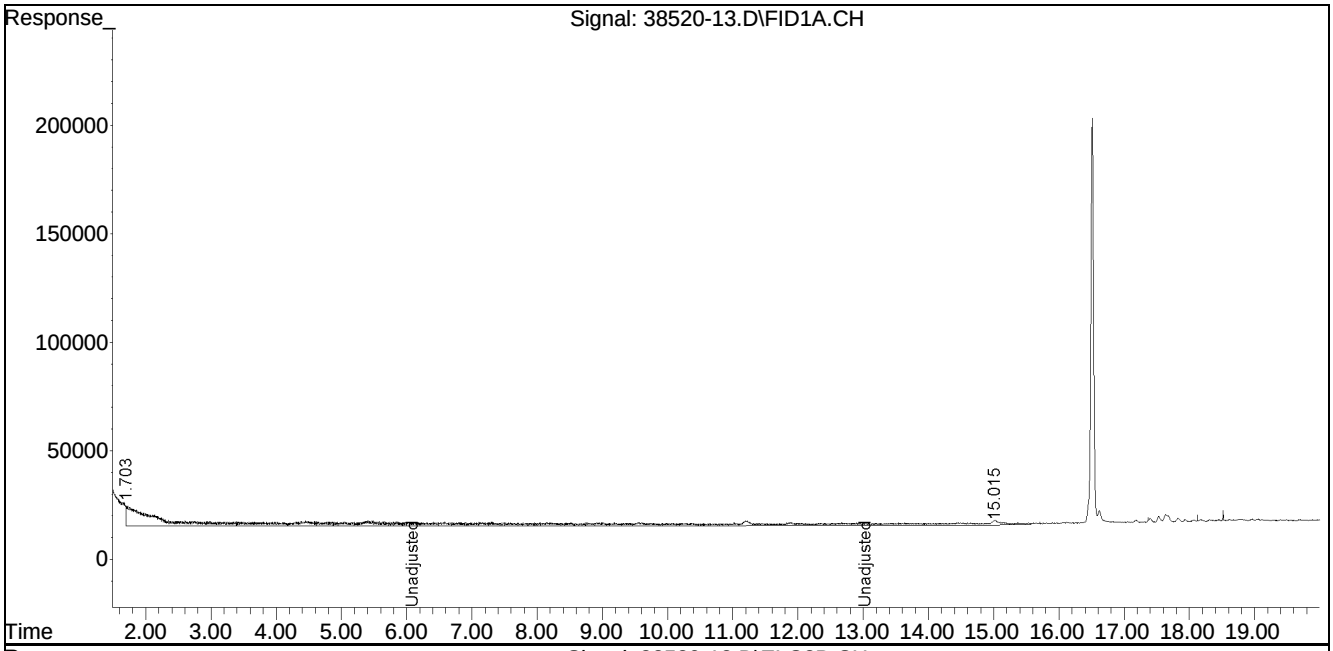
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

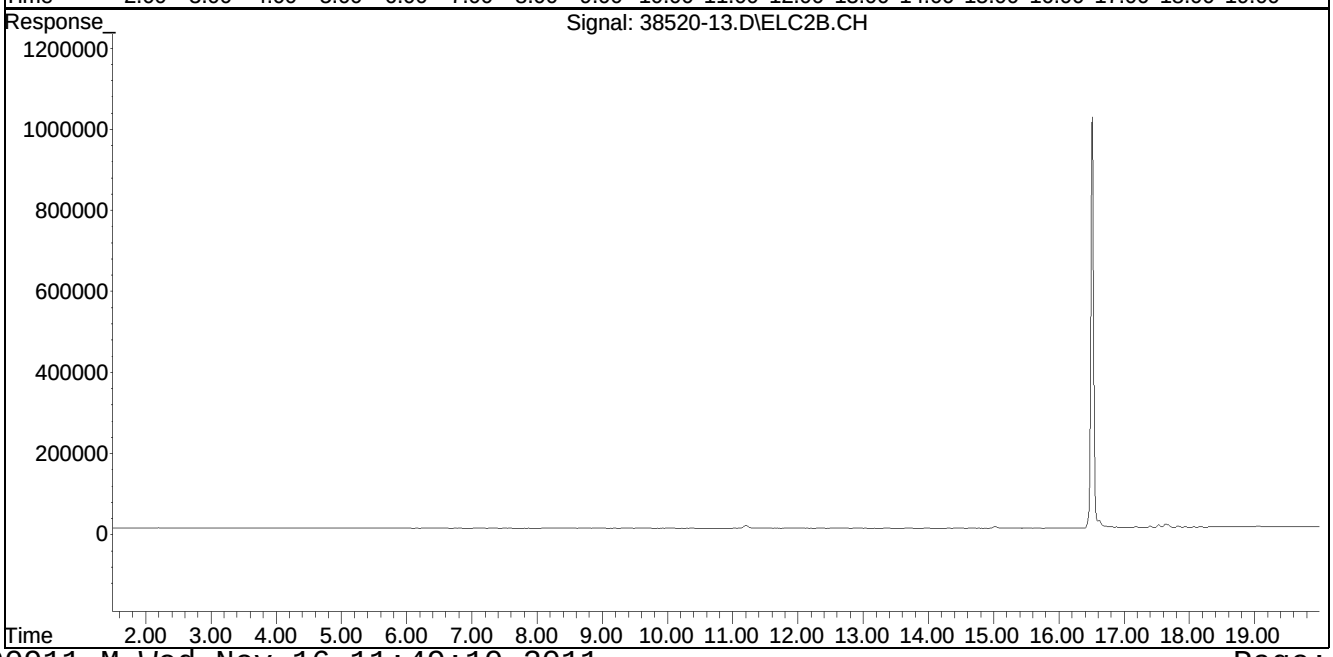
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-13.D Vial: 19
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 7:02 pm Operator: mp
Sample : sb38520-13 @ 06mw-07-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 18:22:37 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-09-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-14 | | File ID: | 38520-14.D | |
| Sampled: | 10/25/11 10:25 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 19:32 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 63.7 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 47.0 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 19.0 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 63.7 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 66.0 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-14.D Vial: 20
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 7:32 pm Operator: mp
Sample : sb38520-14 @ 06mw-09-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 18:52:58 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 6.02 | 814319 | 1676 | 7.652m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.18 | 13.25 | 1248 | 18403 | NoCal | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.25 | 481006 | 18403 | 15.553m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.71 | 0.00 | 1128 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.71 | 0.00 | 1128 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.87 | 0.00 | 2253 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 5.98 | 6.02 | 1059 | 1676 | <MDL | NoCal | # |
| 9) | Toluene | 7.71 | 7.76 | 750 | 45 | NoCal | <MDL | |
| 10) | Ethylbenzene | 0.00 | 9.90 | 0 | 400 | N.D. | <MDL | |
| 11) | m,p-Xylene | 10.13 | 10.31f | 1123 | 93 | NoCal | <MDL | |
| 12) | o-Xylene | 10.47 | 10.49 | 812 | 2627 | NoCal | <MDL | |
| 13) | n-Nonane | 10.72 | 10.71 | 2271 | 2273 | <MDL | NoCal | # |
| 14) | n-Decane | 12.83 | 12.54 | 743 | 6726 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 13.18 | 13.25 | 1248 | 18403 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.54 | 0 | 6726 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.49f | 0 | 7676 | N.D. | <MDL | |

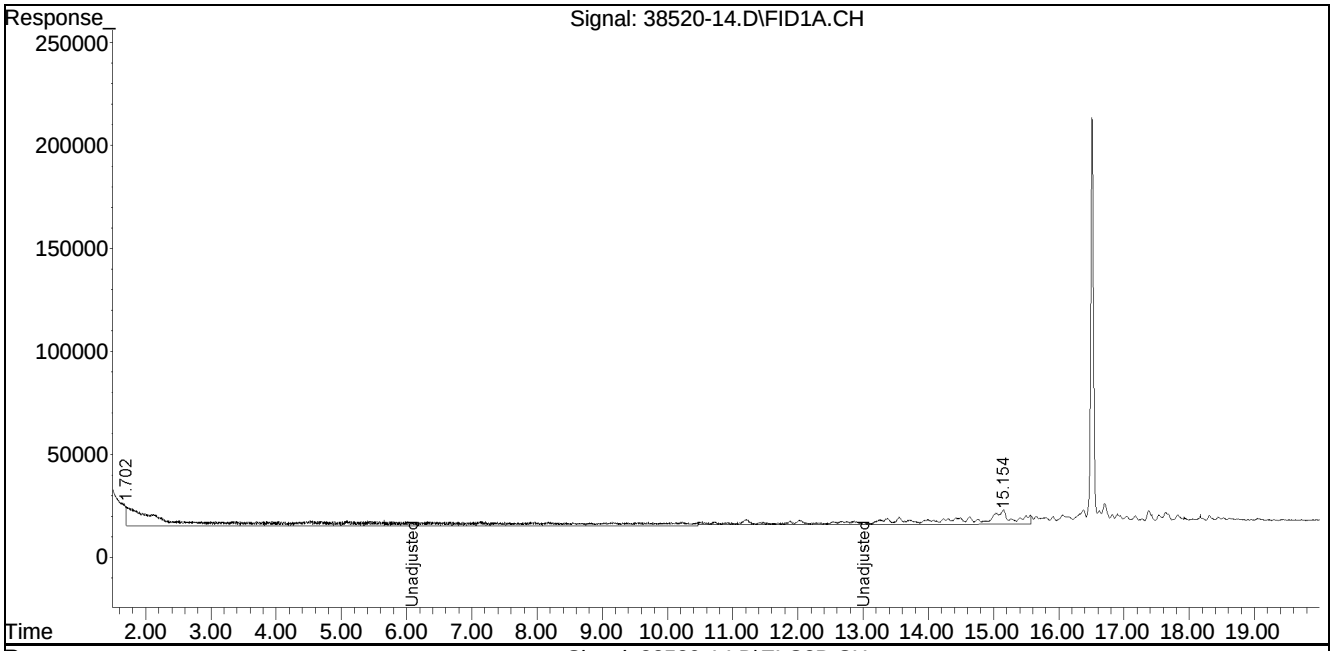
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

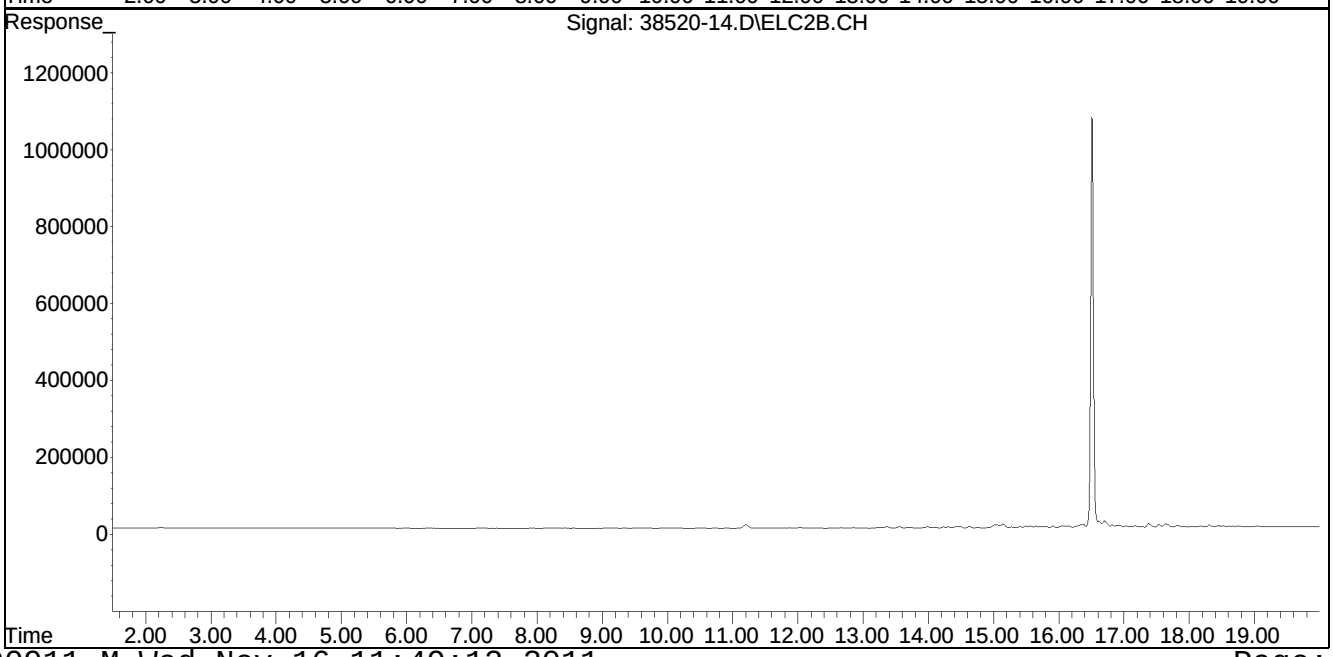
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-14.D Vial: 20
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 7:32 pm Operator: mp
Sample : sb38520-14 @ 06mw-09-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 18:52:58 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-13-111025**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-15 | File ID: | 38520-15.D |
| Sampled: | 10/25/11 12:40 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 20:03 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 62.2 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 27.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 8.20 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 63.8 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 36.1 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | J |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-15.D Vial: 21
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 8:03 pm Operator: mp
Sample : sb38520-15 @ 06mw-13-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 19:23:24 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 17.17f | 0 | 10058 | N.D. | <MDL | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 795964 | 0 | 7.340m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.94 | 13.22 | 997 | 52 | NoCal | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.22 | 265493 | 52 | 8.585m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.79 | 0.00 | 795 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.79 | 0.00 | 795 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.85 | 0.00 | 2111 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 5.98 | 0.00 | 1350 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.82 | 7.74 | 866 | 66 | NoCal | <MDL | |
| 10) | Ethylbenzene | 10.04f | 9.83 | 729 | 274 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.04 | 10.17 | 729 | 91 | NoCal | <MDL | |
| 12) | o-Xylene | 10.63 | 10.52 | 1007 | 898 | NoCal | <MDL | |
| 13) | n-Nonane | 10.79 | 10.79 | 1173 | 687 | <MDL | NoCal | # |
| 14) | n-Decane | 12.94f | 12.48 | 997 | 2221 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 0.00 | 13.22 | 0 | 52 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.48 | 0 | 2221 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.71 | 0 | 2395 | N.D. | <MDL | |

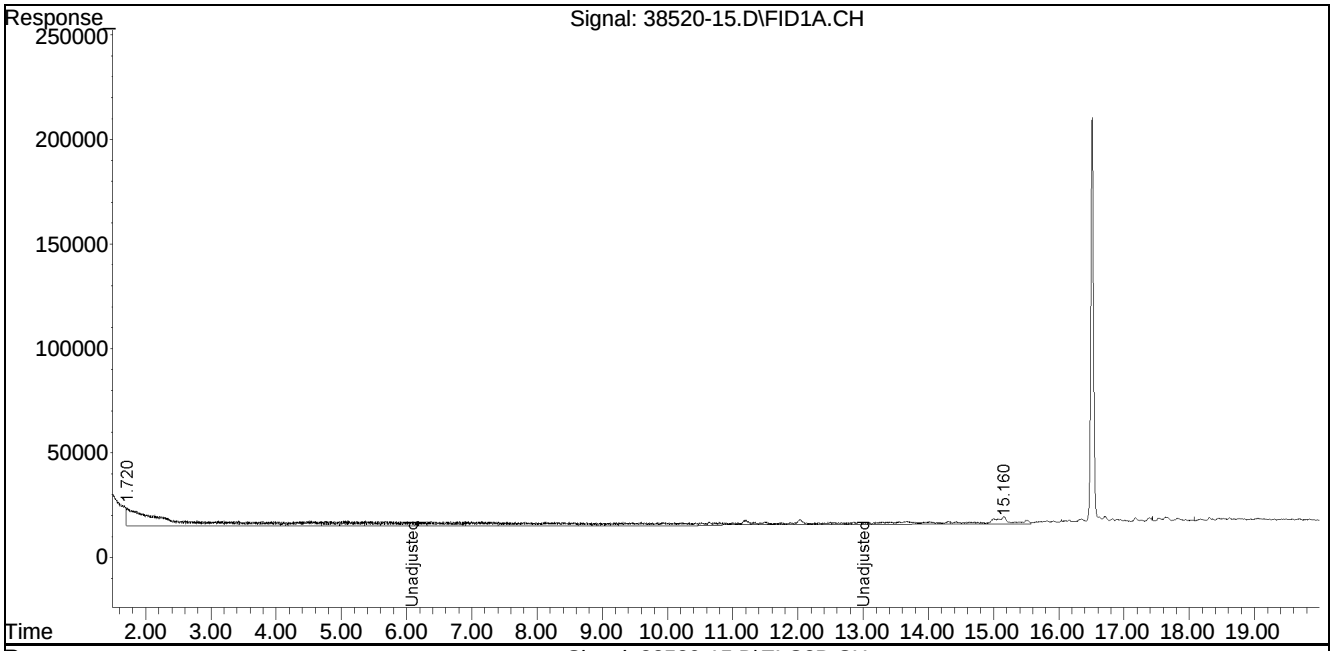
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

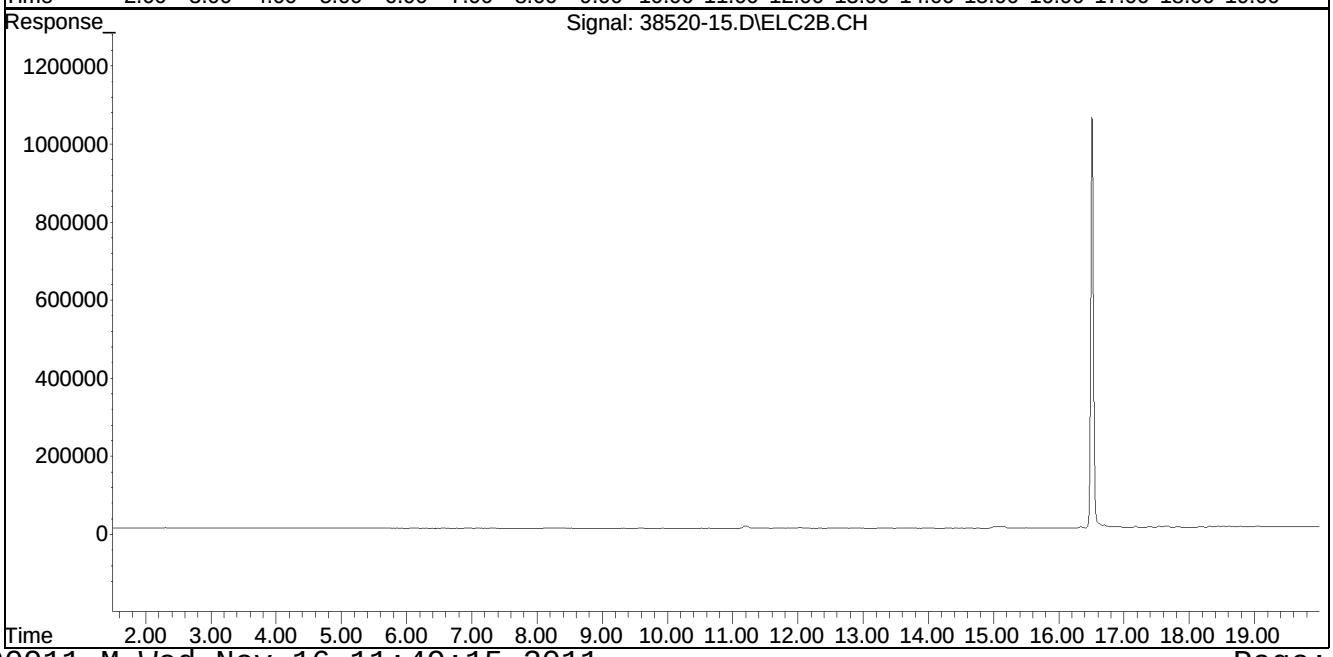
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-15.D Vial: 21
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 8:03 pm Operator: mp
Sample : sb38520-15 @ 06mw-13-20111025 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 19:23:24 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Standards Data

# FORM VI - INITIAL CALIBRATION DATA

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Calibration: | 1109006 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 09/08/11 10:26 |
| File ID: | F2090911M | | |

| Compound | Level 01 | | Level 02 | | Level 03 | | Level 04 | | Level 05 | | Level 06 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF |
| C9-C10 Aromatic Hydrocarbons | 1 | 121950 | 5 | 110944.2 | 10 | 108655.2 | 20 | 109031.8 | 50 | 112304.1 | 100 | 113497.1 |
| Unadjusted C5-C8 Aliphatic Hydro | 10 | 40691 | 50 | 32848.36 | 100 | 34160.77 | 200 | 32104.27 | 500 | 32759.18 | 1000 | 31983.5 |
| Unadjusted C9-C12 Aliphatic Hydr | 4 | 22134.25 | 20 | 18180.3 | 40 | 20654.5 | 80 | 22695.63 | 200 | 22794.93 | 400 | 24108.55 |
| Benzene | 1 | 72806 | 5 | 104388.2 | 10 | 103821.2 | 20 | 110337 | 50 | 113840.4 | 100 | 110881.7 |
| Ethylbenzene | 1 | 41889 | 5 | 66609.2 | 10 | 69580.9 | 20 | 74385.1 | 50 | 77931.98 | 100 | 72584.5 |
| Methyl tert-butyl ether | 1 | 34369 | 5 | 31452.2 | 10 | 33682.7 | 20 | 29602.9 | 50 | 44566.6 | 100 | 44740.63 |
| Naphthalene | 1 | 52554 | 5 | 61867.8 | 10 | 64878.6 | 20 | 67737.25 | 50 | 68390.94 | 100 | 65411.4 |
| Toluene | 1 | 55514 | 5 | 83636 | 10 | 84205.4 | 20 | 90031.5 | 50 | 93385.58 | 100 | 90894.45 |
| m,p-Xylene | 2 | 52750.5 | 10 | 81657.7 | 20 | 82549.45 | 40 | 87601.58 | 100 | 91502.54 | 200 | 89084.7 |
| o-Xylene | 1 | 47051 | 5 | 68775.4 | 10 | 70786.4 | 20 | 74636.95 | 50 | 78044.24 | 100 | 76362.28 |
| 2-Methylpentane | 1 | 17624 | 5 | 16047 | 10 | 20888.4 | 20 | 22267.4 | 50 | 23089.82 | 100 | 23258.61 |
| n-Nonane | 1 | 14299 | 5 | 13849.8 | 10 | 16272.7 | 20 | 17304.35 | 50 | 18507.32 | 100 | 20034.32 |
| n-Pentane | 1 | 21178 | 5 | 15521.2 | 10 | 18571.9 | 20 | 20576 | 50 | 21889.1 | 100 | 21562.47 |
| 1,2,4-Trimethylbenzene | 1 | 42694 | 5 | 63273.8 | 10 | 64997.8 | 20 | 68841.7 | 50 | 71925.02 | 100 | 70337.39 |
| 2,2,4-Trimethylpentane | 1 | 16380 | 5 | 18910.4 | 10 | 21880.7 | 20 | 22760.2 | 50 | 23493.78 | 100 | 23174.2 |
| n-Butylcyclohexane | 1 | 14950 | 5 | 15238.4 | 10 | 17492.1 | 20 | 17606.25 | 50 | 18822.3 | 100 | 19872.19 |
| n-Decane | 1 | 12860 | 5 | 11478 | 10 | 13267.6 | 20 | 13487.25 | 50 | 15803.8 | 100 | ~~22219.85~~ |
| 2,5-Dibromotoluene (FID) | 51 | 9276 | 55 | 9524.291 | 60 | 9372.35 | 70 | 9234.243 | 100 | 9212.96 | 150 | 8668.434 |
| 2,5-Dibromotoluene (PID) | 51 | 53489.53 | 55 | 54984.55 | 60 | 53878.8 | 70 | 53489.5 | 100 | 53105.27 | 150 | 49299.12 |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Calibration: | 1109006 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 09/08/11 10:26 |
| File ID: | F2090911M | | |

| Compound | Level 07 | | Level 08 | | Level 09 | | Level 10 | | Level 11 | | Level 12 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF | µg/l | RF |
| C9-C10 Aromatic Hydrocarbons | 200 | 122450.5 | | | | | | | | | | |
| Unadjusted C5-C8 Aliphatic Hydro | 2000 | 31817.77 | | | | | | | | | | |
| Unadjusted C9-C12 Aliphatic Hydr | 800 | 28443.55 | | | | | | | | | | |
| Benzene | 200 | 110658.8 | | | | | | | | | | |
| Ethylbenzene | 200 | 76643.75 | | | | | | | | | | |
| Methyl tert-butyl ether | 200 | 46186.8 | | | | | | | | | | |
| Naphthalene | 200 | 66679.4 | | | | | | | | | | |
| Toluene | 200 | 90899.15 | | | | | | | | | | |
| m,p-Xylene | 400 | 89229.22 | | | | | | | | | | |
| o-Xylene | 200 | 76676.4 | | | | | | | | | | |
| 2-Methylpentane | 200 | 22734.34 | | | | | | | | | | |
| n-Nonane | 200 | ~~24367.55~~ | | | | | | | | | | |
| n-Pentane | 200 | 20941.89 | | | | | | | | | | |
| 1,2,4-Trimethylbenzene | 200 | 71422.35 | | | | | | | | | | |
| 2,2,4-Trimethylpentane | 200 | 23284.9 | | | | | | | | | | |
| n-Butylcyclohexane | 200 | 24367.68 | | | | | | | | | | |
| n-Decane | 200 | ~~29098.48~~ | | | | | | | | | | |
| 2,5-Dibromotoluene (FID) | 250 | 8771.132 | | | | | | | | | | |
| 2,5-Dibromotoluene (PID) | 250 | 49946.56 | | | | | | | | | | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Calibration: | 1109006 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 09/08/11 10:26 |
| File ID: | F2090911M | | |

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 114119 | 5.062119 | 11.84571 | 6.910667E-02 | | | 25 | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 33766.41 | 9.341831 | 7.955714 | 24.87611 | | | 25 | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 22715.96 | 13.91067 | 12.39714 | 1.981688 | | | 25 | |
| Benzene | 103819 | 13.6316 | 4.481429 | 8.413137E-02 | | | 25 | |
| Ethylbenzene | 68517.78 | 18.06733 | 9.292857 | 8.205252E-02 | | | 25 | |
| Methyl tert-butyl ether | 37800.12 | 18.72232 | 2.334286 | 0.3374139 | | | 25 | |
| Naphthalene | 63931.34 | 8.536715 | 14.98571 | 5.307255E-02 | | | 25 | |
| Toluene | 84080.87 | 15.59174 | 7.275714 | 0.1088462 | | | 25 | |
| m,p-Xylene | 82053.67 | 16.35125 | 9.545714 | 0.0820313 | | | 25 | |
| o-Xylene | 70333.24 | 15.34912 | 9.964286 | 5.089186E-02 | | | 25 | |
| 2-Methylpentane | 20844.22 | 13.82908 | 2.505714 | 0.2130662 | | | 25 | |
| n-Nonane | 16711.25 | 14.36647 | 10.22667 | 7.956644E-02 | | | 25 | |
| n-Pentane | 20034.37 | 11.292 | 1.651429 | 0.2283937 | | | 25 | |
| 1,2,4-Trimethylbenzene | 64784.58 | 15.85033 | 11.84571 | 6.910667E-02 | | | 25 | |
| 2,2,4-Trimethylpentane | 21412.03 | 12.72785 | 5.581429 | 6.591151E-02 | | | 25 | |
| n-Butylcyclohexane | 18335.56 | 17.43001 | 12.65571 | 3.899972E-02 | | | 25 | |
| n-Decane | 13379.33 | 11.6912 | 11.982 | 3.581222E-02 | | | 25 | |
| 2,5-Dibromotoluene (FID) | 9151.344 | 3.432143 | 16.51 | 6.814298E-03 | | | 25 | |
| 2,5-Dibromotoluene (PID) | 52599.05 | 4.040142 | 16.50714 | 3.011659E-02 | | | 25 | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph001.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 12:13 pm Operator: mp
Sample : seq-cal1 @ 1.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:20 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.50 | 473076 | 2727966 | 30.306 | 29.817 | |
| | Spiked Amount 50.000 | | | Recovery | = | 60.61% | 59.63% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.83 | 936329 | 38 | 17.593m | NoCal | # |
| 2) | C9-C10 Aromatic | 12.65 | 12.50 | 12128 | 90 | NoCal | <MDL | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.50 | 242358 | 90 | 7.092m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.82 | 2.34 | 684 | 30055 | NoCal | 0.677 | |
| 6) | 2-Methylpentane | 2.47 | 0.00 | 730 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.99 | 4.49 | 725 | 72806 | NoCal | 0.397 | |
| 8) | 2,2,4-Trimethylp | 5.55 | 5.85 | 3417 | 38 | <MDL | NoCal | # |
| 9) | Toluene | 7.81 | 7.29 | 743 | 55514 | NoCal | 0.371 | |
| 10) | Ethylbenzene | 9.98 | 9.18 | 20667 | 59 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.10 | 9.56 | 614 | 105501 | NoCal | 0.782 | |
| 12) | o-Xylene | 10.46 | 9.97 | 439 | 47051 | NoCal | 0.394 | |
| 13) | n-Nonane | 10.24 | 10.41 | 9512 | 67 | 0.449 | NoCal | # |
| 14) | n-Decane | 11.99 | 12.66 | 5774 | 15103 | 0.363 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.65 | 12.93 | 12128 | 424 | 0.454 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.65 | 11.86 | 12128 | 42694 | NoCal | 0.355 | |
| 17) | Naphthalene | 0.00 | 15.00 | 0 | 52554 | N.D. | 0.456 | |

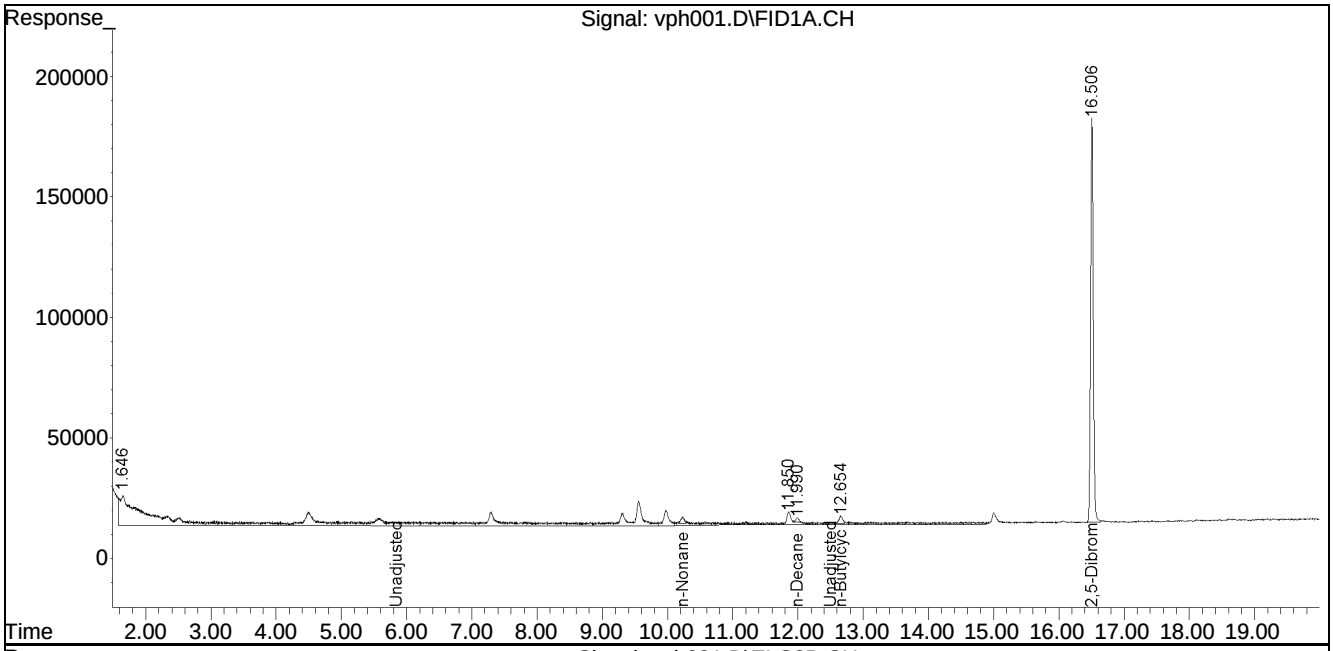
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

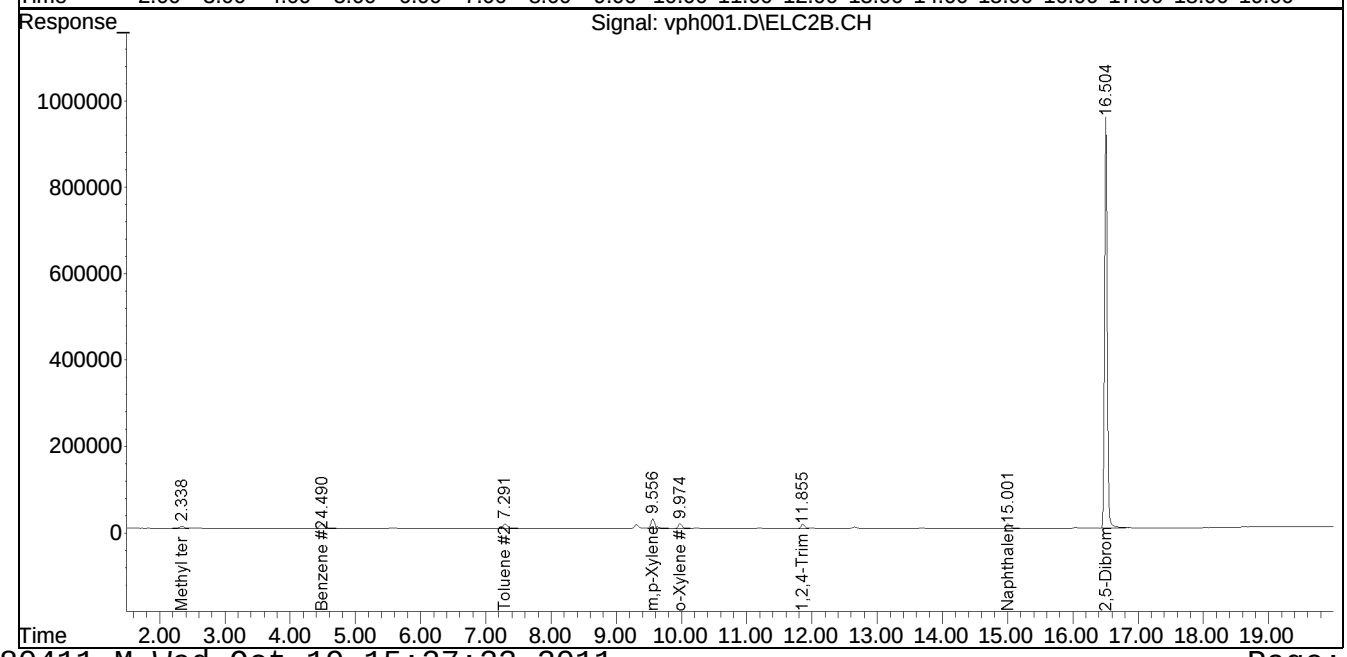
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph001.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 12:13 pm Operator: mp
Sample : seq-cal1 @ 1.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:20 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph005.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 12:42 pm Operator: mp
Sample : seq-cal2 @ 5.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:25 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.51 | 523836 | 3024150 | 33.557 | 33.055 | |
| | Spiked Amount 50.000 | | | | Recovery = | 67.11% | 66.11% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.91 | 2050136 | 572 | 38.521m | NoCal | # |
| 2) | C9-C10 Aromatic | 12.47 | 12.65 | 553 | 94400 | NoCal | 0.491 | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.65 | 521800 | 94400 | 15.270m | NoCal | # |
| 4) | n-Pentane | 1.65 | 0.00 | 106958 | 0 | 3.501 | N.D. | # |
| 5) | Methyl tert-buty | 0.00 | 2.33 | 0 | 157261 | N.D. | 3.544 | |
| 6) | 2-Methylpentane | 2.50 | 0.00 | 80235 | 0 | 2.473 | N.D. | # |
| 7) | Benzene | 4.97 | 4.48 | 742 | 521941 | NoCal | 2.849 | |
| 8) | 2,2,4-Trimethylp | 5.58 | 5.91 | 94552 | 572 | 2.909 | NoCal | # |
| 9) | Toluene | 0.00 | 7.28 | 0 | 418180 | N.D. | 2.793 | |
| 10) | Ethylbenzene | 9.97 | 9.19 | 172068 | 636 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.23 | 9.55 | 69249 | 816577 | NoCal | 6.056 | |
| 12) | o-Xylene | 0.00 | 9.97 | 0 | 343877 | N.D. | 2.879 | |
| 13) | n-Nonane | 10.23 | 0.00 | 69249 | 0 | 3.271 | N.D. | # |
| 14) | n-Decane | 11.98 | 12.65 | 57390 | 94400 | 3.603 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.65 | 0.00 | 76192 | 0 | 2.854 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.65 | 11.85 | 76192 | 316369 | NoCal | 2.629 | |
| 17) | Naphthalene | 15.78f | 14.99 | 430 | 309339 | NoCal | 2.683 | |

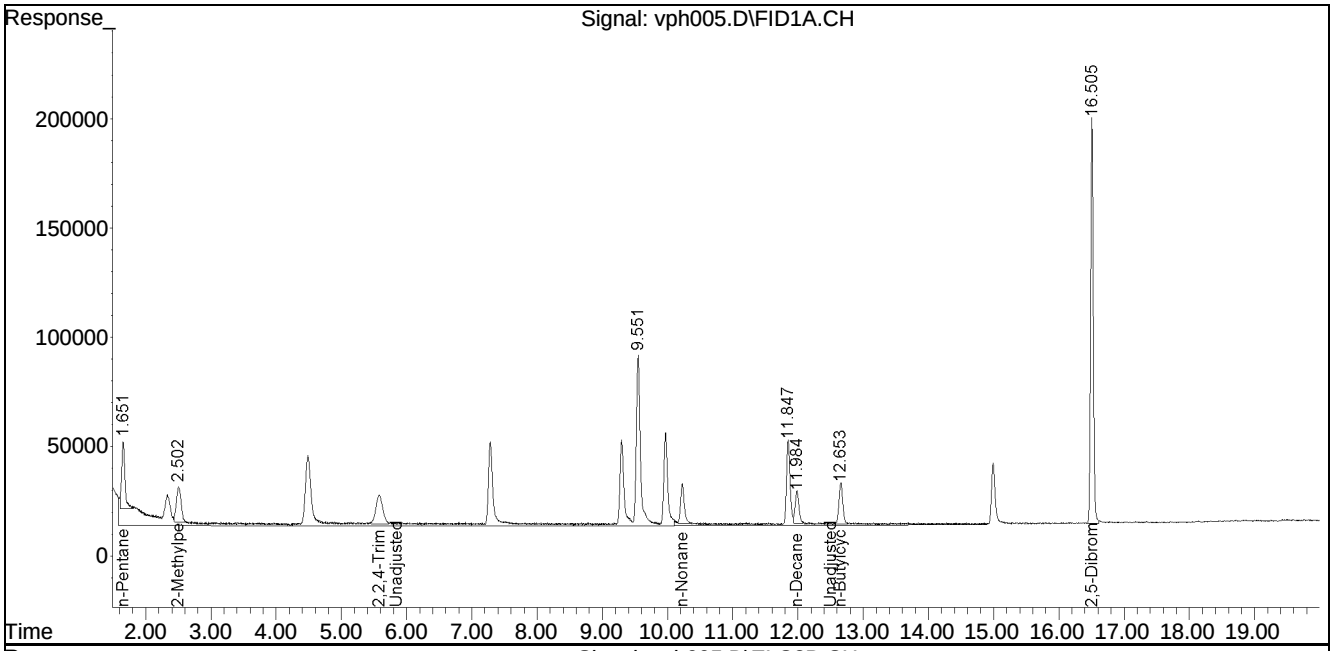
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

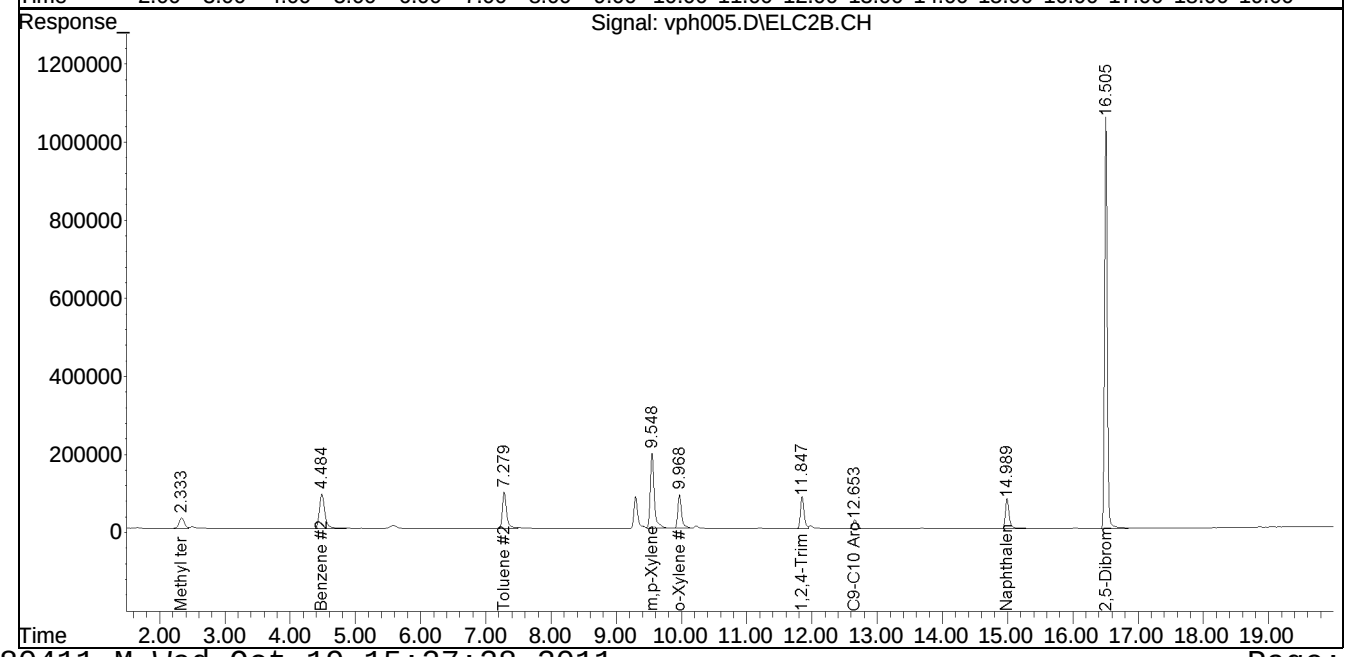
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph005.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 12:42 pm Operator: mp
Sample : seq-cal2 @ 5.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:25 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph010.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 1:11 pm Operator: mp
Sample : seq-cal3 @ 10.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:30 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.51 | 562341 | 3232728 | 36.024 | 35.335 | |
| | Spiked Amount 50.000 | | | | Recovery = | 72.05% | 70.67% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 3513539 | 0 | 66.018m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.53 | 12.66 | 614 | 213522 | NoCal | 1.110 | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.66 | 956039 | 213522 | 27.977m | NoCal | # |
| 4) | n-Pentane | 1.66 | 0.00 | 220254 | 0 | 7.209 | N.D. | # |
| 5) | Methyl tert-buty | 2.85 | 2.33 | 610 | 336827 | NoCal | 7.591 | |
| 6) | 2-Methylpentane | 2.50 | 0.00 | 208884 | 0 | 6.439 | N.D. | # |
| 7) | Benzene | 5.09f | 4.48 | 505 | 1038212 | NoCal | 5.667 | |
| 8) | 2,2,4-Trimethylp | 5.58 | 0.00 | 218807 | 0 | 6.733 | N.D. | # |
| 9) | Toluene | 7.81 | 7.28 | 577 | 842054 | NoCal | 5.624 | |
| 10) | Ethylbenzene | 9.84 | 9.29 | 420 | 695809 | NoCal | 6.131 | |
| 11) | m,p-Xylene | 10.23 | 9.55 | 162727 | 1650989 | NoCal | 12.245 | |
| 12) | o-Xylene | 10.57f | 9.97 | 358 | 707864 | NoCal | 5.927 | |
| 13) | n-Nonane | 10.23 | 0.00 | 162727 | 0 | 7.686 | N.D. | # |
| 14) | n-Decane | 11.98 | 12.66 | 132676 | 213522 | 8.330 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.66 | 12.96f | 174921 | 58 | 6.553 | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.66 | 11.85 | 174921 | 649978 | NoCal | 5.401 | |
| 17) | Naphthalene | 15.47f | 14.99 | 599 | 648786 | NoCal | 5.627 | |

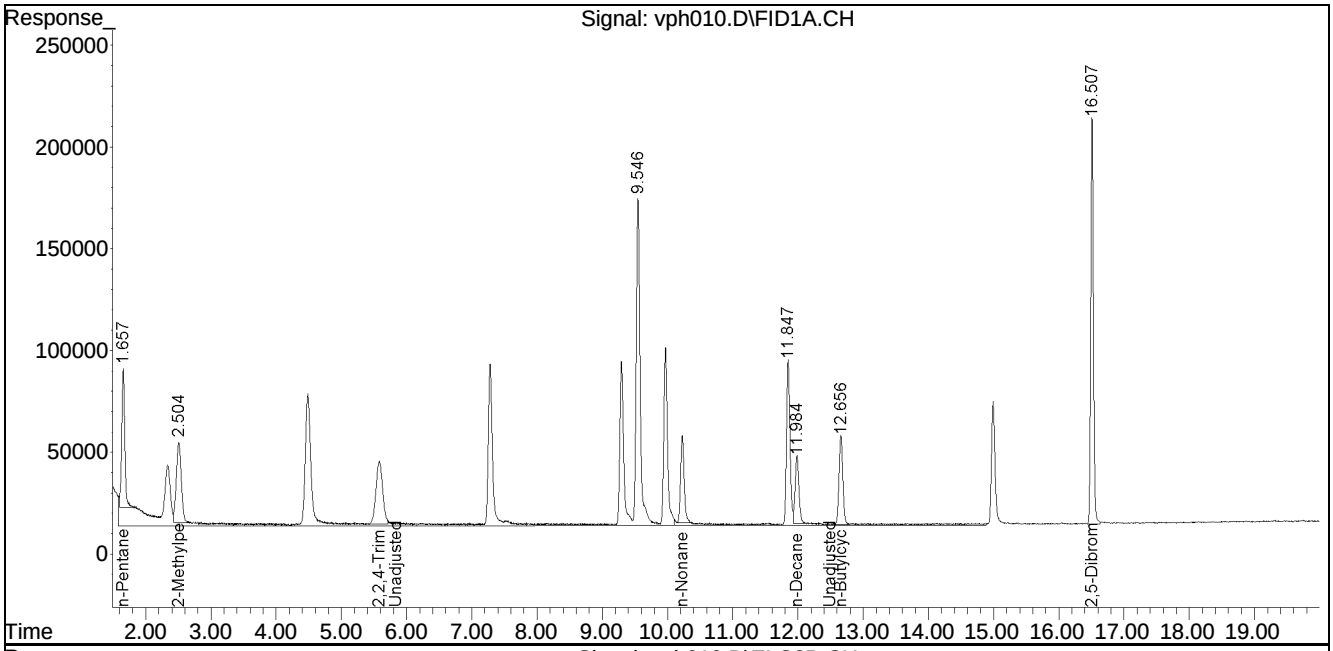
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

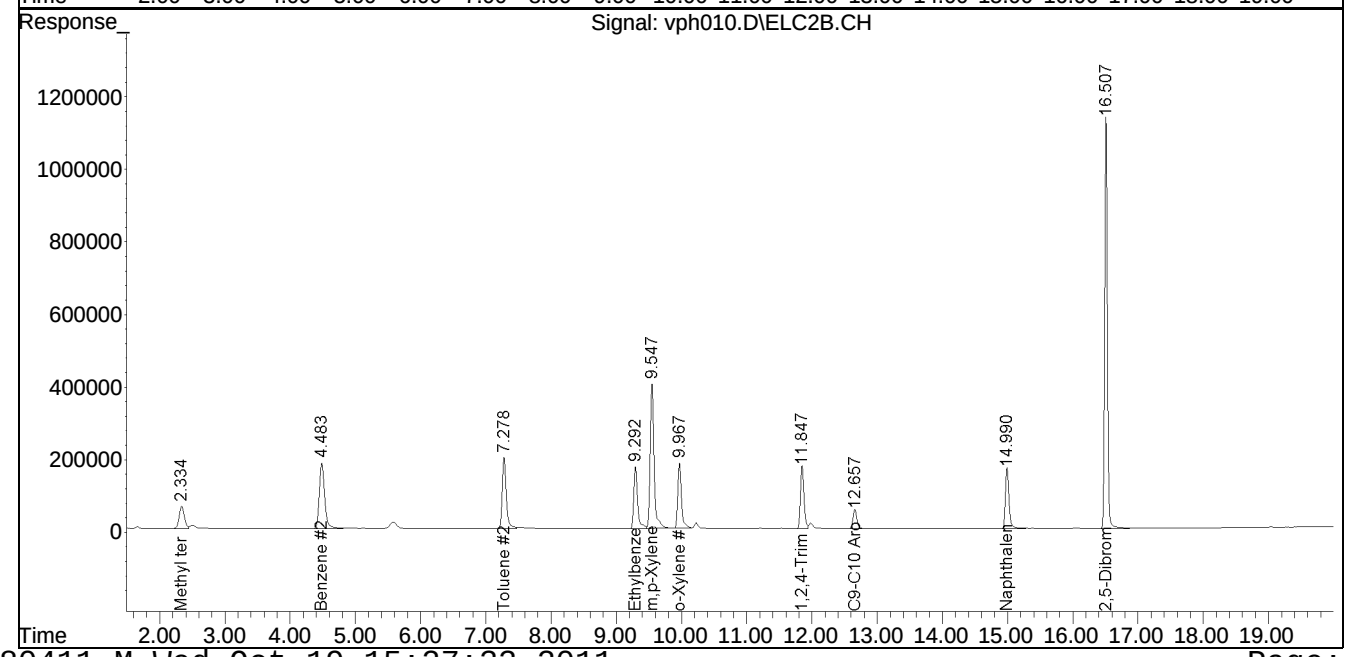
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph010.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 1:11 pm Operator: mp
Sample : seq-cal3 @ 10.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:30 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph020.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 1:40 pm Operator: mp
Sample : seq-cal4 @ 20.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:35 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.50 | 646397 | 3744265 | 41.409 | 40.926 | |
| | Spiked Amount 50.000 | | | | Recovery = | 82.82% | 81.85% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 6833464 | 0 | 128.397m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.53 | 12.50 | 458 | 130 | NoCal | <MDL | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.50 | 1815650 | 130 | 53.133m | NoCal | # |
| 4) | n-Pentane | 1.65 | 0.00 | 464123 | 0 | 15.190 | N.D. | # |
| 5) | Methyl tert-buty | 2.81 | 2.35 | 620 | 577779 | NoCal | 13.021 | |
| 6) | 2-Methylpentane | 2.51 | 0.00 | 445348 | 0 | 13.728 | N.D. | # |
| 7) | Benzene | 5.00 | 4.48 | 458 | 2206739 | NoCal | 12.046 | |
| 8) | 2,2,4-Trimethylp | 5.58 | 0.00 | 455204 | 0 | 14.006 | N.D. | # |
| 9) | Toluene | 7.76 | 7.27 | 510 | 1800630 | NoCal | 12.026 | |
| 10) | Ethylbenzene | 9.97 | 9.29 | 714056 | 1487702 | NoCal | 13.109 | |
| 11) | m,p-Xylene | 10.22 | 9.54 | 346087 | 3504063 | NoCal | 25.989 | |
| 12) | o-Xylene | 10.42 | 9.96 | 394 | 1492739 | NoCal | 12.500 | |
| 13) | n-Nonane | 10.22 | 0.00 | 346087 | 0 | 16.346 | N.D. | # |
| 14) | n-Decane | 11.98 | 12.65 | 269745 | 434292 | 16.935 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.66 | 0.00 | 352125 | 0 | 13.192 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.66 | 11.84 | 352125 | 1376834 | NoCal | 11.442 | |
| 17) | Naphthalene | 0.00 | 14.98 | 0 | 1354745 | N.D. | 11.750 | |

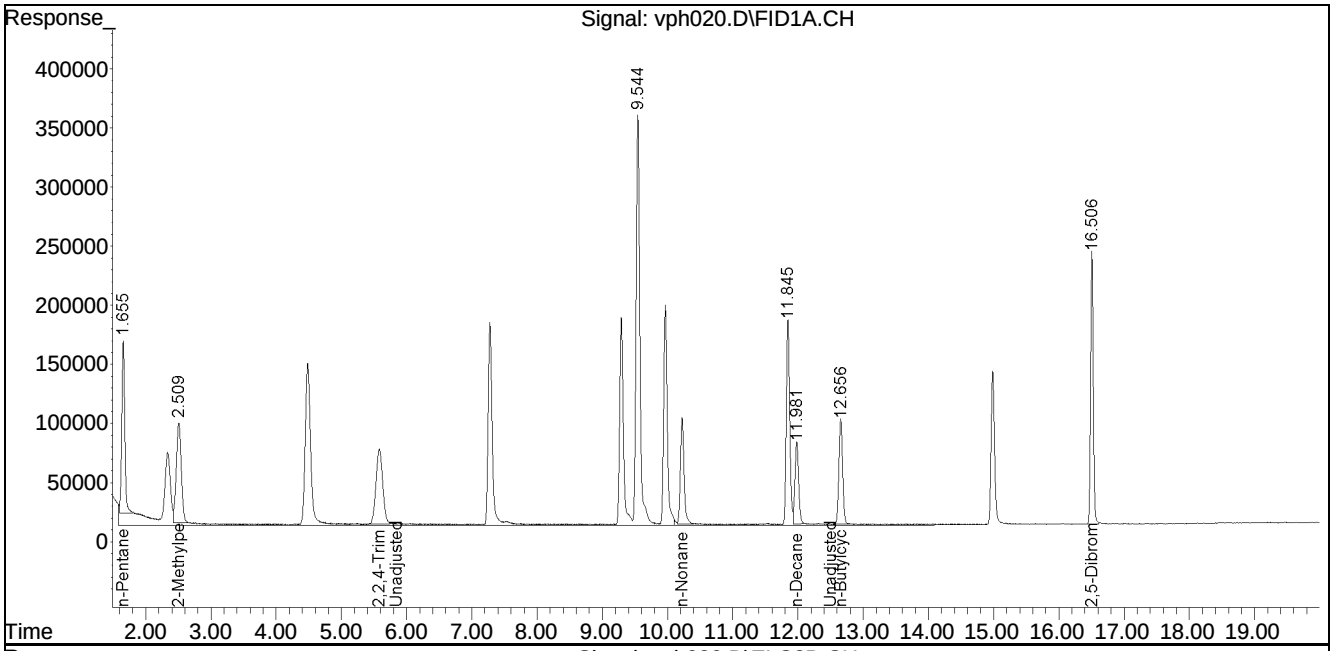
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

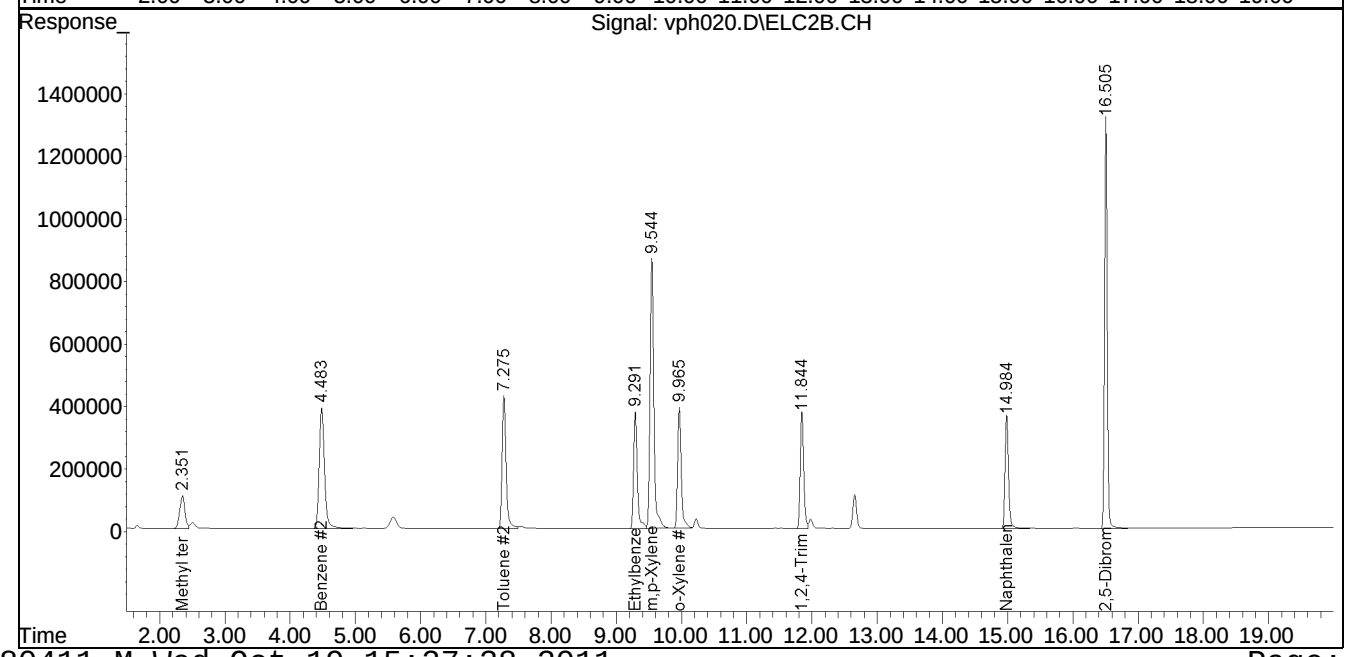
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph020.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 1:40 pm Operator: mp
Sample : seq-cal4 @ 20.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:35 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph050.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 2:38 pm Operator: mp
Sample : seq-cal5 @ 50.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:40 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.51 | 921296 | 5310527 | 59.019 | 58.045 | |
| | Spiked Amount 50.000 | | | | Recovery = | 118.04% | 116.09% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 16649359 | 0 | 312.833m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.51 | 12.66 | 426 | 1149737 | NoCal | 5.979 | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.66 | 4558986 | 1149737 | 133.413m | NoCal | # |
| 4) | n-Pentane | 1.65 | 0.00 | 1261295 | 0 | 41.281 | N.D. | # |
| 5) | Methyl tert-buty | 0.00 | 2.33 | 0 | 2228330 | N.D. | 50.220 | |
| 6) | 2-Methylpentane | 2.51 | 0.00 | 1154491 | 0 | 35.588 | N.D. | # |
| 7) | Benzene | 5.06 | 4.48 | 537 | 5692022 | NoCal | 31.070 | |
| 8) | 2,2,4-Trimethylp | 5.58 | 0.00 | 1174689 | 0 | 36.144 | N.D. | # |
| 9) | Toluene | 7.86f | 7.27 | 523 | 4669279 | NoCal | 31.185 | |
| 10) | Ethylbenzene | 9.96 | 9.29 | 1857399 | 3896599 | NoCal | 34.335 | |
| 11) | m,p-Xylene | 10.22 | 9.54 | 925366 | 9150254 | NoCal | 67.866 | |
| 12) | o-Xylene | 10.47 | 9.96 | 489 | 3902212 | NoCal | 32.675 | |
| 13) | n-Nonane | 10.22 | 0.00 | 925366 | 0 | 43.706 | N.D. | # |
| 14) | n-Decane | 11.98 | 12.66 | 790190 | 1149737 | 49.610 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.66 | 0.00 | 941115 | 0 | 35.258 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.66 | 11.84 | 941115 | 3596251 | NoCal | 29.885 | |
| 17) | Naphthalene | 0.00 | 14.98 | 0 | 3419547 | N.D. | 29.658 | |

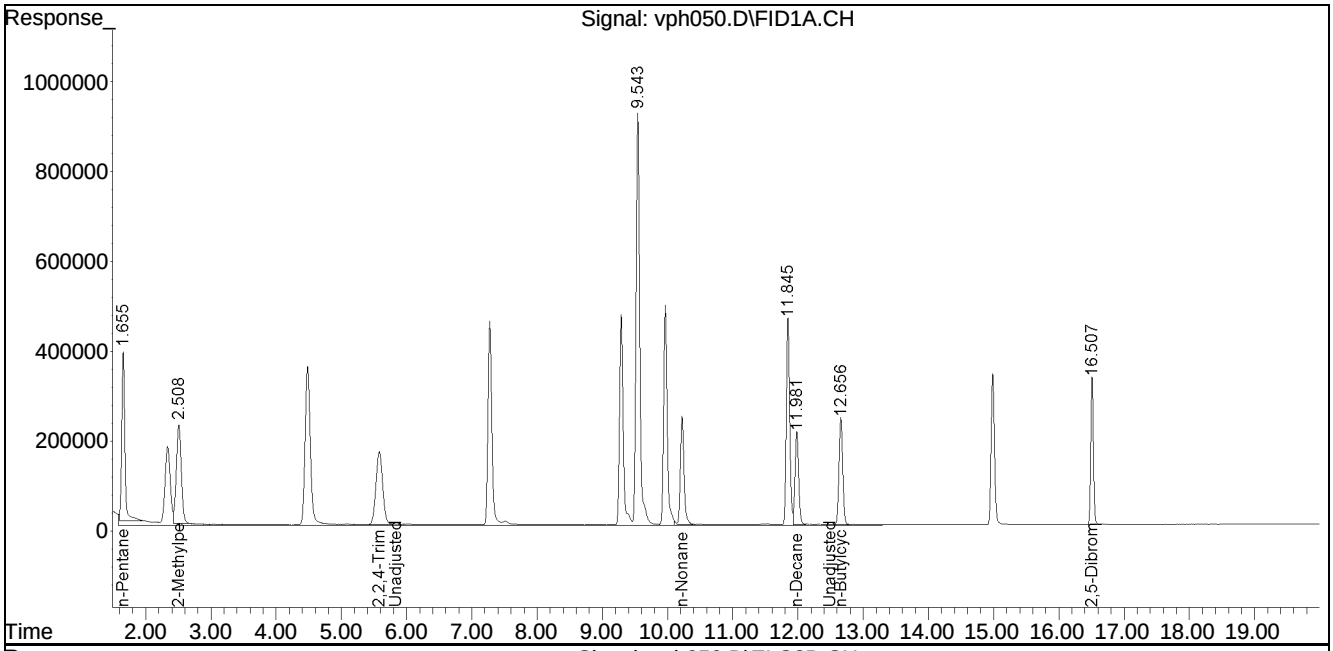
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

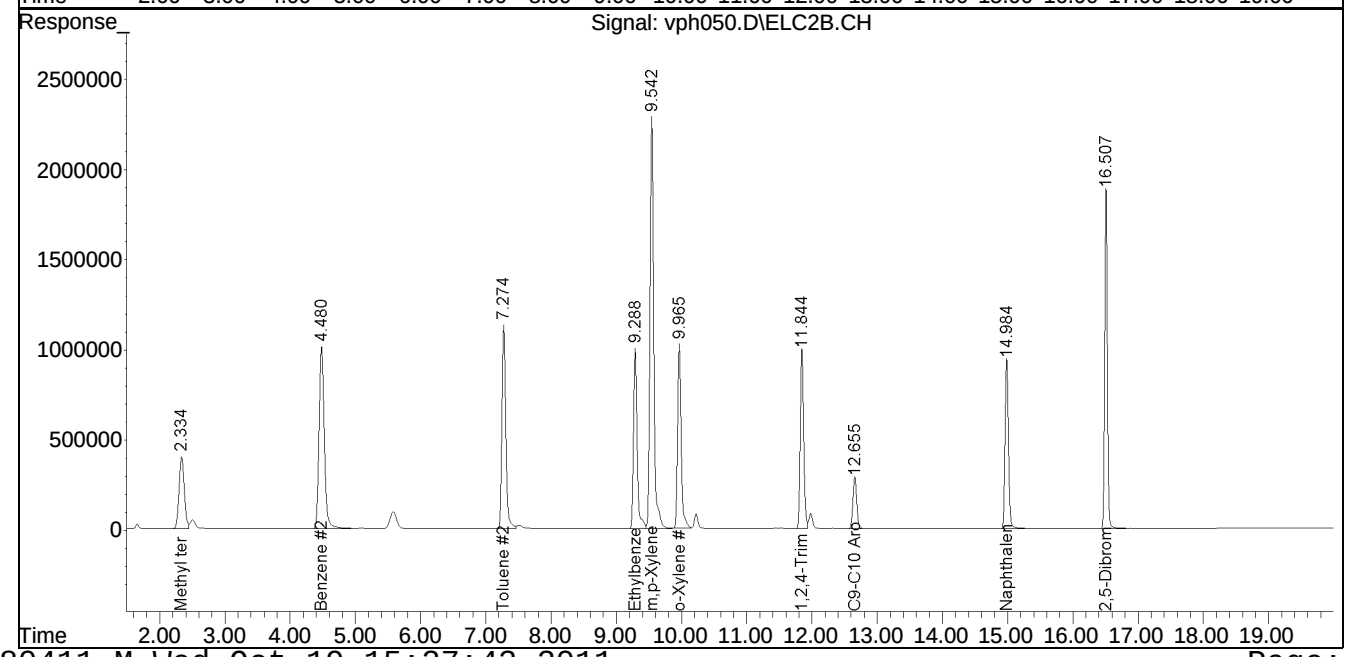
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph050.D Vial: 7
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 2:38 pm Operator: mp
Sample : seq-cal5 @ 50.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:40 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph100.D Vial: 8
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 4:05 pm Operator: mp
Sample : seq-cal6 @ 100.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:45 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.51 | 1300265 | 7394868 | 83.296 | 80.828 | |
| | Spiked Amount 50.000 | | | Recovery | = | 166.59% | 161.66% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 32496973 | 0 | 610.601m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.66 | 12.65 | 1987219 | 2402988 | NoCal | 12.496 | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.65 | 9918889 | 2402988 | 290.264m | NoCal | # |
| 4) | n-Pentane | 1.65 | 0.00 | 2534958 | 0 | 82.967 | N.D. | # |
| 5) | Methyl tert-buty | 0.00 | 2.33 | 0 | 4474063 | N.D. | 100.832 | |
| 6) | 2-Methylpentane | 2.50 | 0.00 | 2325861 | 0 | 71.696 | N.D. | # |
| 7) | Benzene | 5.08 | 4.48 | 1772 | 11088171 | NoCal | 60.525 | |
| 8) | 2,2,4-Trimethylp | 5.58 | 0.00 | 2317420 | 0 | 71.306 | N.D. | # |
| 9) | Toluene | 7.84f | 7.27 | 340 | 9089445 | NoCal | 60.706 | |
| 10) | Ethylbenzene | 9.96 | 9.29 | 3679485 | 7258450 | NoCal | 63.958 | |
| 11) | m,p-Xylene | 10.22 | 9.54 | 2003432 | 17816945 | NoCal | 132.146 | |
| 12) | o-Xylene | 10.49 | 9.96 | 1017 | 7636228 | NoCal | 63.942 | |
| 13) | n-Nonane | 10.22 | 10.49 | 2003432 | 8569 | 94.624 | NoCal | # |
| 14) | n-Decane | 11.98 | 12.65 | 2221985 | 2402988 | 139.501 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.66 | 0.00 | 1987219 | 0 | 74.450 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.66 | 11.84 | 1987219 | 7033739 | NoCal | 58.451 | |
| 17) | Naphthalene | 0.00 | 14.98 | 0 | 6541140 | N.D. | 56.732 | |

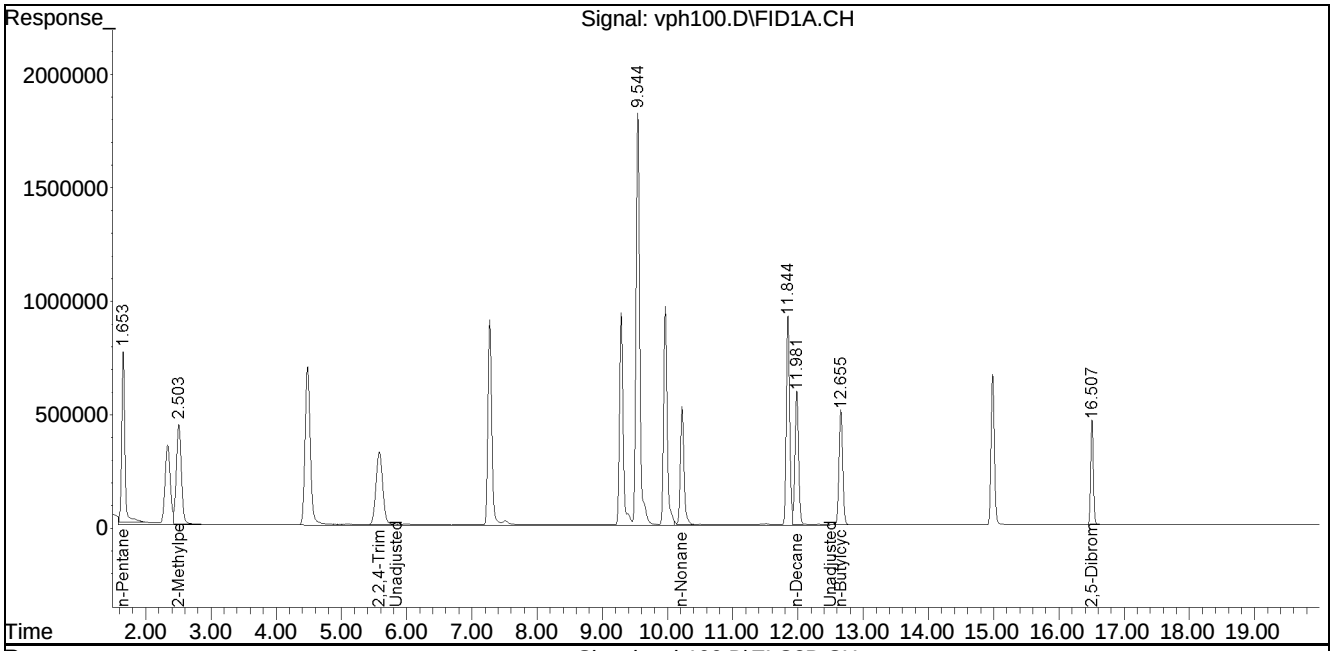
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

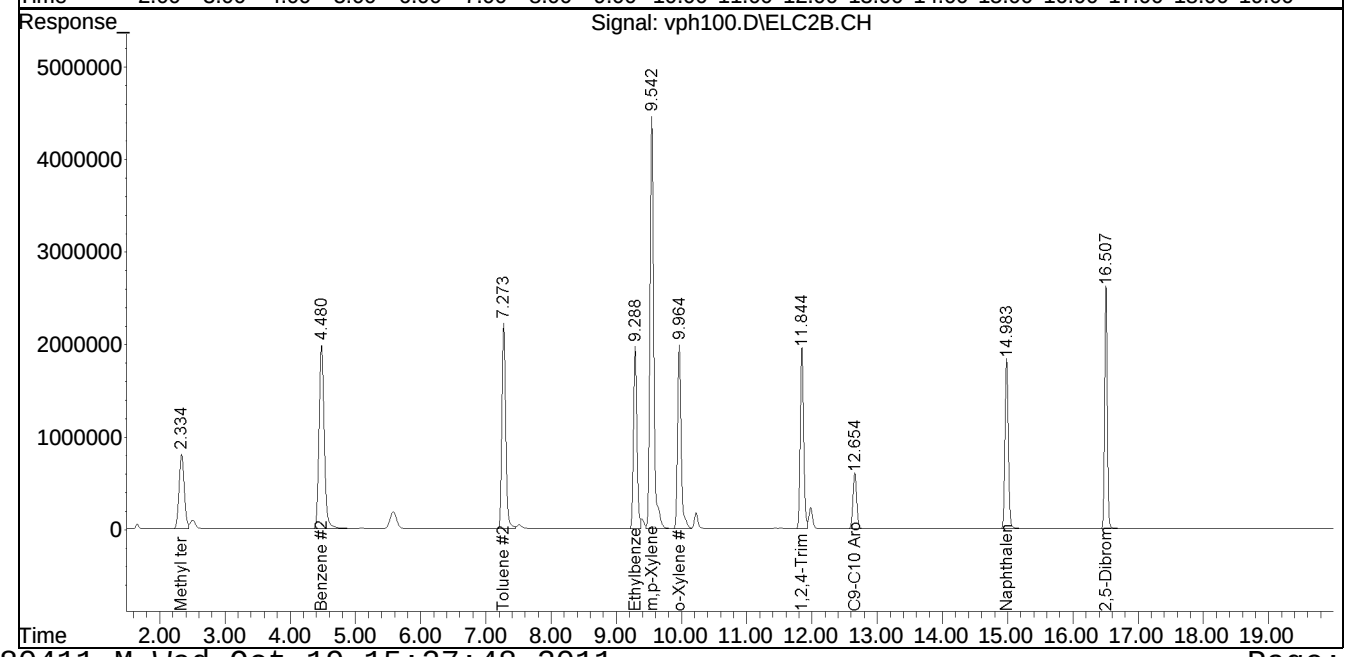
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph100.D Vial: 8
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 4:05 pm Operator: mp
Sample : seq-cal6 @ 100.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:45 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph200.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 6:01 pm Operator: mp
Sample : seq-cal7 @ 200.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:50 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.51 | 2192783 | 12486635 | 140.471 | 136.482 | |
| | Spiked Amount 50.000 | | | | Recovery = | 280.94% | 272.96% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 64170532 | 0 | 1205.731m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.65 | 12.65 | 4873535 | 5836763 | NoCal | 30.352 | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.65 | 22754842 | 5836763 | 665.893m | NoCal | # |
| 4) | n-Pentane | 1.65 | 0.00 | 4778729 | 0 | 156.405 | N.D. | # |
| 5) | Methyl tert-buty | 0.00 | 2.33 | 0 | 9237359 | N.D. | 208.182 | |
| 6) | 2-Methylpentane | 2.51 | 0.00 | 4546867 | 0 | 140.160 | N.D. | # |
| 7) | Benzene | 0.00 | 4.48 | 0 | 22131755 | N.D. | 120.807 | |
| 8) | 2,2,4-Trimethylp | 5.58 | 0.00 | 4656980 | 0 | 143.292 | N.D. | # |
| 9) | Toluene | 7.85f | 7.27 | 781 | 18179830 | NoCal | 121.418 | |
| 10) | Ethylbenzene | 9.96 | 9.29 | 7437764 | 15328748 | NoCal | 135.069 | |
| 11) | m,p-Xylene | 10.22 | 9.54 | 4873510 | 35691688 | NoCal | 264.720 | |
| 12) | o-Xylene | 10.48 | 9.96 | 2130 | 15335278 | NoCal | 128.411 | |
| 13) | n-Nonane | 10.22 | 10.49 | 4873510 | 25029 | 230.179 | NoCal | # |
| 14) | n-Decane | 11.98 | 12.65 | 5819697 | 5836763 | 365.373 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.65 | 0.00 | 4873535 | 0 | 182.584 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.65 | 11.84 | 4873535 | 14284471 | NoCal | 118.706 | |
| 17) | Naphthalene | 15.59 | 14.98 | 665 | 13335880 | NoCal | 115.663 | |

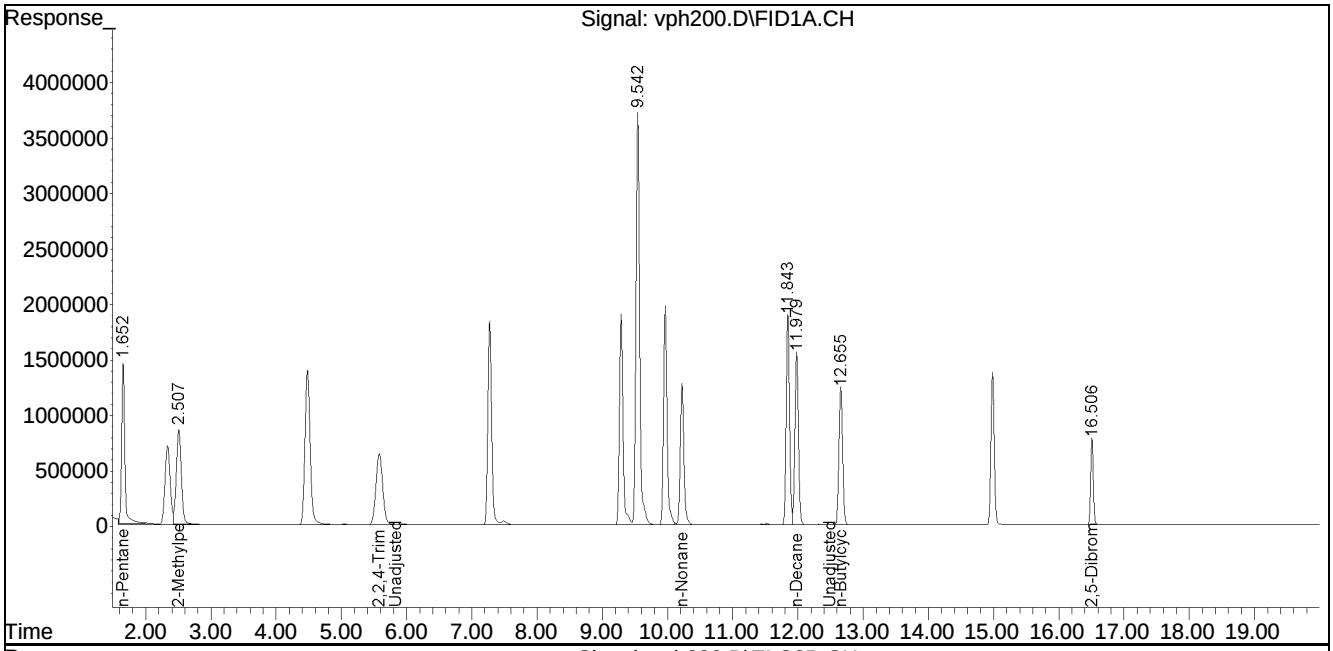
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

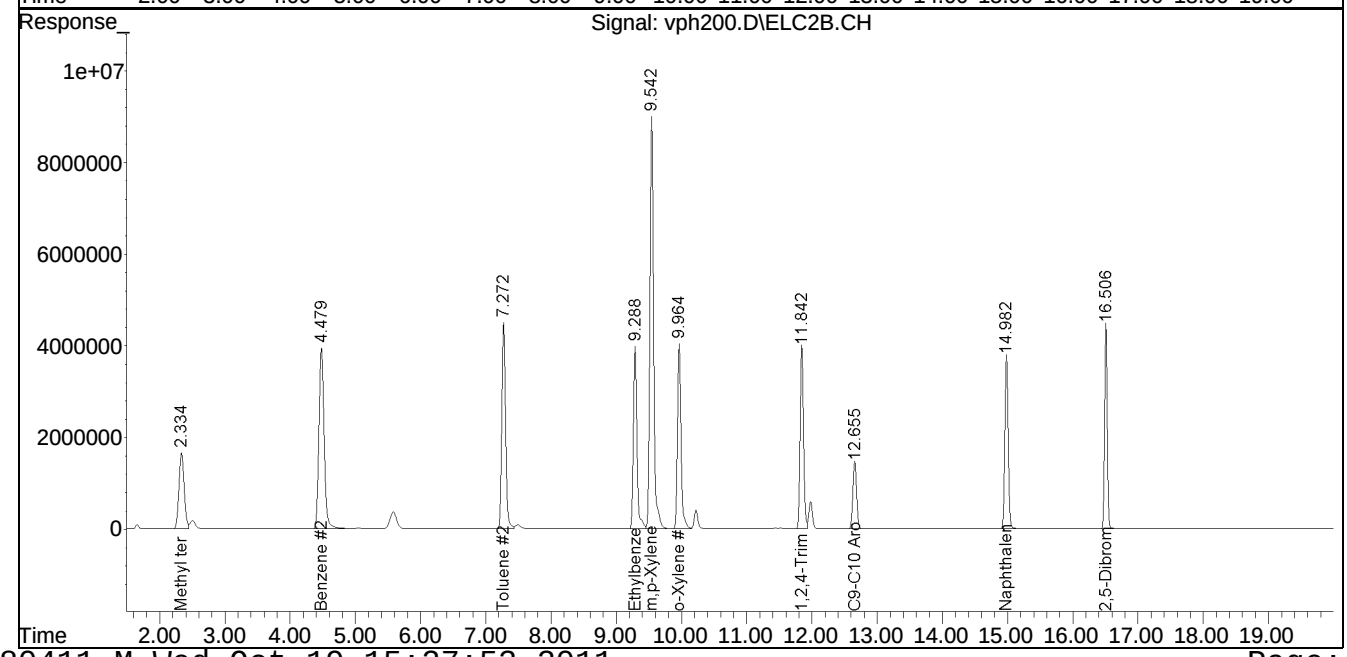
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\vph200.D Vial: 10
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 6:01 pm Operator: mp
Sample : seq-cal7 @ 200.0 ppb vph/gro cal Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:50 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VIIa - INITIAL CALIBRATION CHECK

## MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA
**SDG:** 38520
**Client:** Spectrum Analytical, Inc.-- RI Division
**Project:** See Chain of Custody
**Calibration:** 1109006
**Laboratory ID:** S108047-ICV1
**Sequence:** S108047
**Standard ID:** 11I0120
**Analyzed:** 09/08/11 19:57
**File ID:** icv020.D

| ANALYTE | EXPECTED | FOUND | % R | QC LIMIT |
|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 18.1 µg/l | 91 | 80 - 120 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 201 µg/l | 100 | 80 - 120 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 75.5 µg/l | 94 | 80 - 120 |
| Benzene | 20.0 µg/l | 20.5 µg/l | 103 | 80 - 120 |
| Ethylbenzene | 20.0 µg/l | 21.3 µg/l | 106 | 80 - 120 |
| Methyl tert-butyl ether | 20.0 µg/l | 17.0 µg/l | 85 | 80 - 120 |
| Naphthalene | 20.0 µg/l | 19.9 µg/l | 99 | 80 - 120 |
| Toluene | 20.0 µg/l | 21.0 µg/l | 105 | 80 - 120 |
| m,p-Xylene | 40.0 µg/l | 42.1 µg/l | 105 | 80 - 120 |
| o-Xylene | 20.0 µg/l | 21.3 µg/l | 106 | 80 - 120 |
| 2-Methylpentane | 20.0 µg/l | 19.4 µg/l | 97 | 80 - 120 |
| n-Nonane | 20.0 µg/l | 17.0 µg/l | 85 | 80 - 120 |
| n-Pentane | 20.0 µg/l | 19.2 µg/l | 96 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 21.0 µg/l | 105 | 80 - 120 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.4 µg/l | 97 | 80 - 120 |
| n-Butylcyclohexane | 20.0 µg/l | 17.6 µg/l | 88 | 80 - 120 |
| n-Decane | 20.0 µg/l | 18.2 µg/l | 91 | 80 - 120 |

* Values outside of QC limits

Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\icv020.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 7:57 pm Operator: mp
Sample : seq-icv1 @ 20.0 ppb vph/gro icv Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:15 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.51 | 656001 | 3710946 | 42.024 | 40.562 | |
| | Spiked Amount 50.000 | | | Recovery | = | 84.05% | 81.12% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 0.00 | 6772519 | 0 | 127.252m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.66 | 12.66 | 322952 | 387130 | NoCal | 2.013 | |
| 3) | Unadjusted C9-C1 | 12.49 | 12.66 | 1725034 | 387130 | 50.481m | NoCal | # |
| 4) | n-Pentane | 1.66 | 0.00 | 383799 | 0 | 12.561 | N.D. | # |
| 5) | Methyl tert-buty | 0.00 | 2.34 | 0 | 642171 | N.D. | 14.473 | |
| 6) | 2-Methylpentane | 2.51 | 0.00 | 405022 | 0 | 12.485 | N.D. | # |
| 7) | Benzene | 5.00 | 4.48 | 625 | 2132132 | NoCal | 11.638 | |
| 8) | 2,2,4-Trimethylp | 5.58 | 6.05f | 414829 | 863 | 12.764 | NoCal | # |
| 9) | Toluene | 7.74 | 7.28 | 640 | 1766415 | NoCal | 11.797 | |
| 10) | Ethylbenzene | 9.97 | 9.29 | 726605 | 1456751 | NoCal | 12.836 | |
| 11) | m,p-Xylene | 10.22 | 9.54 | 283635 | 3450504 | NoCal | 25.592 | |
| 12) | o-Xylene | 0.00 | 9.97 | 0 | 1495430 | N.D. | 12.522 | |
| 13) | n-Nonane | 10.22 | 0.00 | 283635 | 0 | 13.396 | N.D. | # |
| 14) | n-Decane | 11.98 | 12.66 | 243992 | 387130 | 15.318 | NoCal | # |
| 15) | n-Butylcyclohexa | 12.66 | 0.00 | 322952 | 0 | 12.099 | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.66 | 11.85 | 322952 | 1359630 | NoCal | 11.299 | |
| 17) | Naphthalene | 0.00 | 14.99 | 0 | 1271066 | N.D. | 11.024 | |

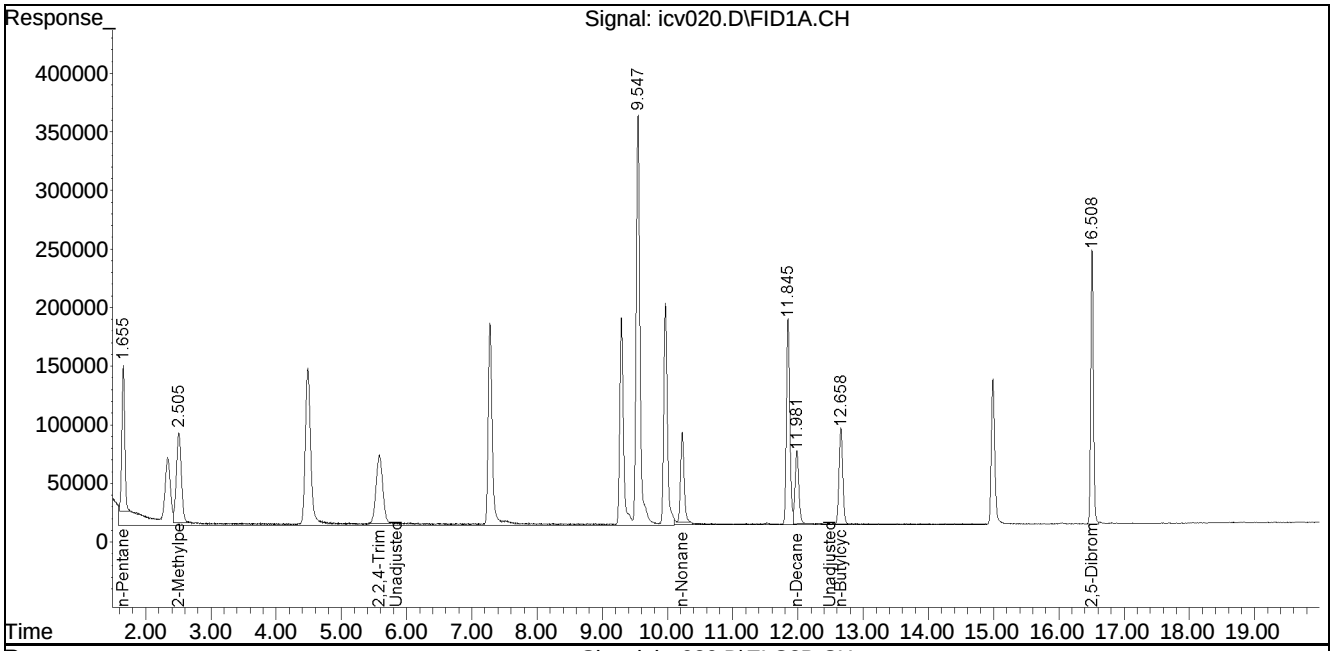
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

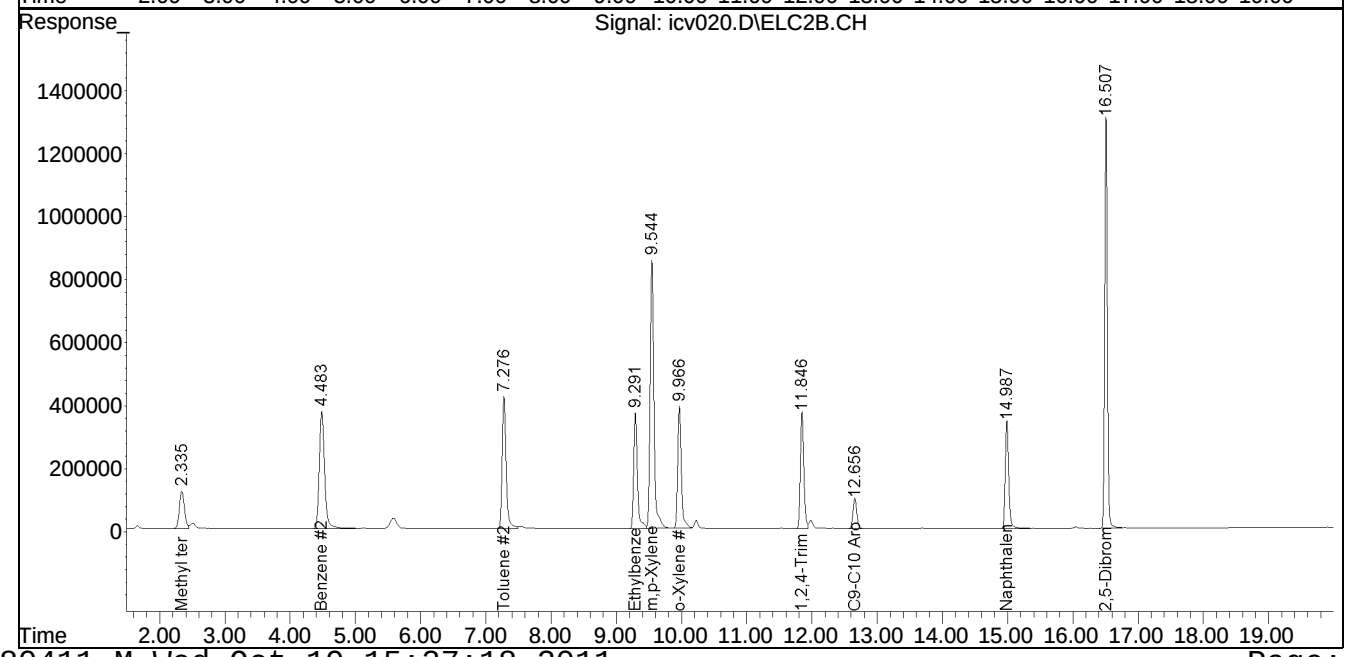
Quantitation Report (Not Reviewed)

Data File : G:\Sep2011\FID2\0908\icv020.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 08 Sep 2011 7:57 pm Operator: mp
Sample : seq-icv1 @ 20.0 ppb vph/gro icv Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Oct 19 15:27:15 2011
Quant Results File: F2080411.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2080411.M
Quant Title :
QLast Update : Thu Aug 04 14:40:52 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VII - CONTINUING CALIBRATION CHECK

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Instrument ID: | FID2 | Calibration: | 1109006 |
| Lab File ID: | ccc1104a.D | Calibration Date: | 09/08/11 10:26 |
| Sequence: | S110143 | Analyzed: | 11/04/11 09:16 |
| Lab Sample ID: | S110143-CCV1 | | |
| Spike ID: | 11H0080 | | |

| | | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 47.0 µg/l | 114119 | 107261.3 | | -6.0 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 484 µg/l | 33766.41 | 32696.52 | | -3.2 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 188 µg/l | 22715.96 | 21364.91 | | -5.9 | 25 |
| Benzene | A | 50.0 µg/l | 51.8 µg/l | 103819 | 107550.7 | | 3.6 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 53.3 µg/l | 68517.78 | 73008.82 | | 6.6 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 48.8 µg/l | 37800.12 | 36856.62 | | -2.5 | 25 |
| Naphthalene | A | 50.0 µg/l | 49.5 µg/l | 63931.34 | 63343.18 | | -0.9 | 25 |
| Toluene | A | 50.0 µg/l | 52.3 µg/l | 84080.87 | 87898.84 | | 4.5 | 25 |
| m,p-Xylene | A | 100 µg/l | 104 µg/l | 82053.67 | 85063.97 | | 3.7 | 25 |
| o-Xylene | A | 50.0 µg/l | 51.7 µg/l | 70333.24 | 72713.36 | | 3.4 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 56.9 µg/l | 20844.22 | 23724.48 | | 13.8 | 25 |
| n-Nonane | A | 50.0 µg/l | 51.7 µg/l | 16711.25 | 17279.42 | | 3.4 | 30 |
| n-Pentane | A | 50.0 µg/l | 57.0 µg/l | 20034.37 | 22825.34 | | 13.9 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 51.9 µg/l | 64784.58 | 67198.24 | | 3.7 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 54.6 µg/l | 21412.03 | 23376.82 | | 9.2 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 48.0 µg/l | 18335.56 | 17610.62 | | -4.0 | 25 |
| n-Decane | A | 50.0 µg/l | 54.9 µg/l | 13379.33 | 14685.7 | | 9.8 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\ccc1104a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 9:16 am Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 08:36:36 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 17.00 | 0.00 | 366 | 0 | <MDL | N.D. | # |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 15868509 | 0 | 264.308m | N.D. | # |
| 2) | C9-C10 Aromatic | 0.00 | 13.67 | 0 | 540 | N.D. | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.67 | 4561580 | 540 | 147.496m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.93 | 0.00 | 820 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 5.99 | 0.00 | 1151 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.81 | 0.00 | 469 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.97f | 9.97f | 1812039 | 3635668 | NoCal | 60.118 | |
| 11) | m,p-Xylene | 10.22f | 10.22f | 863971 | 291790 | NoCal | 4.156 | |
| 12) | o-Xylene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 13) | n-Nonane | 10.89 | 0.00 | 580 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.66 | 12.66 | 880531 | 1040299 | 30.576 | NoCal | # |
| 15) | n-Butylcyclohexa | 0.00 | 13.67f | 0 | 540 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 12.66f | 12.66f | 880531 | 1040299 | NoCal | 16.433 | |
| 17) | Naphthalene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |

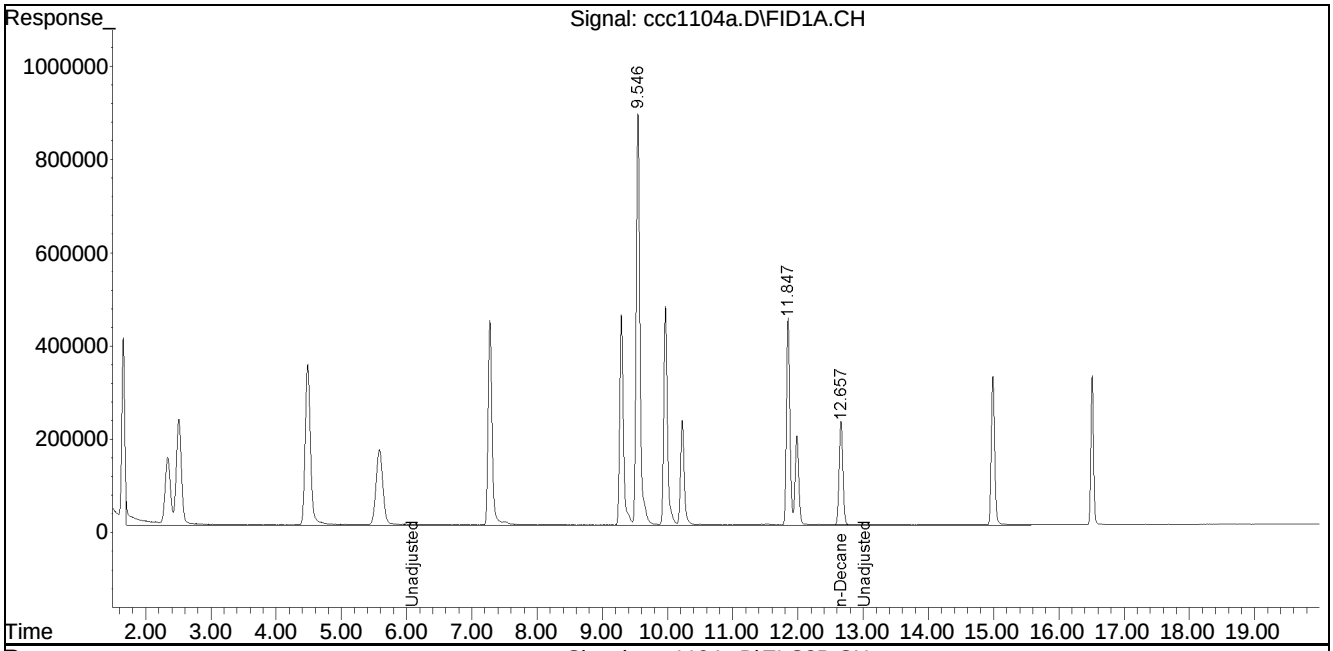
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

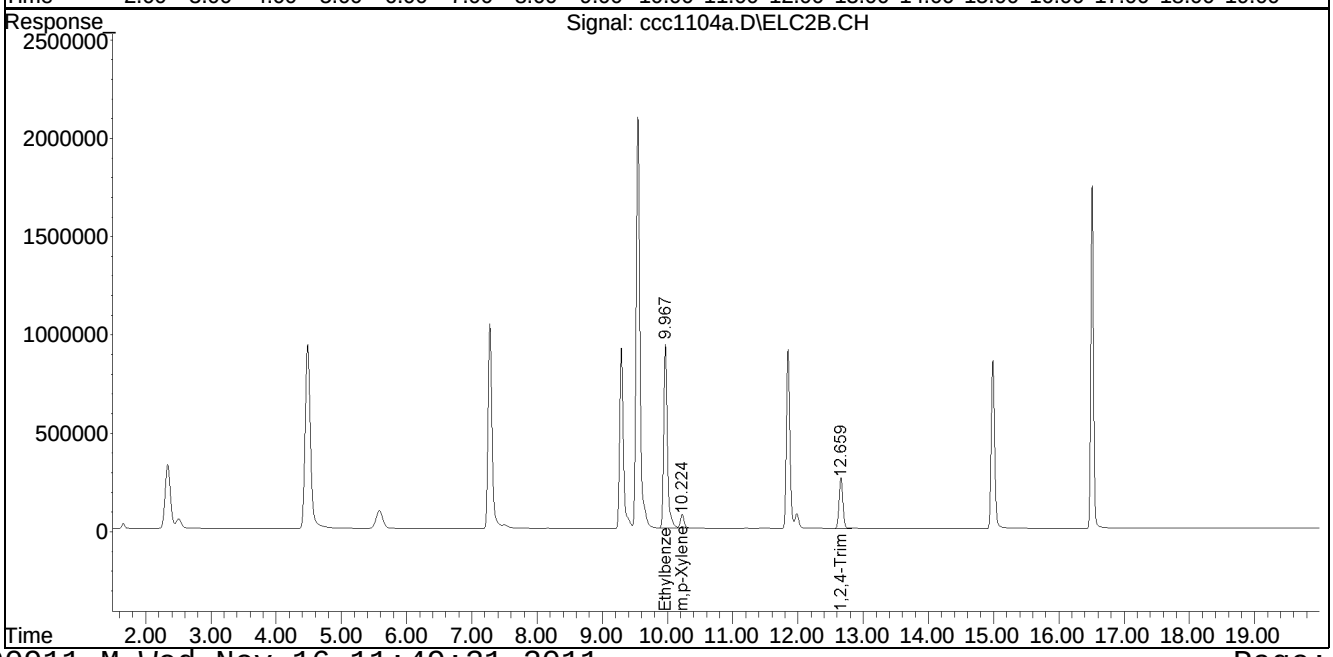
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\ccc1104a.D Vial: 2
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 9:16 am Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 08:36:36 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM VII - CONTINUING CALIBRATION CHECK

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Instrument ID: | FID2 | Calibration: | 1109006 |
| Lab File ID: | ccc1104b.D | Calibration Date: | 09/08/11 10:26 |
| Sequence: | S110143 | Analyzed: | 11/04/11 23:03 |
| Lab Sample ID: | S110143-CCV2 | | |
| Spike ID: | 11H0080 | | |

| | | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| COMPOUND | TYPE | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 46.4 µg/l | 114119 | 105985.3 | | -7.1 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 477 µg/l | 33766.41 | 32237.68 | | -4.5 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 176 µg/l | 22715.96 | 20014.46 | | -11.9 | 25 |
| Benzene | A | 50.0 µg/l | 52.3 µg/l | 103819 | 108690 | | 4.7 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 53.7 µg/l | 68517.78 | 73567.14 | | 7.4 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 44.4 µg/l | 37800.12 | 33528.5 | | -11.3 | 25 |
| Naphthalene | A | 50.0 µg/l | 50.6 µg/l | 63931.34 | 64677.64 | | 1.2 | 25 |
| Toluene | A | 50.0 µg/l | 52.5 µg/l | 84080.87 | 88339.1 | | 5.1 | 25 |
| m,p-Xylene | A | 100 µg/l | 104 µg/l | 82053.67 | 85557.79 | | 4.3 | 25 |
| o-Xylene | A | 50.0 µg/l | 52.1 µg/l | 70333.24 | 73253.18 | | 4.2 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 55.2 µg/l | 20844.22 | 23030.2 | | 10.5 | 25 |
| n-Nonane | A | 50.0 µg/l | 45.0 µg/l | 16711.25 | 15045.2 | | -10.0 | 30 |
| n-Pentane | A | 50.0 µg/l | 55.5 µg/l | 20034.37 | 22219.3 | | 10.9 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 52.3 µg/l | 64784.58 | 67744.98 | | 4.6 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 51.9 µg/l | 21412.03 | 22241.06 | | 3.9 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 43.1 µg/l | 18335.56 | 15793.8 | | -13.9 | 25 |
| n-Decane | A | 50.0 µg/l | 45.9 µg/l | 13379.33 | 12281.28 | | -8.2 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\ccc1104b.D Vial: 27
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 11:03 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 22:23:10 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 15597189 | 0 | 259.682m | N.D. | # |
| 2) | C9-C10 Aromatic | 13.16 | 0.00 | 562 | 0 | NoCal | N.D. | |
| 3) | Unadjusted C9-C1 | 13.03 | 0.00 | 4426148 | 0 | 143.117m | N.D. | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.91 | 0.00 | 677 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 5.99 | 0.00 | 762 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.81 | 0.00 | 404 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.97f | 9.97f | 1808182 | 3662659 | NoCal | 60.564 | |
| 11) | m,p-Xylene | 10.23f | 10.22f | 752260 | 257340 | NoCal | 3.665 | |
| 12) | o-Xylene | 10.53 | 0.00 | 475 | 0 | NoCal | N.D. | |
| 13) | n-Nonane | 10.83 | 0.00 | 398 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.66 | 12.66 | 789690 | 940957 | 27.422 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.24 | 0.00 | 405 | 0 | <MDL | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.66f | 12.66f | 789690 | 940957 | NoCal | 14.864 | |
| 17) | Naphthalene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |

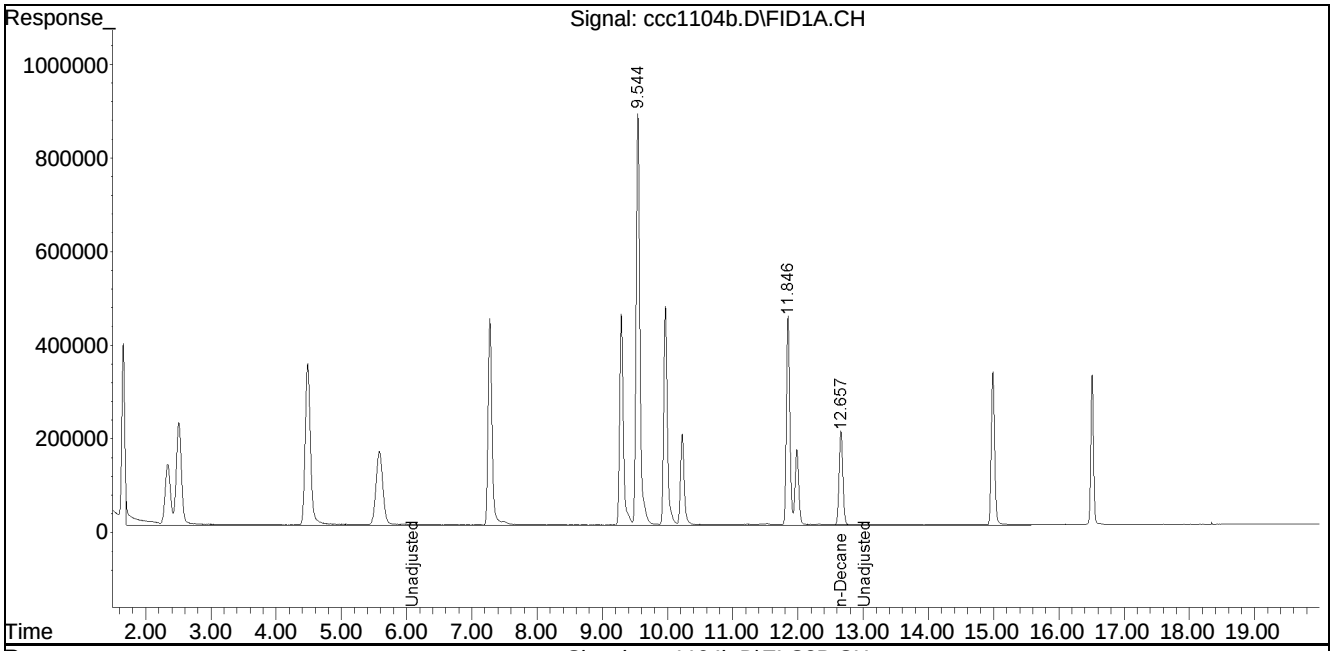
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

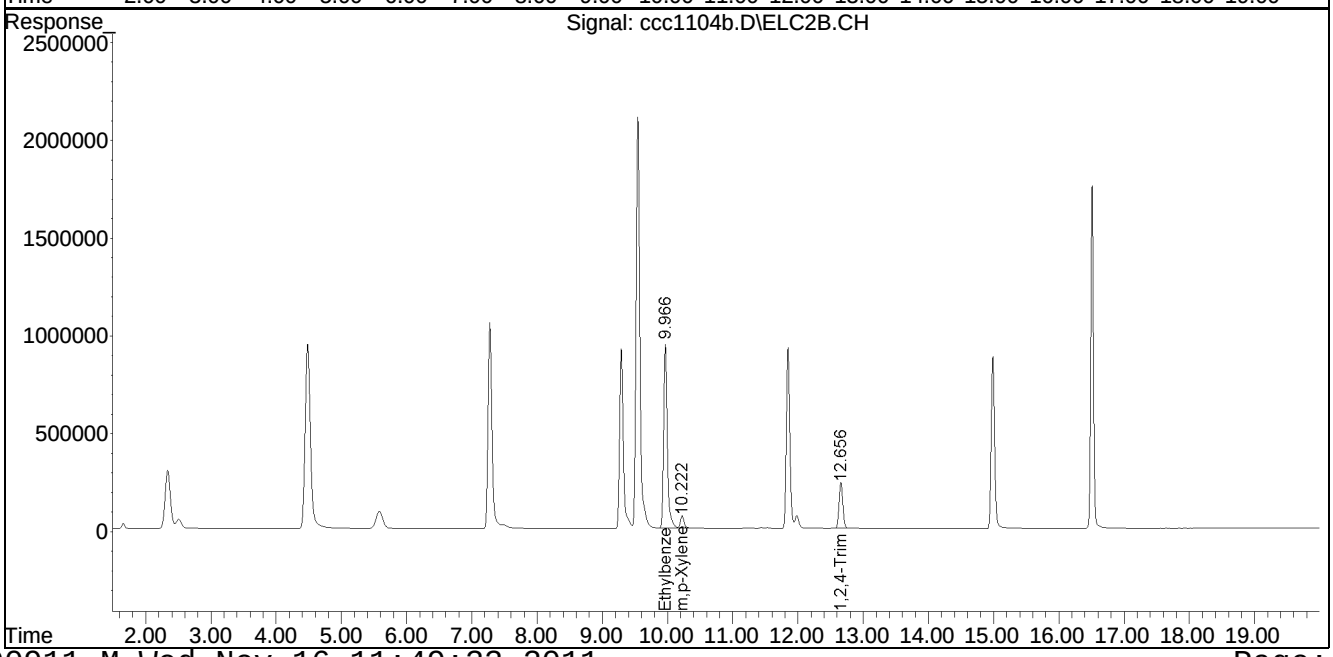
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\ccc1104b.D Vial: 27
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 11:03 pm Operator: mp
Sample : seq-ccv1 @ 50 ppb ccc vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 22:23:10 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Raw Quality Control Data

# FORM I - ORGANIC ANALYSIS DATA SHEET
## MADEP VPH 5/2004 Rev. 1.1

**1122848-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1122848-BLK1 | File ID: | blk1104c.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 08:47 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 9.37 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 25.0 µg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 1.36 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 9.37 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 25.0 µg/l | U |
| 71-43-2 | Benzene | 1 | 5.0 µg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 5.0 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 5.0 µg/l | U |
| 91-20-3 | Naphthalene | 1 | 5.0 µg/l | U |
| 108-88-3 | Toluene | 1 | 5.0 µg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 10.0 µg/l | U |
| 95-47-6 | o-Xylene | 1 | 5.0 µg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 5.0 µg/l | U |
| 111-84-2 | n-Nonane | 1 | 10.0 µg/l | U |
| 109-66-0 | n-Pentane | 1 | 10.0 µg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 5.0 µg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 5.0 µg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 5.0 µg/l | U |
| 124-18-5 | n-Decane | 1 | 5.0 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\blk1104c.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 8:47 am Operator: mp
Sample : seq-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 08:07:47 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 714666 | 0 | 5.953m | N.D. | # |
| 2) | C9-C10 Aromatic | 12.88 | 13.47 | 658 | 76 | NoCal | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.47 | 162417 | 76 | 5.252m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.79 | 0.00 | 687 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.79 | 0.00 | 687 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.91 | 0.00 | 504 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 5.99 | 0.00 | 885 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.75 | 0.00 | 734 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.72f | 0.00 | 1194 | 0 | NoCal | N.D. | |
| 11) | m,p-Xylene | 10.09 | 10.20 | 1457 | 353 | NoCal | <MDL | |
| 12) | o-Xylene | 10.53 | 10.75f | 1434 | 315 | NoCal | <MDL | |
| 13) | n-Nonane | 10.79 | 10.75 | 580 | 315 | <MDL | NoCal | # |
| 14) | n-Decane | 12.88 | 12.59 | 658 | 529 | <MDL | NoCal | # |
| 15) | n-Butylcyclohexa | 0.00 | 13.47 | 0 | 76 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.59 | 0 | 529 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 15.66 | 0 | 596 | N.D. | <MDL | |

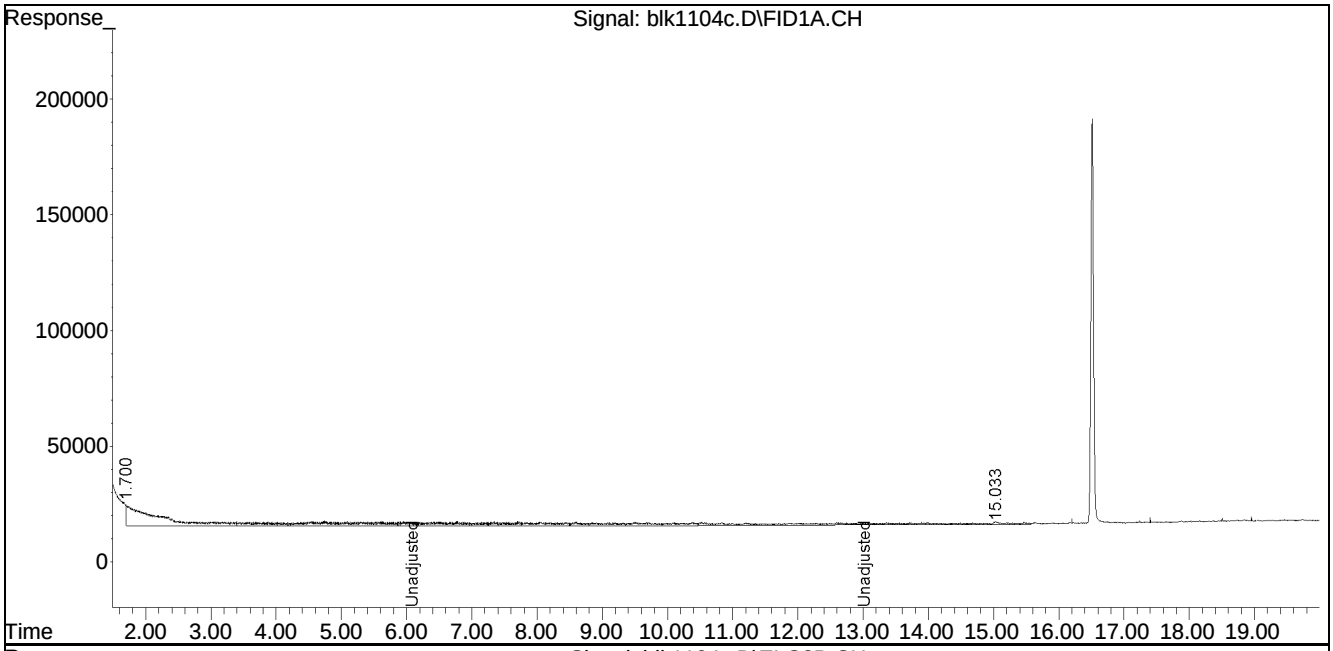
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

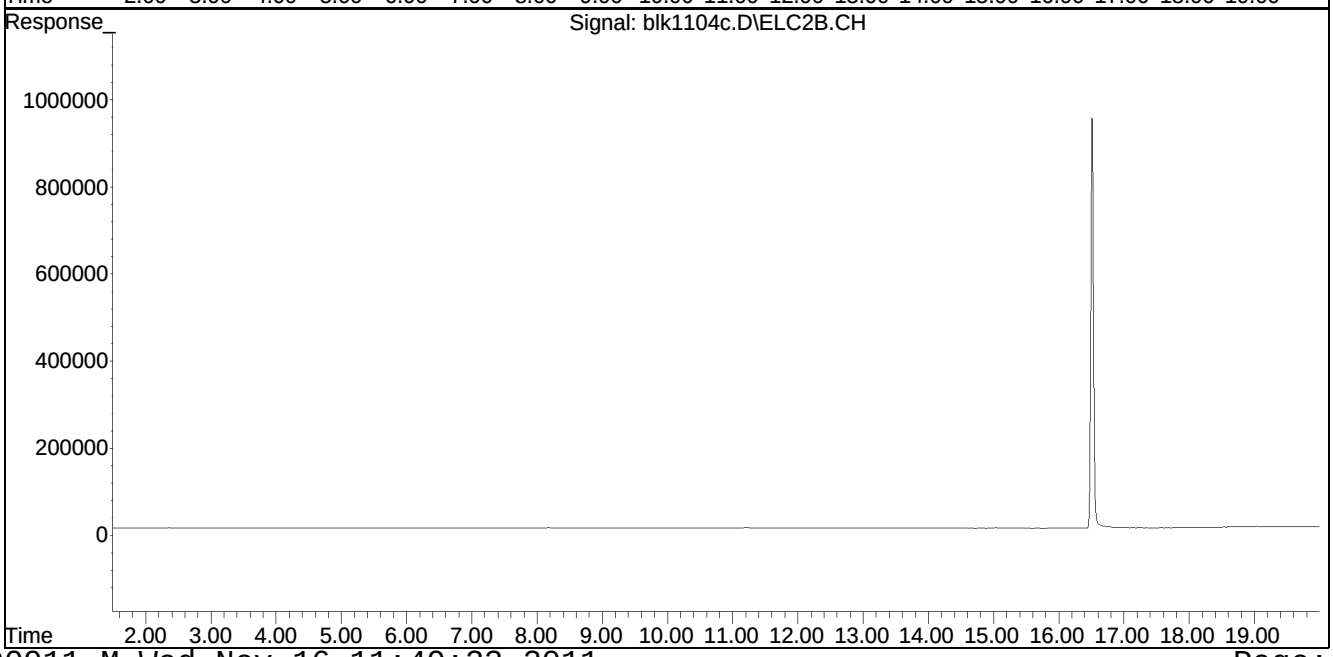
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\blk1104c.D Vial: 1
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 8:47 am Operator: mp
Sample : seq-blk1 @ system blank vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 08:07:47 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## MADEP VPH 5/2004 Rev. 1.1

**1122848-BS1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1122848-BS1 | File ID: | lcs1104a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 09:45 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 49.6 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 61.0 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 21.2 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 193 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 82.2 µg/l | |
| 71-43-2 | Benzene | 1 | 21.2 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 21.9 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 14.1 µg/l | |
| 91-20-3 | Naphthalene | 1 | 24.3 µg/l | |
| 108-88-3 | Toluene | 1 | 21.7 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 42.9 µg/l | |
| 95-47-6 | o-Xylene | 1 | 21.7 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 20.9 µg/l | |
| 111-84-2 | n-Nonane | 1 | 20.5 µg/l | |
| 109-66-0 | n-Pentane | 1 | 21.2 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 21.8 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 21.2 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 20.0 µg/l | |
| 124-18-5 | n-Decane | 1 | 22.4 µg/l | |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\lcs1104a.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 9:45 am Operator: mp
Sample : seq-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 09:05:32 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 5.97 | 6773537 | 625 | 109.250m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.12 | 0.00 | 656 | 0 | NoCal | N.D. | |
| 3) | Unadjusted C9-C1 | 13.03 | 0.00 | 2083642 | 0 | 67.373m | N.D. | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.76f | 0.00 | 1698 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 6.02 | 5.97 | 920 | 625 | <MDL | NoCal | # |
| 9) | Toluene | 7.77 | 0.00 | 393 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.97f | 9.97f | 755469 | 1527152 | NoCal | 25.252 | |
| 11) | m,p-Xylene | 10.23f | 10.23f | 343362 | 124358 | NoCal | 1.771 | |
| 12) | o-Xylene | 10.54 | 0.00 | 538 | 0 | NoCal | N.D. | |
| 13) | n-Nonane | 10.74 | 0.00 | 355 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.66 | 12.66 | 367545 | 439857 | 12.763 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.45 | 0.00 | 336 | 0 | <MDL | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.52 | 12.66f | 381 | 439857 | NoCal | 6.948 | |
| 17) | Naphthalene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |

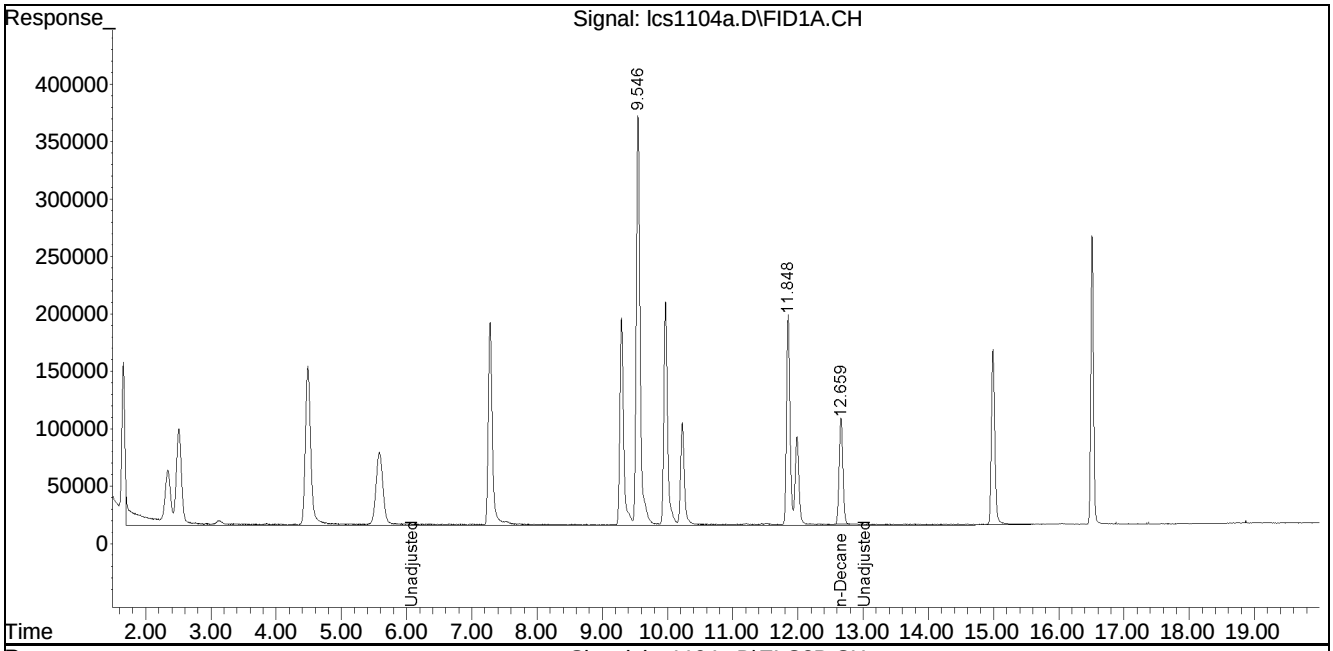
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

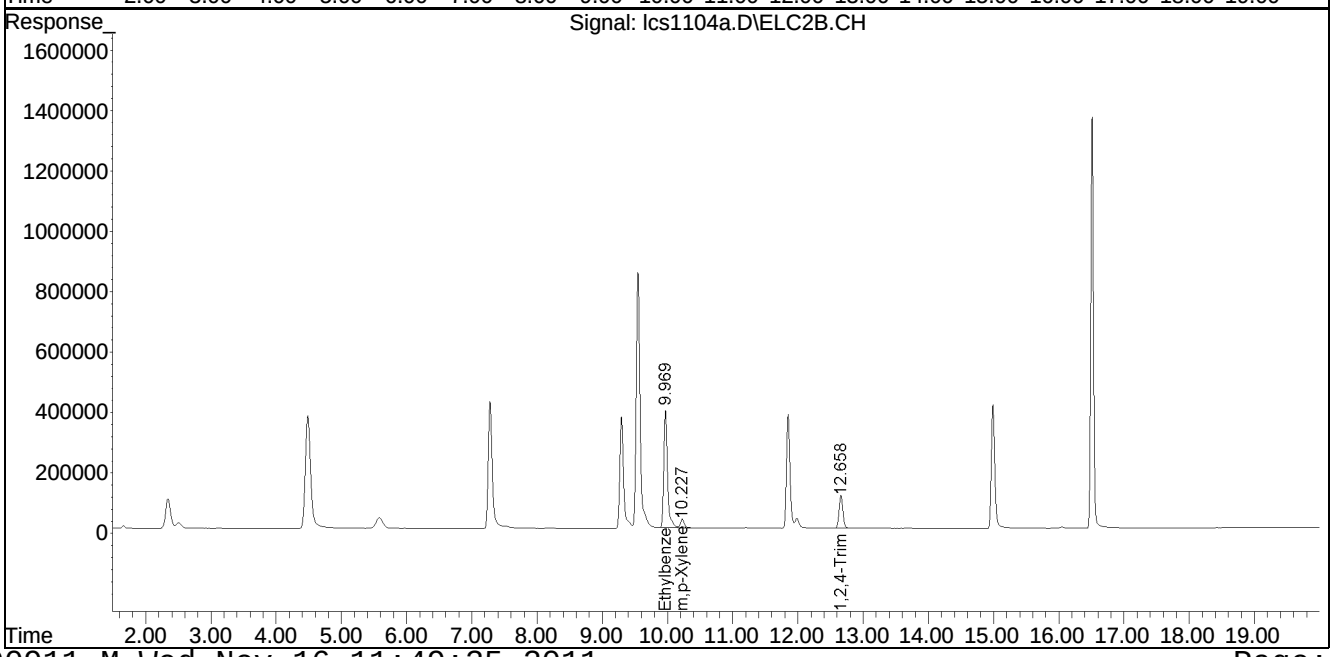
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\lcs1104a.D Vial: 3
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 9:45 am Operator: mp
Sample : seq-bs1 @ 20 ppb lcs vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 09:05:32 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## MADEP VPH 5/2004 Rev. 1.1

**1122848-BSD1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1122848-BSD1 | File ID: | lcs1104b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 10:14 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 50.8 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 59.8 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 20.6 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 195 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 80.3 µg/l | |
| 71-43-2 | Benzene | 1 | 21.2 µg/l | |
| 100-41-4 | Ethylbenzene | 1 | 22.1 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 14.1 µg/l | |
| 91-20-3 | Naphthalene | 1 | 22.9 µg/l | |
| 108-88-3 | Toluene | 1 | 21.8 µg/l | |
| 179601-23-1 | m,p-Xylene | 1 | 43.3 µg/l | |
| 95-47-6 | o-Xylene | 1 | 21.9 µg/l | |
| 107-83-5 | 2-Methylpentane | 1 | 20.6 µg/l | |
| 111-84-2 | n-Nonane | 1 | 20.5 µg/l | |
| 109-66-0 | n-Pentane | 1 | 21.3 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 21.8 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 21.1 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 1 | 19.9 µg/l | |
| 124-18-5 | n-Decane | 1 | 21.6 µg/l | |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\lcs1104b.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 10:14 am Operator: mp
Sample : seq-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 09:34:28 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 6834899 | 0 | 110.296m | N.D. | # |
| 2) | C9-C10 Aromatic | 13.29 | 0.00 | 977 | 0 | NoCal | N.D. | |
| 3) | Unadjusted C9-C1 | 13.03 | 0.00 | 2014864 | 0 | 65.149m | N.D. | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.79 | 0.00 | 1307 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 2.79 | 0.00 | 1307 | 0 | <MDL | N.D. | # |
| 7) | Benzene | 4.81 | 0.00 | 382 | 0 | NoCal | N.D. | |
| 8) | 2,2,4-Trimethylp | 6.00 | 0.00 | 564 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.74 | 0.00 | 411 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.97f | 9.97f | 764840 | 1541622 | NoCal | 25.491 | |
| 11) | m,p-Xylene | 10.23f | 10.23f | 342609 | 123122 | NoCal | 1.754 | |
| 12) | o-Xylene | 10.62 | 0.00 | 560 | 0 | NoCal | N.D. | |
| 13) | n-Nonane | 10.82 | 0.00 | 940 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.66 | 12.66 | 364431 | 434921 | 12.655 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.29 | 0.00 | 977 | 0 | <MDL | N.D. | # |
| 16) | 1,2,4-Trimethylb | 12.53 | 12.66f | 438 | 434921 | NoCal | 6.870 | |
| 17) | Naphthalene | 15.53f | 0.00 | 355 | 0 | NoCal | N.D. | |

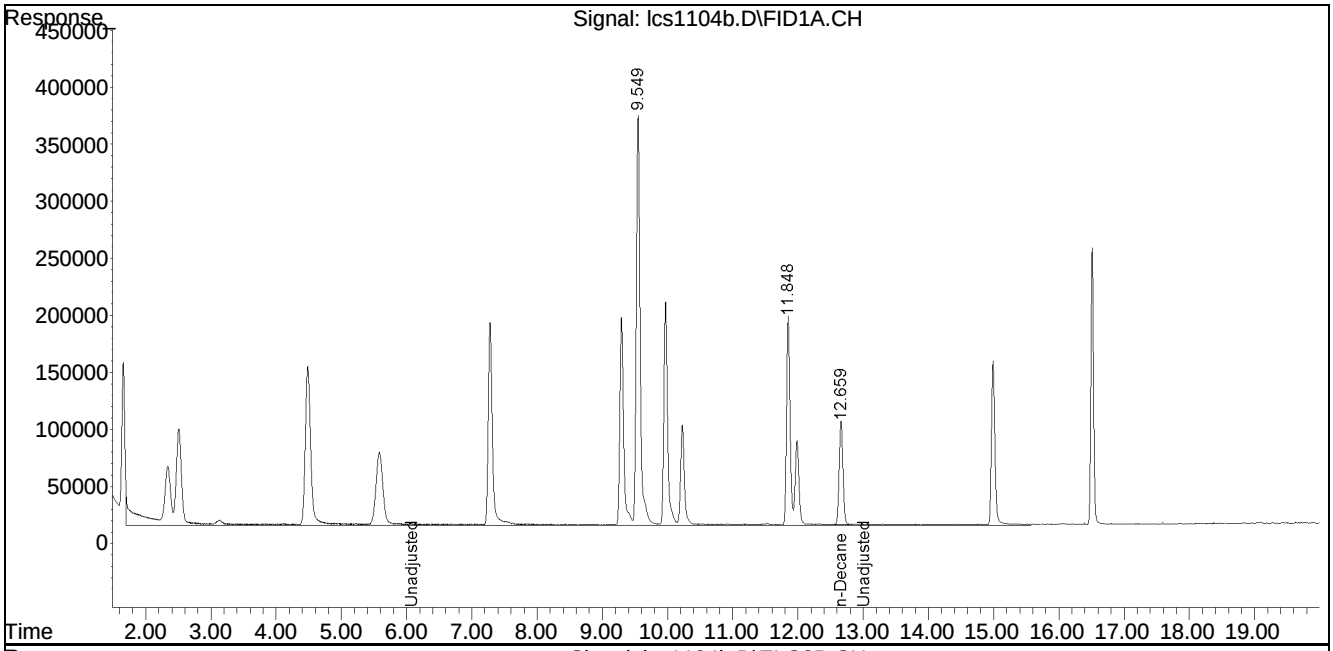
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

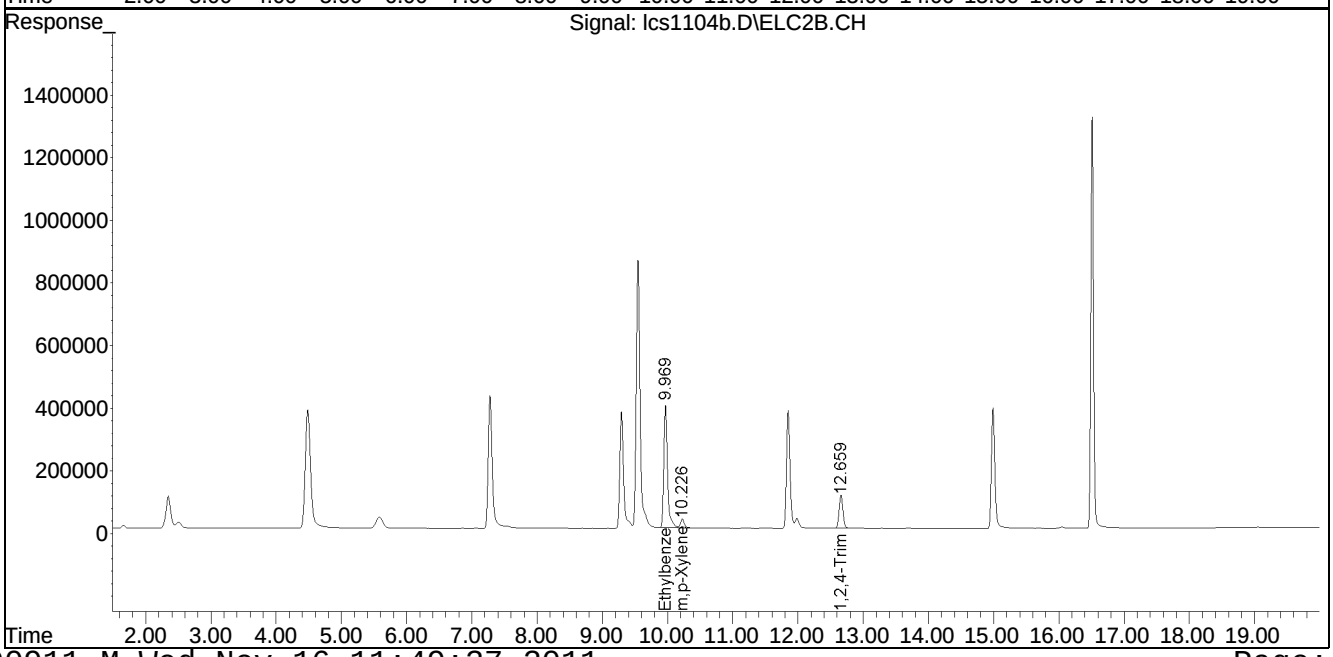
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\lcs1104b.D Vial: 4
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 10:14 am Operator: mp
Sample : seq-bsd1 @ 20 ppb lcsd vph Inst : HP G1530A
Misc : 1 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 09:34:28 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## MADEP VPH 5/2004 Rev. 1.1

**06MW-06-20111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1122848-MS1 | File ID: | 38520-02m.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 1 ml / 5 ml |
| Analyzed: | 11/04/11 12:27 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 56.3 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 65.1 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 22.5 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 216 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 87.5 µg/l | |
| 71-43-2 | Benzene | 5 | 23.2 µg/l | |
| 100-41-4 | Ethylbenzene | 5 | 24.0 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 16.9 µg/l | |
| 91-20-3 | Naphthalene | 5 | 23.1 µg/l | |
| 108-88-3 | Toluene | 5 | 24.5 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 46.9 µg/l | |
| 95-47-6 | o-Xylene | 5 | 23.8 µg/l | |
| 107-83-5 | 2-Methylpentane | 5 | 23.1 µg/l | |
| 111-84-2 | n-Nonane | 5 | 24.3 µg/l | |
| 109-66-0 | n-Pentane | 5 | 22.9 µg/l | |
| 95-63-6 | 1,2,4-Trimethylbenzene | 5 | 23.7 µg/l | |
| 540-84-1 | 2,2,4-Trimethylpentane | 5 | 24.4 µg/l | |
| 1678-93-9 | n-Butylcyclohexane | 5 | 23.5 µg/l | |
| 124-18-5 | n-Decane | 5 | 25.4 µg/l | |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-02m.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 12:27 pm Operator: mp
Sample : 1122848-ms1 @ 06mw-06-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 11:47:57 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 6.14 | 7464416 | 95 | 121.028m | NoCal | # |
| 2) | C9-C10 Aromatic | 13.14 | 13.53 | 350 | 218 | NoCal | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.53 | 2209310 | 218 | 71.437m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 8) | 2,2,4-Trimethylp | 6.05 | 6.14f | 300 | 95 | <MDL | NoCal | # |
| 9) | Toluene | 7.70 | 0.00 | 432 | 0 | NoCal | N.D. | |
| 10) | Ethylbenzene | 9.97f | 9.97f | 829943 | 1671239 | NoCal | 27.635 | |
| 11) | m,p-Xylene | 10.23f | 10.23f | 406214 | 142364 | NoCal | 2.028 | |
| 12) | o-Xylene | 10.74f | 0.00 | 130 | 0 | NoCal | N.D. | |
| 13) | n-Nonane | 10.74 | 0.00 | 130 | 0 | <MDL | N.D. | # |
| 14) | n-Decane | 12.66 | 12.66 | 431004 | 513281 | 14.966 | NoCal | # |
| 15) | n-Butylcyclohexa | 13.38 | 13.53 | 191 | 218 | <MDL | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.44 | 12.66f | 334 | 513281 | NoCal | 8.108 | |
| 17) | Naphthalene | 15.52f | 0.00 | 972 | 0 | NoCal | N.D. | |

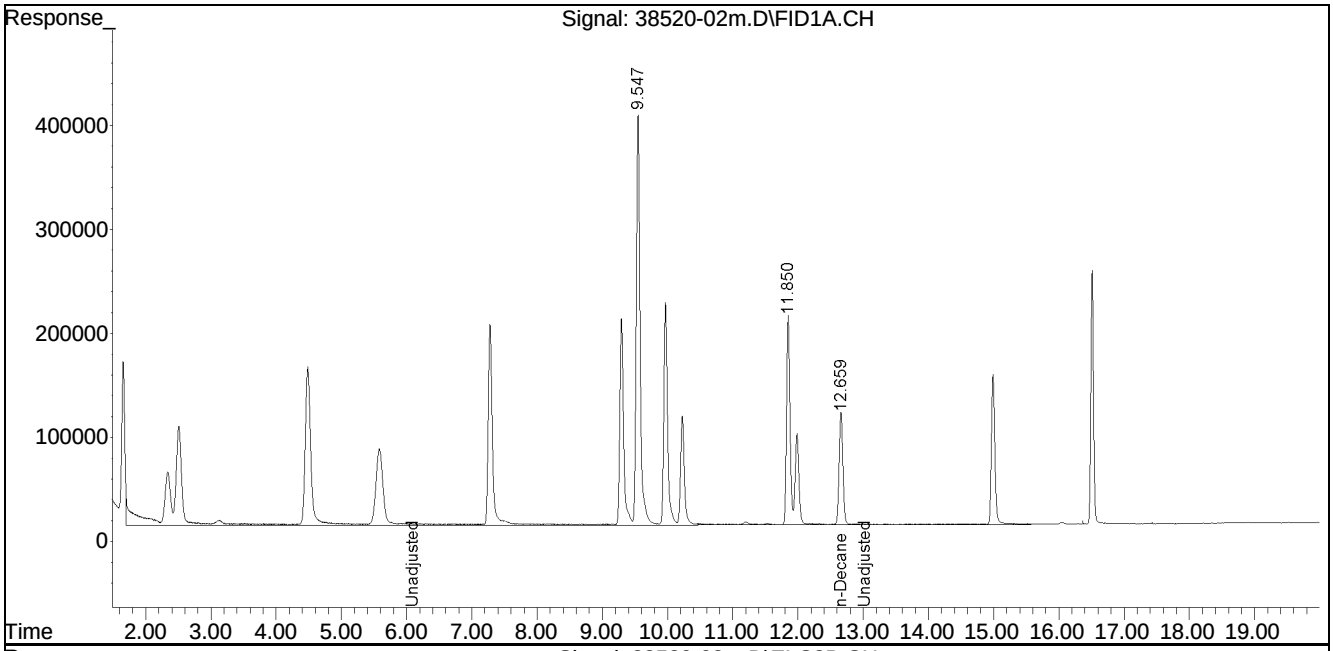
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

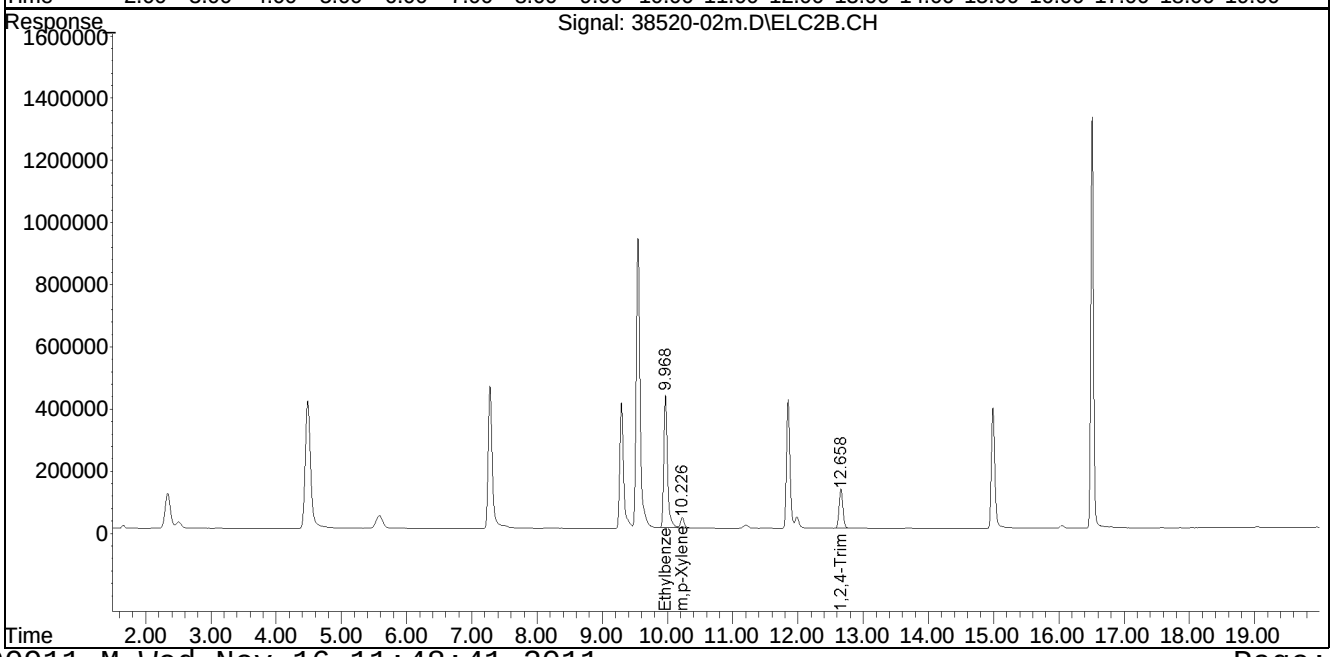
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-02m.D Vial: 6
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 12:27 pm Operator: mp
Sample : 1122848-ms1 @ 06mw-06-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 11:47:57 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# FORM I - ORGANIC ANALYSIS DATA SHEET
## MADEP VPH 5/2004 Rev. 1.1

**06MW-06-20111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1122848-DUP1 | File ID: | 38520-02d.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 11:59 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 66.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 13.5 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.10 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 66.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 19.6 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-02d.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 11:59 am Operator: mp
Sample : 1122848-dup1 @ 06mw-06-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 11:19:05 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| | Spiked Amount 50.000 | | | Recovery | = | 0.00% | 0.00% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 6.09 | 0.00 | 709655 | 0 | 5.868m | N.D. | # |
| 2) | C9-C10 Aromatic | 0.00 | 13.22 | 0 | 1591 | N.D. | <MDL | |
| 3) | Unadjusted C9-C1 | 13.03 | 13.22 | 247415 | 1591 | 8.000m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 4.92 | 4.99f | 639 | 67 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.97 | 0.00 | 2052 | 0 | <MDL | N.D. | # |
| 9) | Toluene | 7.72 | 7.76 | 1502 | 78 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.87 | 9.96f | 424 | 348 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.12 | 10.20 | 556 | 689 | NoCal | <MDL | |
| 12) | o-Xylene | 10.49 | 10.58 | 838 | 656 | NoCal | <MDL | |
| 13) | n-Nonane | 10.73 | 10.84 | 393 | 283 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.65 | 0 | 2773 | N.D. | NoCal | |
| 15) | n-Butylcyclohexa | 0.00 | 13.22 | 0 | 1591 | N.D. | NoCal | |
| 16) | 1,2,4-Trimethylb | 0.00 | 12.65f | 0 | 2773 | N.D. | <MDL | |
| 17) | Naphthalene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |

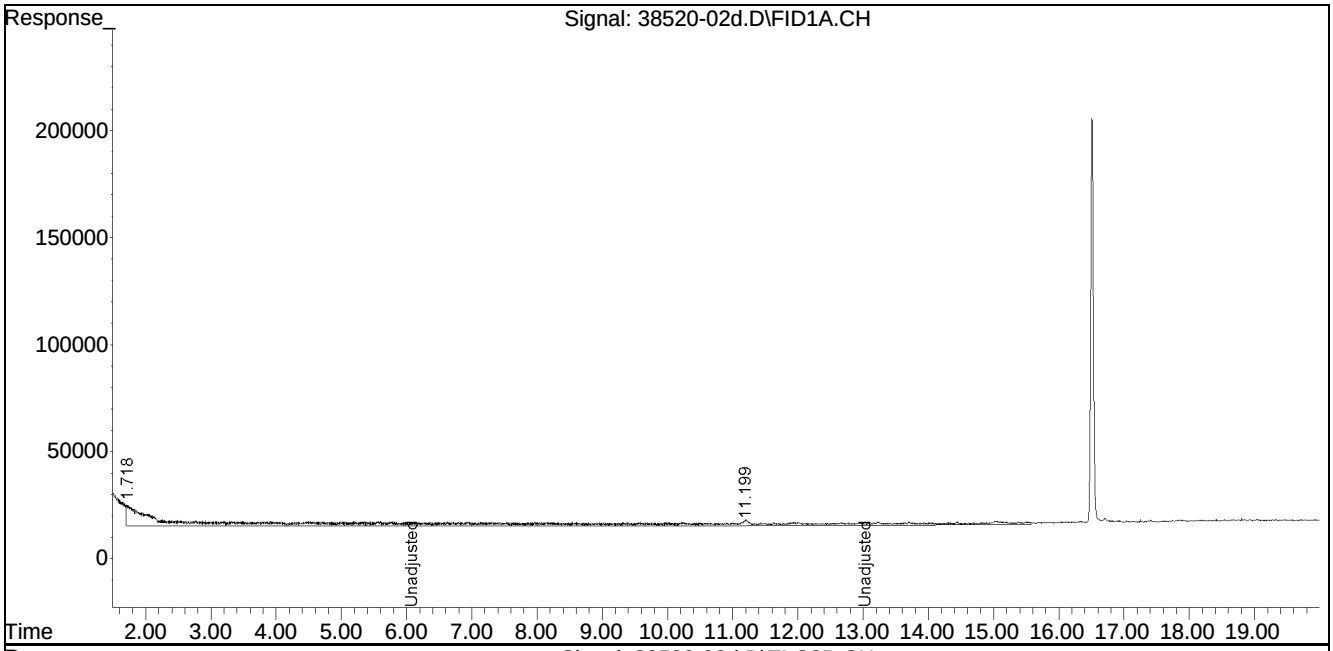
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

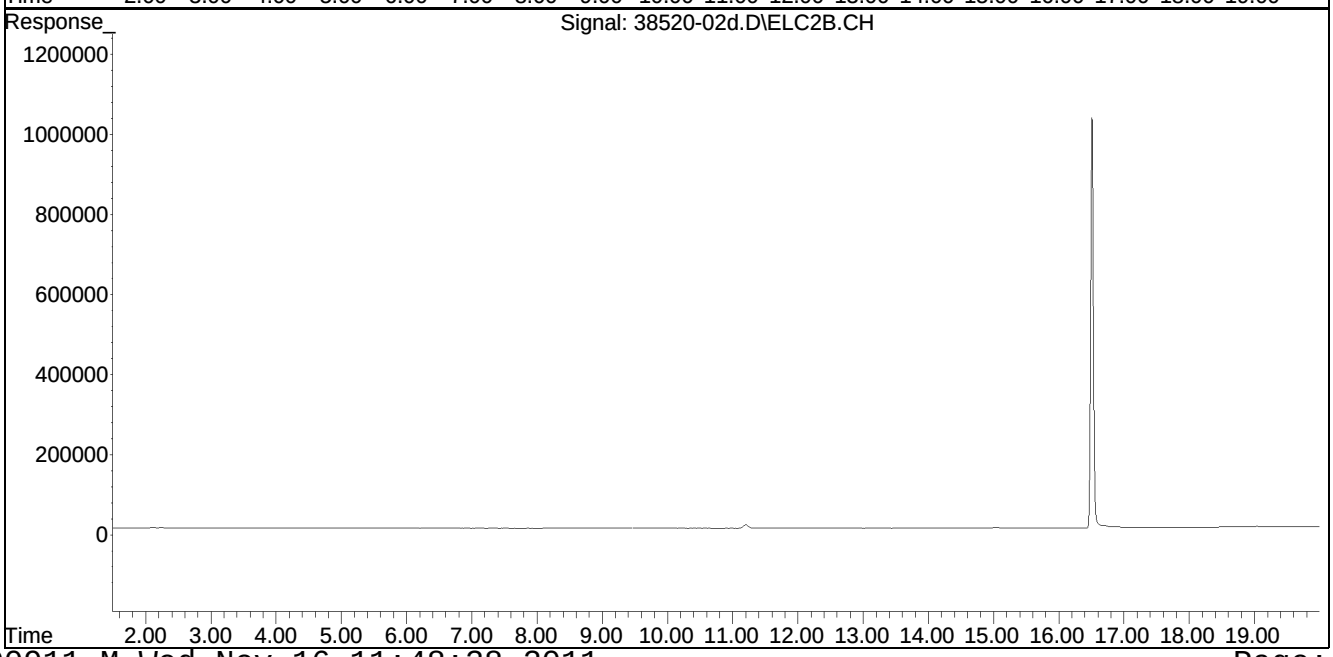
Quantitation Report (Not Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-02d.D Vial: 5
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 11:59 am Operator: mp
Sample : 1122848-dup1 @ 06mw-06-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 04 11:19:05 2011
Quant Results File: F2022409.RES

Quant Method : C:\msdchem\1\METHODS\F2022409.M
Quant Title :
QLast Update : Wed Feb 18 14:26:46 2009
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :



# GC Volatile Organics
# Method MA DEP VPH 5/2004 Rev. 1.1

## Data Processing Summary

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1122848

Method No.: f 20909 (1 m.

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11H0419**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1122848-BLK1 | Blank | | QC | 5 | 5 | | | | 04-Nov-11 07:00 | | |
| 1122848-BS1 | LCS | | QC | 5 | 5 | 11K0001 | | | 04-Nov-11 07:00 | | |
| 1122848-BSD1 | LCS Dup | | QC | 5 | 5 | 11K0001 | | | 04-Nov-11 07:00 | | |
| 1122848-DUP1 | Duplicate | | QC | 5 | 5 | | SB38520-02 | | 24-Oct-11 13:54 | | |
| 1122848-MS1 | Matrix Spike | | QC | 1 | 5 | 11K0001 | SB38520-02 | | 24-Oct-11 13:54 | | |
| SB38477-02 | MW-4 np | A | VPH CC | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 12:10 | **CAM** | |
| SB38477-02 | MW-4 | A | VPH Targets | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 12:10 | **CAM** | |
| SB38477-03 | MW-11 | A | VPH CC | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 11:28 | **CAM** | |
| SB38477-03 | MW-11 | A | VPH Targets | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 11:28 | **CAM** | |
| SB38477-04 | MW-12 | A | VPH CC | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 13:04 | **CAM** | |
| SB38477-04 | MW-12 | A | VPH Targets | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 13:04 | **CAM** | |
| SB38477-05 | MW-18 | A | VPH CC | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 11:00 | **CAM** | |
| SB38477-05 | MW-18 | A | VPH Targets | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 11:00 | **CAM** | |
| SB38477-06 | GES-1 | A | VPH CC | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 12:05 | **CAM** | |
| SB38477-06 | GES-1 | A | VPH Targets | 5 | 5 | | | 08-Nov-11 16:00 | 27-Oct-11 12:05 | **CAM** | |
| SB38520-01 | 06MW-04-111024 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 16:15 | **Level 4** | |
| SB38520-01 | 06MW-04-111024 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 16:15 | **Level 4** | |
| SB38520-02 | 06MW-06-20111024 | D | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 13:54 | **Level 4/run MS/MSD** | |
| SB38520-02 | 06MW-06-20111024 | D | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 13:54 | **Level 4/run MS/MSD** | |
| SB38520-03 | 06MW-08-20111024 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 15:34 | **Level 4** | |
| SB38520-03 | 06MW-08-20111024 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 15:34 | **Level 4** | |
| SB38520-04 | 06MW-10-20111024 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 12:15 | **Level 4** | |
| SB38520-04 | 06MW-10-20111024 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 12:15 | **Level 4** | |

Analyst Reviewed 11/7/11 Date

Manager Reviewed 11/07/11 Date

Extracts Received By Date

**Printed: 11/7/2011 9:36:22AM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1122848

Method No.: f20905110 -

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11H0419**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB38520-05 | 06MW-11-111024 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 13:40 | **Level 4** | |
| SB38520-05 | 06MW-11-111024 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 13:40 | **Level 4** | |
| SB38520-06 | 06MW-12-111024 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 15:00 | **Level 4** | |
| SB38520-06 | 06MW-12-111024 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 15:00 | **Level 4** | |
| SB38520-07 | 06MWDUP01-111024 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 00:00 | **Level 4** | |
| SB38520-07 | 06MWDUP01-111024 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 00:00 | **Level 4** | |
| SB38520-08 | 06TBMW0-111024 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 00:00 | **Level 4** | |
| SB38520-08 | 06TBMW0-111024 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 24-Oct-11 00:00 | **Level 4** | |
| SB38520-09 | 06MW-01-111025 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 12:46 | **Level 4** | |
| SB38520-09 | 06MW-01-111025 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 12:46 | **Level 4** | |
| SB38520-10 | 06MW-02-111025 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 10:38 | **Level 4** | |
| SB38520-10 | 06MW-02-111025 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 10:38 | **Level 4** | |
| SB38520-11 | 06MW-03-111025 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 09:10 | **Level 4** | |
| SB38520-11 | 06MW-03-111025 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 09:10 | **Level 4** | |
| SB38520-12 | 06MW-05-111025 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 09:20 | **Level 4** | |
| SB38520-12 | 06MW-05-111025 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 09:20 | **Level 4** | |
| SB38520-13 | 06MW-07-111025 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 11:30 | **Level 4** | |
| SB38520-13 | 06MW-07-111025 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 11:30 | **Level 4** | |
| SB38520-14 | 06MW-09-111025 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 10:25 | **Level 4** | |
| SB38520-14 | 06MW-09-111025 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 10:25 | **Level 4** | |
| SB38520-15 | 06MW-13-111025 | B | VPH CC | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 12:40 | **Level 4** | |
| SB38520-15 | 06MW-13-111025 | B | VPH Targets | 5 | 5 | | | 14-Nov-11 15:00 | 25-Oct-11 12:40 | **Level 4** | |

Analyst Reviewed 11/7/11 Date

Manager Reviewed Date

Extracts Received By Date

**Printed: 11/7/2011 9:36:22AM**

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Sequence: | S108047 | Instrument: | FID2 |
| | | Calibration: | 1109006 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Cal Standard | S108047-CAL1 | vph001.D | 09/08/11 12:13 |
| Cal Standard | S108047-CAL2 | vph005.D | 09/08/11 12:42 |
| Cal Standard | S108047-CAL3 | vph010.D | 09/08/11 13:11 |
| Cal Standard | S108047-CAL4 | vph020.D | 09/08/11 13:40 |
| Cal Standard | S108047-CAL5 | vph050.D | 09/08/11 14:38 |
| Cal Standard | S108047-CAL6 | vph100.D | 09/08/11 16:05 |
| Cal Standard | S108047-CAL7 | vph200.D | 09/08/11 18:01 |
| Initial Cal Check | S108047-ICV1 | icv020.D | 09/08/11 19:57 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Sequence: | S110143 | Instrument: | FID2 |
| | | Calibration: | 1109006 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1122848-BLK1 | blk1104c.D | 11/04/11 08:47 |
| Calibration Check | S110143-CCV1 | ccc1104a.D | 11/04/11 09:16 |
| LCS | 1122848-BS1 | lcs1104a.D | 11/04/11 09:45 |
| LCS Dup | 1122848-BSD1 | lcs1104b.D | 11/04/11 10:14 |
| 06MW-06-20111024 | SB38520-02 | 38520-02.D | 11/04/11 11:28 |
| 06MW-06-20111024 | 1122848-DUP1 | 38520-02d.D | 11/04/11 11:59 |
| 06MW-06-20111024 | 1122848-MS1 | 38520-02m.D | 11/04/11 12:27 |
| 06TBMW0-111024 | SB38520-08 | 38520-08.D | 11/04/11 13:28 |
| 06MW-04-111024 | SB38520-01 | 38520-01.D | 11/04/11 13:59 |
| 06MW-08-20111024 | SB38520-03 | 38520-03.D | 11/04/11 14:29 |
| 06MW-10-20111024 | SB38520-04 | 38520-04.D | 11/04/11 14:59 |
| 06MW-11-111024 | SB38520-05 | 38520-05.D | 11/04/11 15:30 |
| 06MW-12-111024 | SB38520-06 | 38520-06.D | 11/04/11 16:00 |
| 06MWDUP01-111024 | SB38520-07 | 38520-07.D | 11/04/11 16:30 |
| 06MW-01-111025 | SB38520-09 | 38520-09.D | 11/04/11 17:01 |
| 06MW-02-111025 | SB38520-10 | 38520-10.D | 11/04/11 17:31 |
| 06MW-03-111025 | SB38520-11 | 38520-11.D | 11/04/11 18:02 |
| 06MW-05-111025 | SB38520-12 | 38520-12.D | 11/04/11 18:32 |
| 06MW-07-111025 | SB38520-13 | 38520-13.D | 11/04/11 19:02 |
| 06MW-09-111025 | SB38520-14 | 38520-14.D | 11/04/11 19:32 |
| 06MW-13-111025 | SB38520-15 | 38520-15.D | 11/04/11 20:03 |
| Calibration Check | S110143-CCV2 | ccc1104b.D | 11/04/11 23:03 |

Sequence Log 2011 Sep 08 1025

Instrument Name: FID 2
Sequence File: C:\msdchem\1\sequence\090811.S
Comment:
Operator: mp
Data Path: G:\SEP2011\FID2\0908\
Method Path: C:\msdchem\1\METHODS\

| Line | Type | Vial | DataFile | Method | Sample Name |
|---|---|---|---|---|---|
| 1) | Sample | 1 | cb001 | F2022409 | blank |
| 2) | Sample | 1 | cb002 | F2022409 | blank |
| 3) | Sample | 1 | cb003 | F2022409 | blank |
| 4) | Sample | 2 | vph001 | F2022409 | seq-cal1 @ 1.0 ppb vph/gro cal |
| 5) | Sample | 3 | vph005 | F2022409 | seq-cal2 @ 5.0 ppb vph/gro cal |
| 6) | Sample | 4 | vph010 | F2022409 | seq-cal3 @ 10.0 ppb vph/gro cal |
| 7) | Sample | 5 | vph020 | F2022409 | seq-cal4 @ 20.0 ppb vph/gro cal |
| 8) | Sample | 6 | cb004 | F2022409 | blank |
| 9) | Sample | 7 | vph050 | F2022409 | seq-cal5 @ 50.0 ppb vph/gro cal |
| 10) | Sample | 6 | cb005 | F2022409 | blank |
| 11) | Sample | 6 | cb006 | F2022409 | blank |
| 12) | Sample | 8 | vph100 | F2022409 | seq-cal6 @ 100.0 ppb vph/gro cal |
| 13) | Sample | 9 | cb007 | F2022409 | blank |
| 14) | Sample | 9 | cb008 | F2022409 | blank |
| 15) | Sample | 9 | cb009 | F2022409 | blank |
| 16) | Sample | 10 | vph200 | F2022409 | seq-cal7 @ 200.0 ppb vph/gro cal |
| 17) | Sample | 11 | cb010 | F2022409 | blank |
| 18) | Sample | 11 | cb011 | F2022409 | blank |
| 19) | Sample | 11 | cb012 | F2022409 | blank |
| 20) | Sample | 12 | icv020 | F2022409 | seq-icv1 @ 20.0 ppb vph/gro icv |
| 21) | DATAPATH: 'G:\SEP2011\FID2\0909' | | | | |
| 21) | DATAPATH - G:\SEP2011\FID2\0909\ | | | | |
| 22) | Sample | 13 | blk0909a | F2022409 | seq-blk1 @ system blank vph |
| 23) | Sample | 13 | blk0909b | F2022409 | seq-blk1 @ system blank vph |
| 24) | Sample | 14 | ccc0909a | F2022409 | seq-ccv1 @ 50 ppb ccc vph |
| 25) | Sample | 15 | lcs0909a | F2022409 | seq-bs1 @ 20 ppb lcs vph |
| 26) | Sample | 15 | lcs0909b | F2022409 | seq-bsd1 @ 20 ppb lcsd vph |
| 27) | Sample | 13 | cb013 | F2022409 | blank |

Sequence completed Thu Sep 08 23:11:51 2011

G:\SEP2011\FID2\0908\ Quality Log 2011 Sep 08 1025.LOG
G:\SEP2011\FID2\0908\Sequence Log 2011 Sep 08 1025.LOG

Method: f20905111 mw.
Calibration: 1109006
Surrogate Standard ID: 1114019

Batch: 1122848 Date: 11/4/11
Matrix: H2O Analyst Initials: MP
Sequence 5110173 Cont. from pg. #

| Position | Lab ID | Client ID | DF | pH/Wt | Analysis | Comments |
|---|---|---|---|---|---|---|
| 1 | BLK1104A | 1122848 - BLK1 | R- | | VPHW | System Blank |
| 1 | B | - 1 | | | | |
| 1 | C | - 1 | | | | |
| 2 | CCC1104A | - CCC1 | | | | 50 ppb CCC 1150978 |
| 3 | LCS1104A | - BS1 | | | | 20 ppb LCS 1K0001 |
| 4 | B | - BSD1 | | | | 1 LCSD |
| 1 | CB001 | Blank | | | | Blank |
| ~~5~~ | ~~38246-04~~ | ~~EOS-19~~ | ~~1:5~~ | ~~MP 11/4/11~~ | | |
| ~~6~~ | ~~-10~~ | ~~-21~~ | ~~1:5~~ | ~~MP 11/4/11~~ | | |
| 5 | 38520-02 | 06MW-06-20111024 | 1:5 | 2 | | ND |
| 5 | -02D | 1122848 - DUP1 | 1:5 | | | ND |
| 6 | -02M | - MS1 | 1:5 | | | MS 1K0001 (MANUAL DIL) |
| 7 | CB002 | Blank | R- | | | Blank |
| 8 | 38520-08 | 06TBMW0 - 111024 | R- | 2 | | ND |
| 9 | 01 | 06MW-07 - 111024 | 1:5 | | | N:1 |
| 10 | 03 | 08 | | | | ND |
| 11 | 04 | 10 | | | | N:4 |
| 12 | 05 | 11 | | | | N:2 |
| 13 | 06 | 12 | | | | ND |
| 14 | 07 | DUP01 | | | | ND |
| 15 | 9 | 06MW-01 - 111025 | | | | N:25 |
| 16 | 10 | 2 | | | | N:2 |
| 17 | 11 | 3 | | | | N:31 |
| 18 | 12 | 5 | | | | ND |
| 19 | 13 | 7 | | | | ND |
| 20 | 14 | 9 | | | | ND |
| 21 | 15 | 13 | | | | ND |
| 22 | 38477-02 | MW-4 | 1:5 | | | N:23 |
| 23 | -03 | 11 | | | | ND |
| 24 | -04 | 12 | | | | ND |
| 25 | -05 | 18 | 1:25 | 2 | | MP:124 |

Signature of Analyst: MP
Signature of Witness:

Date: 11/4/11
Date: 11/4/11

Rev.8/18/11

26 -06 GES-1 1:50 2 VPHW MP:31

27 CCC1104B 1122848 - CCV1 50 ppb CCC 1150978 End CCC

## Notes & Definitions

**BRL** Below the reporting limit and also indicates there are no detections between the MDL and MRL

### Form I 'Q' column

**B** The analyte was found in the associated blank as well as the sample

**D** All identified compounds in the analysis are at a secondary dilution factor

**E** The identified compound's concentration exceeds the calibration range of the instrument for this specific analysis

**J** Compound detected but below the reporting limit and above the minimum detection limit (MDL); therefore, the result is an estimated concentration

**N** Included for TIC that indicates presumptive evidence of a compound

**P** Used for a Dual Column target analyte when the concentration difference between the two GC columns is greater than 40%.

**U** Compound was analyzed for but not detected

### Form IIa 'Method' column

This column refers to the instrument used for analysis

**IR** Iris ICP
**MS** Thermo ICP/MS
**AV** Mercury analyzer

### Form VI 'Q' column

***** indicates that:
Mean RF is above the value in the LIMIT column, or
Linear COD is below the value in the LIMIT column, or
Quad COD is below the value in the LIMIT column

### Form VII 'Type' column

**A** average of response factor
**L** linear regression
**Q** quadratic equation

### Form VIII 'Q' column for Inorganics

**E** The dilution analysis is not within a control limit of 10%, therefore a chemical or physical interference effect must be suspected

# Last Page of data Report

Report Date:
05-Dec-11 14:50

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# *Laboratory Report*

Tetra Tech NUS Inc.
661 Andersen Drive, Foster Plaza #7
Pittsburgh, PA 15220

Attn: Tobrena Sedlmyer

Work Order: K2139
Project : CTO-WE56, NSB New London
Project #:

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| K2139-01 | 06MW-04-111024 | Aqueous | 24-Oct-11 16:15 | 25-Oct-11 16:30 |
| K2139-02 | 06MW-06-20111024 | Aqueous | 24-Oct-11 13:54 | 25-Oct-11 16:30 |
| K2139-03 | 06MW-08-20111024 | Aqueous | 24-Oct-11 15:34 | 25-Oct-11 16:30 |
| K2139-04 | 06MW-10-20111024 | Aqueous | 24-Oct-11 12:15 | 25-Oct-11 16:30 |
| K2139-05 | 06MW-11-111024 | Aqueous | 24-Oct-11 13:40 | 25-Oct-11 16:30 |
| K2139-06 | 06MW-12-111024 | Aqueous | 24-Oct-11 15:00 | 25-Oct-11 16:30 |
| K2139-07 | 06MWDUP01-111024 | Aqueous | 24-Oct-11 00:00 | 25-Oct-11 16:30 |
| K2139-08 | 06TBMW0-111024 | Aqueous | 24-Oct-11 00:00 | 25-Oct-11 16:30 |
| K2139-09 | 06MW-01-111025 | Aqueous | 25-Oct-11 12:46 | 25-Oct-11 16:30 |
| K2139-10 | 06MW-02-111025 | Aqueous | 25-Oct-11 10:38 | 25-Oct-11 16:30 |
| K2139-11 | 06MW-03-111025 | Aqueous | 25-Oct-11 09:10 | 25-Oct-11 16:30 |
| K2139-12 | 06MW-05-111025 | Aqueous | 25-Oct-11 09:20 | 25-Oct-11 16:30 |
| K2139-13 | 06MW-07-111025 | Aqueous | 25-Oct-11 11:30 | 25-Oct-11 16:30 |
| K2139-14 | 06MW-09-111025 | Aqueous | 25-Oct-11 10:25 | 25-Oct-11 16:30 |
| K2139-15 | 06MW-13-111025 | Aqueous | 25-Oct-11 12:40 | 25-Oct-11 16:30 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

# * Data Summary Pack *

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K2139**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 11/15/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445, 1

**Report Level:** LEVEL 4
**Special Program:** *DoD*
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K2139-01A | 06MW-04-111024 | 10/24/2011 16:15 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-01B | 06MW-04-111024 | 10/24/2011 16:15 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-02A | 06MW-06-20111024 | 10/24/2011 13:54 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | Y | Y | SUB |
| K2139-02B | 06MW-06-20111024 | 10/24/2011 13:54 | 10/25/2011 | Aqueous | CTETPH_W | / | | | Y | | I2 |
| K2139-03A | 06MW-08-20111024 | 10/24/2011 15:34 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-03B | 06MW-08-20111024 | 10/24/2011 15:34 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-04A | 06MW-10-20111024 | 10/24/2011 12:15 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-04B | 06MW-10-20111024 | 10/24/2011 12:15 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-05A | 06MW-11-111024 | 10/24/2011 13:40 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-05B | 06MW-11-111024 | 10/24/2011 13:40 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-06A | 06MW-12-111024 | 10/24/2011 15:00 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-06B | 06MW-12-111024 | 10/24/2011 15:00 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-07A | 06MWDUP01-111024 | 10/24/2011 00:00 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-07B | 06MWDUP01-111024 | 10/24/2011 00:00 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-08A | 06TBMW0-111024 | 10/24/2011 00:00 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-09A | 06MW-01-111025 | 10/25/2011 12:46 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-09B | 06MW-01-111025 | 10/25/2011 12:46 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-10A | 06MW-02-111025 | 10/25/2011 10:38 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

**WorkOrder: K2139**

**Client ID:** TETRA_NAVY
**Project:** CTO-WE56, NSB New London
**WO Name:** CTO-WE56, NSB New London
**Location:** CTO-WE56_NSB-NLON,
**Comments:** HC + 2CDs to Tobrena.

**Case:**
**SDG:**
**HC Due:** 11/15/11
**Fax Due:**
**Fax Report:** ☐
**PO:** WR 13-CTO-WE56, MA1045445, 1

**Report Level:** LEVEL 4
**Special Program:** DoD
**EDD:** ADAPT_TTNUS

| Lab Samp ID | Client Sample ID | Collection Date | Date Recv'd | Matrix | Test Code | Samp / Lab Test Comments | HF | HT | MS | SEL | Storage |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K2139-10B | 06MW-02-111025 | 10/25/2011 10:38 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-11A | 06MW-03-111025 | 10/25/2011 09:10 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-11B | 06MW-03-111025 | 10/25/2011 09:10 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-12A | 06MW-05-111025 | 10/25/2011 09:20 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-12B | 06MW-05-111025 | 10/25/2011 09:20 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-13A | 06MW-07-111025 | 10/25/2011 11:30 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-13B | 06MW-07-111025 | 10/25/2011 11:30 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-14A | 06MW-09-111025 | 10/25/2011 10:25 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-14B | 06MW-09-111025 | 10/25/2011 10:25 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |
| K2139-15A | 06MW-13-111025 | 10/25/2011 12:40 | 10/25/2011 | Aqueous | MAVPH_W | / SPECTRUMSub to Agawam | | | | Y | SUB |
| K2139-15B | 06MW-13-111025 | 10/25/2011 12:40 | 10/25/2011 | Aqueous | CTETPH_W | / | | | | | I2 |

HF = Fraction logged in but all tests have been placed on hold

HT = Test logged in but has been placed on hold

# * Semivolatile Organics *

# REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : Tetra Tech NUS Inc.

Project: CTO-WE56, NSB New London

Laboratory Workorder / SDG #: K2139

CT ETPH, CT ETPH by GC-FID

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

Analyses for Volatile Petroleum Hydrocarbons by the Massachusetts method (MA_VPH) were performed by Mitkem's parent company, Spectrum Analytical, Inc. of Agawam, MA. The entire Spectrum report, including any notes on these analyses, follows the "Last Page" of the Mitkem data report.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: 06MW-06-20111024 (K2139-02BMS) and 06MW-06-20111024 (K2139-02BMSD).

Percent recoveries were within the QC limits.

Replicate RPDs were within the advisory QC limits.

### E. Dilutions:

No sample in this SDG required analysis at dilution.

F. Samples:

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:

Date: 12/5/11

## Data Flag/Qualifiers:

U Not Detected. This compound was analyzed-for but not detected. For most analyses the reporting limit (lowest standard concentration) is the value listed. For Department of Defense programs, this is the Limit of Detection (LOD).

J This flag indicates an estimated value due to either
- the compound was detected below the reporting limit, or
- estimated concentration for Tentatively Identified Compound

B This flag indicates the compound was also detected in the associated Method Blank. The B flag has an alternative meaning for Inorganics analyses reported using CLP ILM-type metals forms, indicating a "trace" concentration below the reporting limit and equal to or above the detection limit.

D For Organics analysis, this flag indicates the compound concentration was obtained from a secondary dilution analysis

E This flag indicates the compound concentration exceeded the Calibration Range. The E flag has an alternative meaning for Inorganics analyses reported using CLP metals forms, indicating an estimated concentration due to the presence of interferences, as determined by the serial dilution analysis.

P This flag is used for pesticides/PCB/herbicide compound when there is a greater than 40% difference for detected concentration between the two GC columns used for primary and confirmation analyses. This difference typically indicates an interference, causing one value to be unusually high. The **lower** of the two values is generally reported on the Form 1, and both values reported on the Form 10.

A Used to flag semivolatile organic Tentatively Identified Compound library search results for compounds identified as aldol condensation byproducts.

N Used to flag results for volatile and semivolatile Organics analysis Tentatively Identified Compounds where an analyte has passed the identification criteria, and is considered to be positively identified. For Inorganics analysis the N flag indicates the matrix spike recovery falls outside of the control limit.

* For Inorganics analysis the * flag indicates Relative Percent Difference for duplicate analyses is outside of the control limit.

# Sample ID Suffixes

DL Diluted analysis. The sample was diluted and reanalyzed. The DL may be followed by a digit if more than one diluted reanalysis is provided. The DL suffix is not attached to an analysis initially performed at dilution, only to reanalyses performed at dilution

RE Reanalysis. Appended to the client sample ID to indicate a reextraction and reanalysis or a reanalysis of the original sample extract.

RA Reanalysis. Appended to the laboratory sample ID indicates a reanalysis of the original sample extract.

RX Reextraction. Appended to the laboratory sample ID indicates a reextraction of the sample.

MS Matrix Spike.

MSD Matrix Spike Duplicate

DUP Duplicate analysis

SD Serial Dilution

PS Post-digestion or Post-distillation spike. For metals or inorganic analyses

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-04-111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-01
**Collection Date:** 10/24/11 16:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.68 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 18:02 | 62548 |
| Surrogate: ortho-Terphenyl | 51.9 | | | 50-150 | %REC | 1 | 11/10/2011 18:02 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-06-20111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-02
**Collection Date:** 10/24/11 13:54

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.31 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 18:23 | 62548 |
| Surrogate: ortho-Terphenyl | 59.2 | | | 50-150 | %REC | 1 | 11/10/2011 18:23 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-08-20111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-03
**Collection Date:** 10/24/11 15:34

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.21 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 19:24 | 62548 |
| Surrogate: ortho-Terphenyl | 68.8 | | | 50-150 | %REC | 1 | 11/10/2011 19:24 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-10-20111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-04
**Collection Date:** 10/24/11 12:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 1.1 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 19:44 | 62548 |
| Surrogate: ortho-Terphenyl | 72.1 | | | 50-150 | %REC | 1 | 11/10/2011 19:44 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-11-111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-05
**Collection Date:** 10/24/11 13:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.64 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 20:04 | 62548 |
| Surrogate: ortho-Terphenyl | 65.5 | | | 50-150 | %REC | 1 | 11/10/2011 20:04 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-12-111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-06
**Collection Date:** 10/24/11 15:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 20:24 | 62548 |
| Surrogate: ortho-Terphenyl | 72.0 | | | 50-150 | %REC | 1 | 11/10/2011 20:24 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MWDUP01-111024
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-07
**Collection Date:** 10/24/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.28 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 21:46 | 62548 |
| Surrogate: ortho-Terphenyl | 55.4 | | | 50-150 | %REC | 1 | 11/10/2011 21:46 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-01-111025
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-09
**Collection Date:** 10/25/11 12:46

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 2.8 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 3:49 | 62553 |
| Surrogate: ortho-Terphenyl | 76.6 | | | 50-150 | %REC | 1 | 11/11/2011 3:49 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-02-111025
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-10
**Collection Date:** 10/25/11 10:38

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.66 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:09 | 62553 |
| Surrogate: ortho-Terphenyl | 67.6 | | | 50-150 | %REC | 1 | 11/11/2011 4:09 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-03-111025
**Lab ID:** K2139-11
**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 9:10

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 3.5 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:30 | 62553 |
| Surrogate: ortho-Terphenyl | 75.1 | | | 50-150 | %REC | 1 | 11/11/2011 4:30 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-05-111025
**Lab ID:** K2139-12
**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 9:20

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.11 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:50 | 62553 |
| Surrogate: ortho-Terphenyl | 67.6 | | | 50-150 | %REC | 1 | 11/11/2011 4:50 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-07-111025
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-13
**Collection Date:** 10/25/11 11:30

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.19 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 5:10 | 62553 |
| Surrogate: ortho-Terphenyl | 67.4 | | | 50-150 | %REC | 1 | 11/11/2011 5:10 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-09-111025
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-14
**Collection Date:** 10/25/11 10:25

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | 0.97 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 6:31 | 62553 |
| Surrogate: ortho-Terphenyl | 78.7 | | | 50-150 | %REC | 1 | 11/11/2011 6:31 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-13-111025
**Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-15
**Collection Date:** 10/25/11 12:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | **CTETPH_W** | | |
| Extractable Total Petroleum Hydrocarbon | 0.49 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 6:51 | 62553 |
| Surrogate: ortho-Terphenyl | 51.3 | | | 50-150 | %REC | 1 | 11/11/2011 6:51 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K2139
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

**CTETPH_W**

**CT ETPH -- CT ETPH by GC-FID**

Sample ID: **MB-62548** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **MB-62548** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 17:22** SeqNo: **1642256**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.05801 | | 0.0025 | 0.1000 | 0 | 58.0 | 50 | 150 | 0 | | | |

Sample ID: **MB-62553** SampType: **MBLK** TestCode: **CTETPH_W** Prep Date: **10/31/11 9:00** Run ID: **F1_111110A**
Client ID: **MB-62553** Batch ID: **62553** Units: **mg/L** Analysis Date: **11/11/11 3:09** SeqNo: **1642271**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.07441 | | 0.0025 | 0.1000 | 0 | 74.4 | 50 | 150 | 0 | | | |

Sample ID: **LCS-62548** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **LCS-62548** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 17:42** SeqNo: **1642257**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.383 | 0.018 | 0.10 | 5.000 | 0 | 67.7 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.07394 | | 0.0025 | 0.1000 | 0 | 73.9 | 50 | 150 | 0 | | | |

Sample ID: **LCS-62553** SampType: **LCS** TestCode: **CTETPH_W** Prep Date: **10/31/11 9:00** Run ID: **F1_111110A**
Client ID: **LCS-62553** Batch ID: **62553** Units: **mg/L** Analysis Date: **11/11/11 3:29** SeqNo: **1642272**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.341 | 0.018 | 0.10 | 5.000 | 0 | 66.8 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.07048 | | 0.0025 | 0.1000 | 0 | 70.5 | 50 | 150 | 0 | | | |

Sample ID: **K2139-02BMS** SampType: **MS** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **06MW-06-20111024** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 18:43** SeqNo: **1642260**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.299 | 0.018 | 0.10 | 5.000 | 0.3095 | 59.8 | 50 | 150 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.06486 | | 0.0025 | 0.1000 | 0 | 64.9 | 50 | 150 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K2139
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH -- CT ETPH by GC-FID

Sample ID: **K2139-02BMSD** SampType: **MSD** TestCode: **CTETPH_W** Prep Date: **10/31/11 11:00** Run ID: **F1_111110A**
Client ID: **06MW-06-20111024** Batch ID: **62548** Units: **mg/L** Analysis Date: **11/10/11 19:03** SeqNo: **1642261**

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.464 | 0.018 | 0.10 | 5.000 | 0.3095 | 63.1 | 50 | 150 | 3.299 | 4.88 | 30 | |
| Surrogate: ortho-Terphenyl | 0.06994 | | 0.0025 | 0.1000 | 0 | 69.9 | 50 | 150 | 0 | | | |

**Qualifiers:** ND - Not Detected at the Limit of Detection; S - Recovery outside accepted recovery limits; LOD - Limit of Detection; B - Analyte detected in the associated Method Blank
J - Analyte detected below Limit of Quantitation; R - RPD outside accepted recovery limits; LOQ - Limit of Quantitation; ^ Qualified to the Limit of Detection (LOD)

Report Date:
14-Nov-11 09:46

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

**SPECTRUM ANALYTICAL, INC.**
***Featuring***
**HANIBAL TECHNOLOGY**

# *Laboratory Report*

Spectrum Analytical, Inc.
175 Metro Center Boulevard
Warwick, RI 02886-1755
Attn: Edward Lawler

Project: See Chain of Custody
Project #: K2139

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| SB38520-01 | 06MW-04-111024 | Aqueous | 24-Oct-11 16:15 | 03-Nov-11 14:25 |
| SB38520-02 | 06MW-06-20111024 | Aqueous | 24-Oct-11 13:54 | 03-Nov-11 14:25 |
| SB38520-03 | 06MW-08-20111024 | Aqueous | 24-Oct-11 15:34 | 03-Nov-11 14:25 |
| SB38520-04 | 06MW-10-20111024 | Aqueous | 24-Oct-11 12:15 | 03-Nov-11 14:25 |
| SB38520-05 | 06MW-11-111024 | Aqueous | 24-Oct-11 13:40 | 03-Nov-11 14:25 |
| SB38520-06 | 06MW-12-111024 | Aqueous | 24-Oct-11 15:00 | 03-Nov-11 14:25 |
| SB38520-07 | 06MWDUP01-111024 | Aqueous | 24-Oct-11 00:00 | 03-Nov-11 14:25 |
| SB38520-08 | 06TBMW0-111024 | Aqueous | 24-Oct-11 00:00 | 03-Nov-11 14:25 |
| SB38520-09 | 06MW-01-111025 | Aqueous | 25-Oct-11 12:46 | 03-Nov-11 14:25 |
| SB38520-10 | 06MW-02-111025 | Aqueous | 25-Oct-11 10:38 | 03-Nov-11 14:25 |
| SB38520-11 | 06MW-03-111025 | Aqueous | 25-Oct-11 09:10 | 03-Nov-11 14:25 |
| SB38520-12 | 06MW-05-111025 | Aqueous | 25-Oct-11 09:20 | 03-Nov-11 14:25 |
| SB38520-13 | 06MW-07-111025 | Aqueous | 25-Oct-11 11:30 | 03-Nov-11 14:25 |
| SB38520-14 | 06MW-09-111025 | Aqueous | 25-Oct-11 10:25 | 03-Nov-11 14:25 |
| SB38520-15 | 06MW-13-111025 | Aqueous | 25-Oct-11 12:40 | 03-Nov-11 14:25 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. These results relate only to the sample(s) as received.
All applicable NELAC requirements have been met.

Massachusetts # M-MA138/MA1110
Connecticut # PH-0777
Florida # E87600/E87936
Maine # MA138
New Hampshire # 2538
New Jersey # MA011/MA012
New York # 11393/11840
Pennsylvania # 68-04426/68-02924
Rhode Island # 98
USDA # S-51435

Authorized by:

Nicole Leja
Laboratory Director

Spectrum Analytical holds certification in the State of New York for the analytes as indicated with an X in the "Cert." column within this report. Please note that the State of New York does not offer certification for all analytes.
Please note that this report contains 22 pages of analytical data plus Chain of Custody document(s). When the Laboratory Report is indicated as revised, this report supersedes any previously dated reports for the laboratory ID(s) referenced above. Where this report identifies subcontracted analyses, copies of the subcontractor's test report are available upon request. This report may not be reproduced, except in full, without written approval from Spectrum Analytical, Inc.

*Spectrum Analytical, Inc. is a NELAC accredited laboratory organization and meets NELAC testing standards. Use of the NELAC logo however does not insure that Spectrum is currently accredited for the specific method or analyte indicated. Please refer to our "Quality" web page at www.spectrum-analytical.com for a full listing of our current certifications and fields of accreditation. States in which Spectrum Analytical, Inc. holds NELAC certification are New York, New Hampshire, New Jersey and Florida. All analytical work for Volatile Organic and Air analysis are transferred to and conducted at our 830 Silver Street location (NY-11840, FL-E87936 and NJ-MA012).*

The following outlines the condition of all VPH samples contained within this report upon laboratory receipt.

| | | | | |
|---|---|---|---|---|
| **Matrices** | Aqueous | | | |
| **Containers** | ✓ Satisfactory | | | |
| **Sample Preservative** | **Aqueous** (acid preserved) | N/A ✓ pH≤2 pH>2 | | |
| | **Soil or Sediment** | ✓ N/A Samples not received in Methanol | | ml Methanol/g soil<br>1:1 +/-25%<br>Other |
| | | Samples received in Methanol: | covering soil/sediment<br>not covering soil/sediment | |
| | | Samples received in air-tight container | | |
| **Temperature** | ✓ Received on ice | ✓ Received at 4 ± 2 ºC | | |

Were all QA/QC procedures followed as required by the VPH method? *Yes*
Were any significant modifications made to the VPH method as specified in section 11.3? *No*
Were all performance/acceptance standards for required QA/QC procedures achieved? *Yes*

I attest that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Authorized by:

Nicole Leja
Laboratory Director

**CASE NARRATIVE:**

The samples were received 3.1 degrees Celsius, please refer to the Chain of Custody for details specific to temperature upon receipt. An infrared thermometer with a tolerance of +/- 2.0 degrees Celsius was used immediately upon receipt of the samples.

If a Matrix Spike (MS), Matrix Spike Duplicate (MSD) or Duplicate (DUP) was not requested on the Chain of Custody, method criteria may have been fulfilled with a source sample not of this Sample Delivery Group.

**There is no relevant protocol-specific QC and/or performance standards non-conformances to report.**

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-04-111024** | K2139 | Aqueous | 24-Oct-11 16:15 | 03-Nov-11 |
| SB38520-01 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 55.9 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 72.9 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 36.0 | | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 55.9 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 109 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | 6.8 | | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *115* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *110* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-06-20111024** | K2139 | Aqueous | 24-Oct-11 13:54 | 03-Nov-11 |
| SB38520-02 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 64.6 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 14.0 | J | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 6.42 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 64.6 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 20.4 | J | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *121* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *118* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-08-20111024** | K2139 | Aqueous | 24-Oct-11 15:34 | 03-Nov-11 |
| SB38520-03 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 48.9 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 9.40 | J | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 4.46 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 48.9 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 13.9 | J | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *116* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *113* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-10-20111024** | K2139 | Aqueous | 24-Oct-11 12:15 | 03-Nov-11 |
| SB38520-04 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 36.5 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 125 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 72.7 | | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 36.5 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 198 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | 18.3 | | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *117* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *114* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-11-111024** | K2139 | Aqueous | 24-Oct-11 13:40 | 03-Nov-11 |
| SB38520-05 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 55.4 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 146 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 85.0 | | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 55.4 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 231 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | 10.9 | | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *122* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *115* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-12-111024** | K2139 | Aqueous | 24-Oct-11 15:00 | 03-Nov-11 |
| SB38520-06 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 49.4 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 10.2 | J | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 9.82 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 49.4 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 20.0 | J | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *117* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *110* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MWDUP01-111024** | K2139 | Aqueous | 24-Oct-11 00:00 | 03-Nov-11 |
| SB38520-07 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 53.3 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 9.52 | J | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 6.69 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 53.3 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 16.2 | J | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *115* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *110* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06TBMW0-111024** | K2139 | Aqueous | 24-Oct-11 00:00 | 03-Nov-11 |
| SB38520-08 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 8.53 | J | µg/l | 75.0 | 5.55 | 1 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | < 4.22 | U | µg/l | 25.0 | 4.22 | 1 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | < 1.12 | U | µg/l | 25.0 | 1.12 | 1 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 8.53 | J | µg/l | 75.0 | 7.10 | 1 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | < 4.68 | U | µg/l | 25.0 | 4.68 | 1 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 1 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 1 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 1 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 1 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 1 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 1 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 1 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *107* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *102* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-01-111025** | K2139 | Aqueous | 25-Oct-11 12:46 | 03-Nov-11 |
| SB38520-09 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 118 | | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 796 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 509 | | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 288 | | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1,310 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | 44.2 | | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | 128 | | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | 16.7 | | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | 58.3 | | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | 50.5 | | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *120* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *119* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-02-111025** | K2139 | Aqueous | 25-Oct-11 10:38 | 03-Nov-11 |
| SB38520-10 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 64.4 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 56.8 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 21.5 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 64.4 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 78.3 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | 8.0 | | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *123* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *115* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-03-111025** | K2139 | Aqueous | 25-Oct-11 09:10 | 03-Nov-11 |
| SB38520-11 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 138 | | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 714 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 459 | | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 406 | | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1,170 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | 39.5 | | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | 73.7 | | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | 155 | | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | 12.0 | | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | 109 | | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | 33.8 | | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *120* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *121* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-05-111025** | K2139 | Aqueous | 25-Oct-11 09:20 | 03-Nov-11 |
| SB38520-12 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 50.3 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 23.2 | J | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 13.4 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 50.3 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 36.6 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *114* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *118* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-07-111025** | K2139 | Aqueous | 25-Oct-11 11:30 | 03-Nov-11 |
| SB38520-13 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 53.9 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 15.2 | J | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 6.46 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 53.9 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 21.7 | J | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *118* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *112* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-09-111025** | K2139 | Aqueous | 25-Oct-11 10:25 | 03-Nov-11 |
| SB38520-14 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 63.7 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 47.0 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 19.0 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 63.7 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 66.0 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | < 1.6 | U | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *120* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *115* | | | *70-130 %* | | | " | " | " | " | " | |

| Sample Identification | Client Project # | Matrix | Collection Date/Time | Received |
|---|---|---|---|---|
| **06MW-13-111025** | K2139 | Aqueous | 25-Oct-11 12:40 | 03-Nov-11 |
| SB38520-15 | | | | |

| CAS No. | Analyte(s) | Result | Flag | Units | *RDL | MDL | Dilution | Method Ref. | Prepared | Analyzed | Analyst | Batch | Cert. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Volatile Organic Compounds** | | | | | | | | | | | | | |
| VPH Aliphatic/Aromatic Carbon Ranges | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| | C5-C8 Aliphatic Hydrocarbons | 62.2 | J | µg/l | 75.0 | 5.55 | 5 | MADEP VPH 5/2004 Rev. 1.1 | 04-Nov-11 | 04-Nov-11 | mp | 1122848 | |
| | C9-C12 Aliphatic Hydrocarbons | 27.9 | | µg/l | 25.0 | 4.22 | 5 | " | " | " | " | " | |
| | C9-C10 Aromatic Hydrocarbons | 8.20 | J | µg/l | 25.0 | 1.12 | 5 | " | " | " | " | " | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 63.8 | J | µg/l | 75.0 | 7.10 | 5 | " | " | " | " | " | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 36.1 | | µg/l | 25.0 | 4.68 | 5 | " | " | " | " | " | |
| VPH Target Analytes | | | | | | | | | | | | | |
| Prepared by method VPH - EPA 5030B | | | | | | | | | | | | | |
| 71-43-2 | Benzene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 100-41-4 | Ethylbenzene | < 1.4 | U | µg/l | 5.0 | 1.4 | 5 | " | " | " | " | " | |
| 1634-04-4 | Methyl tert-butyl ether | 1.6 | J | µg/l | 5.0 | 1.6 | 5 | " | " | " | " | " | |
| 91-20-3 | Naphthalene | < 1.2 | U | µg/l | 5.0 | 1.2 | 5 | " | " | " | " | " | |
| 108-88-3 | Toluene | < 1.3 | U | µg/l | 5.0 | 1.3 | 5 | " | " | " | " | " | |
| 179601-23-1 | m,p-Xylene | < 2.8 | U | µg/l | 10.0 | 2.8 | 5 | " | " | " | " | " | |
| 95-47-6 | o-Xylene | < 1.1 | U | µg/l | 5.0 | 1.1 | 5 | " | " | " | " | " | |
| *Surrogate recoveries:* | | | | | | | | | | | | | |
| *615-59-8* | *2,5-Dibromotoluene (FID)* | *120* | | | *70-130 %* | | | " | " | " | " | " | |
| *615-59-8* | *2,5-Dibromotoluene (PID)* | *115* | | | *70-130 %* | | | " | " | " | " | " | |

| Analyte(s) | Result | Flag | Units | *RDL | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1122848 - VPH - EPA 5030B** | | | | | | | | | | |
| **Blank (1122848-BLK1)** | | | | | | Prepared & Analyzed: 04-Nov-11 | | | | |
| C5-C8 Aliphatic Hydrocarbons | **9.37** | J | µg/l | 5.55 | | | | | | |
| C9-C12 Aliphatic Hydrocarbons | < 4.22 | U | µg/l | 4.22 | | | | | | |
| C9-C10 Aromatic Hydrocarbons | **1.36** | J | µg/l | 1.12 | | | | | | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | **9.37** | J | µg/l | 7.10 | | | | | | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | < 4.68 | U | µg/l | 4.68 | | | | | | |
| Benzene | < 1.3 | U | µg/l | 1.3 | | | | | | |
| Ethylbenzene | < 1.4 | U | µg/l | 1.4 | | | | | | |
| Methyl tert-butyl ether | < 1.6 | U | µg/l | 1.6 | | | | | | |
| Naphthalene | < 1.2 | U | µg/l | 1.2 | | | | | | |
| Toluene | < 1.3 | U | µg/l | 1.3 | | | | | | |
| m,p-Xylene | < 2.8 | U | µg/l | 2.8 | | | | | | |
| o-Xylene | < 1.1 | U | µg/l | 1.1 | | | | | | |
| 2-Methylpentane | < 2.3 | U | µg/l | 2.3 | | | | | | |
| n-Nonane | < 2.1 | U | µg/l | 2.1 | | | | | | |
| n-Pentane | < 1.2 | U | µg/l | 1.2 | | | | | | |
| 1,2,4-Trimethylbenzene | < 1.2 | U | µg/l | 1.2 | | | | | | |
| 2,2,4-Trimethylpentane | < 1.6 | U | µg/l | 1.6 | | | | | | |
| n-Butylcyclohexane | < 1.6 | U | µg/l | 1.6 | | | | | | |
| n-Decane | < 2.4 | U | µg/l | 2.4 | | | | | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *54.2* | | µg/l | | *50.0* | | *108* | *70-130* | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *52.4* | | µg/l | | *50.0* | | *105* | *70-130* | | |
| **LCS (1122848-BS1)** | | | | | | Prepared & Analyzed: 04-Nov-11 | | | | |
| C5-C8 Aliphatic Hydrocarbons | **49.6** | | µg/l | | 60.0 | | 83 | 70-130 | | |
| C9-C12 Aliphatic Hydrocarbons | **61.0** | | µg/l | | 60.0 | | 102 | 70-130 | | |
| C9-C10 Aromatic Hydrocarbons | **21.2** | | µg/l | | 20.0 | | 106 | 70-130 | | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | **193** | | µg/l | | 200 | | 97 | 70-130 | | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | **82.2** | | µg/l | | 80.0 | | 103 | 70-130 | | |
| Benzene | **21.2** | | µg/l | | 20.0 | | 106 | 70-130 | | |
| Ethylbenzene | **21.9** | | µg/l | | 20.0 | | 110 | 70-130 | | |
| Methyl tert-butyl ether | **14.1** | | µg/l | | 20.0 | | 71 | 70-130 | | |
| Naphthalene | **24.3** | | µg/l | | 20.0 | | 121 | 70-130 | | |
| Toluene | **21.7** | | µg/l | | 20.0 | | 108 | 70-130 | | |
| m,p-Xylene | **42.9** | | µg/l | | 40.0 | | 107 | 70-130 | | |
| o-Xylene | **21.7** | | µg/l | | 20.0 | | 109 | 70-130 | | |
| 2-Methylpentane | **20.9** | | µg/l | | 20.0 | | 104 | 70-130 | | |
| n-Nonane | **20.5** | | µg/l | | 20.0 | | 103 | 70-130 | | |
| n-Pentane | **21.2** | | µg/l | | 20.0 | | 106 | 70-130 | | |
| 1,2,4-Trimethylbenzene | **21.8** | | µg/l | | 20.0 | | 109 | 70-130 | | |
| 2,2,4-Trimethylpentane | **21.2** | | µg/l | | 20.0 | | 106 | 70-130 | | |
| n-Butylcyclohexane | **20.0** | | µg/l | | 20.0 | | 100 | 70-130 | | |
| n-Decane | **22.4** | | µg/l | | 20.0 | | 112 | 70-130 | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *57.6* | | µg/l | | *50.0* | | *115* | *70-130* | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *54.3* | | µg/l | | *50.0* | | *109* | *70-130* | | |
| **LCS Dup (1122848-BSD1)** | | | | | | Prepared & Analyzed: 04-Nov-11 | | | | |
| C5-C8 Aliphatic Hydrocarbons | **50.8** | | µg/l | | 60.0 | | 85 | 70-130 | 2 | 25 |
| C9-C12 Aliphatic Hydrocarbons | **59.8** | | µg/l | | 60.0 | | 100 | 70-130 | 2 | 25 |
| C9-C10 Aromatic Hydrocarbons | **20.6** | | µg/l | | 20.0 | | 103 | 70-130 | 3 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | **195** | | µg/l | | 200 | | 98 | 70-130 | 1 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | **80.3** | | µg/l | | 80.0 | | 100 | 70-130 | 2 | 25 |

| Analyte(s) | Result | Flag | Units | *RDL | Spike Level | Source Result | %REC | %REC Limits | RPD | RPD Limit |
|---|---|---|---|---|---|---|---|---|---|---|
| **Batch 1122848 - VPH - EPA 5030B** | | | | | | | | | | |
| **LCS Dup (1122848-BSD1)** | | | | | Prepared & Analyzed: 04-Nov-11 | | | | | |
| Benzene | **21.2** | | µg/l | | 20.0 | | 106 | 70-130 | 0.05 | 25 |
| Ethylbenzene | **22.1** | | µg/l | | 20.0 | | 110 | 70-130 | 0.7 | 25 |
| Methyl tert-butyl ether | **14.1** | | µg/l | | 20.0 | | 70 | 70-130 | 0.5 | 25 |
| Naphthalene | **22.9** | | µg/l | | 20.0 | | 114 | 70-130 | 6 | 25 |
| Toluene | **21.8** | | µg/l | | 20.0 | | 109 | 70-130 | 0.6 | 25 |
| m,p-Xylene | **43.3** | | µg/l | | 40.0 | | 108 | 70-130 | 0.8 | 25 |
| o-Xylene | **21.9** | | µg/l | | 20.0 | | 110 | 70-130 | 0.9 | 25 |
| 2-Methylpentane | **20.6** | | µg/l | | 20.0 | | 103 | 70-130 | 1 | 25 |
| n-Nonane | **20.5** | | µg/l | | 20.0 | | 103 | 70-130 | 0.2 | 25 |
| n-Pentane | **21.3** | | µg/l | | 20.0 | | 107 | 70-130 | 0.8 | 25 |
| 1,2,4-Trimethylbenzene | **21.8** | | µg/l | | 20.0 | | 109 | 70-130 | 0.3 | 25 |
| 2,2,4-Trimethylpentane | **21.1** | | µg/l | | 20.0 | | 105 | 70-130 | 0.5 | 25 |
| n-Butylcyclohexane | **19.9** | | µg/l | | 20.0 | | 99 | 70-130 | 0.8 | 25 |
| n-Decane | **21.6** | | µg/l | | 20.0 | | 108 | 70-130 | 4 | 25 |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *54.7* | | µg/l | | *50.0* | | *109* | *70-130* | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *51.6* | | µg/l | | *50.0* | | *103* | *70-130* | | |
| **Duplicate (1122848-DUP1)** | | | **Source: SB38520-02** | | Prepared & Analyzed: 04-Nov-11 | | | | | |
| C5-C8 Aliphatic Hydrocarbons | **66.9** | J | µg/l | 5.55 | | 64.6 | | | 3 | 50 |
| C9-C12 Aliphatic Hydrocarbons | **13.5** | J | µg/l | 4.22 | | 14.0 | | | 3 | 50 |
| C9-C10 Aromatic Hydrocarbons | **6.10** | J | µg/l | 1.12 | | 6.42 | | | 5 | 50 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | **66.9** | J | µg/l | 7.10 | | 64.6 | | | 3 | 50 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | **19.6** | J | µg/l | 4.68 | | 20.4 | | | 4 | 50 |
| Benzene | < 1.3 | U | µg/l | 1.3 | | BRL | | | | 50 |
| Ethylbenzene | < 1.4 | U | µg/l | 1.4 | | BRL | | | | 50 |
| Methyl tert-butyl ether | < 1.6 | U | µg/l | 1.6 | | BRL | | | | 50 |
| Naphthalene | < 1.2 | U | µg/l | 1.2 | | BRL | | | | 50 |
| Toluene | < 1.3 | U | µg/l | 1.3 | | BRL | | | | 50 |
| m,p-Xylene | < 2.8 | U | µg/l | 2.8 | | BRL | | | | 50 |
| o-Xylene | < 1.1 | U | µg/l | 1.1 | | BRL | | | | 50 |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *58.3* | | µg/l | | *50.0* | | *117* | *70-130* | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *56.2* | | µg/l | | *50.0* | | *112* | *70-130* | | |
| **Matrix Spike (1122848-MS1)** | | | **Source: SB38520-02** | | Prepared & Analyzed: 04-Nov-11 | | | | | |
| Benzene | **23.2** | | µg/l | | 20.0 | BRL | 116 | 70-130 | | |
| Ethylbenzene | **24.0** | | µg/l | | 20.0 | BRL | 120 | 70-130 | | |
| Methyl tert-butyl ether | **16.9** | | µg/l | | 20.0 | BRL | 85 | 70-130 | | |
| Naphthalene | **23.1** | | µg/l | | 20.0 | BRL | 116 | 70-130 | | |
| Toluene | **24.5** | | µg/l | | 20.0 | BRL | 123 | 70-130 | | |
| m,p-Xylene | **46.9** | | µg/l | | 40.0 | BRL | 117 | 70-130 | | |
| o-Xylene | **23.8** | | µg/l | | 20.0 | BRL | 119 | 70-130 | | |
| 2-Methylpentane | **23.1** | | µg/l | | 20.0 | BRL | 116 | 70-130 | | |
| n-Nonane | **24.3** | | µg/l | | 20.0 | BRL | 122 | 70-130 | | |
| n-Pentane | **22.9** | | µg/l | | 20.0 | BRL | 114 | 70-130 | | |
| 1,2,4-Trimethylbenzene | **23.7** | | µg/l | | 20.0 | BRL | 118 | 70-130 | | |
| 2,2,4-Trimethylpentane | **24.4** | | µg/l | | 20.0 | BRL | 122 | 70-130 | | |
| n-Butylcyclohexane | **23.5** | | µg/l | | 20.0 | BRL | 118 | 70-130 | | |
| n-Decane | **25.4** | | µg/l | | 20.0 | BRL | 127 | 70-130 | | |
| *Surrogate: 2,5-Dibromotoluene (FID)* | *55.0* | | µg/l | | *50.0* | | *110* | *70-130* | | |
| *Surrogate: 2,5-Dibromotoluene (PID)* | *52.0* | | µg/l | | *50.0* | | *104* | *70-130* | | |

## Notes and Definitions

| | |
|---|---|
| J | Detected above the Method Detection Limit but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag). |
| U | Analyte included in the analysis, but not detected |
| dry | Sample results reported on a dry weight basis |
| NR | Not Reported |
| RPD | Relative Percent Difference |

Laboratory Control Sample (LCS): A known matrix spiked with compound(s) representative of the target analytes, which is used to document laboratory performance.

Matrix Duplicate: An intra-laboratory split sample which is used to document the precision of a method in a given sample matrix.

Matrix Spike: An aliquot of a sample spiked with a known concentration of target analyte(s). The spiking occurs prior to sample preparation and analysis. A matrix spike is used to document the bias of a method in a given sample matrix.

Method Blank: An analyte-free matrix to which all reagents are added in the same volumes or proportions as used in sample processing. The method blank should be carried through the complete sample preparation and analytical procedure. The method blank is used to document contamination resulting from the analytical process.

Method Detection Limit (MDL): The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix type containing the analyte.

Reportable Detection Limit (RDL): The lowest concentration that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions. For many analytes the RDL analyte concentration is selected as the lowest non-zero standard in the calibration curve. While the RDL is approximately 5 to 10 times the MDL, the RDL for each sample takes into account the sample volume/weight, extract/digestate volume, cleanup procedures and, if applicable, dry weight correction. Sample RDLs are highly matrix-dependent.

Surrogate: An organic compound which is similar to the target analyte(s) in chemical composition and behavior in the analytical process, but which is not normally found in environmental samples. These compounds are spiked into all blanks, standards, and samples prior to analysis. Percent recoveries are calculated for each surrogate.

Continuing Calibration Verification: The calibration relationship established during the initial calibration must be verified at periodic intervals. Concentrations, intervals, and criteria are method specific.

Validated by:
Kimberly Wisk

✓ SB 38520 M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W |
|---|---|---|---|---|---|
| 06MW-04-111024 38520.01 | 10/24/2011 4:15:00 PM | Aqueous | | K2139-01A | X |
| 06MW-06-20111024 .02 | 10/24/2011 1:54:00 PM | Aqueous | X | K2139-02A | X |
| 06MW-08-20111024 .03 | 10/24/2011 3:34:00 PM | Aqueous | | K2139-03A | X |
| 06MW-10-20111024 .04 | 10/24/2011 12:15:00 PM | Aqueous | | K2139-04A | X |
| 06MW-11-111024 .05 | 10/24/2011 1:40:00 PM | Aqueous | | K2139-05A | X |
| 06MW-12-111024 .06 | 10/24/2011 3:00:00 PM | Aqueous | | K2139-06A | X |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| **Relinquished by:** | | 10/29/11 10:17 | **Received by:** | | 4.30 |
| **Relinquished by:** | | | **Received by:** | | 11/3/11 14:25 |

10/29/2011

3.1

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www.spectrum-analytical.com

SB 38520 M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W |
|---|---|---|---|---|---|
| 06MWDUP01-111024 38520 .07 | 10/24/2011 | Aqueous | | K2139-07A | X |
| 06TBMW0-111024 .08 | 10/24/2011 | Aqueous | | K2139-08A | X |
| 06MW-01-111025 .09 | 10/25/2011 12:46:00 PM | Aqueous | | K2139-09A | X |
| 06MW-02-111025 .10 | 10/25/2011 10:38:00 AM | Aqueous | | K2139-10A | X |
| 06MW-03-111025 .11 | 10/25/2011 9:10:00 AM | Aqueous | | K2139-11A | X |
| 06MW-05-111025 .12 | 10/25/2011 9:20:00 AM | Aqueous | | K2139-12A | X |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| Relinquished by: | Edward A Lawler | 10/29/11 10:17 | Received by: | [illegible] | 11-3-11 |
| Relinquished by: | [illegible] | | Received by: | [illegible] | 11/3/11 14:25 |



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SB 38520M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W |
|---|---|---|---|---|---|
| 06MW-07-111025 38520.13 | 10/25/2011 11:30:00 AM | Aqueous | | K2139-13A | X |
| 06MW-09-111025 14 | 10/25/2011 10:25:00 AM | Aqueous | | K2139-14A | X |
| 06MW-13-111025 15 | 10/25/2011 12:40:00 PM | Aqueous | | K2139-15A | X |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| Relinquished by: | Edward A Lawler | 10/29/11 10:17 | Received by: | L Kelly | 11.3.11 |
| Relinquished by: | L Kelly | | Received by: | | 11/3/11 1425 |

10/29/2011


3.1

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# APPENDIX G

# IDW Disposal Documentation

# APPENDIX H

# Data Validation Packages

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **D. KANE** | **DATE:** | **SEPTEMBER 9, 2011** |
| **FROM:** | **LEANNE M. GANSER** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOCs AND ETPH**
**CTO WE56, NSB NEW LONDON**
**SAMPLE DELIVERY GROUP (SDG) K1059**

**SAMPLES:** 15/Soil/

| | | |
|---|---|---|
| 06SB21-1517-20110616 | 06SB21-1719-20110616 | 06SB22-0911-20110615 |
| 06SB22-1719-20110615 | 06SB23-0709-20110616 | 06SB23-0911-20110616 |
| 06SB24-1719-20110615 | 06SB24-1921-20110615 | 06SB26-1416-20110617 |
| 06SB26-2426-20110617 | 06SB28-1820-20110614 | 06SB28-2325-20110614 |
| 06SBDUP01-20110615 | 06SBDUP02-20110615 | 06TBSO-20110614 |

OVERVIEW

The sample set for CTO WE56, NSB New London, SDG K1059, consists of fourteen (14) environmental soil samples and one (1) trip blank. The following field duplicate pairs were included in this SDG: 06SB22-1719-20110615 / 06SBDUP01-20110615 and 06SB24-1921-20110615 / 06SBDUP02-20110615.

All samples were analyzed for select volatile organic compounds (VOCs). All samples, except the trip blank were also analyzed for extractable total petroleum hydrocarbons (ETPH). The samples were collected by Tetra Tech NUS on June 14-16, 2011 and analyzed by Spectrum Analytical, Inc. All analyses were conducted in accordance with SW-846 Method 8260C for VOCs and Connecticut ETPH method for EPTH. A Tier 3 data validation was performed on the referenced samples. The data contained in this SDG were validated with regard to the following parameters:

* • Data Completeness
* • Holding Times
* • GC/MS Tuning
* • Initial/Continuing Calibrations
* • Laboratory Method Blank Results
• Surrogate Recoveries
* • Laboratory Control Sample/ Laboratory Control Sample Duplicate Results
* • Matrix Spike/Matrix Spike Duplicate Results
* • Internal Standards
* • Compound Quantitation
* • Compound Identification
* • Detection Limits
• Field Duplicate Results

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A. Results as reported by the laboratory are presented in Appendix B. Appendix C contains Region I worksheets, and Appendix D contains the documentation to support the findings as discussed in this data validation report.

Surrogate Recoveries

Percent recovery of the VOC surrogate bromofluorobenzene was greater than quality control limits for samples 06SB21-1719-20110616, 06SBDUP02-20110615, 06SB26-1416-20110617, and 06SB26-2426-20110617. The laboratory noted that samples 06SB26-1416-20110617 and 06SB26-2426-20110617 were re-analyzed and concluded similar results. The results of the re-analysis were not provided by the laboratory. Positive results in samples 06SB26-1416-20110617 and 06SB26-2426-20110617 were qualified as estimated, J. No action was taken for samples 06SB21-1719-20110616 and 06SBDUP02-20110615 because all results were nondetects.

Field Duplicate Results

Field duplicate imprecision (relative percent difference > 50%) was noted for field duplicate pair 06SB24-1921-20110615 / 06SBDUP02-20110615 for ETPH. The positive results for EPTH in samples 06SB24-1921-20110615 and 06SBDUP02-20110615 were qualified as estimated, "J".

Comments

Positive results reported below the quantitation limit but above the method detection limit were qualified as estimated, "J".

The ETPH fraction of samples 06SB21-1719-20110616, 06SB26-1416-20110617, and 06SB26-2426-20110617 were analyzed at 4X dilution.

**TO: D. KANE – PAGE 3**
**DATE: SEPTEMBER 9, 2011**

**EXECUTIVE SUMMARY**

**Laboratory Performance Issues:** VOC surrogates recoveries were greater than quality control limits.

**Other Factors Affecting Data Quality:** Field duplicate imprecision was noted for ETPH.

The data for these analyses were reviewed with reference to the Region I EPA "Data Validation Functional Guidelines - Part II" (12/96) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (~~January 2006~~ APRIL 2009). The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Leanne M. Ganser
Environmental Scientist/ Data Validator

TetraTech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Regional Worksheets
Appendix D – Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

**Data Validation Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS-GFAA MSA's r < 0.995 / ICP PDS Recovery Noncompliance
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

| PROJ_NO: 02634 | NSAMPLE | 06SB21-1517-20110616 | | | 06SB21-1719-20110616 | | | 06SB22-0911-20110615 | | | 06SB22-1719-20110615 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-08B | | | K1059-09B | | | K1059-03B | | | K1059-04B | | |
| FRACTION: OV | SAMP_DATE | 6/16/2011 | | | 6/16/2011 | | | 6/15/2011 | | | 6/15/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| | PCT_SOLIDS | 87.5 | | | 89.6 | | | 76.4 | | | 83.1 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 0.14 | U | | 1.6 | U | | 1.6 | U | | 1.9 | U | |
| ETHYLBENZENE | | 0.14 | U | | 1.6 | U | | 1.6 | U | | 1.9 | U | |
| M+P-XYLENES | | 0.28 | U | | 3.2 | U | | 3.2 | U | | 3.7 | U | |
| METHYL TERT-BUTYL ETHER | | 0.14 | U | | 1.6 | U | | 1.6 | U | | 1.9 | U | |
| O-XYLENE | | 0.14 | U | | 1.6 | U | | 1.6 | U | | 1.9 | U | |
| TOLUENE | | 0.14 | U | | 1.6 | U | | 1.6 | U | | 1.9 | U | |
| TOTAL XYLENES | | 0.14 | U | | 1.6 | U | | 1.6 | U | | 1.9 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06SB23-0709-20110616 | | | 06SB23-0911-20110616 | | | 06SB24-1719-20110615 | | | 06SB24-1921-20110615 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-12B | | | K1059-13B | | | K1059-06B | | | K1059-07B | | |
| FRACTION: OV | SAMP_DATE | 6/16/2011 | | | 6/16/2011 | | | 6/15/2011 | | | 6/15/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| | PCT_SOLIDS | 85.3 | | | 84.5 | | | 88.8 | | | 88.8 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.5 | U | | 1.3 | U | | 1.4 | U | | 1.5 | U | |
| ETHYLBENZENE | | 1.5 | U | | 1.3 | U | | 1.4 | U | | 1.5 | U | |
| M+P-XYLENES | | 3 | U | | 2.7 | U | | 2.9 | U | | 3 | U | |
| METHYL TERT-BUTYL ETHER | | 1.5 | U | | 1.3 | U | | 1.4 | U | | 1.5 | U | |
| O-XYLENE | | 1.5 | U | | 1.3 | U | | 1.4 | U | | 1.5 | U | |
| TOLUENE | | 1.5 | U | | 1.3 | U | | 1.4 | U | | 1.5 | U | |
| TOTAL XYLENES | | 1.5 | U | | 1.3 | U | | 1.4 | U | | 1.5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06SB26-1416-20110617 | | | 06SB26-2426-20110617 | | | 06SB28-1820-20110614 | | | 06SB28-2325-20110614 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-14B | | | K1059-15B | | | K1059-01B | | | K1059-02B | | |
| FRACTION: OV | SAMP_DATE | 6/17/2011 | | | 6/17/2011 | | | 6/14/2011 | | | 6/14/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| | PCT_SOLIDS | 90.8 | | | 89.7 | | | 89.4 | | | 88.2 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.4 | U | | 1.3 | U | | 1.6 | U | | 1.3 | U | |
| ETHYLBENZENE | | 97 | J | R | 16 | J | R | 1.6 | U | | 1.3 | U | |
| M+P-XYLENES | | 53 | J | R | 7.4 | J | R | 3.2 | U | | 2.7 | U | |
| METHYL TERT-BUTYL ETHER | | 1.4 | U | | 1.3 | U | | 1.6 | U | | 1.3 | U | |
| O-XYLENE | | 1.4 | U | | 1.3 | U | | 1.6 | U | | 1.3 | U | |
| TOLUENE | | 1.1 | J | PR | 1.3 | U | | 1.6 | U | | 1.3 | U | |
| TOTAL XYLENES | | 53 | J | R | 7.4 | J | R | 1.6 | U | | 1.3 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06SBDUP01-20110615 | | | 06SBDUP02-20110615 | | | 06TBSO-20110614 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-05B | | | K1059-11B | | | K1059-10B | | |
| FRACTION: OV | SAMP_DATE | 6/15/2011 | | | 6/15/2011 | | | 6/14/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | |
| | UNITS | UG/KG | | | UG/KG | | | UG/KG | | |
| | PCT_SOLIDS | 83.8 | | | 89.7 | | | 100.0 | | |
| | DUP_OF | 06SB22-1719-20110615 | | | 06SB24-1921-20110615 | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.7 | U | | 1.5 | U | | 2 | U | |
| ETHYLBENZENE | | 1.7 | U | | 1.5 | U | | 2 | U | |
| M+P-XYLENES | | 3.3 | U | | 3.1 | U | | 4 | U | |
| METHYL TERT-BUTYL ETHER | | 1.7 | U | | 1.5 | U | | 2 | U | |
| O-XYLENE | | 1.7 | U | | 1.5 | U | | 2 | U | |
| TOLUENE | | 1.7 | U | | 1.5 | U | | 2 | U | |
| TOTAL XYLENES | | 1.7 | U | | 1.5 | U | | 2 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06SB21-1517-20110616 | | | 06SB21-1719-20110616 | | | 06SB22-0911-20110615 | | | 06SB22-1719-20110615 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-08A | | | K1059-09A | | | K1059-03A | | | K1059-04A | | |
| FRACTION: PET | SAMP_DATE | 6/16/2011 | | | 6/16/2011 | | | 6/15/2011 | | | 6/15/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/KG | | | MG/KG | | | MG/KG | | | MG/KG | | |
| | PCT_SOLIDS | 87.5 | | | 89.6 | | | 76.4 | | | 83.1 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 400 | | | 1900 | | | 20 | | | 30 | | |

| PROJ_NO: 02634 | NSAMPLE | 06SB23-0709-20110616 | | | 06SB23-0911-20110616 | | | 06SB24-1719-20110615 | | | 06SB24-1921-20110615 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-12A | | | K1059-13A | | | K1059-06A | | | K1059-07A | | |
| FRACTION: PET | SAMP_DATE | 6/16/2011 | | | 6/16/2011 | | | 6/15/2011 | | | 6/15/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/KG | | | MG/KG | | | MG/KG | | | MG/KG | | |
| | PCT_SOLIDS | 85.3 | | | 84.5 | | | 88.8 | | | 88.8 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 36 | | | 28 | | | 33 | | | 23 | J | G |

| PROJ_NO: 02634 | NSAMPLE | 06SB26-1416-20110617 | | | 06SB26-2426-20110617 | | | 06SB28-1820-20110614 | | | 06SB28-2325-20110614 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-14A | | | K1059-15A | | | K1059-01A | | | K1059-02A | | |
| FRACTION: PET | SAMP_DATE | 6/17/2011 | | | 6/17/2011 | | | 6/14/2011 | | | 6/14/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/KG | | | MG/KG | | | MG/KG | | | MG/KG | | |
| | PCT_SOLIDS | 90.8 | | | 89.7 | | | 89.4 | | | 88.2 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 2400 | | | 4400 | | | 16 | U | | 16 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06SBDUP01-20110615 | | | 06SBDUP02-20110615 | | |
|---|---|---|---|---|---|---|---|
| SDG: K1059 | LAB_ID | K1059-05A | | | K1059-11A | | |
| FRACTION: PET | SAMP_DATE | 6/15/2011 | | | 6/15/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | |
| | UNITS | MG/KG | | | MG/KG | | |
| | PCT_SOLIDS | 83.8 | | | 89.7 | | |
| | DUP_OF | 06SB22-1719-20110615 | | | 06SB24-1921-20110615 | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 23 | | | 110 | J | G |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB21-1517-2011 0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-08B

Sample wt/vol: 82.0 (g/mL) G Lab File ID: V1M1665.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 13 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.14 | U | 0.043 | 0.14 | 0.35 |
| 71-43-2 | Benzene | 0.14 | U | 0.043 | 0.14 | 0.35 |
| 108-88-3 | Toluene | 0.14 | U | 0.033 | 0.14 | 0.35 |
| 100-41-4 | Ethylbenzene | 0.14 | U | 0.035 | 0.14 | 0.35 |
| 1330-20-7 | m,p-Xylene | 0.28 | U | 0.11 | 0.28 | 0.35 |
| 95-47-6 | o-Xylene | 0.14 | U | 0.033 | 0.14 | 0.35 |
| 1330-20-7 | Xylene (Total) | 0.14 | U | 0.033 | 0.14 | 0.35 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB21-1719-2011 0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-09B

Sample wt/vol: 6.90 (g/mL) G Lab File ID: V1M1666.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 10 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 71-43-2 | Benzene | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 108-88-3 | Toluene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 100-41-4 | Ethylbenzene | 1.6 | U | 0.40 | 1.6 | 4.0 |
| 1330-20-7 | m,p-Xylene | 3.2 | U | 1.3 | 3.2 | 4.0 |
| 95-47-6 | o-Xylene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 1330-20-7 | Xylene (Total) | 1.6 | U | 0.38 | 1.6 | 4.0 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB22-0911-2011 0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-03B

Sample wt/vol: 8.10 (g/mL) G Lab File ID: V1M1660.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 24 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 71-43-2 | Benzene | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 108-88-3 | Toluene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 100-41-4 | Ethylbenzene | 1.6 | U | 0.40 | 1.6 | 4.0 |
| 1330-20-7 | m,p-Xylene | 3.2 | U | 1.3 | 3.2 | 4.0 |
| 95-47-6 | o-Xylene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 1330-20-7 | Xylene (Total) | 1.6 | U | 0.38 | 1.6 | 4.0 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB22-1719-2011 0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-04B

Sample wt/vol: 6.50 (g/mL) G Lab File ID: V1M1661.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 17 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.9 | U | 0.56 | 1.9 | 4.6 |
| 71-43-2 | Benzene | 1.9 | U | 0.56 | 1.9 | 4.6 |
| 108-88-3 | Toluene | 1.9 | U | 0.44 | 1.9 | 4.6 |
| 100-41-4 | Ethylbenzene | 1.9 | U | 0.46 | 1.9 | 4.6 |
| 1330-20-7 | m,p-Xylene | 3.7 | U | 1.5 | 3.7 | 4.6 |
| 95-47-6 | o-Xylene | 1.9 | U | 0.44 | 1.9 | 4.6 |
| 1330-20-7 | Xylene (Total) | 1.9 | U | 0.44 | 1.9 | 4.6 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB23-0709-2011 0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-12B

Sample wt/vol: 7.70 (g/mL) G Lab File ID: V1M1668.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 15 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 71-43-2 | Benzene | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 108-88-3 | Toluene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 100-41-4 | Ethylbenzene | 1.5 | U | 0.38 | 1.5 | 3.8 |
| 1330-20-7 | m,p-Xylene | 3.0 | U | 1.2 | 3.0 | 3.8 |
| 95-47-6 | o-Xylene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 1330-20-7 | Xylene (Total) | 1.5 | U | 0.36 | 1.5 | 3.8 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB23-0911-2011 0616

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-13B

Sample wt/vol: 8.90 (g/mL) G Lab File ID: V1M1669.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 16 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.41 | 1.3 | 3.3 |
| 71-43-2 | Benzene | 1.3 | U | 0.41 | 1.3 | 3.3 |
| 108-88-3 | Toluene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.33 | 1.3 | 3.3 |
| 1330-20-7 | m,p-Xylene | 2.7 | U | 1.1 | 2.7 | 3.3 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.31 | 1.3 | 3.3 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB24-1719-2011 0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-06B

Sample wt/vol: 7.90 (g/mL) G Lab File ID: V1M1663.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 11 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.43 | 1.4 | 3.6 |
| 71-43-2 | Benzene | 1.4 | U | 0.43 | 1.4 | 3.6 |
| 108-88-3 | Toluene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 100-41-4 | Ethylbenzene | 1.4 | U | 0.36 | 1.4 | 3.6 |
| 1330-20-7 | m,p-Xylene | 2.9 | U | 1.1 | 2.9 | 3.6 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 1330-20-7 | Xylene (Total) | 1.4 | U | 0.34 | 1.4 | 3.6 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB24-1921-2011 0615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-07B

Sample wt/vol: 7.40 (g/mL) G Lab File ID: V1M1664.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 11 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 71-43-2 | Benzene | 1.5 | U | 0.46 | 1.5 | 3.8 |
| 108-88-3 | Toluene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 100-41-4 | Ethylbenzene | 1.5 | U | 0.38 | 1.5 | 3.8 |
| 1330-20-7 | m,p-Xylene | 3.0 | U | 1.2 | 3.0 | 3.8 |
| 95-47-6 | o-Xylene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 1330-20-7 | Xylene (Total) | 1.5 | U | 0.36 | 1.5 | 3.8 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB26-1416-2011 0617

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-14B

Sample wt/vol: 7.90 (g/mL) G Lab File ID: V1M1670.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 9.2 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 71-43-2 | Benzene | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 108-88-3 | Toluene | 1.1 | J | 0.33 | 1.4 | 3.5 |
| 100-41-4 | Ethylbenzene | 97 | | 0.35 | 1.4 | 3.5 |
| 1330-20-7 | m,p-Xylene | 53 | | 1.1 | 2.8 | 3.5 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.33 | 1.4 | 3.5 |
| 1330-20-7 | Xylene (Total) | 53 | | 0.33 | 1.4 | 3.5 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB26-2426-2011 0617

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-15B

Sample wt/vol: 8.40 (g/mL) G Lab File ID: V1M1671.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 10 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.40 | 1.3 | 3.3 |
| 71-43-2 | Benzene | 1.3 | U | 0.40 | 1.3 | 3.3 |
| 108-88-3 | Toluene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 100-41-4 | Ethylbenzene | 16 | | 0.33 | 1.3 | 3.3 |
| 1330-20-7 | m,p-Xylene | 7.4 | | 1.1 | 2.7 | 3.3 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.31 | 1.3 | 3.3 |
| 1330-20-7 | Xylene (Total) | 7.4 | | 0.31 | 1.3 | 3.3 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB28-1820-2011 0614

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-01B

Sample wt/vol: 7.00 (g/mL) G Lab File ID: V1M1658.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 11 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 71-43-2 | Benzene | 1.6 | U | 0.49 | 1.6 | 4.0 |
| 108-88-3 | Toluene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 100-41-4 | Ethylbenzene | 1.6 | U | 0.40 | 1.6 | 4.0 |
| 1330-20-7 | m,p-Xylene | 3.2 | U | 1.3 | 3.2 | 4.0 |
| 95-47-6 | o-Xylene | 1.6 | U | 0.38 | 1.6 | 4.0 |
| 1330-20-7 | Xylene (Total) | 1.6 | U | 0.38 | 1.6 | 4.0 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SB28-2325-2011 0614

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-02B

Sample wt/vol: 8.40 (g/mL) G Lab File ID: V1M1659.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 12 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.41 | 1.3 | 3.4 |
| 71-43-2 | Benzene | 1.3 | U | 0.41 | 1.3 | 3.4 |
| 108-88-3 | Toluene | 1.3 | U | 0.32 | 1.3 | 3.4 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.34 | 1.3 | 3.4 |
| 1330-20-7 | m,p-Xylene | 2.7 | U | 1.1 | 2.7 | 3.4 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.32 | 1.3 | 3.4 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.32 | 1.3 | 3.4 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SBDUP01-20110615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-05B

Sample wt/vol: 7.20 (g/mL) G Lab File ID: V1M1662.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 16 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.7 | U | 0.51 | 1.7 | 4.1 |
| 71-43-2 | Benzene | 1.7 | U | 0.51 | 1.7 | 4.1 |
| 108-88-3 | Toluene | 1.7 | U | 0.39 | 1.7 | 4.1 |
| 100-41-4 | Ethylbenzene | 1.7 | U | 0.41 | 1.7 | 4.1 |
| 1330-20-7 | m,p-Xylene | 3.3 | U | 1.3 | 3.3 | 4.1 |
| 95-47-6 | o-Xylene | 1.7 | U | 0.39 | 1.7 | 4.1 |
| 1330-20-7 | Xylene (Total) | 1.7 | U | 0.39 | 1.7 | 4.1 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06SBDUP02-20110615

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-11B

Sample wt/vol: 7.30 (g/mL) G Lab File ID: V1M1667.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. 10 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.5 | U | 0.47 | 1.5 | 3.8 |
| 71-43-2 | Benzene | 1.5 | U | 0.47 | 1.5 | 3.8 |
| 108-88-3 | Toluene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 100-41-4 | Ethylbenzene | 1.5 | U | 0.38 | 1.5 | 3.8 |
| 1330-20-7 | m,p-Xylene | 3.1 | U | 1.2 | 3.1 | 3.8 |
| 95-47-6 | o-Xylene | 1.5 | U | 0.36 | 1.5 | 3.8 |
| 1330-20-7 | Xylene (Total) | 1.5 | U | 0.36 | 1.5 | 3.8 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

06TBSO-20110614

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1059-10B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1655.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/20/2011

% Moisture: not dec. Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB21-1517-20110616
**Lab ID:** K1059-08

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/16/11 10:05

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 400 | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 18:26 | 59935 |
| Surrogate: ortho-Terphenyl | 75.9 | | | 50-150 | %REC | 1 | 06/24/2011 18:26 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB21-1719-20110616
**Lab ID:** K1059-09

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/16/11 10:10

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 1900 | | 12 | 62 | mg/Kg | 4 | 06/27/2011 13:10 | 59935 |
| Surrogate: ortho-Terphenyl | 85.6 | | | 50-150 | %REC | 4 | 06/27/2011 13:10 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB22-0911-20110615
**Lab ID:** K1059-03
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/15/11 8:50

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 20 | | 3.3 | 18 | mg/Kg | 1 | 06/24/2011 14:23 | 59935 |
| Surrogate: ortho-Terphenyl | 60.1 | | | 50-150 | %REC | 1 | 06/24/2011 14:23 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB22-1719-20110615
**Lab ID:** K1059-04
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/15/11 9:30

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 30 | | 3.1 | 17 | mg/Kg | 1 | 06/24/2011 17:06 | 59935 |
| Surrogate: ortho-Terphenyl | 83.9 | | | 50-150 | %REC | 1 | 06/24/2011 17:06 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB23-0709-20110616
**Lab ID:** K1059-12

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/16/11 13:50

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 36 | | 3.0 | 16 | mg/Kg | 1 | 06/24/2011 19:25 | 59935 |
| Surrogate: ortho-Terphenyl | 59.7 | | | 50-150 | %REC | 1 | 06/24/2011 19:25 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB23-0911-20110616
**Lab ID:** K1059-13
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/16/11 14:10

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 28 | | 3.0 | 16 | mg/Kg | 1 | 06/24/2011 19:45 | 59935 |
| Surrogate: ortho-Terphenyl | 81.6 | | | 50-150 | %REC | 1 | 06/24/2011 19:45 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB24-1719-20110615
**Lab ID:** K1059-06

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/15/11 13:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 33 | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 17:46 | 59935 |
| Surrogate: ortho-Terphenyl | 88.1 | | | 50-150 | %REC | 1 | 06/24/2011 17:46 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB24-1921-20110615
**Lab ID:** K1059-07

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/15/11 14:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 23 | | 2.9 | 15 | mg/Kg | 1 | 06/24/2011 18:06 | 59935 |
| Surrogate: ortho-Terphenyl | 69.8 | | | 50-150 | %REC | 1 | 06/24/2011 18:06 | 59935 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB26-1416-20110617
**Lab ID:** K1059-14
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/17/11 11:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 2400 | | 11 | 61 | mg/Kg | 4 | 06/27/2011 13:30 | 59935 |
| Surrogate: ortho-Terphenyl | 84.5 | | | 50-150 | %REC | 4 | 06/27/2011 13:30 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB26-2426-20110617
**Lab ID:** K1059-15

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/17/11 12:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 4400 | | 11 | 62 | mg/Kg | 4 | 06/27/2011 13:50 | 59935 |
| Surrogate: ortho-Terphenyl | 84.9 | | | 50-150 | %REC | 4 | 06/27/2011 13:50 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB28-1820-20110614
**Lab ID:** K1059-01

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/14/11 12:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | ND | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 13:43 | 59935 |
| Surrogate: ortho-Terphenyl | 66.5 | | | 50-150 | %REC | 1 | 06/24/2011 13:43 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB28-2325-20110614
**Lab ID:** K1059-02

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/14/11 14:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | ND | | 2.9 | 16 | mg/Kg | 1 | 06/24/2011 14:03 | 59935 |
| Surrogate: ortho-Terphenyl | 59.4 | | | 50-150 | %REC | 1 | 06/24/2011 14:03 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division



**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SBDUP01-20110615
**Lab ID:** K1059-05
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/15/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 23 | | 3.1 | 17 | mg/Kg | 1 | 06/24/2011 17:26 | 59935 |
| Surrogate: ortho-Terphenyl | 76.6 | | | 50-150 | %REC | 1 | 06/24/2011 17:26 | 59935 |

Qualifiers:
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*13-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SBDUP02-20110615
**Lab ID:** K1059-11

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/15/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_S | |
| Extractable Total Petroleum Hydrocarbon | 110 | | 2.8 | 15 | mg/Kg | 1 | 06/24/2011 19:06 | 59935 |
| Surrogate: ortho-Terphenyl | 79.5 | | | 50-150 | %REC | 1 | 06/24/2011 19:06 | 59935 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.07.13.A

# APPENDIX C

## REGIONAL WORKSHEETS

EPA-NE
Data Validation Worksheet Cover Page - Page 1

Site Name NSB New London
Reference No. _____

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Spectrum Analytical
Case/Project No. 02634
SDG No. K1059
No. of Samples/Matrix _____

SOW/Method No. _____
Sampling Date(s) _____
Shipping Date(s) _____
Date Rec'd by lab _____

Traffic Report Sample Nos. See DV Report

Trip Blank No. _____
Equipment Blank No. _____
Bottle Blank No. _____
Field Duplicate Nos. _____

PES Nos. _____

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation _____

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Leanne Ganser Company Name Tetra Tech Phone Number _____

Date Validation Started _____ Date Validation Completed _____

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

See DV Report

| VOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
| | | | | | |

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

See DV Report

| SEMIVOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
| | | | | | |

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____

Date: _____

See DV Report

COMPLETE SDG FILE (CSF) AUDIT

Organic Fractions: _____

| Missing Information | Date Lab Contacted | Date Received |
|---|---|---|
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Validator: _____ Date: _____

See DV Report

Sampler:_____ Company:_____ Contacted: Yes No Date:_____

**I. PRESERVATION AND HOLDING TIMES -** Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

| Sample No. (TR No.) | Matrix | Pres. Code | Date Sampled | VOA | | | BNA | | | | | PEST/PCB | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Date Analyzed | # of Days from Samp. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action |
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**Preservation Code:**
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

**(*Extraction Code:)**
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

**Action Code:**
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: _____ Date: _____

See DV Report

## II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

| Volatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |

Comments:

| Semivolatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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Comments:

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Validator:_____ Date:_____

EPA-NE - Data Validation Worksheet
**VOA/SV-III**

See DV Report

**III. INITIAL CALIBRATION** - List all analytes that are outside calibration criteria.

| Date of ICAL | Instrument | Parameter | Matrix | Compound | % RSD | $\overline{RRF}$ | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|
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Comments:

Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet
**VOA/SV-IV**

See DV Report

**IV. CONTINUING CALIBRATION** - List all analytes that are outside calibration criteria.

| Date of ICAL | Date of CCAL | Instrument | Parameter | Matrix | Compound | %D | RRF | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|
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Comments:

Validator:_____ Date:_____

EPA-NE - Data Validation Worksheet

**VOA/SV - Pest/PCB-V-A**

See DV Report

## V. BLANK ANALYSIS

List the blank contamination below.

Concentration Level:_____

Sampler: _____ Company: _____

Contacted: Yes No Date:_____

### 1. Laboratory: Method, Storage and Instrument Blanks

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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### 2. Field: Equipment (Rinsate), Trip and Bottle Blanks

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

See DV Report

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-V-B**

3. **Blank Actions** - List the maximum concentrations of blank compounds.

| Compound | Type of Blank | Date Blank Sampled/Originated | Max. Conc. (units) | Action Level (units) | Sample QL | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Comments: _____

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Validator: _____ Date: _____

See DV Report

EPA-NE - Data Validation Worksheet
**VOA-VI**

**VI. VOA SURROGATE SPIKE RECOVERIES** - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Volatile Method QC Acceptance Criteria | | | | |
|---|---|---|---|---|---|
| | Toluene-$d_8$ | BFB | DCE-$d_4$ | Other: | |
| OLM03.2 | Water 88-110 Soil 84-138 | Water 86-115 Soil 59-113 | Water 76-114 Soil 70-121 | | |
| OLC02.1 | NA | 80-120 | NA | | |
| Other: | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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Validator:_____ Date:_____

See DV Report



**VI. SV SURROGATE SPIKE RECOVERIES** - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Base/Neutral Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | NBZ-$d_5$ | 2-FBP | TPH-$d_{14}$ | 1,2-DCB-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>35-114 23-120 | Water Soil<br>43-116 30-115 | Water Soil<br>33-141 18-137 | Water Soil<br>16-110 20-130 | | |
| OLC02.1 | 40-110 | 30-110 | 20-140 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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| Method | Acid Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | Phenol-$d_5$ | 2-FP | 2,4,6-TBP | 2-CP-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>10-110 24-113 | Water Soil<br>21-110 25-121 | Water Soil<br>10-123 19-122 | Water Soil<br>33-110 20-130 | | |
| OLC02.1 | 15-115 | 15-110 | 15-130 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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* Advisory Surrogates - OLM03.2

Validator: _____ Date: _____

See DV Report

EPA-NE - Data Validation Worksheet
**VOA/SV-VII**

## VII. INTERNAL STANDARD PERFORMANCE

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria:_____
IS Retention Time method QC acceptance criteria:_____

| Sample Number (TR#) | Date and Time Analyzed | Instrument | Parameter | IS Outside Area Count and/or RT Criteria | __IS Area | RT Shift | Acceptable Range (IS area or RT shift) | Action |
|---|---|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

See DV Report

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-VIII**

**VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE** - List all MS/MSD analytes that are outside method QC acceptance criteria. Use a separate worksheet for each MS/MSD pair.

Sample # _____ Matrix _____ Concentration Level _____

| Parameter | Compound | MS %Rec | MSD %Rec | RPD | Method QC Limits | | Concentration | | | % RSD | Action |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | % Rec | RPD | Unspiked Sample | MS | MSD | | |
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Validator: _____ Date: _____

See DV Report

**IX. FIELD DUPLICATE PRECISION** - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number _____ Duplicate Sample Number _____ Matrix _____

| Parameter | Compound | Sample Conc. | Sample QL | | Duplicate Conc. | Duplicate QL | | RPD | QC Acceptance Criteria RPD or NA* | Action |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | SQL | 2xSQL | | SQL | 2xSQL | | | |
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* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? Y N

Comments: _____

_____

Sampler Name: _____ Contractor Name: _____ Date Contacted: _____

Reason for Contact and resolution obtained: _____

Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-X**

See DV Report

## X. SENSITIVITY CHECK (Method Detection Limit Study)

List all compounds, surrogates, and internal standards that are outside the MDL criteria.

- Has an appropriate MDL study been submitted with seven replicates for each compound and matrix of interest? Y N
- Date of Preparation/Analysis: _____ Within 1 year? Y N
- Instrument I.D.: _____ Same as samples? Y N
- Column I.D.: _____ Same as samples? Y N

| Matrix | Compound | MDL > QL | Method QC Limits < 80% or > 120% | IS Outside Area Count and/or RT Criteria | RSD > 20% | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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If an MDL study has not been submitted, use only the LFB results to evaluate data.

**(Laboratory Fortified Blank)** - List all LFB compounds, surrogates and internal standards that are outside criteria.

- Has an appropriate and complete LFB been submitted at the proper frequency? Y N
- Does it contain all target compounds at the method-required QLs? Y N
- Was the LFB spiked with a standard from a source (vendor) independent of the calibration standard? Y N

| Matrix | Compound | Method QC Limits < 60% or > 140% Other: | IS Outside Area Count and/or RT Criteria | Samples Affected | Action |
|---|---|---|---|---|---|
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Validator: _____ Date: _____

See DV Report

## XI. ACCURACY CHECK (Performance Evaluation Results) - List all analytes that are outside criteria.

SDG No: _____ CASE: _____

Are more than one-half of the PES analytes within criteria for each parameter. **Y N**

| PE Sample Number | Ampule Number | Parameter | Type of PES | Matrix | Analyte | Conc. | Region I EPA PES Scores* | Non-EPA PES Scores** | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|---|
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* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Validator: _____ Date: _____

See DV Report

**XII. TARGET COMPOUND IDENTIFICATION** - List the analytes that are outside the acceptance criteria.

| Sample Number | Compound | ___MS Ions | _____RRT | Action |
|---|---|---|---|---|
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Validator: _____ Date: _____

See DV Report

## XIII. SAMPLE QUANTITATION

Recalculate, from the raw data, the concentrations for one positive detect and one reported sample quantitation limit for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C.1.a, requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one sample quantitation limit calculation on this worksheet.)

Do all soil/sediment samples have % solids greater than 30%? Y N
If no, list sample numbers_____

| Fraction | | Calculation |
|---|---|---|
| **VOA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **BNA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **Pesticide/PCB** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |

Validator:_____ Date:_____

See DV Report

## XIV. TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

List the 5 TICs having the highest concentration for each sample parameter.

| Sample Number | Parameter | Compound | RRT | Est. Conc. | Action |
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Validator: _____

Date: _____

EPA-NE - Data Validation Worksheet
**VOA/SV-XV**

See DV Report

## XV. SEMIVOLATILE CLEANUP - List all analytes that are outside method cleanup QC criteria.

| Cleanup Procedure | Instrument # or Lot # | Date/Time GPC Calibrated or Check Solution Analyzed | Compound | % Rec | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Did the GPC column meet; resolution requirements? Y or N
peak shape requirements? Y or N
retention time shift requirements? Y or N

Was the GPC calibration, Silica Gel cleanup checked at the method required frequency with correct compounds and concentrations? Y or N

Were all compounds less than QL for the GPC/Silica Gel/Acid-Partition blank? Y or N

Did the blank surrogate recoveries and IS area counts and RTs (if added) meet method QC acceptance criteria? Y or N

Comments:_____

Validator:_____ Date:_____

# APPENDIX D

## SUPPORT DOCUMENTATION

# HOLDTIME

PROJ_NO 02634

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1059 | PMOIS | % | 06SBDUP01-20110615 | K1059-05A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB21-1517-20110616 | K1059-08A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SBDUP02-20110615 | K1059-11A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB28-2325-20110614 | K1059-02A | NM | 06/14/2011 | 07/06/2011 | 07/06/2011 | 22 | 0 | 22 |
| K1059 | PMOIS | % | 06SB28-1820-20110614 | K1059-01A | NM | 06/14/2011 | 07/06/2011 | 07/06/2011 | 22 | 0 | 22 |
| K1059 | PMOIS | % | 06SB26-2426-20110617 | K1059-15A | NM | 06/17/2011 | 07/06/2011 | 07/06/2011 | 19 | 0 | 19 |
| K1059 | PMOIS | % | 06SB26-1416-20110617 | K1059-14A | NM | 06/17/2011 | 07/06/2011 | 07/06/2011 | 19 | 0 | 19 |
| K1059 | PMOIS | % | 06SB24-1719-20110615 | K1059-06A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB23-0911-20110616 | K1059-13A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SB23-0709-20110616 | K1059-12A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SB22-1719-20110615 | K1059-04A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB21-1719-20110616 | K1059-09A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SB22-0911-20110615 | K1059-03A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB24-1921-20110615 | K1059-07A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1100 | PMOIS | % | 06SB2S-1820-20110621 | K1100-05A | NM | 06/21/2011 | 07/11/2011 | 07/11/2011 | 20 | 0 | 20 |
| K1100 | PMOIS | % | 06SB27-0911-20110620 | K1100-01A | NM | 06/20/2011 | 07/11/2011 | 07/11/2011 | 21 | 0 | 21 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100 | PMOIS | % | 06SB27-1315-20110620 | K1100-02A | NM | 06/20/2011 | 07/11/2011 | 07/11/2011 | 21 | 0 | 21 |
| K1100 | PMOIS | % | 06SB2S-0507-20110621 | K1100-04A | NM | 06/21/2011 | 07/11/2011 | 07/11/2011 | 20 | 0 | 20 |
| K1059 | OV | UG/KG | 06SB21-1517-20110616 | K1059-08B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB26-1416-20110617 | K1059-14B | NM | 06/17/2011 | 06/23/2011 | 06/23/2011 | 6 | 0 | 6 |
| K1059 | OV | UG/KG | 06SB23-0709-20110616 | K1059-12B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB22-1719-20110615 | K1059-04B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB23-0911-20110616 | K1059-13B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB24-1719-20110615 | K1059-06B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB24-1921-20110615 | K1059-07B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB21-1719-20110616 | K1059-09B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB28-1820-20110614 | K1059-01B | NM | 06/14/2011 | 06/23/2011 | 06/23/2011 | 9 | 0 | 9 |
| K1059 | OV | UG/KG | 06SB28-2325-20110614 | K1059-02B | NM | 06/14/2011 | 06/23/2011 | 06/23/2011 | 9 | 0 | 9 |
| K1059 | OV | UG/KG | 06SBDUP01-20110615 | K1059-05B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB22-0911-20110615 | K1059-03B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SBDUP02-20110615 | K1059-11B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06TBSO-20110614 | K1059-10B | NM | 06/14/2011 | 06/23/2011 | 06/23/2011 | 9 | 0 | 9 |
| K1059 | OV | UG/KG | 06SB26-2426-20110617 | K1059-15B | NM | 06/17/2011 | 06/23/2011 | 06/23/2011 | 6 | 0 | 6 |
| K1100 | OV | UG/KG | 06TBSO-20110620 | K1100-03B | NM | 06/20/2011 | 06/27/2011 | 06/27/2011 | 7 | 0 | 7 |
| K1100 | OV | UG/KG | 06SB27-0911-20110620 | K1100-01B | NM | 06/20/2011 | 06/27/2011 | 06/27/2011 | 7 | 0 | 7 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100 | OV | UG/KG | 06SB27-1315-20110620 | K1100-02B | NM | 06/20/2011 | 06/27/2011 | 06/27/2011 | 7 | 0 | 7 |
| K1100 | OV | UG/KG | 06SB2S-1820-20110621 | K1100-05B | NM | 06/21/2011 | 06/27/2011 | 06/27/2011 | 6 | 0 | 6 |
| K1100 | OV | UG/KG | 06SB2S-0507-20110621 | K1100-04B | NM | 06/21/2011 | 06/27/2011 | 06/27/2011 | 6 | 0 | 6 |
| K1100 | OV | UG/L | 06RB-20110621 | K1100-06A | NM | 06/21/2011 | 06/28/2011 | 06/28/2011 | 7 | 0 | 7 |
| K1100 | OV | UG/L | 06TBAQ-20110621 | K1100-07A | NM | 06/21/2011 | 06/28/2011 | 06/28/2011 | 7 | 0 | 7 |
| K1059 | TPH | MG/KG | 06SB23-0911-20110616 | K1059-13A | NM | 06/16/2011 | 06/22/2011 | 06/24/2011 | 6 | 2 | 8 |
| K1059 | TPH | MG/KG | 06SB21-1517-20110616 | K1059-08A | NM | 06/16/2011 | 06/22/2011 | 06/24/2011 | 6 | 2 | 8 |
| K1059 | TPH | MG/KG | 06SB21-1719-20110616 | K1059-09A | NM | 06/16/2011 | 06/22/2011 | 06/27/2011 | 6 | 5 | 11 |
| K1059 | TPH | MG/KG | 06SB22-0911-20110615 | K1059-03A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB24-1719-20110615 | K1059-06A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB24-1921-20110615 | K1059-07A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB26-1416-20110617 | K1059-14A | NM | 06/17/2011 | 06/22/2011 | 06/27/2011 | 5 | 5 | 10 |
| K1059 | TPH | MG/KG | 06SB26-2426-20110617 | K1059-15A | NM | 06/17/2011 | 06/22/2011 | 06/27/2011 | 5 | 5 | 10 |
| K1059 | TPH | MG/KG | 06SBDUP02-20110615 | K1059-11A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB23-0709-20110616 | K1059-12A | NM | 06/16/2011 | 06/22/2011 | 06/24/2011 | 6 | 2 | 8 |
| K1059 | TPH | MG/KG | 06SBDUP01-20110615 | K1059-05A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB22-1719-20110615 | K1059-04A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB28-2325-20110614 | K1059-02A | NM | 06/14/2011 | 06/22/2011 | 06/24/2011 | 8 | 2 | 10 |
| K1059 | TPH | MG/KG | 06SB28-1820-20110614 | K1059-01A | NM | 06/14/2011 | 06/22/2011 | 06/24/2011 | 8 | 2 | 10 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100 | TPH | MG/KG | 06SB2S-0507-20110621RE | K1100-04ARE | RE | 06/21/2011 | 07/14/2011 | 07/14/2011 | 23 | 0 | 23 |
| K1100 | TPH | MG/KG | 06SB27-0911-20110620 | K1100-01A | NM | 06/20/2011 | 07/01/2011 | 07/12/2011 | 11 | 11 | 22 |
| K1100 | TPH | MG/KG | 06SB27-0911-20110620RE | K1100-01ARE | RE | 06/20/2011 | 07/14/2011 | 07/14/2011 | 24 | 0 | 24 |
| K1100 | TPH | MG/KG | 06SB2S-1820-20110621 | K1100-05A | NM | 06/21/2011 | 07/01/2011 | 07/12/2011 | 10 | 11 | 21 |
| K1100 | TPH | MG/KG | 06SB2S-0507-20110621 | K1100-04A | NM | 06/21/2011 | 07/01/2011 | 07/12/2011 | 10 | 11 | 21 |
| K1100 | TPH | MG/KG | 06SB27-1315-20110620RE | K1100-02ARE | RE | 06/20/2011 | 07/14/2011 | 07/14/2011 | 24 | 0 | 24 |
| K1100 | TPH | MG/KG | 06SB27-1315-20110620 | K1100-02A | NM | 06/20/2011 | 07/01/2011 | 07/12/2011 | 11 | 11 | 22 |
| K1100 | TPH | MG/KG | 06SB2S-1820-20110621RE | K1100-05ARE | RE | 06/21/2011 | 07/14/2011 | 07/15/2011 | 23 | 1 | 24 |
| K1100 | TPH | MG/L | 06RB-20110621 | K1100-06B | NM | 06/21/2011 | 06/28/2011 | 06/29/2011 | 7 | 1 | 8 |

REPORT NARRATIVE

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London, Soils**

**Laboratory Workorder / SDG #: K1059**

**SW846 8260C, VOC by GC-MS**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times. Sample aliquots for low level analysis, contained in pre-weighed vials preserved with DI water, were frozen upon receipt at the laboratory, within less than 48 hours of sample collection. Samples were initially held overnight at the Spectrum, Agawam, MA laboratory freezer prior to transfer to Spectrum, Warwick, RI (Mitkem).

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C, for the BTEX plus MTBE list of compounds.

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW5035

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA
Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per analysis.

06SB21-1719-20110616 (K1059-09B), recovery is above criteria for Bromofluorobenzene at 514% with criteria of (77-111).

06SBDUP02-20110615 (K1059-11B), recovery is above criteria for Bromofluorobenzene at 112% with criteria of (77-111).

06SB26-1416-20110617 (K1059-14B), recovery is above criteria for Bromofluorobenzene at 206% with criteria of (77-111) and Toluene-d8 at 194% with criteria of (85-115).

06SB26-2426-20110617 (K1059-15B), recovery is above criteria for Bromofluorobenzene at 193% with criteria of (77-111) and Toluene-d8 at 155% with criteria of (85-115).

The QC non-compliances for 06SB26-1416-20110617 (K1059-14B) and 06SB26-2426-20110617 (K1059-15B) were due to sample matrix interference from non-target compounds as illustrated by their chromatograms. Both samples were also re-analyzed and confirmed as matrix interference, with similar findings (data not included in the

package).

D. **Spikes:**

1. **Laboratory Control Spikes (LCS):**
   Percent recoveries for lab control samples were within the QC limits.

2. **Matrix Spike / Matrix Spike Duplicate (MS/MSD):**

   Matrix spikes were performed on sample: 06SB22-0911-20110615 (K1059-03BMS/MSD).

   Percent recoveries and RPDs were within the QC limits.

E. **Internal Standards:**

Internal standard peak areas were within the QC limits.

F. **Dilutions:**

No sample in this SDG required analysis at dilution.

G. **Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Mitkem, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____7/26/11_____

REPORT NARRATIVE

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London**

**Laboratory Workorder / SDG #: K1059, Soils**

**CT ETPH, CT ETPH by GC-FID**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH

## IV. PREPARATION

Soil Samples were prepared following procedures in laboratory test code: SW3545A

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on sample: 06SB22-0911-20110615 (K1059-03AMS/MSD).

Percent recoveries and replicate RPDs were within the QC limits.

### E. Dilutions:

The following samples were analyzed at dilution:

06SB21-1719-20110616 (K1059-09A) : Dilution Factor: 4
06SB26-1416-20110617 (K1059-14A) : Dilution Factor: 4
06SB26-2426-20110617 (K1059-15A) : Dilution Factor: 4

F. **Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Mitkem, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____7/22/11_____

MITKEM LABORATORIES

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 1 of 2

**Special Handling:**

TAT- Indicate Date Needed: _____

- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: Dave Kane
240 Continental Dr.
Suite 200
Newark, DE 19713

Project Mgr.: Dave Kane

Invoice To: _____

P.O. No.: _____ RQN: _____

Project No.: 112G02634
Site Name: Polaris Park
Location: Groton State: CT
Sampler(s): R Clark E Watt

1=$Na_2S2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= _____ 11= _____

List preservative code below: 8+9

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of ~~Amber~~ Clear Glass | # of Clear Glass | # of Plastic | | BTEX | ETPH | | | | | | Notes: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 065B28-1820- | 20110614 | 1215 | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 2 | 065B28-2325- | 20110614 | 1400 | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 3 | 065B22-0911- | 20110615 | 0850 | G | SO | 6 | 2 | | | | ✓ | ✓ | | | | | | Lab QC MS/MSD |
| 4 | 065B22-1719- | 20110615 | 0930 | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 5 | 065BDUP01- | 20110615 | — | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 6 | 065B24-1719- | 20110615 | 1340 | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 7 | 065B24-1921- | 20110615 | 1400 | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 8 | 065B21-1517- | 20110616 | 1005 | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 9 | 065B21-1719- | 20110616 | 1010 | G | SO | 3 | 1 | | | | ✓ | ✓ | | | | | | |
| 10 | 065TB50- | 20110614 | 6/14/11 | G | AQ | 3 | 1 | | | | ✓ | | | | | | | trip blank |

☐ E-mail to _____

EDD Format _____

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| Sleppy Zot 2 | [signature] | 6-18-11 | 1325 |
| [signature] | [signature] | 6/20/11 | 13:48 |

Condition upon receipt: ☐ Iced ☐ Ambient ☐ °C 5.5



175 Metro Center Boulevard • Warwick, RI 02886-1755 • 401-732-3400 • Fax 401-732-3499 • www.mitkem.com

MITKEM LABORATORIES

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 2 of 2

**Special Handling:**

TAT- Indicate Date Needed: _____

- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 30 days unless otherwise instructed.

Report To: Dave Kane
See pg 1 of 2

Project Mgr.: _____

Invoice To: _____

P.O. No.: _____ RQN: _____

Project No.: See pg 1 of 2
Site Name: Polaris Park
Location: _____ State: _____
Sampler(s): _____

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= _____ 11= _____

List preservative code below: 8+9

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | BTEX | ETPH | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 11 | 065BDUP02- | 20110615 | — | G | SO | 3 | | 1 | | ✓ | ✓ | |
| 12 | 065B23-0709- | 20110616 | 1350 | G | SO | 3 | | 1 | | ✓ | ✓ | |
| 13 | 065B23-0911- | 20110616 | 1410 | G | SO | 3 | | 1 | | ✓ | ✓ | |
| 14 | 065B26-1416- | 20110617 | 1115 | G | SO | 3 | | 1 | | ✓ | ✓ | Hold for Confirmation |
| 15 | 065B26-2426- | 20110617 | 1215 | G | SO | 3 | | 1 | | ✓ | ✓ | Hold for Confirmation |
| | | | | | | | | | | | | 860-677-3948 |

☐ E-mail to _____

EDD Format _____

Condition upon receipt: ☑ Iced ☐ Ambient ☐ °C 5.5

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 6/17/11 | 1325 |
| [signature] | [signature] | 6/20/11 | 13:48 |

# SPECTRUM ANALYTICAL, INC. RI DIVISION

## Sample Condition Form



| Received By: SW | Reviewed By: VEB | Date: 6/20/11 | Mitkem Work Order #: K1059 |
|---|---|---|---|
| Client Project: CTO - WE56 | | Client: Tetra Navy | |

| | | Lab Sample ID | | Preservation (pH) $HNO_3$ | $H_2SO_4$ | HCl | NaOH | $H_3PO_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) Cooler Sealed | Yes / No | K1059 | 01 | | | | | | N/M | |
| | | | 02 | | | | | | | |
| 2) Custody Seal(s) | Present / Absent | | 03 | | | | | | | |
| | Coolers / Bottles | | 04 | | | | | | | |
| | Intact / Broken | | 05 | | | | | | | |
| | | | 06 | | | | | | | |
| 3) Custody Seal Number(s) | NA | | 07 | | | | | | | |
| | | | 08 | | | | | | | |
| | | | 09 | | | | | | | |
| | | | 10 | | | | | | | |
| | | | 11 | | | | | | | |
| 4) Chain-of-Custody | Present / Absent | | 12 | | | | | | | |
| | | | 13 | | | | | | | |
| 5) Cooler Temperature | 5.5°C | | 14 | | | | | | | |
| IR Temp Gun ID | MT-1 | K1059 | 15 | | | | | | N/M | |
| Coolant Condition | Ice | | | | | | | | | |
| 6) Airbill(s) | Present / Absent | | | | | | | | | |
| Airbill Number(s) | courier | | | | | | | | | |
| 7) Samples Bottles | Intact / Broken / Leaking | | | | | | | | | |
| 8) Date Received | 6/20/11 | | | | | | | | | |
| 9) Time Received | 13:48 | | | | | | | | | |

SW 6/20/11

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

## Edward Lawler [Warwick]

**From:** Clark, Robin [Robin.Clark@tetratech.com]
**Sent:** Friday, June 17, 2011 7:32 PM
**To:** Edward Lawler [Warwick]
**Cc:** Kane, Dave; Watt, Eric
**Subject:** Fridays samples

Hi Ed,
The two samples that were collected today were marked "HOLD" on the COC.
Please take these samples off HOLD and go ahead and analyze them.
Thanks
Robin

**Robin W Clark, P.G. | Geologist**
Direct: 978.474.8456 | Main: 978.474-8400 | Fax: 978.474.8499
robin.clark@tetratech.com

Tetra Tech
250 Andover Street, Suite 200 | Wilmington, MA 01887 | www.tetratech.com

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5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1P

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1630.D BFB Injection Date: 06/22/2011

Instrument ID: V1 BFB Injection Time: 07:57

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19.6 |
| 75 | 30.0 - 60.0% of mass 95 | 37.2 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 8.0 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 79.4 |
| 175 | 5.0 - 9.0% of mass 174 | 4.6 (5.9)1 |
| 176 | 95.0 - 101.0% of mass 174 | 76.3 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.4 (5.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0201P | VSTD0201P | V1M1633.D | 06/22/2011 | 09:07 |
| 02 | VSTD0501P | VSTD0501P | V1M1634.D | 06/22/2011 | 09:34 |
| 03 | VSTD1001P | VSTD1001P | V1M1635.D | 06/22/2011 | 10:02 |
| 04 | VSTD2001P | VSTD2001P | V1M1636.D | 06/22/2011 | 10:30 |
| 05 | VSTD0051P | VSTD0051P | V1M1640.D | 06/22/2011 | 12:41 |
| 06 | VICV0501P | VICV0501P | V1M1643.D | 06/22/2011 | 15:06 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1Q

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1650.D BFB Injection Date: 06/23/2011

Instrument ID: V1 BFB Injection Time: 06:46

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 18.7 |
| 75 | 30.0 - 60.0% of mass 95 | 37.3 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 7.7 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 80.7 |
| 175 | 5.0 - 9.0% of mass 174 | 6.7 (8.3)1 |
| 176 | 95.0 - 101.0% of mass 174 | 77.5 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.2 (6.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501Q | VSTD0501Q | V1M1651.D | 06/23/2011 | 07:01 |
| 02 | LCS-59942 | LCS-59942 | V1M1652.D | 06/23/2011 | 08:01 |
| 03 | MB-59942 | MB-59942 | V1M1654.D | 06/23/2011 | 09:13 |
| 04 | 06TBSO-20110614 | K1059-10B | V1M1655.D | 06/23/2011 | 09:41 |
| 05 | 06SB28-1820-20110614 | K1059-01B | V1M1658.D | 06/23/2011 | 11:21 |
| 06 | 06SB28-2325-20110614 | K1059-02B | V1M1659.D | 06/23/2011 | 11:49 |
| 07 | 06SB22-0911-20110615 | K1059-03B | V1M1660.D | 06/23/2011 | 12:17 |
| 08 | 06SB22-1719-20110615 | K1059-04B | V1M1661.D | 06/23/2011 | 12:46 |
| 09 | 06SBDUP01-20110615 | K1059-05B | V1M1662.D | 06/23/2011 | 13:14 |
| 10 | 06SB24-1719-20110615 | K1059-06B | V1M1663.D | 06/23/2011 | 13:43 |
| 11 | 06SB24-1921-20110615 | K1059-07B | V1M1664.D | 06/23/2011 | 14:11 |
| 12 | 06SB21-1517-20110616 | K1059-08B | V1M1665.D | 06/23/2011 | 14:39 |
| 13 | 06SB21-1719-20110616 | K1059-09B | V1M1666.D | 06/23/2011 | 15:07 |
| 14 | 06SBDUP02-20110615 | K1059-11B | V1M1667.D | 06/23/2011 | 15:36 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1Q

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1650.D BFB Injection Date: 06/23/2011

Instrument ID: V1 BFB Injection Time: 06:46

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 18.7 |
| 75 | 30.0 - 60.0% of mass 95 | 37.3 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 7.7 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 80.7 |
| 175 | 5.0 - 9.0% of mass 174 | 6.7 (8.3)1 |
| 176 | 95.0 - 101.0% of mass 174 | 77.5 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.2 (6.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | | | | | |
|---|---|---|---|---|---|
| 15 | 06SB23-0709-20110616 | K1059-12B | V1M1668.D | 06/23/2011 | 16:04 |
| 16 | 06SB23-0911-20110616 | K1059-13B | V1M1669.D | 06/23/2011 | 16:32 |
| 17 | 06SB26-1416-20110617 | K1059-14B | V1M1670.D | 06/23/2011 | 17:00 |
| 18 | 06SB26-2426-20110617 | K1059-15B | V1M1671.D | 06/23/2011 | 17:28 |
| 19 | 06SB22-0911-20110615MS | K1059-03BMS | V1M1672.D | 06/23/2011 | 17:56 |
| 20 | 06SB22-0911-20110615MSD | K1059-03BMSD | V1M1673.D | 06/23/2011 | 18:24 |

6A - FORM VI VOA-1

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 09:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.555 | 0.543 | 0.645 | 0.466 | 0.582 | 0.558 | 11.6 |
| Benzene | 1.075 | 0.959 | 1.230 | 0.868 | 1.044 | 1.035 | 13.1 |
| Toluene | 1.063 | 0.967 | 1.217 | 0.863 | 1.034 | 1.029 | 12.7 |
| Ethylbenzene | 0.530 | 0.449 | 0.533 | 0.395 | 0.483 | 0.478 | 12.1 |
| m,p-Xylene | 0.627 | 0.587 | 0.652 | 0.506 | 0.600 | 0.594 | 9.3 |
| o-Xylene | 0.627 | 0.569 | 0.612 | 0.481 | 0.574 | 0.573 | 9.9 |
| Xylene (Total) | 0.627 | 0.581 | 0.639 | 0.498 | 0.591 | 0.587 | 9.4 |

6B - FORM VI VOA-2

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 09:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 0.299 | 0.268 | 0.292 | 0.212 | 0.237 | 0.262 | 14.1 |
| 1,2-Dichloroethane-d4 | 0.069 | 0.067 | 0.073 | 0.050 | 0.057 | 0.063 | 14.9 |
| Toluene-d8 | 1.430 | 1.313 | 1.337 | 1.025 | 1.127 | 1.247 | 13.3 |
| Bromofluorobenzene | 0.547 | 0.507 | 0.499 | 0.379 | 0.438 | 0.474 | 13.9 |

# ICV Report
## V1
## V1 110622A
## VICV0501P
## 06/22/2011 15:06

| AT | Analyte | Spike Amt | CalcVal | Recovery | Low Limit | High Limit |
|---|---|---|---|---|---|---|
| A | Dichlorodifluoromethane | 50.00 | 56.16 | 112.3 | 80 | 120 |
| A | Chloromethane | 50.00 | 53.27 | 106.5 | 80 | 120 |
| A | Vinyl chloride | 50.00 | 53.24 | 106.5 | 80 | 120 |
| A | Bromomethane | 50.00 | 49.79 | 99.6 | 80 | 120 |
| A | Chloroethane | 50.00 | 53.02 | 106.0 | 80 | 120 |
| A | Trichlorofluoromethane | 50.00 | 49.55 | 99.1 | 80 | 120 |
| A | 1,1-Dichloroethene | 50.00 | 56.02 | 112.0 | 80 | 120 |
| A | Acetone | 50.00 | 55.33 | 110.7 | 80 | 120 |
| A | Iodomethane | 50.00 | 47.21 | 94.4 | 80 | 120 |
| A | Carbon disulfide | 50.00 | 48.84 | 97.7 | 80 | 120 |
| A | Methylene chloride | 50.00 | 50.17 | 100.3 | 80 | 120 |
| A | trans-1,2-Dichloroethene | 50.00 | 54.70 | 109.4 | 80 | 120 |
| A | Methyl tert-butyl ether | 50.00 | 51.18 | 102.4 | 80 | 120 |
| A | 1,1-Dichloroethane | 50.00 | 53.12 | 106.2 | 80 | 120 |
| A | Vinyl acetate | 50.00 | 50.00 | 100.0 | 80 | 120 |
| A | 2-Butanone | 50.00 | 52.89 | 105.8 | 80 | 120 |
| A | cis-1,2-Dichloroethene | 50.00 | 51.23 | 102.5 | 80 | 120 |
| A | 2,2-Dichloropropane | 50.00 | 48.44 | 96.9 | 80 | 120 |
| A | Bromochloromethane | 50.00 | 52.30 | 104.6 | 80 | 120 |
| A | Chloroform | 50.00 | 51.29 | 102.6 | 80 | 120 |
| A | 1,1,1-Trichloroethane | 50.00 | 53.20 | 106.4 | 80 | 120 |
| A | 1,1-Dichloropropene | 50.00 | 52.38 | 104.8 | 80 | 120 |
| A | Carbon tetrachloride | 50.00 | 51.71 | 103.4 | 80 | 120 |
| A | 1,2-Dichloroethane | 50.00 | 48.67 | 97.3 | 80 | 120 |
| A | Benzene | 50.00 | 53.89 | 107.8 | 80 | 120 |
| A | Trichloroethene | 50.00 | 51.96 | 103.9 | 80 | 120 |
| A | 1,2-Dichloropropane | 50.00 | 51.26 | 102.5 | 80 | 120 |
| A | Dibromomethane | 50.00 | 52.95 | 105.9 | 80 | 120 |
| A | Bromodichloromethane | 50.00 | 51.76 | 103.5 | 80 | 120 |
| A | cis-1,3-Dichloropropene | 50.00 | 51.56 | 103.1 | 80 | 120 |
| A | 4-Methyl-2-pentanone | 50.00 | 51.08 | 102.2 | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | Toluene | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | trans-1,3-Dichloropropene | 50.00 | 51.97 | 103.9 | | 80 | 120 |
| A | 1,1,2-Trichloroethane | 50.00 | 52.29 | 104.6 | | 80 | 120 |
| A | 1,3-Dichloropropane | 50.00 | 50.45 | 100.9 | | 80 | 120 |
| A | Tetrachloroethene | 50.00 | 55.32 | 110.6 | | 80 | 120 |
| A | 2-Hexanone | 50.00 | 48.99 | 98.0 | | 80 | 120 |
| A | Dibromochloromethane | 50.00 | 49.25 | 98.5 | | 80 | 120 |
| A | 1,2-Dibromoethane | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| A | Chlorobenzene | 50.00 | 50.52 | 101.0 | | 80 | 120 |
| A | 1,1,1,2-Tetrachloroethane | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | Ethylbenzene | 50.00 | 53.67 | 107.3 | | 80 | 120 |
| A | m,p-Xylene | 100.0 | 107.2 | 107.2 | | 80 | 120 |
| A | o-Xylene | 50.00 | 53.92 | 107.8 | | 80 | 120 |
| A | Styrene | 50.00 | 53.87 | 107.7 | | 80 | 120 |
| A | Bromoform | 50.00 | 52.59 | 105.2 | | 80 | 120 |
| A | Isopropylbenzene | 50.00 | 54.49 | 109.0 | | 80 | 120 |
| A | 1,1,2,2-Tetrachloroethane | 50.00 | 52.46 | 104.9 | | 80 | 120 |
| A | Bromobenzene | 50.00 | 56.08 | 112.2 | | 80 | 120 |
| A | 1,2,3-Trichloropropane | 50.00 | 50.68 | 101.4 | | 80 | 120 |
| A | n-Propylbenzene | 50.00 | 56.19 | 112.4 | | 80 | 120 |
| A | 2-Chlorotoluene | 50.00 | 54.57 | 109.1 | | 80 | 120 |
| A | 1,3,5-Trimethylbenzene | 50.00 | 55.99 | 112.0 | | 80 | 120 |
| A | 4-Chlorotoluene | 50.00 | 55.21 | 110.4 | | 80 | 120 |
| A | tert-Butylbenzene | 50.00 | 55.49 | 111.0 | | 80 | 120 |
| A | 1,2,4-Trimethylbenzene | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| A | sec-Butylbenzene | 50.00 | 56.17 | 112.3 | | 80 | 120 |
| A | 4-Isopropyltoluene | 50.00 | 57.00 | 114.0 | | 80 | 120 |
| A | 1,3-Dichlorobenzene | 50.00 | 52.32 | 104.6 | | 80 | 120 |
| A | 1,4-Dichlorobenzene | 50.00 | 53.43 | 106.9 | | 80 | 120 |
| A | n-Butylbenzene | 50.00 | 56.87 | 113.7 | | 80 | 120 |
| A | 1,2-Dichlorobenzene | 50.00 | 54.27 | 108.5 | | 80 | 120 |
| A | 1,2-Dibromo-3-chloropropane | 50.00 | 47.16 | 94.3 | | 80 | 120 |
| A | 1,2,4-Trichlorobenzene | 50.00 | 54.95 | 109.9 | | 80 | 120 |
| A | Hexachlorobutadiene | 50.00 | 60.29 | 120.6 | S | 80 | 120 |
| A | 1,2,3-Trichlorobenzene | 50.00 | 52.28 | 104.6 | | 80 | 120 |
| A | Naphthalene | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| M | Xylene (Total) | 150.0 | 161.1 | 107.4 | | 80 | 120 |
| X | 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.00 | 51.31 | 102.6 | | 80 | 120 |
| X | 1,4-Dioxane | 1000 | 936.4 | 93.6 | | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | 1-Chlorohexane | 50.00 | 55.23 | 110.5 | | 80 | 120 |
| X | 2-Chloroethyl vinyl ether | 50.00 | 35.14 | 70.3 | S | 80 | 120 |
| X | Acetonitrile | 500.0 | 257.7 | 51.5 | S | 80 | 120 |
| X | Acrolein | 250.0 | 244.8 | 97.9 | | 80 | 120 |
| X | Acrylonitrile | 50.00 | 53.61 | 107.2 | | 80 | 120 |
| X | Cyclohexane | 50.00 | 53.47 | 106.9 | | 80 | 120 |
| X | Diethyl ether | 50.00 | 52.98 | 106.0 | | 80 | 120 |
| X | Diisopropyl ether | 50.00 | 51.19 | 102.4 | | 80 | 120 |
| X | Ethanol | 5000 | 4796 | 95.9 | | 80 | 120 |
| X | Ethyl tert-butyl ether | 50.00 | 50.70 | 101.4 | | 80 | 120 |
| X | Methyl acetate | 50.00 | 51.26 | 102.5 | | 80 | 120 |
| X | Methylcyclohexane | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| X | tert-Amyl Methyl ether | 50.00 | 49.59 | 99.2 | | 80 | 120 |
| X | tert-Butyl Alcohol | 100.0 | 115.5 | 115.5 | | 80 | 120 |
| X | Tetrahydrofuran | 100.0 | 93.11 | 93.1 | | 80 | 120 |
| X | trans-1,4-Dichloro-2-butene | 50.00 | 52.52 | 105.0 | | 80 | 120 |

7A - FORM VII VOA-1

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date: 06/23/2011 Time: 07:01

Lab File ID: V1M1651.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501Q Init. Calib. Time(s): 09:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.558 | 0.573 | 0.010 | 2.6 | 20.0 |
| Benzene | 1.035 | 1.135 | 0.010 | 9.6 | 20.0 |
| Toluene | 1.029 | 1.095 | 0.010 | 6.4 | 20.0 |
| Ethylbenzene | 0.478 | 0.537 | 0.010 | 12.4 | 20.0 |
| m,p-Xylene | 0.594 | 0.675 | 0.010 | 13.6 | 20.0 |
| o-Xylene | 0.573 | 0.637 | 0.010 | 11.3 | 20.0 |
| Xylene (Total) | 0.587 | 0.662 | 0.010 | 12.8 | 20.0 |

7B - FORM VII VOA-2

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Instrument ID: V1 Calibration Date: 06/23/2011 Time: 07:01

Lab File ID: V1M1651.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501Q Init. Calib. Time(s): 09:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.262 | 0.259 | 0.010 | -1.0 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.056 | 0.010 | -11.4 | 20.0 |
| Toluene-d8 | 1.247 | 1.311 | 0.010 | 5.2 | 20.0 |
| Bromofluorobenzene | 0.474 | 0.468 | 0.010 | -1.2 | 20.0 |

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

EPA SAMPLE NO.

MB-59942

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab File ID: V1M1654.D Lab Sample ID: MB-59942

Instrument ID: V1

Matrix: (SOIL/SED/WATER) SOIL Date Analyzed: 06/23/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 09:13

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-59942 | LCS-59942 | V1M1652.D | 08:01 |
| 02 | 06TBSO-20110614 | K1059-10B | V1M1655.D | 09:41 |
| 03 | 06SB28-1820-20110614 | K1059-01B | V1M1658.D | 11:21 |
| 04 | 06SB28-2325-20110614 | K1059-02B | V1M1659.D | 11:49 |
| 05 | 06SB22-0911-20110615 | K1059-03B | V1M1660.D | 12:17 |
| 06 | 06SB22-1719-20110615 | K1059-04B | V1M1661.D | 12:46 |
| 07 | 06SBDUP01-20110615 | K1059-05B | V1M1662.D | 13:14 |
| 08 | 06SB24-1719-20110615 | K1059-06B | V1M1663.D | 13:43 |
| 09 | 06SB24-1921-20110615 | K1059-07B | V1M1664.D | 14:11 |
| 10 | 06SB21-1517-20110616 | K1059-08B | V1M1665.D | 14:39 |
| 11 | 06SB21-1719-20110616 | K1059-09B | V1M1666.D | 15:07 |
| 12 | 06SBDUP02-20110615 | K1059-11B | V1M1667.D | 15:36 |
| 13 | 06SB23-0709-20110616 | K1059-12B | V1M1668.D | 16:04 |
| 14 | 06SB23-0911-20110616 | K1059-13B | V1M1669.D | 16:32 |
| 15 | 06SB26-1416-20110617 | K1059-14B | V1M1670.D | 17:00 |
| 16 | 06SB26-2426-20110617 | K1059-15B | V1M1671.D | 17:28 |
| 17 | 06SB22-0911-20110615MS | K1059-03BMS | V1M1672.D | 17:56 |
| 18 | 06SB22-0911-20110615MSD | K1059-03BMSD | V1M1673.D | 18:24 |

COMMENTS:

som11.07.01.A



SW846

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

MB-59942

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-59942

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1654.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/23/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

2D - FORM II VOA-4

SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Level: (LOW/MED) LOW

| | EPA SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 01 | LCS-59942 | 97 | 92 | 101 | 100 | | | | 0 |
| 02 | MB-59942 | 96 | 89 | 102 | 101 | | | | 0 |
| 03 | 06TBSO-20110614 | 103 | 101 | 97 | 101 | | | | 0 |
| 04 | 06SB28-1820-20110614 | 104 | 96 | 100 | 100 | | | | 0 |
| 05 | 06SB28-2325-20110614 | 100 | 96 | 100 | 98 | | | | 0 |
| 06 | 06SB22-0911-20110615 | 99 | 92 | 96 | 95 | | | | 0 |
| 07 | 06SB22-1719-20110615 | 99 | 96 | 97 | 99 | | | | 0 |
| 08 | 06SBDUP01-20110615 | 103 | 104 | 99 | 96 | | | | 0 |
| 09 | 06SB24-1719-20110615 | 98 | 89 | 95 | 101 | | | | 0 |
| 10 | 06SB24-1921-20110615 | 96 | 102 | 96 | 106 | | | | 0 |
| 11 | 06SB21-1517-20110616 | 100 | 95 | 97 | 100 | | | | 0 |
| 12 | 06SB21-1719-20110616 | 98 | 95 | 102 | 514 * | | | | 1 |
| 13 | 06SBDUP02-20110615 | 93 | 93 | 104 | 112 * | | | | 1 |
| 14 | 06SB23-0709-20110616 | 97 | 95 | 100 | 100 | | | | 0 |
| 15 | 06SB23-0911-20110616 | 101 | 95 | 100 | 98 | | | | 0 |
| 16 | 06SB26-1416-20110617 | 97 | 97 | 194 * | 206 * | | | | 2 |
| 17 | 06SB26-2426-20110617 | 97 | 98 | 155 * | 193 * | | | | 2 |
| 18 | 06SB22-0911-20110615MS | 94 | 88 | 100 | 104 | | | | 0 |

| | | QC LIMITS |
|---|---|---|
| VDMC1 | (DBFM) Dibromofluoromethane | (65-132) |
| VDMC2 | (DCE) =1,2-Dichloroethane-d4 | (65-128) |
| VDMC3 | (TOL) =Toluene-d8 | (85-115) |
| VDMC4 | (BFB) =Bromofluorobenzene | (77-111) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

som11.07.01.A



SW846

2D - FORM II VOA-4

SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Level: (LOW/MED) LOW

| | EPA SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 19 | 06SB22-0911-20110615MSD | 100 | 95 | 103 | 104 | | | | 0 |

| | | | QC LIMITS |
|---|---|---|---|
| VDMC1 | (DBFM) | Dibromofluoromethane | (65-132) |
| VDMC2 | (DCE) | =1,2-Dichloroethane-d4 | (65-128) |
| VDMC3 | (TOL) | =Toluene-d8 | (85-115) |
| VDMC4 | (BFB) | =Bromofluorobenzene | (77-111) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

som11.07.01.A

3 - FORM III
SOIL LABORATORY CONTROL
SAMPLE RECOVERY

EPA SAMPLE NO.

LCS-59942

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

Lab Sample ID: LCS-59942 LCS Lot No.:

Date Extracted: 06/23/2011 Date Analyzed (1): 06/23/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 54.1728 | 108 | | 75 - 126 |
| Benzene | 50.0000 | 0.0000 | 54.1778 | 108 | | 75 - 125 |
| Toluene | 50.0000 | 0.0000 | 54.0261 | 108 | | 70 - 125 |
| Ethylbenzene | 50.0000 | 0.0000 | 55.5140 | 111 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 112.5759 | 113 | | 80 - 125 |
| o-Xylene | 50.0000 | 0.0000 | 54.2641 | 109 | | 75 - 125 |
| Xylene (Total) | 150.0000 | 0.0000 | 166.8399 | 111 | | 83 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3B - FORM III VOA-2

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract: _____

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: _____ SDG No.: SK1059

Matrix Spike - EPA Sample No.: 06SB22-0911-20110615 Level: (LOW/MED) LOW

| COMPOUND | SPIKE ADDED (µg/Kg) | SAMPLE CONCENTRATION (µg/Kg) | MS CONCENTRATION (µg/Kg) | MS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 59.4986 | 0.0000 | 63.8082 | 107 | | 75-126 |
| Benzene | 59.4986 | 0.0000 | 51.9387 | 87 | | 75-125 |
| Toluene | 59.4986 | 0.0000 | 50.3569 | 85 | | 70-125 |
| Ethylbenzene | 59.4986 | 0.0000 | 49.8990 | 84 | | 75-125 |
| m,p-Xylene | 118.9973 | 0.0000 | 98.1740 | 83 | | 80-125 |
| o-Xylene | 59.4986 | 0.0000 | 50.5953 | 85 | | 75-125 |
| Xylene (Total) | 178.4959 | 0.0000 | 148.7693 | 83 | | 83-125 |

| COMPOUND | SPIKE ADDED (µg/Kg) | MSD CONCENTRATION (µg/Kg) | MSD %REC | # | %RPD | # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 46.7489 | 52.1922 | 112 | | 4 | | 0-40 | 75-126 |
| Benzene | 46.7489 | 42.1128 | 90 | | 3 | | 0-40 | 75-125 |
| Toluene | 46.7489 | 39.0696 | 84 | | 1 | | 0-40 | 70-125 |
| Ethylbenzene | 46.7489 | 40.0432 | 86 | | 2 | | 0-40 | 75-125 |
| m,p-Xylene | 93.4979 | 80.2776 | 86 | | 4 | | 0-40 | 80-125 |
| o-Xylene | 46.7489 | 41.4490 | 89 | | 4 | | 0-40 | 75-125 |
| Xylene (Total) | 140.2468 | 121.7266 | 87 | | 4 | | 0-40 | 83-125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS: _____

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501Q Date Analyzed: 06/23/2011

Lab File ID (Standard): V1M1651.D Time Analyzed: 07:01

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 652124 | 6.431 | 432596 | 10.125 | 208200 | 12.961 |
| | UPPER LIMIT | 1304248 | 6.931 | 865192 | 10.625 | 416400 | 13.461 |
| | LOWER LIMIT | 326062 | 5.931 | 216298 | 9.625 | 104100 | 12.461 |
| | EPA SAMPLE NO. | | | | | | |
| 01 | LCS-59942 | 647007 | 6.435 | 447005 | 10.128 | 220503 | 12.965 |
| 02 | MB-59942 | 623671 | 6.431 | 432341 | 10.125 | 203945 | 12.961 |
| 03 | 06TBSO-20110614 | 519431 | 6.421 | 375669 | 10.124 | 181439 | 12.961 |
| 04 | 06SB28-1820-20110614 | 631995 | 6.431 | 441868 | 10.124 | 217466 | 12.971 |
| 05 | 06SB28-2325-20110614 | 634316 | 6.441 | 446142 | 10.134 | 219912 | 12.971 |
| 06 | 06SB22-0911-20110615 | 623030 | 6.440 | 460362 | 10.124 | 210169 | 12.971 |
| 07 | 06SB22-1719-20110615 | 628663 | 6.451 | 449462 | 10.134 | 212592 | 12.971 |
| 08 | 06SBDUP01-20110615 | 606280 | 6.437 | 440612 | 10.131 | 208987 | 12.967 |
| 09 | 06SB24-1719-20110615 | 620267 | 6.441 | 450746 | 10.134 | 223146 | 12.971 |
| 10 | 06SB24-1921-20110615 | 613193 | 6.441 | 456092 | 10.125 | 222006 | 12.961 |

IS1 () = Fluorobenzene

IS2 () = Chlorobenzene-d5

IS3 () = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1059 Mod. Ref No.: SDG No.: SK1059

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501Q Date Analyzed: 06/23/2011

Lab File ID (Standard): V1M1651.D Time Analyzed: 07:01

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 652124 | 6.431 | 432596 | 10.125 | 208200 | 12.961 |
| | UPPER LIMIT | 1304248 | 6.931 | 865192 | 10.625 | 416400 | 13.461 |
| | LOWER LIMIT | 326062 | 5.931 | 216298 | 9.625 | 104100 | 12.461 |
| | EPA SAMPLE NO. | | | | | | |
| 11 | 06SB21-1517-20110616 | 612009 | 6.442 | 436182 | 10.126 | 211962 | 12.972 |
| 12 | 06SB21-1719-20110616 | 624267 | 6.434 | 448554 | 10.128 | 285809 | 12.974 |
| 13 | 06SBDUP02-20110615 | 593443 | 6.441 | 407453 | 10.125 | 203549 | 12.962 |
| 14 | 06SB23-0709-20110616 | 583104 | 6.440 | 404629 | 10.133 | 192553 | 12.970 |
| 15 | 06SB23-0911-20110616 | 560123 | 6.441 | 396160 | 10.134 | 183827 | 12.961 |
| 16 | 06SB26-1416-20110617 | 548383 | 6.440 | 365778 | 10.134 | 144808 | 12.981 |
| 17 | 06SB26-2426-20110617 | 521334 | 6.440 | 340927 | 10.134 | 149911 | 12.970 |
| 18 | 06SB22-0911-20110615MS | 514188 | 6.446 | 346977 | 10.139 | 173585 | 12.976 |
| 19 | 06SB22-0911-20110615MSD | 499192 | 6.440 | 339076 | 10.133 | 164946 | 12.970 |

IS1 () = Fluorobenzene

IS2 () = Chlorobenzene-d5

IS3 () = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: 6/22/2011 2:57:53 P
Prep End Date: 6/23/2011 9:45:00 A
Prep Batch ID: 59935

Prep Code: CTETPH_S_PR
Technician: Jill L Cartwright

Prep Type: PFEX/SW3545

Prep Factor Units: mL / g

QC Matrix: NASO4
QC Matrix Lot: 106147

Solvent (1): MECL2
Solvent (1) Lot: DD852

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Filter?: FILTER
Filter Lot: FC002266

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | | | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-01A | 065B26-1820-20110614 | | S | 15.08 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-02A | 065B26-2325-20110614 | | S | 15.16 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03A | 065B22-0911-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03AMS | 065B22-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-03AMSD | 065B22-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-04A | 065B22-1719-20110615 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-05A | 065BDUP01-20110615 | | S | 15.14 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-06A | 065B24-1719-20110615 | | S | 15.19 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-07A | 065B24-1921-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-08A | 065B21-1517-20110616 | | S | 15.31 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-09A | 065B21-1719-20110616 | | S | 15.07 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-11A | 065BDUP02-20110615 | | S | 15.35 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-12A | 065B23-0709-20110616 | | S | 15.15 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-13A | 065B23-0911-20110616 | | S | 15.25 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-14A | 065B26-1416-20110617 | | S | 15.13 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-15A | 065B26-2426-20110617 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 4 |

Antonio AP Cardoso 06/23/2011
Analyst Reviewed Date

Timothy McDaniel 06/23/2011
Manager Reviewed Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

Logbook ID: 50.0147-06/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | MM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700L | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

MM 5/24/11

# Injection Log

AQ: TPH-DGF
GT: TPH0520F

Directory: O:\F1.I\110624.B

INLET MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5470.d | 1. | | | 24 Jun 2011 11:11 |
| 2 | 96 | F1h5471.d | 1. | ICAL 7159 | | 24 Jun 2011 11:29 |
| 3 | 99 | F1h5472.d | 1. | | | 24 Jun 2011 11:44 |
| 4 | 99 | F1h5473.d | 1. | | | 24 Jun 2011 11:47 |
| 5 | 98 | F1h5474.d | 1. | FSTD1001C | TPH F ICAL L5 100... | 24 Jun 2011 11:57 |
| 6 | 100 | F1h5475.d | 1. | IBLK | TPH F | 24 Jun 2011 12:17 |
| 7 | 2 | F1h5476.d | 1. | MB-59935,,59935 | TPH F | 24 Jun 2011 12:37 |
| 8 | 3 | F1h5477.d | 1. | LCS-59935,,59935 | TPH F | 24 Jun 2011 12:57 |
| 9 | 4 | F1h5478.d | 1. | LCSD-59935,,59935 | TPH F | 24 Jun 2011 13:17 |
| 10 | 5 | F1h5479.d | 1. | K1059-01A,,59935 | TPH F | 24 Jun 2011 13:43 |
| 11 | 6 | F1h5480.d | 1. | K1059-02A,,59935 | TPH F | 24 Jun 2011 14:03 |
| 12 | 7 | F1h5481.d | 1. | K1059-03A,,59935 | TPH F | 24 Jun 2011 14:23 |
| 13 | 8 | F1h5482.d | 1. | K1059-03AMS,,59935 | TPH F | 24 Jun 2011 14:50 |
| 14 | 2 | F1h5483.d | 1. | ~~MB-59935,,59935~~ NO QC | TPH F | 24 Jun 2011 15:08 |
| 15 | 9 | F1h5484.d | 1. | K1059-03AMSD,,59935 | TPH F | 24 Jun 2011 15:28 |
| 16 | 35 | F1h5485.d | 1. | K1074-01D,,59948 | TPH F | 24 Jun 2011 15:49 |
| 17 | 36 | F1h5486.d | 1. | K1074-02D,,59948 | TPH F | 24 Jun 2011 16:09 |
| 18 | 98 | F1h5487.d | 1. | FSTD1001D | TPH F ICAL L5 100... | 24 Jun 2011 16:26 |
| 19 | 100 | F1h5488.d | 1. | IBLK | TPH F | 24 Jun 2011 16:46 |
| 20 | 10 | F1h5489.d | 1. | K1059-04A,,59935 | TPH F | 24 Jun 2011 17:06 |
| 21 | 11 | F1h5490.d | 1. | K1059-05A,,59935 | TPH F | 24 Jun 2011 17:26 |
| 22 | 12 | F1h5491.d | 1. | K1059-06A,,59935 | TPH F | 24 Jun 2011 17:46 |
| 23 | 13 | F1h5492.d | 1. | K1059-07A,,59935 | TPH F | 24 Jun 2011 18:06 |
| 24 | 14 | F1h5493.d | 1. | K1059-08A,,59935 | TPH F | 24 Jun 2011 18:26 |
| 25 | 15 | F1h5494.d | 1. | K1059-09A,,59935 - PR 2-4X | TPH F | 24 Jun 2011 18:46 |
| 26 | 16 | F1h5495.d | 1. | K1059-11A,,59935 | TPH F | 24 Jun 2011 19:06 |
| 27 | 17 | F1h5496.d | 1. | K1059-12A,,59935 | TPH F | 24 Jun 2011 19:25 |
| 28 | 18 | F1h5497.d | 1. | K1059-13A,,59935 | TPH F | 24 Jun 2011 19:45 |
| 29 | 98 | F1h5498.d | 1. | FSTD1001E | TPH F ICAL L5 100... | 24 Jun 2011 20:05 |
| 30 | 100 | F1h5499.d | 1. | IBLK | TPH F | 24 Jun 2011 20:25 |
| 31 | 19 | F1h5500.d | 1. | K1059-14A,,59935 PR 4X | TPH F | 24 Jun 2011 20:45 |
| 32 | 20 | F1h5501.d | 1. | K1059-15A,,59935 PR 5X | TPH F | 24 Jun 2011 21:05 |
| 33 | 21 | F1h5502.d | 1. | MB-59948,,59948 | TPH F | 24 Jun 2011 21:25 |
| 34 | 22 | F1h5503.d | 1. | LCS-59948,,59948 | TPH F | 24 Jun 2011 21:45 |
| 35 | 23 | F1h5504.d | 1. | LCSD-59948,,59948 | TPH F | 24 Jun 2011 22:04 |
| 36 | 24 | F1h5505.d | 1. | K1064-01J,,59948 | TPH F | 24 Jun 2011 22:24 |
| 37 | 25 | F1h5506.d | 1. | K1064-02J,,59948 | TPH F | 24 Jun 2011 22:44 |
| 38 | 26 | F1h5507.d | 1. | K1064-03J,,59948 | TPH F | 24 Jun 2011 23:04 |
| 39 | 27 | F1h5508.d | 1. | K1064-04J,,59948 | TPH F | 24 Jun 2011 23:23 |
| 40 | 28 | F1h5509.d | 1. | K1064-05J,,59948 | TPH F | 24 Jun 2011 23:43 |
| 41 | 98 | F1h5510.d | 1. | FSTD1001F | TPH F ICAL L5 100... | 25 Jun 2011 00:03 |
| 42 | 100 | F1h5511.d | 1. | IBLK | TPH F | 25 Jun 2011 00:23 |
| 43 | 29 | F1h5512.d | 1. | K1064-07J,,59948 | TPH F | 25 Jun 2011 00:43 |
| 44 | 30 | F1h5513.d | 1. | K1064-08J,,59948 | TPH F | 25 Jun 2011 01:03 |
| 45 | 31 | F1h5514.d | 1. | K1064-09J,,59948 | TPH F | 25 Jun 2011 01:23 |
| 46 | 32 | F1h5515.d | 1. | K1064-10J,,59948 | TPH F | 25 Jun 2011 01:43 |
| 47 | 33 | F1h5516.d | 1. | K1064-11J,,59948 | TPH F | 25 Jun 2011 02:03 |
| 48 | 34 | F1h5517.d | 1. | K1064-12J,,59948 | TPH F | 25 Jun 2011 02:22 |
| 49 | 37 | F1h5518.d | 1. | K1083-01D,,59948 | TPH F | 25 Jun 2011 02:42 |
| 50 | 98 | F1h5519.d | 1. | FSTD1001G | TPH F ICAL L5 100... | 25 Jun 2011 03:02 |
| 51 | 100 | F1h5520.d | 1. | IBLK | TPH F | 25 Jun 2011 03:22 |
| 52 | 99 | F1h5521.d | 1. | | | 25 Jun 2011 03:38 |
| 53 | 99 | F1h5522.d | 1. | | | 25 Jun 2011 03:42 |
| 54 | 99 | F1h5523.d | 1. | | | 25 Jun 2011 03:46 |
| 55 | 99 | F1h5524.d | 1. | | | 25 Jun 2011 03:49 |

6/27/11

# Injection Log

AQ : TPH-DEF
QT: TPH0520F

Directory: O:\F1.I\110627.B

INJECT MIN, NS : NONE

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5530.d | 1. | ICAL 7159 | | 27 Jun 2011 11:16 |
| 2 | 96 | F1h5531.d | 1. | | | 27 Jun 2011 11:36 |
| 3 | 99 | F1h5532.d | 1. | | | 27 Jun 2011 11:52 |
| 4 | 99 | F1h5533.d | 1. | | | 27 Jun 2011 11:56 |
| 5 | 98 | F1h5534.d | 1. | FSTD1001H | TPH F ICAL L5 100... | 27 Jun 2011 12:05 |
| 6 | 100 | F1h5535.d | 1. | IBLK | TPH F | 27 Jun 2011 12:25 |
| 7 | 38 | F1h5536.d | 1. | K1059-09A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:10 |
| 8 | 39 | F1h5537.d | 1. | K1059-14A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:30 |
| 9 | 40 | F1h5538.d | 1. | K1059-15A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:50 |
| 10 | 98 | F1h5539.d | 1. | FSTD1001I | TPH F ICAL L5 100... | 27 Jun 2011 14:10 |
| 11 | 100 | F1h5540.d | 1. | IBLK | TPH F | 27 Jun 2011 14:30 |

6/27/11

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: **6/22/2011 2:57:53 P**
Prep End Date: **6/23/2011 9:45:00 A** Prep Code: **CTETPH_S_PR** Prep Type: **PFEX/SW3545** Prep Factor Units: mL / g
Prep Batch ID: **59935** Technician: **Jill L Cartwright**

QC Matrix: **NASO4** Solvent (1): **MECL2** Solvent (3): N/A Solvent (5): N/A Clean Up (1): N/A Clean Up (3): N/A
QC Matrix Lot: **106147** Solvent (1) Lot: **DD852** Solvent (3) Lot: N/A Solvent (5) Lot: N/A Clean Up (1) Lot: N/A Clean Up (1) Lot: N/A

Filter?: **FILTER** Solvent (2): N/A Solvent (4): N/A Solvent (6): N/A Clean Up (2): N/A Clean Up (4): N/A
Filter Lot: **FC002266** Solvent (2) Lot: N/A Solvent (4) Lot: N/A Solvent (6) Lot: N/A Clean Up (2) Lot: N/A Clean Up (4) Lot: N/A

Start Time: N/A Cycles/Hour 0 Sonicator Tuned? N/A Bath Temp1 (C): N/A Therm ID1: N/A
End Time: N/A

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | | | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-59935 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | | | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-01A | 065826-1520-20110614 | | S | 15.08 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-02A | 065826-2325-20110614 | | S | 15.16 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03A | 065822-0911-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1059-03AMS | 065822-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-03AMSD | 065822-0911-20110615 | | S | 15.08 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-04A | 065822-1719-20110615 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-05A | 065BDUP01-20110615 | | S | 15.14 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-06A | 065824-1719-20110615 | | S | 15.19 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-07A | 065824-1921-20110615 | | S | 15.28 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1059-08A | 065821-1517-20110616 | | S | 15.31 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-09A | 065821-1719-20110616 | | S | 15.07 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-11A | 065BDUP02-20110615 | | S | 15.35 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-12A | 065823-0709-20110616 | | S | 15.15 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-13A | 065823-0911-20110616 | | S | 15.25 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-14A | 065828-1418-20110617 | | S | 15.13 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 3 |
| K1059-15A | 065826-2426-20110617 | | S | 15.18 | 1 | OFW110118A | 1 | | | JLC | BLD | 07/11/11 | 01 | 06/23/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 4 |

Antonio AP Cardoso 06/23/2011 Timothy McDaniel 06/23/2011
Analyst Reviewed Date Manager Reviewed Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

Logbook ID: 50.0147-06/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

I INLET  MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | KM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/CCV | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700L | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

KM 5/24/11

# Injection Log

AQ: TPH-DCF
GT: TPH0520F

Directory: O:\F1.I\110624.B

INLET MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5470.d | 1. | | | 24 Jun 2011 11:11 |
| 2 | 96 | F1h5471.d | 1. | ICM 7159 | | 24 Jun 2011 11:29 |
| 3 | 99 | F1h5472.d | 1. | | | 24 Jun 2011 11:44 |
| 4 | 99 | F1h5473.d | 1. | | | 24 Jun 2011 11:47 |
| 5 | 98 | F1h5474.d | 1. | FSTD1001C | TPH F ICAL L5 100... | 24 Jun 2011 11:57 |
| 6 | 100 | F1h5475.d | 1. | IBLK | TPH F | 24 Jun 2011 12:17 |
| 7 | 2 | F1h5476.d | 1. | MB-59935,,59935 | TPH F | 24 Jun 2011 12:37 |
| 8 | 3 | F1h5477.d | 1. | LCS-59935,,59935 | TPH F | 24 Jun 2011 12:57 |
| 9 | 4 | F1h5478.d | 1. | LCSD-59935,,59935 | TPH F | 24 Jun 2011 13:17 |
| 10 | 5 | F1h5479.d | 1. | K1059-01A,,59935 | TPH F | 24 Jun 2011 13:43 |
| 11 | 6 | F1h5480.d | 1. | K1059-02A,,59935 | TPH F | 24 Jun 2011 14:03 |
| 12 | 7 | F1h5481.d | 1. | K1059-03A,,59935 | TPH F | 24 Jun 2011 14:23 |
| 13 | 8 | F1h5482.d | 1. | K1059-03AMS,,59935 | TPH F | 24 Jun 2011 14:50 |
| 14 | 2 | F1h5483.d | 1. | ~~MB-59935,,59935~~ NO QC | TPH F | 24 Jun 2011 15:08 |
| 15 | 9 | F1h5484.d | 1. | K1059-03AMSD,,59935 | TPH F | 24 Jun 2011 15:28 |
| 16 | 35 | F1h5485.d | 1. | K1074-01D,,59948 | TPH F | 24 Jun 2011 15:49 |
| 17 | 36 | F1h5486.d | 1. | K1074-02D,,59948 | TPH F | 24 Jun 2011 16:09 |
| 18 | 98 | F1h5487.d | 1. | FSTD1001D | TPH F ICAL L5 100... | 24 Jun 2011 16:26 |
| 19 | 100 | F1h5488.d | 1. | IBLK | TPH F | 24 Jun 2011 16:46 |
| 20 | 10 | F1h5489.d | 1. | K1059-04A,,59935 | TPH F | 24 Jun 2011 17:06 |
| 21 | 11 | F1h5490.d | 1. | K1059-05A,,59935 | TPH F | 24 Jun 2011 17:26 |
| 22 | 12 | F1h5491.d | 1. | K1059-06A,,59935 | TPH F | 24 Jun 2011 17:46 |
| 23 | 13 | F1h5492.d | 1. | K1059-07A,,59935 | TPH F | 24 Jun 2011 18:06 |
| 24 | 14 | F1h5493.d | 1. | K1059-08A,,59935 | TPH F | 24 Jun 2011 18:26 |
| 25 | 15 | F1h5494.d | 1. | K1059-09A,,59935 - PR 2-4X | TPH F | 24 Jun 2011 18:46 |
| 26 | 16 | F1h5495.d | 1. | K1059-11A,,59935 | TPH F | 24 Jun 2011 19:06 |
| 27 | 17 | F1h5496.d | 1. | K1059-12A,,59935 | TPH F | 24 Jun 2011 19:25 |
| 28 | 18 | F1h5497.d | 1. | K1059-13A,,59935 | TPH F | 24 Jun 2011 19:45 |
| 29 | 98 | F1h5498.d | 1. | FSTD1001E | TPH F ICAL L5 100... | 24 Jun 2011 20:05 |
| 30 | 100 | F1h5499.d | 1. | IBLK | TPH F | 24 Jun 2011 20:25 |
| 31 | 19 | F1h5500.d | 1. | K1059-14A,,59935 PR 4X | TPH F | 24 Jun 2011 20:45 |
| 32 | 20 | F1h5501.d | 1. | K1059-15A,,59935 PR 5X | TPH F | 24 Jun 2011 21:05 |
| 33 | 21 | F1h5502.d | 1. | MB-59948,,59948 | TPH F | 24 Jun 2011 21:25 |
| 34 | 22 | F1h5503.d | 1. | LCS-59948,,59948 | TPH F | 24 Jun 2011 21:45 |
| 35 | 23 | F1h5504.d | 1. | LCSD-59948,,59948 | TPH F | 24 Jun 2011 22:04 |
| 36 | 24 | F1h5505.d | 1. | K1064-01J,,59948 | TPH F | 24 Jun 2011 22:24 |
| 37 | 25 | F1h5506.d | 1. | K1064-02J,,59948 | TPH F | 24 Jun 2011 22:44 |
| 38 | 26 | F1h5507.d | 1. | K1064-03J,,59948 | TPH F | 24 Jun 2011 23:04 |
| 39 | 27 | F1h5508.d | 1. | K1064-04J,,59948 | TPH F | 24 Jun 2011 23:23 |
| 40 | 28 | F1h5509.d | 1. | K1064-05J,,59948 | TPH F | 24 Jun 2011 23:43 |
| 41 | 98 | F1h5510.d | 1. | FSTD1001F | TPH F ICAL L5 100... | 25 Jun 2011 00:03 |
| 42 | 100 | F1h5511.d | 1. | IBLK | TPH F | 25 Jun 2011 00:23 |
| 43 | 29 | F1h5512.d | 1. | K1064-07J,,59948 | TPH F | 25 Jun 2011 00:43 |
| 44 | 30 | F1h5513.d | 1. | K1064-08J,,59948 | TPH F | 25 Jun 2011 01:03 |
| 45 | 31 | F1h5514.d | 1. | K1064-09J,,59948 | TPH F | 25 Jun 2011 01:23 |
| 46 | 32 | F1h5515.d | 1. | K1064-10J,,59948 | TPH F | 25 Jun 2011 01:43 |
| 47 | 33 | F1h5516.d | 1. | K1064-11J,,59948 | TPH F | 25 Jun 2011 02:03 |
| 48 | 34 | F1h5517.d | 1. | K1064-12J,,59948 | TPH F | 25 Jun 2011 02:22 |
| 49 | 37 | F1h5518.d | 1. | K1083-01D,,59948 | TPH F | 25 Jun 2011 02:42 |
| 50 | 98 | F1h5519.d | 1. | FSTD1001G | TPH F ICAL L5 100... | 25 Jun 2011 03:02 |
| 51 | 100 | F1h5520.d | 1. | IBLK | TPH F | 25 Jun 2011 03:22 |
| 52 | 99 | F1h5521.d | 1. | | | 25 Jun 2011 03:38 |
| 53 | 99 | F1h5522.d | 1. | | | 25 Jun 2011 03:42 |
| 54 | 99 | F1h5523.d | 1. | | | 25 Jun 2011 03:46 |
| 55 | 99 | F1h5524.d | 1. | | | 25 Jun 2011 03:49 |

6/27/11

# Injection Log

AQ : TPH_REF
QT: TPH0520F

Directory: O:\F1.I\110627.B

INJECT MAN, NS : NONE

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 98 | F1h5530.d | 1. | | | 27 Jun 2011 11:16 |
| 2 | 96 | F1h5531.d | 1. | ICAL 7159 | | 27 Jun 2011 11:36 |
| 3 | 99 | F1h5532.d | 1. | | | 27 Jun 2011 11:52 |
| 4 | 99 | F1h5533.d | 1. | | | 27 Jun 2011 11:56 |
| 5 | 98 | F1h5534.d | 1. | FSTD1001H | TPH F ICAL L5 100... | 27 Jun 2011 12:05 |
| 6 | 100 | F1h5535.d | 1. | IBLK | TPH F | 27 Jun 2011 12:25 |
| 7 | 38 | F1h5536.d | 1. | K1059-09A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:10 |
| 8 | 39 | F1h5537.d | 1. | K1059-14A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:30 |
| 9 | 40 | F1h5538.d | 1. | K1059-15A,,59935,,4 | TPH F 4X DIL | 27 Jun 2011 13:50 |
| 10 | 98 | F1h5539.d | 1. | FSTD1001I | TPH F ICAL L5 100... | 27 Jun 2011 14:10 |
| 11 | 100 | F1h5540.d | 1. | IBLK | TPH F | 27 Jun 2011 14:30 |

6/27/11

Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files
5 =F1H5057.D 20 =F1H5059.D 50 =F1H5061.D
80 =F1H5062.D 100 =F1H5056.D 120 =F1H5063.D

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15  Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 3 | H | DRO C10 to C28 | 336.012 | 377.100 E3 | -12.2 | 54 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 372.820 E3 | -11.4 | 54 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.03 |
| 14 | | C9 Nonane | 0.730 | 0.589 | 19.3 | 52 | 0.02 |
| 15 | | C10 Decane | 0.756 | 0.659 | 12.8 | 52 | 0.02 |
| 16 | | C12 Dodecane | 0.808 | 0.728 | 9.9 | 53 | 0.02 |
| 17 | | C14 Tetradecane | 0.859 | 0.782 | 9.0 | 54 | 0.02 |
| 18 | | C16 Hexadecane | 0.957 | 0.835 | 12.7 | 55 | 0.02 |
| 19 | | C18 Octadecane | 0.941 | 0.863 | 8.3 | 54 | 0.02 |
| 20 | | C19 Nonadecane | 0.950 | 0.872 | 8.2 | 55 | 0.02 |
| 21 | | C20 Eicosane | 0.960 | 0.891 | 7.2 | 55 | 0.02 |
| 22 | | C22 Docosane | 0.991 | 0.907 | 8.5 | 55 | 0.02 |
| 23 | | C24 Tetracosane | 1.001 | 0.910 | 9.1 | 55 | 0.02 |
| 24 | | C26 Hexacosane | 1.011 | 0.917 | 9.3 | 55 | 0.02 |
| 25 | | C28 Octacosane | 1.011 | 0.898 | 11.2 | 54 | 0.02 |
| 26 | | C30 Triacontane | 1.015 | 0.901 | 11.2 | 55 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.861 | 11.2 | 57 | 0.04 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.839 | 9.8 | 54 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 2 | S | ortho-Terphenyl | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 13 | S | ortho-Terphenyl ISTD | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5474.D
Lab Smp Id: FSTD1001C  Client Smp ID: FSTD1001C
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 11:57  Operator: TM
ALS Vial : 98 Sample Multiplier: 1

Quant Time: Jun 24 13:11:39 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 338.039 E3 | 11.7 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 320.534 E3 | 4.6 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 320.490 E3 | 4.2 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.966 | 8.7 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.715 | 2.1 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.764 | -1.1 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.807 | 0.1 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.846 | 1.5 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.888 | 7.2 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.920 | 2.2 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.930 | 2.1 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.943 | 1.8 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.980 | 1.1 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.987 | 1.4 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.011 | 0.0 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.016 | -0.5 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.024 | -0.9 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.994 | -2.5 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.916 | 1.5 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.916 | 1.1 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.916 | 1.1 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5487.D
Lab Smp Id: FSTD1001D  Client Smp ID: FSTD1001D
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 16:26  Operator: TM
ALS Vial : 98 Sample Multiplier: 1

Quant Time: Jun 27 08:57:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 385.678 E3 | -0.8 | 114 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 358.807 E3 | -6.8 | 112 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 356.549 E3 | -6.6 | 111 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.970 | 8.3 | 114 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.679 | 7.0 | 108 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.733 | 3.0 | 109 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.789 | 2.4 | 111 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.840 | 2.2 | 113 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.889 | 7.1 | 114 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.924 | 1.8 | 114 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.933 | 1.8 | 114 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.944 | 1.7 | 114 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.972 | 1.9 | 113 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.970 | 3.1 | 112 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.985 | 2.6 | 111 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.982 | 2.9 | 110 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.982 | 3.3 | 109 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.937 | 3.4 | 107 | -0.02 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.903 | 2.9 | 112 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.897 | 3.1 | 111 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.897 | 3.1 | 111 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5498.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 20:05  Operator: TM
ALS Vial : 98 Sample Multiplier: 1

Quant Time: Jun 27 08:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 372.571 E3 | 2.7 | 110 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 344.379 E3 | -2.5 | 107 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 340.700 E3 | -1.8 | 106 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 109 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.978 | 7.6 | 110 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.692 | 5.2 | 105 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.748 | 1.1 | 107 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.807 | 0.1 | 109 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.858 | 0.1 | 110 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.903 | 5.6 | 111 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.932 | 1.0 | 110 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.937 | 1.4 | 110 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.943 | 1.8 | 109 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.966 | 2.5 | 107 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.956 | 4.5 | 106 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.967 | 4.4 | 104 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.959 | 5.1 | 103 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.955 | 5.9 | 102 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.897 | 7.5 | 98 | -0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.904 | 2.8 | 107 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.894 | 3.5 | 106 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.894 | 3.5 | 106 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5534.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jun 2011 12:05  Operator: TM
ALS Vial : 98  Sample Multiplier: 1

Quant Time: Jun 27 13:04:26 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 363.414 E3 | 5.0 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 337.062 E3 | -0.3 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 333.774 E3 | 0.3 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.975 | 7.8 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.682 | 6.6 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.742 | 1.9 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.801 | 0.9 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.852 | 0.8 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.897 | 6.3 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.927 | 1.5 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.933 | 1.8 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.941 | 2.0 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.968 | 2.3 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.964 | 3.7 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.977 | 3.4 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.970 | 4.1 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.968 | 4.6 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.910 | 6.2 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.904 | 2.8 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.895 | 3.3 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.895 | 3.3 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110627.B\F1H5539.D
Lab Smp Id: FSTD1001I  Client Smp ID: FSTD1001I
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jun 2011 14:10  Operator: TM
ALS Vial : 98 Sample Multiplier: 1

Quant Time: Jun 27 15:21:07 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 359.098 | E3 | 6.2 | 99 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 333.009 | E3 | 0.9 | 99 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 330.211 | E3 | 1.3 | 99 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 99 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.976 | | 7.8 | 99 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.687 | | 5.9 | 99 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.746 | | 1.3 | 99 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.804 | | 0.5 | 99 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.853 | | 0.7 | 99 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.897 | | 6.3 | 99 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.926 | | 1.6 | 99 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.932 | | 1.9 | 99 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.940 | | 2.1 | 99 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.967 | | 2.4 | 99 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.964 | | 3.7 | 99 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.978 | | 3.3 | 99 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.974 | | 3.7 | 99 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.974 | | 4.0 | 99 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.921 | | 5.1 | 100 | 0.02 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.905 | | 2.7 | 99 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.897 | | 3.1 | 99 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.897 | | 3.1 | 99 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1059
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_S
## CT ETPH – CT ETPH by GC-FID

Sample ID: MB-59935 | SampType: MBLK | TestCode: CTETPH_S | Prep Date: 06/22/11 14:57 | Run ID: F1_110624A
Client ID: MB-59935 | Batch ID: 59935 | Units: mg/Kg | Analysis Date: 06/24/11 12:37 | SeqNo: 1551570

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 2.6 | 14 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 4.124 | | 1.7 | 6.666 | 0 | 61.9 | 50 | 150 | 0 | | | |

Sample ID: LCS-59935 | SampType: LCS | TestCode: CTETPH_S | Prep Date: 06/22/11 14:57 | Run ID: F1_110624A
Client ID: LCS-59935 | Batch ID: 59935 | Units: mg/Kg | Analysis Date: 06/24/11 12:57 | SeqNo: 1551571

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 235.7 | 2.6 | 14 | 333.3 | 0 | 70.7 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 5.310 | | 1.7 | 6.666 | 0 | 79.7 | 50 | 150 | 0 | | | |

Sample ID: LCSD-59935 | SampType: LCSD | TestCode: CTETPH_S | Prep Date: 06/22/11 14:57 | Run ID: F1_110624A
Client ID: LCSD-59935 | Batch ID: 59935 | Units: mg/Kg | Analysis Date: 06/24/11 13:17 | SeqNo: 1551572

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 221.3 | 2.6 | 14 | 333.3 | 0 | 66.4 | 60 | 140 | 235.7 | 6.28 | 20 | |
| Surrogate: ortho-Terphenyl | 4.929 | | 1.7 | 6.666 | 0 | 73.9 | 50 | 150 | 0 | | | |

Sample ID: K1059-03AMS | SampType: MS | TestCode: CTETPH_S | Prep Date: 06/22/11 14:57 | Run ID: F1_110624A
Client ID: 06SB22-0911-201106 | Batch ID: 59935 | Units: mg/Kg | Analysis Date: 06/24/11 14:50 | SeqNo: 1551576

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 348.7 | 3.4 | 18 | 434.0 | 20.44 | 75.6 | 50 | 150 | 0 | | | |
| Surrogate: ortho-Terphenyl | 7.268 | | 2.2 | 8.679 | 0 | 83.7 | 50 | 150 | 0 | | | |

Sample ID: K1059-03AMSD | SampType: MSD | TestCode: CTETPH_S | Prep Date: 06/22/11 14:57 | Run ID: F1_110624A
Client ID: 06SB22-0911-201106 | Batch ID: 59935 | Units: mg/Kg | Analysis Date: 06/24/11 15:28 | SeqNo: 1551577

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 276.5 | 3.4 | 18 | 434.0 | 20.44 | 59.0 | 50 | 150 | 348.7 | 23.1 | 30 | |
| Surrogate: ortho-Terphenyl | 5.832 | | 2.2 | 8.679 | 0 | 67.2 | 50 | 150 | 0 | | | |

Data File: \\avogadro\organics\V1.I\110623.B\V1M1670.D
Report Date: 24-May-2011 15:01

Sample Calc- VOC

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110623.B\V1M1670.D
Lab Smp Id: K1059-14B Client Smp ID: 06SB26-1416-2011061
Inj Date : 23-JUN-2011 17:00
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,K1059-14B,,59942
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110623.B\v18260GH.m
Meth Date : 24-May-2011 14:59 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 49
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: MBTEX.sub
Target Version: 4.14

Ethylbenzene result: 97 µg/kg

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 7.900 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

$$\frac{488332 \times 50}{365778 \times 0.478} \times 1 \times 1 \times \frac{5}{(7.9 \times (100-9.2)/100)} = 97.3\ \mu g/kg$$

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | CONCENTRATIONS ON-COLUMN ( ug/L) | FINAL (ug/Kg) |
|---|---|---|---|---|---|---|---|
| $ 32 Dibromofluoromethane | 113 | 5.681 | 5.676 | (0.882) | 138678 | 48.3310 | 30 |
| $ 37 1,2-Dichloroethane-d4 | 102 | 6.066 | 6.050 | (0.942) | 33600 | 48.4696 | 31 |
| * 41 Fluorobenzene | 96 | 6.440 | 6.434 | (1.000) | 548383 | 50.0000 | |
| $ 51 Toluene-d8 | 98 | 8.301 | 8.286 | (0.819) | 883603 | 96.8928 | 61(RH) |
| 52 Toluene | 91 | 8.390 | 8.374 | (1.303) | 17305 | 1.53387 | 1.0(a) |
| * 60 Chlorobenzene-d5 | 117 | 10.133 | 10.128 | (1.000) | 365778 | 50.0000 | |
| 64 Ethylbenzene | 106 | 10.321 | 10.305 | (1.018) | 488332 | 139.665 | 88 |
| 65 m,p-Xylene | 106 | 10.478 | 10.463 | (1.034) | 328107 | 75.4573 | 48 |
| $ 70 Bromofluorobenzene | 95 | 11.591 | 11.595 | (1.144) | 357541 | 103.081 | 65(QR) |
| M 81 Xylene (Total) | 106 | | | | 328107 | 75.4573 | 48 |
| * 84 1,4-Dichlorobenzene-d4 | 152 | 12.980 | 12.964 | (1.000) | 144808 | 50.0000 | (Q) |

RRF = 0.478

QC Flag Legend

a - Target compound detected but, quantitated amount Below Limit Of Quantitation(BLOQ).
Q - Qualifier signal failed the ratio test.
R - Spike/Surrogate failed recovery limits.
H - Operator selected an alternate compound hit.

Data File: \\Avogadro\Organics\F1.I\110624.B\F1H5493.D
Lab Smp Id: K1059-08A BN: 59935 Client Smp ID: 06SB21-1517-20110616
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 24 Jun 2011 18:26 Operator: TM
ALS Vial : 14 Sample Multiplier: 1

reported result: 400 mg/kg

Sample Calc - ETPH

Quant Time: Jun 27 13:18:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 13104033 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.78 | 29064370 | 75.942 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 75.94% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 1801683922 | 5384.259 ug/mL |
| Integration Range: | | | 1.50 to 10.32 minutes |
| Raw Range Area: | | 1867067485 | |
| Corrected Range Area (IS,SS): | | 1824899081 | |
| Instrument Blank Area (F1H5488): | | 23215159 | |

Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

$$5384.259\ \mu g/mL \times \frac{1}{15.31\ mL/g} \times \frac{1}{0.875\ \%\ solids} = 402\ mg/kg$$

# NSB NEW LONDON
# SOIL DATA
# K1059

| FRACTION | CHEMICAL | 06SB22-1719-20110615 | UNITS | 06SBDUP01-20110615 | RPD | D |
|---|---|---|---|---|---|---|
| MISC | PERCENT MOISTURE | 17 | % | 16 | 6.06 | 1.00 |
| PET | EXTRACTABLE PETROLEUM HYDROC | 30 | MG/KG | 23 | 26.42 | 7.00 |

**Current RPD Quality Control Limit: 50 %.**
**Shaded cells indicate RPDs that exceed the applicable quality control limit.**

# NSB NEW LONDON
# SOIL DATA
# K1059

| FRACTION | CHEMICAL | 06SB24-1921-20110615 | UNITS | 06SBDUP02-20110615 | RPD | D |
|---|---|---|---|---|---|---|
| MISC | PERCENT MOISTURE | 11 | % | 10 | 9.52 | 1.00 |
| PET | EXTRACTABLE PETROLEUM HYDROC | 23 | MG/KG | 110 | 130.83 | 87.00 |

**Current RPD Quality Control Limit: 50 %.**
**Shaded cells indicate RPDs that exceed the applicable quality control limit.**

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **D. KANE** | **DATE:** | **SEPTEMBER 9, 2011** |
| **FROM:** | **LEANNE M. GANSER** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VOCs AND ETPH**
**CTO WE56, NSB NEW LONDON**
**SAMPLE DELIVERY GROUP (SDG) K1100**

**SAMPLES:** 5/Soil/

06SB27-0911-20110620 06SB27-1315-20110620 06SB25-0507-20110621
06SB25-1820-20110621 06TBSO-20110620

2/Water/

06RB-20110621 06TBAQ-20110621

OVERVIEW

The sample set for CTO WE56, NSB New London, SDG K1100, consists of three (3) environmental soil samples, one (1) soil trip blank, one (1) aqueous trip blank, and one (1) rinsate blank. No field duplicate pairs were included in this SDG.

All samples were analyzed for select volatile organic compounds (VOCs). All samples, except the trip blanks were also analyzed for extractable total petroleum hydrocarbons (ETPH). The samples were collected by Tetra Tech NUS on June 20-21, 2011 and analyzed by Spectrum Analytical, Inc. All analyses were conducted in accordance with SW-846 Method 8260C for VOCs and Connecticut ETPH method for EPTH. A Tier 3 data validation was performed on the referenced samples. The data contained in this SDG were validated with regard to the following parameters:

* • Data Completeness
• Holding Times
* • GC/MS Tuning
* • Initial/Continuing Calibrations
* • Laboratory Method Blank Results
• Surrogate Recoveries
• Laboratory Control Sample Results
• Matrix Spike/Matrix Spike Duplicate Results
* • Internal Standards
* • Compound Quantitation
* • Compound Identification
* • Detection Limits

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A. Results as reported by the laboratory are presented in Appendix B. Appendix C contains Region I worksheets, and Appendix D contains the documentation to support the findings as discussed in this data validation report.

Hold Time

For ETPH analysis, samples 06SB27-0911-20110620, 06SB27-1315-20110620, 06SB25-0507-20110621, and 06SB25-1820-20110621 were re-extracted outside of the 14 day extraction hold time and re-analyzed within the 40 day analysis hold time. The laboratory provided both the original and re-analysis results. The validator reported the results from the re-analysis. Positive and nondetected results were qualified as estimated, "J" and "UJ", respectively, due to hold time noncompliance.

Surrogate Recoveries

Percent recovery of the ETPH surrogate was less than quality control limits for samples 06SB25-0507-20110621 and 06SB25-1820-20110621. The samples were re-extracted outside of the 14 day extraction hold time and re-analyzed within the 40 day analysis hold time. ETPH surrogate recoveries from the re-analysis were acceptable. The validator reported the results from the re-analysis.

Laboratory Control Sample (LCS) Results

LCS percent recovery for ETPH was less than quality control limits affecting all soil samples. The samples were re-extracted outside of the 14 day extraction hold time and re-analyzed within the 40 day analysis hold time. ETPH LCS percent recovery was acceptable for the re-analyzed samples. The validator reported the results from the re-analysis.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Results

MS percent recovery for ETPH was greater than quality control limits affecting all soil samples. No action was necessary because results were reported from the re-analysis.

Comments

Sample 06SB25-1820-20110621 was re-analyzed at 4X dilution.

Samples 06SB25-0507-20110621 and 06SB25-1820-20110621 were identified in the SDG as 06SB2S-0507-20110621 and 06SB2S-1820-20110621, respectively.

## EXECUTIVE SUMMARY

**Laboratory Performance Issues:** Re-analyzed samples were extracted outside of hold time.

**Other Factors Affecting Data Quality:** None.

**TO: D. KANE – PAGE 3**
**DATE: SEPTEMBER 9, 2011**

The data for these analyses were reviewed with reference to the Region I EPA "Data Validation Functional Guidelines - Part II" (12/96) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (~~January 2006~~ April 2009). The text of this report has been formulated to address only those problem areas affecting data quality.

Tetra Tech NUS
Leanne M. Ganser
Environmental Scientist/ Data Validator

Tetra Tech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Regional Worksheets
Appendix D – Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

**Data Validation Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS-GFAA MSA's r < 0.995 / ICP PDS Recovery Noncompliance
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

| PROJ_NO: 02634 | NSAMPLE | 06SB25-0507-20110621 | | | 06SB25-1820-20110621 | | | 06SB27-0911-20110620 | | | 06SB27-1315-20110620 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1100 | LAB_ID | K1100-04B | | | K1100-05B | | | K1100-01B | | | K1100-02B | | |
| FRACTION: OV | SAMP_DATE | 6/21/2011 | | | 6/21/2011 | | | 6/20/2011 | | | 6/20/2011 | | |
| MEDIA: SOIL | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/KG | | | UG/KG | | | UG/KG | | | UG/KG | | |
| | PCT_SOLIDS | 90.9 | | | 89.0 | | | 90.5 | | | 89.5 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.3 | U | | 1.4 | U | | 1.4 | U | | 1.3 | U | |
| ETHYLBENZENE | | 1.3 | U | | 1.4 | U | | 1.4 | U | | 1.3 | U | |
| M+P-XYLENES | | 2.6 | U | | 2.8 | U | | 2.9 | U | | 2.6 | U | |
| METHYL TERT-BUTYL ETHER | | 1.3 | U | | 1.4 | U | | 1.4 | U | | 1.3 | U | |
| O-XYLENE | | 1.3 | U | | 1.4 | U | | 1.4 | U | | 1.3 | U | |
| TOLUENE | | 1.3 | U | | 1.4 | U | | 1.4 | U | | 1.3 | U | |
| TOTAL XYLENES | | 1.3 | U | | 1.4 | U | | 1.4 | U | | 1.3 | U | |

| | | | | |
|---|---|---|---|---|
| **PROJ_NO: 02634** | NSAMPLE | 06TBSO-20110620 | | |
| **SDG: K1100** | LAB_ID | K1100-03B | | |
| **FRACTION: OV** | SAMP_DATE | 6/20/2011 | | |
| **MEDIA: SOIL** | QC_TYPE | NM | | |
| | UNITS | UG/KG | | |
| | PCT_SOLIDS | 100.0 | | |
| | DUP_OF | | | |
| PARAMETER | | RESULT | VQL | QLCD |
| BENZENE | | 2 | U | |
| ETHYLBENZENE | | 2 | U | |
| M+P-XYLENES | | 4 | U | |
| METHYL TERT-BUTYL ETHER | | 2 | U | |
| O-XYLENE | | 2 | U | |
| TOLUENE | | 2 | U | |
| TOTAL XYLENES | | 2 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06RB-20110621 | | | 06TBAQ-20110621 | | |
|---|---|---|---|---|---|---|---|
| SDG: K1100 | LAB_ID | K1100-06A | | | K1100-07A | | |
| FRACTION: OV | SAMP_DATE | 6/21/2011 | | | 6/21/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | |
| | UNITS | UG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 0.5 | U | | 0.5 | U | |
| ETHYLBENZENE | | 0.5 | U | | 0.5 | U | |
| M+P-XYLENES | | 1 | U | | 1 | U | |
| METHYL TERT-BUTYL ETHER | | 0.5 | U | | 0.5 | U | |
| O-XYLENE | | 0.5 | U | | 0.5 | U | |
| TOLUENE | | 0.5 | U | | 0.5 | U | |
| TOTAL XYLENES | | 1 | U | | 1 | U | |

| PROJ_NO: 02634<br>SDG: K1100<br>FRACTION: PET<br>MEDIA: SOIL | NSAMPLE | 06SB25-0507-20110621RE | | | 06SB25-1820-20110621RE | | | 06SB27-0911-20110620RE | | | 06SB27-1315-20110620RE | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LAB_ID | K1100-04ARE | | | K1100-05ARE | | | K1100-01ARE | | | K1100-02ARE | | |
| | SAMP_DATE | 6/21/2011 | | | 6/21/2011 | | | 6/20/2011 | | | 6/20/2011 | | |
| | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/KG | | | MG/KG | | | MG/KG | | | MG/KG | | |
| | PCT_SOLIDS | 90.9 | | | 89.0 | | | 90.5 | | | 89.5 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 7.7 | UJ | H | 1400 | J | H | 9.1 | J | H | 7.7 | UJ | H |

| | | | | |
|---|---|---|---|---|
| **PROJ_NO: 02634** | NSAMPLE | 06RB-20110621 | | |
| **SDG: K1100** | LAB_ID | K1100-06B | | |
| **FRACTION: PET** | SAMP_DATE | 6/21/2011 | | |
| **MEDIA: WATER** | QC_TYPE | NM | | |
| | UNITS | MG/L | | |
| | PCT_SOLIDS | 0.0 | | |
| | DUP_OF | | | |
| PARAMETER | | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 0.14 | | |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

ZD
9-9-11

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB2S-0507-2011
0621 5

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-04B

Sample wt/vol: 8.60 (g/mL) G Lab File ID: V1M1729.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 9.1 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 71-43-2 | Benzene | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 108-88-3 | Toluene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.32 | 1.3 | 3.2 |
| 1330-20-7 | m,p-Xylene | 2.6 | U | 1.0 | 2.6 | 3.2 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.30 | 1.3 | 3.2 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB2S-1820-2011
0621 5

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-05B

Sample wt/vol: 8.00 (g/mL) G Lab File ID: V1M1730.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 11 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 71-43-2 | Benzene | 1.4 | U | 0.43 | 1.4 | 3.5 |
| 108-88-3 | Toluene | 1.4 | U | 0.33 | 1.4 | 3.5 |
| 100-41-4 | Ethylbenzene | 1.4 | U | 0.35 | 1.4 | 3.5 |
| 1330-20-7 | m,p-Xylene | 2.8 | U | 1.1 | 2.8 | 3.5 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.33 | 1.4 | 3.5 |
| 1330-20-7 | Xylene (Total) | 1.4 | U | 0.33 | 1.4 | 3.5 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB27-0911-2011 0620

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-01B

Sample wt/vol: 7.70 (g/mL) G Lab File ID: V1M1727.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 9.5 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.4 | U | 0.44 | 1.4 | 3.6 |
| 71-43-2 | Benzene | 1.4 | U | 0.44 | 1.4 | 3.6 |
| 108-88-3 | Toluene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 100-41-4 | Ethylbenzene | 1.4 | U | 0.36 | 1.4 | 3.6 |
| 1330-20-7 | m,p-Xylene | 2.9 | U | 1.1 | 2.9 | 3.6 |
| 95-47-6 | o-Xylene | 1.4 | U | 0.34 | 1.4 | 3.6 |
| 1330-20-7 | Xylene (Total) | 1.4 | U | 0.34 | 1.4 | 3.6 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06SB27-1315-2011 0620

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-02B

Sample wt/vol: 8.70 (g/mL) G Lab File ID: V1M1728.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. 11 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 71-43-2 | Benzene | 1.3 | U | 0.39 | 1.3 | 3.2 |
| 108-88-3 | Toluene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 100-41-4 | Ethylbenzene | 1.3 | U | 0.32 | 1.3 | 3.2 |
| 1330-20-7 | m,p-Xylene | 2.6 | U | 1.0 | 2.6 | 3.2 |
| 95-47-6 | o-Xylene | 1.3 | U | 0.30 | 1.3 | 3.2 |
| 1330-20-7 | Xylene (Total) | 1.3 | U | 0.30 | 1.3 | 3.2 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06TBSO-20110620

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: K1100-03B

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1732.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06RB-20110621

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K1100-06A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1757.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.50 | U | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 0.50 | U | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 0.50 | U | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 0.50 | U | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 1.0 | U | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 0.50 | U | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 1.0 | U | 0.36 | 1.0 | 5.0 |

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

06TBAQ-20110621

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: K1100-07A

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1756.D

Level: (TRACE/LOW/MED) LOW Date Received: 06/24/2011

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.50 | U | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 0.50 | U | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 0.50 | U | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 0.50 | U | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 1.0 | U | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 0.50 | U | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 1.0 | U | 0.36 | 1.0 | 5.0 |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2S-0507-20110621
**Lab ID:** K1100-04

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 8:40

ZD
9-9-11

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 15 | mg/Kg | 1 | 07/12/2011 10:24 | 60160 |
| Surrogate: ortho-Terphenyl | 35.9 | S | 50-150 | %REC | 1 | 07/12/2011 10:24 | 60160 |

**Qualifiers:**

- ND - Not Detected at the Reporting Limit
- J - Analyte detected below quanititation limits
- B - Analyte detected in the associated Method Blank
- DF - Dilution Factor
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- RL - Reporting Limit

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division



**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2~~S~~5-0507-20110621
**Lab ID:** K1100-04

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 8:40

AD
7-9-11

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 7.7 | mg/Kg | 1 | 07/14/2011 17:13 | 60418 |
| Surrogate: ortho-Terphenyl | 80.9 | | 50-150 | %REC | 1 | 07/14/2011 17:13 | 60418 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2~~S~~-1820-20110621
**Lab ID:** K1100-05

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 10:30

9-9-11
2D

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 540 | | 15 | mg/Kg | 1 | 07/12/2011 10:45 | 60160 |
| Surrogate: ortho-Terphenyl | 49.5 | S | 50-150 | %REC | 1 | 07/12/2011 10:45 | 60160 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB2S-1820-20110621
**Lab ID:** K1100-05

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 10:30

SD
9-9-11

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 1400 | | 31 | mg/Kg | 4 | 07/15/2011 10:03 | 60418 |
| Surrogate: ortho-Terphenyl | 87.1 | | 50-150 | %REC | 4 | 07/15/2011 10:03 | 60418 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB27-0911-20110620
**Lab ID:** K1100-01

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/20/11 13:10

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 15 | | 15 | mg/Kg | 1 | 07/12/2011 9:43 | 60160 |
| Surrogate: ortho-Terphenyl | 69.2 | | 50-150 | %REC | 1 | 07/12/2011 9:43 | 60160 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB27-0911-20110620
**Lab ID:** K1100-01
**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/20/11 13:10

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | 9.1 | | 7.7 | mg/Kg | 1 | 07/14/2011 17:33 | 60418 |
| Surrogate: ortho-Terphenyl | 72.8 | | 50-150 | %REC | 1 | 07/14/2011 17:33 | 60418 |

**Qualifiers:**
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

Client: Tetra Tech NUS Inc.
Client Sample ID: 06SB27-1315-20110620
Lab ID: K1100-02

Project: CTO-WE56, NSB New London
Collection Date: 06/20/11 13:35

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 16 | mg/Kg | 1 | 07/12/2011 10:03 | 60160 |
| Surrogate: ortho-Terphenyl | 61.2 | | 50-150 | %REC | 1 | 07/12/2011 10:03 | 60160 |

Qualifiers:
ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06SB27-1315-20110620
**Lab ID:** K1100-02

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/20/11 13:35

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_S** |
| Extractable Total Petroleum Hydrocarbon | ND | | 7.7 | mg/Kg | 1 | 07/14/2011 16:53 | 60418 |
| Surrogate: ortho-Terphenyl | 75.0 | | 50-150 | %REC | 1 | 07/14/2011 16:53 | 60418 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*21-Jul-1*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06RB-20110621
**Lab ID:** K1100-06

**Project:** CTO-WE56, NSB New London
**Collection Date:** 06/21/11 10:45

| Analyses | Result | Qual | RL | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH by GC-FID** | | | | | | | **CTETPH_W** |
| Extractable Total Petroleum Hydrocarbon | 0.14 | | 0.10 | mg/L | 1 | 06/29/2011 16:52 | 60048 |
| Surrogate: ortho-Terphenyl | 81.5 | | 50-150 | %REC | 1 | 06/29/2011 16:52 | 60048 |

**Qualifiers:**

ND - Not Detected at the Reporting Limit
J - Analyte detected below quanititation limits
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
RL - Reporting Limit

# APPENDIX C

## REGIONAL WORKSHEETS

Site Name NSB New London
Reference No. _____

# REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Spectrum Analytical
Case/Project No. _____
SDG No. K1100
No. of Samples/Matrix _____

SOW/Method No. _____
Sampling Date(s) _____
Shipping Date(s) _____
Date Rec'd by lab _____

Traffic Report Sample Nos. _____

Trip Blank No. _____
Equipment Blank No. _____
Bottle Blank No. _____
Field Duplicate Nos. _____

PES Nos. _____

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

_____

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Leanne Ganser Company Name Tetra Tech Phone Number _____

Date Validation Started _____ Date Validation Completed _____

EPA-NE
Data Validation Worksheet Cover Page - Page 2

See DV report

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/SV worksheets:

| | | |
|---|---|---|
| VOA/SV-Pest/PCB | COMPLETE SDG FILE (CSF) AUDIT | _____ |
| VOA/SV-Pest/PCB-I | PRESERVATION AND HOLDING TIMES | _____ |
| VOA/SV-II | GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING) | _____ |
| VOA/SV-III | INITIAL CALIBRATION | _____ |
| VOA/SV-IV | CONTINUING CALIBRATION | _____ |
| VOA/SV-Pest/PCB-V-A | BLANK ANALYSIS | _____ |
| VOA/SV-Pest/PCB-V-B | BLANK ANALYSIS | _____ |
| VOA-VI | VOA SURROGATE SPIKE RECOVERIES | _____ |
| SV-VI | SV SURROGATE SPIKE RECOVERIES | _____ |
| VOA/SV-VII | INTERNAL STANDARD PERFORMANCE | _____ |
| VOA/SV-Pest/PCB-VIII | MATRIX SPIKE/MATRIX SPIKE DUPLICATE | _____ |
| VOA/SV-Pest/PCB-IX | FIELD DUPLICATE PRECISION | _____ |
| VOA/SV-Pest/PCB-X | SENSITIVITY CHECK | _____ |
| VOA/SV-Pest/PCB-XI | ACCURACY CHECK | _____ |
| VOA/SV-Pest/PCB-XII | TARGET COMPOUND IDENTIFICATION | _____ |
| VOA/SV-Pest/PCB-XIII | SAMPLE QUANTITATION | _____ |
| VOA/SV-XIV | TENTATIVELY IDENTIFIED COMPOUNDS | _____ |
| VOA/SV-XV | SEMIVOLATILE CLEANUP | _____ |
| TABLE II-WORKSHEET | OVERALL EVALUATION OF DATA | _____ |

Pest/PCB worksheets:

| | | |
|---|---|---|
| VOA/SV-Pest/PCB | COMPLETE SDG FILE (CSF) AUDIT | _____ |
| VOA/SV-Pest/PCB-I | PRESERVATION AND HOLDING TIMES | _____ |
| Pest/PCB-IIA | GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION | _____ |
| Pest/PCB-IIB | GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES | _____ |
| Pest/PCB-IIC | GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION | _____ |
| Pest/PCB-IID | GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION | _____ |
| Pest/PCB-III | INITIAL CALIBRATION | _____ |
| Pest/PCB-IV | CONTINUING CALIBRATION | _____ |
| VOA/SV-Pest/PCB-V-A | BLANK ANALYSIS | _____ |
| VOA/SV-Pest/PCB-V-B | BLANK ANALYSIS | _____ |
| Pest/PCB-VI | SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT | _____ |
| Pest/PCB-VII | PESTICIDE CLEANUP | _____ |
| VOA/SV-Pest/PCB-VIII | MATRIX SPIKE/MATRIX SPIKE DUPLICATE | _____ |
| VOA/SV-Pest/PCB-IX | FIELD DUPLICATE PRECISION | _____ |
| VOA/SV-Pest/PCB-X | SENSITIVITY CHECK | _____ |
| VOA/SV-Pest/PCB-XI | ACCURACY CHECK | _____ |
| Pest/PCB-XII | COMPOUND IDENTIFICATION | _____ |
| VOA/SV-Pest/PCB-XIII | SAMPLE QUANTITATION | _____ |
| TABLE II-WORKSHEET | OVERALL EVALUATION OF DATA | _____ |

I certify that all criteria were met for the worksheets checked above.

Signature:_____ Name:_____

Date: _____

The data validator generates a Data Validation Report, applicable to Data Validation Tiers II and III, that consists of the following components in the order specified below: (Refer to Section 11 for a description of each of the Data Validation Report components).

1. Organic Regional Data Assessment/Inorganic Regional Data Assessment (ORDA/IRDA) Form
2. Data Validation Memorandum
   a. Narrative
   b. Table I-Qualifier Recommendation Summary Table
   c. Table II-Overall Evaluation of Data
   d. Table III-Tentatively Identified Compounds
   e. Data Summary Tables
3. Standard Data Validation Worksheets
   a. Manual
   b. Automated Data Review Reports (i.e., CADRE)
4. Support Documentation
   a. Copy of non-CLP analytical method, e.g., DAS methods, modified EPA methods
   b. Copies of PES Score Reports/Vendor PES QC Acceptance Limits
   c. Copies of Telephone Logs/Communication Forms for:
      - RSCC communications
      - Requests for laboratory data resubmissions/clarifications
      - Communications with samplers resolving sampling problems
      - Communications with TPO/Lead Chemist to report contractually-deficient data for rejection/reduced payment
      - Communications with EPA Site Manager concerning possible data rejection
      - EPA Site Manager authorization for alternate DV tier
   d. Copies of data supporting recommendations for reduced payment resulting from CSF Audit and/or PE sample result evaluation
   e. Original data to support recommendations for data rejection/non-payment identified from Tier II or Tier III data validation
   f. Copies of field sampling notes and/or field report supplied by field sampler
   g. Copies of EPA-approved amendments to QAPjP and/or SAP describing modified criteria to be used for validating site data
5. CSF Completeness Evidence Audit
6. DQO Summary Form

The data validator is responsible for implementing all corrective actions required by the contractor Lead Chemist in response to EPA-NE data validation oversight findings.

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

See DV report

| VOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
| | | | | | |

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

See DV report

| SEMIVOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
| | | | | | |

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____ Date: _____

See DV report

COMPLETE SDG FILE (CSF) AUDIT

Organic Fractions: _____

| Missing Information | Date Lab Contacted | Date Received |
|---|---|---|
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Validator: _____ Date: _____

See DV report

Sampler:_____ Company:_____ Contacted: Yes No Date:_____

**I. PRESERVATION AND HOLDING TIMES -** Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

| Sample No. (TR No.) | Matrix | Pres. Code | Date Sampled | VOA | | | BNA | | | | | PEST/PCB | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Date Analyzed | # of Days from Samp. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action |
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**Preservation Code:**
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

**(*Extraction Code:)**
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

**Action Code:**
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: _____ Date: _____

See DV report

## II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

| Volatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
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| | | | | | | | |
| Comments: | | | | | | | |

| Semivolatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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| | | | | | | | |
| Comments: | | | | | | | |

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Validator:_____ Date:_____

EPA-NE - Data Validation Worksheet
**VOA/SV-III**

See DV report

**III. INITIAL CALIBRATION** - List all analytes that are outside calibration criteria.

| Date of ICAL | Instrument | Parameter | Matrix | Compound | % RSD | $\overline{RRF}$ | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|
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Comments:

Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet

**VOA/SV-IV**

See DV report

**IV. CONTINUING CALIBRATION** - List all analytes that are outside calibration criteria.

| Date of ICAL | Date of CCAL | Instrument | Parameter | Matrix | Compound | %D | RRF | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|
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Comments:

Validator:_____

Date:_____

See DV report

## V. BLANK ANALYSIS

List the blank contamination below. Concentration Level:_____

Sampler: _____ Company: _____ Contacted: Yes No Date:_____

### 1. Laboratory: Method, Storage and Instrument Blanks

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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### 2. Field: Equipment (Rinsate), Trip and Bottle Blanks

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

See DV report

3. **Blank Actions** - List the maximum concentrations of blank compounds.

| Compound | Type of Blank | Date Blank Sampled/Originated | Max. Conc. (units) | Action Level (units) | Sample QL | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Comments: _____

_____

Validator: _____ Date: _____

See DV report

EPA-NE - Data Validation Worksheet
**VOA-VI**

**VI. VOA SURROGATE SPIKE RECOVERIES** - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Volatile Method QC Acceptance Criteria | | | | |
|---|---|---|---|---|---|
| | Toluene-$d_8$ | BFB | DCE-$d_4$ | Other: | |
| OLM03.2 | Water 88-110 Soil 84-138 | Water 86-115 Soil 59-113 | Water 76-114 Soil 70-121 | | |
| OLC02.1 | NA | 80-120 | NA | | |
| Other: | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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Validator:_____ Date:_____

See DV report



**VI. SV SURROGATE SPIKE RECOVERIES** - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Base/Neutral Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | NBZ-$d_5$ | 2-FBP | TPH-$d_{14}$ | 1,2-DCB-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>35-114 23-120 | Water Soil<br>43-116 30-115 | Water Soil<br>33-141 18-137 | Water Soil<br>16-110 20-130 | | |
| OLC02.1 | 40-110 | 30-110 | 20-140 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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| Method | Acid Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | Phenol-$d_5$ | 2-FP | 2,4,6-TBP | 2-CP-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>10-110 24-113 | Water Soil<br>21-110 25-121 | Water Soil<br>10-123 19-122 | Water Soil<br>33-110 20-130 | | |
| OLC02.1 | 15-115 | 15-110 | 15-130 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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* Advisory Surrogates - OLM03.2

Validator: _____ Date: _____

See DV report

EPA-NE - Data Validation Worksheet
**VOA/SV-VII**

## VII. INTERNAL STANDARD PERFORMANCE

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria:_____
IS Retention Time method QC acceptance criteria:_____

| Sample Number (TR#) | Date and Time Analyzed | Instrument | Parameter | IS Outside Area Count and/or RT Criteria | __IS Area | RT Shift | Acceptable Range (IS area or RT shift) | Action |
|---|---|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

See DV report

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-VIII**

**VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE** - List all MS/MSD analytes that are outside method QC acceptance criteria. Use a separate worksheet for each MS/MSD pair.

Sample # _____ Matrix _____ Concentration Level _____

| Parameter | Compound | MS %Rec | MSD %Rec | RPD | Method QC Limits | | Concentration | | | % RSD | Action |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | % Rec | RPD | Unspiked Sample | MS | MSD | | |
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Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-IX**

Not Applicable

**IX. FIELD DUPLICATE PRECISION** - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number _____ Duplicate Sample Number _____ Matrix _____

| Parameter | Compound | Sample Conc. | Sample QL | | Duplicate Conc. | Duplicate QL | | RPD | QC Acceptance Criteria RPD or NA* | Action |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | SQL | 2xSQL | | SQL | 2xSQL | | | |
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* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? Y N

Comments: _____

_____

Sampler Name: _____ Contractor Name: _____ Date Contacted: _____

Reason for Contact and resolution obtained: _____

Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-X**

See DV report

## X. SENSITIVITY CHECK (Method Detection Limit Study)

List all compounds, surrogates, and internal standards that are outside the MDL criteria.

- Has an appropriate MDL study been submitted with seven replicates for each compound and matrix of interest? Y N
- Date of Preparation/Analysis: _____ Within 1 year? Y N
- Instrument I.D.: _____ Same as samples? Y N
- Column I.D.: _____ Same as samples? Y N

| Matrix | Compound | MDL > QL | Method QC Limits < 80% or > 120% | IS Outside Area Count and/or RT Criteria | RSD > 20% | Samples Affected | Action |
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If an MDL study has not been submitted, use only the LFB results to evaluate data.

**(Laboratory Fortified Blank)** - List all LFB compounds, surrogates and internal standards that are outside criteria.

- Has an appropriate and complete LFB been submitted at the proper frequency? Y N
- Does it contain all target compounds at the method-required QLs? Y N
- Was the LFB spiked with a standard from a source (vendor) independent of the calibration standard? Y N

| Matrix | Compound | Method QC Limits < 60% or > 140% Other: | IS Outside Area Count and/or RT Criteria | Samples Affected | Action |
|---|---|---|---|---|---|
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Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-XI**

See DV report

**XI. ACCURACY CHECK (Performance Evaluation Results)** - List all analytes that are outside criteria.

SDG No: _____ CASE: _____

Are more than one-half of the PES analytes within criteria for each parameter. **Y N**

| PE Sample Number | Ampule Number | Parameter | Type of PES | Matrix | Analyte | Conc. | Region I EPA PES Scores* | Non-EPA PES Scores** | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|---|
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* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Validator: _____ Date: _____

See DV report

**XII. TARGET COMPOUND IDENTIFICATION** - List the analytes that are outside the acceptance criteria.

| Sample Number | Compound | ___MS Ions | _____RRT | Action |
|---|---|---|---|---|
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Validator: _____

Date: _____

See DV report

## XIII. SAMPLE QUANTITATION

Recalculate, from the raw data, the concentrations for one positive detect and one reported sample quantitation limit for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C.1.a, requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one sample quantitation limit calculation on this worksheet.)

Do all soil/sediment samples have % solids greater than 30%? Y N
If no, list sample numbers_____

| Fraction | | Calculation |
|---|---|---|
| **VOA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **BNA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **Pesticide/PCB** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |

Validator:_____ Date:_____

See DV report

## XIV. TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

List the 5 TICs having the highest concentration for each sample parameter.

| Sample Number | Parameter | Compound | RRT | Est. Conc. | Action |
|---|---|---|---|---|---|
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Validator: _____

Date: _____

See DV report

## XV. SEMIVOLATILE CLEANUP - List all analytes that are outside method cleanup QC criteria.

| Cleanup Procedure | Instrument # or Lot # | Date/Time GPC Calibrated or Check Solution Analyzed | Compound | % Rec | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Did the GPC column meet; resolution requirements? Y or N
peak shape requirements? Y or N
retention time shift requirements? Y or N

Was the GPC calibration, Silica Gel cleanup checked at the method required frequency with correct compounds and concentrations? Y or N

Were all compounds less than QL for the GPC/Silica Gel/Acid-Partition blank? Y or N

Did the blank surrogate recoveries and IS area counts and RTs (if added) meet method QC acceptance criteria? Y or N

Comments:_____

Validator:_____ Date:_____

# APPENDIX D

## SUPPORT DOCUMENTATION

# HOLDTIME

PROJ_NO 02634

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1059 | PMOIS | % | 06SBDUP01-20110615 | K1059-05A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB21-1517-20110616 | K1059-08A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SBDUP02-20110615 | K1059-11A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB28-2325-20110614 | K1059-02A | NM | 06/14/2011 | 07/06/2011 | 07/06/2011 | 22 | 0 | 22 |
| K1059 | PMOIS | % | 06SB28-1820-20110614 | K1059-01A | NM | 06/14/2011 | 07/06/2011 | 07/06/2011 | 22 | 0 | 22 |
| K1059 | PMOIS | % | 06SB26-2426-20110617 | K1059-15A | NM | 06/17/2011 | 07/06/2011 | 07/06/2011 | 19 | 0 | 19 |
| K1059 | PMOIS | % | 06SB26-1416-20110617 | K1059-14A | NM | 06/17/2011 | 07/06/2011 | 07/06/2011 | 19 | 0 | 19 |
| K1059 | PMOIS | % | 06SB24-1719-20110615 | K1059-06A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB23-0911-20110616 | K1059-13A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SB23-0709-20110616 | K1059-12A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SB22-1719-20110615 | K1059-04A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB21-1719-20110616 | K1059-09A | NM | 06/16/2011 | 07/06/2011 | 07/06/2011 | 20 | 0 | 20 |
| K1059 | PMOIS | % | 06SB22-0911-20110615 | K1059-03A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1059 | PMOIS | % | 06SB24-1921-20110615 | K1059-07A | NM | 06/15/2011 | 07/06/2011 | 07/06/2011 | 21 | 0 | 21 |
| K1100 | PMOIS | % | 06SB2S-1820-20110621 | K1100-05A | NM | 06/21/2011 | 07/11/2011 | 07/11/2011 | 20 | 0 | 20 |
| K1100 | PMOIS | % | 06SB27-0911-20110620 | K1100-01A | NM | 06/20/2011 | 07/11/2011 | 07/11/2011 | 21 | 0 | 21 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100 | PMOIS | % | 06SB27-1315-20110620 | K1100-02A | NM | 06/20/2011 | 07/11/2011 | 07/11/2011 | 21 | 0 | 21 |
| K1100 | PMOIS | % | 06SB2S-0507-20110621 | K1100-04A | NM | 06/21/2011 | 07/11/2011 | 07/11/2011 | 20 | 0 | 20 |
| K1059 | OV | UG/KG | 06SB21-1517-20110616 | K1059-08B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB26-1416-20110617 | K1059-14B | NM | 06/17/2011 | 06/23/2011 | 06/23/2011 | 6 | 0 | 6 |
| K1059 | OV | UG/KG | 06SB23-0709-20110616 | K1059-12B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB22-1719-20110615 | K1059-04B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB23-0911-20110616 | K1059-13B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB24-1719-20110615 | K1059-06B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB24-1921-20110615 | K1059-07B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB21-1719-20110616 | K1059-09B | NM | 06/16/2011 | 06/23/2011 | 06/23/2011 | 7 | 0 | 7 |
| K1059 | OV | UG/KG | 06SB28-1820-20110614 | K1059-01B | NM | 06/14/2011 | 06/23/2011 | 06/23/2011 | 9 | 0 | 9 |
| K1059 | OV | UG/KG | 06SB28-2325-20110614 | K1059-02B | NM | 06/14/2011 | 06/23/2011 | 06/23/2011 | 9 | 0 | 9 |
| K1059 | OV | UG/KG | 06SBDUP01-20110615 | K1059-05B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SB22-0911-20110615 | K1059-03B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06SBDUP02-20110615 | K1059-11B | NM | 06/15/2011 | 06/23/2011 | 06/23/2011 | 8 | 0 | 8 |
| K1059 | OV | UG/KG | 06TBSO-20110614 | K1059-10B | NM | 06/14/2011 | 06/23/2011 | 06/23/2011 | 9 | 0 | 9 |
| K1059 | OV | UG/KG | 06SB26-2426-20110617 | K1059-15B | NM | 06/17/2011 | 06/23/2011 | 06/23/2011 | 6 | 0 | 6 |
| K1100 | OV | UG/KG | 06TBSO-20110620 | K1100-03B | NM | 06/20/2011 | 06/27/2011 | 06/27/2011 | 7 | 0 | 7 |
| K1100 | OV | UG/KG | 06SB27-0911-20110620 | K1100-01B | NM | 06/20/2011 | 06/27/2011 | 06/27/2011 | 7 | 0 | 7 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100 | OV | UG/KG | 06SB27-1315-20110620 | K1100-02B | NM | 06/20/2011 | 06/27/2011 | 06/27/2011 | 7 | 0 | 7 |
| K1100 | OV | UG/KG | 06SB2S-1820-20110621 | K1100-05B | NM | 06/21/2011 | 06/27/2011 | 06/27/2011 | 6 | 0 | 6 |
| K1100 | OV | UG/KG | 06SB2S-0507-20110621 | K1100-04B | NM | 06/21/2011 | 06/27/2011 | 06/27/2011 | 6 | 0 | 6 |
| K1100 | OV | UG/L | 06RB-20110621 | K1100-06A | NM | 06/21/2011 | 06/28/2011 | 06/28/2011 | 7 | 0 | 7 |
| K1100 | OV | UG/L | 06TBAQ-20110621 | K1100-07A | NM | 06/21/2011 | 06/28/2011 | 06/28/2011 | 7 | 0 | 7 |
| K1059 | TPH | MG/KG | 06SB23-0911-20110616 | K1059-13A | NM | 06/16/2011 | 06/22/2011 | 06/24/2011 | 6 | 2 | 8 |
| K1059 | TPH | MG/KG | 06SB21-1517-20110616 | K1059-08A | NM | 06/16/2011 | 06/22/2011 | 06/24/2011 | 6 | 2 | 8 |
| K1059 | TPH | MG/KG | 06SB21-1719-20110616 | K1059-09A | NM | 06/16/2011 | 06/22/2011 | 06/27/2011 | 6 | 5 | 11 |
| K1059 | TPH | MG/KG | 06SB22-0911-20110615 | K1059-03A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB24-1719-20110615 | K1059-06A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB24-1921-20110615 | K1059-07A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB26-1416-20110617 | K1059-14A | NM | 06/17/2011 | 06/22/2011 | 06/27/2011 | 5 | 5 | 10 |
| K1059 | TPH | MG/KG | 06SB26-2426-20110617 | K1059-15A | NM | 06/17/2011 | 06/22/2011 | 06/27/2011 | 5 | 5 | 10 |
| K1059 | TPH | MG/KG | 06SBDUP02-20110615 | K1059-11A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB23-0709-20110616 | K1059-12A | NM | 06/16/2011 | 06/22/2011 | 06/24/2011 | 6 | 2 | 8 |
| K1059 | TPH | MG/KG | 06SBDUP01-20110615 | K1059-05A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB22-1719-20110615 | K1059-04A | NM | 06/15/2011 | 06/22/2011 | 06/24/2011 | 7 | 2 | 9 |
| K1059 | TPH | MG/KG | 06SB28-2325-20110614 | K1059-02A | NM | 06/14/2011 | 06/22/2011 | 06/24/2011 | 8 | 2 | 10 |
| K1059 | TPH | MG/KG | 06SB28-1820-20110614 | K1059-01A | NM | 06/14/2011 | 06/22/2011 | 06/24/2011 | 8 | 2 | 10 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1100 | TPH | MG/KG | 06SB2S-0507-20110621RE | K1100-04ARE | RE | 06/21/2011 | 07/14/2011 | 07/14/2011 | 23 | 0 | 23 |
| K1100 | TPH | MG/KG | 06SB27-0911-20110620 | K1100-01A | NM | 06/20/2011 | 07/01/2011 | 07/12/2011 | 11 | 11 | 22 |
| K1100 | TPH | MG/KG | 06SB27-0911-20110620RE | K1100-01ARE | RE | 06/20/2011 | 07/14/2011 | 07/14/2011 | 24 | 0 | 24 |
| K1100 | TPH | MG/KG | 06SB2S-1820-20110621 | K1100-05A | NM | 06/21/2011 | 07/01/2011 | 07/12/2011 | 10 | 11 | 21 |
| K1100 | TPH | MG/KG | 06SB2S-0507-20110621 | K1100-04A | NM | 06/21/2011 | 07/01/2011 | 07/12/2011 | 10 | 11 | 21 |
| K1100 | TPH | MG/KG | 06SB27-1315-20110620RE | K1100-02ARE | RE | 06/20/2011 | 07/14/2011 | 07/14/2011 | 24 | 0 | 24 |
| K1100 | TPH | MG/KG | 06SB27-1315-20110620 | K1100-02A | NM | 06/20/2011 | 07/01/2011 | 07/12/2011 | 11 | 11 | 22 |
| K1100 | TPH | MG/KG | 06SB2S-1820-20110621RE | K1100-05ARE | RE | 06/21/2011 | 07/14/2011 | 07/15/2011 | 23 | 1 | 24 |
| K1100 | TPH | MG/L | 06RB-20110621 | K1100-06B | NM | 06/21/2011 | 06/28/2011 | 06/29/2011 | 7 | 1 | 8 |

REPORT NARRATIVE

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London, Soils**

**Laboratory Workorder / SDG #: K1100**

**SW846 8260C, VOC by GC-MS**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times. Sample aliquots for low level analysis, contained in pre-weighed vials preserved with DI water, were frozen upon receipt at the laboratory, within less than 48 hours of sample collection. Samples were initially frozen in the field, then after pick-up were held overnight at the Spectrum, Agawam, MA laboratory freezer prior to transfer to Spectrum, Warwick, RI (Mitkem).

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: SW846 8260C, for the BTEX plus MTBE list of compounds.

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW5030

Soil Samples were prepared following procedures in laboratory test code: SW5035

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: V1
Instrument Type: GCMS-VOA
Description: HP5890 II / HP5972
Manufacturer: Hewlett-Packard
Model: 5890 / 5972
GC Column used: 30 m X 0.25 mm ID [1.40 um thickness] DB-624 capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with the following exceptions. Please note that the acceptance criteria allow one surrogate recovery outside of the QC limits per fraction.

06SB2S-1820-20110621 (K1100-05BMSD), recovery is above criteria for Bromofluorobenzene at 121% with criteria of (77-111).

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

2. **Matrix Spike / Matrix Spike Duplicate (MS/MSD):**

Matrix spikes were performed on sample: 06SB2S-1820-20110621 (K1100-05BMS/MSD).

Percent recoveries and replicate RPDs were within the QC limits.

**E. Internal Standards:**

Internal standard peak areas were within the QC limits.

**F. Dilutions:**

No sample in this SDG required analysis at dilution.

**G. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Mitkem, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:____ _____

Date:_____7/27/11_____

REPORT NARRATIVE

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London, Soils**

**Laboratory Workorder / SDG #: K1100**

**CT ETPH, CT ETPH by GC-FID**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

## II. HOLDING TIMES

### A. Sample Preparation:

All soil samples were initially prepared within the method-specified holding times. Due to somewhat low QC recoveries in the initial extraction batch, all soil samples were re re-extracted beyond the holding time:

06SB27-0911-20110620 (K1100-01ARE) exceed by-10 Days
06SB27-1315-20110620 (K1100-02ARE) exceed by-10 Days
06SB2S-0507-20110621 (K1100-04ARE) exceed by-9 Days
06SB2S-1820-20110621 (K1100-05ARE) exceed by-9 Days

The MS/MSD on sample 06SB2S-1820-20110621 was also re-extracted. The initial extraction for these samples, as well as the only extraction for aqueous sample 06RB-20110621 were prepared within the holding time.

Results for both the initial and re-extraction batches are included in this report. Please note that sample results are similar between the initial and reextraction batch, with the exception of sample 06SB2S-1820-20110621, which initially had an ETPH concentration of 540mg/Kg and in the re-extraction had an increased ETPH concentration of 1400mg/Kg.

The initial extraction batch is number 60160, and the re-extraction

batch is number 60418, and is identified by the letters RE appended to the lab sample ID on the raw data.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times from sample extraction.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH.

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510
Soil Samples were prepared following procedures in laboratory test code: SW3545A
Soil Samples re-extractions were prepared following procedures in laboratory test code: SW3550

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits with

the following exceptions.

06SB2S-0507-20110621 (K1100-04A), recovery is below criteria for ortho-Terphenyl at 36% with criteria of (50-150). The re-extraction of this sample had improved surrogate recovery, within the QC limits. Results for both analyses are reported.

06SB2S-1820-20110621 (K1100-05A), recovery is below criteria for ortho-Terphenyl at 49% with criteria of (50-150). The re-extraction of this sample had improved surrogate recovery, within the QC limits. Results for both analyses are reported.

**D. Spikes:**

**1. Laboratory Control Spikes (LCS):**

Percent recoveries for lab control samples were within the QC limits with the following exceptions.

LCS-60160 in batch 60160 in the initial extraction batch, Percent Recovery is outside QC Limits, recovery is marginally below criteria for Extractable Total Petroleum Hydrocarbon at 51% with criteria of (60-140), indicating a potential low bias. The batch was re-extracted with improved percent recovery.

**2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):**

Matrix spikes were performed on sample: 06SB2S-1820-20110621 (K1100-05AMS/MSD) Percent recoveries were outside of the QC limits, with generally high recovery in the MS/MSD from the initial extraction batch, and 0% recovery in the MS/MSD from the re-extraction batch. This is due to the change in the concentration of the native unspiked sample between the initial and reextraction batch.

**E. Dilutions:**

The following samples were analyzed at dilution:

06SB2S-1820-20110621 (K1100-05AMSDRE): Dilution Factor: 4
06SB2S-1820-20110621 (K1100-05AMSRE): Dilution Factor: 4
06SB2S-1820-20110621 (K1100-05ARE): Dilution Factor: 4

**F. Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum RI, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:_____ _____

Date:_____7/27/11_____

MITKEM LABORATORIES

A DIVISION OF SPECTRUM ANALYTICAL, INC. Featuring HANIBAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD

Page 1 of 1

**Special Handling:**

TAT- Indicate Date Needed: _____

- All TATs subject to laboratory approval. Min. 24-hour notification needed for rushes.
- Samples disposed of after 60 days unless otherwise instructed.

Report To: Dave Kane
240 Continental Dr.
Suite 200
Newark DE 19713

Project Mgr.: Dave Kane

Invoice To: _____

P.O. No.: _____ RQN: _____

Project No.: 112620 2634
Site Name: Polaris Park
Location: Groton CT State: _____
Sampler(s): R Clark

1=$Na_2S_2O_3$ 2=HCl 3=$H_2SO_4$ 4=$HNO_3$ 5=NaOH 6=Ascorbic Acid 7=$CH_3OH$
8= $NaHSO_4$ 9= MeOH 10= DI 11= _____

List preservative code below: 9+10 – 2

Notes:

DW=Drinking Water GW=Groundwater WW=Wastewater
O=Oil SW= Surface Water SO=Soil SL=Sludge A=Air
X1= _____ X2= _____ X3= _____

G=Grab C=Composite

Containers: # of VOA Vials, # of Amber Glass, # of Clear Glass, # of Plastic

Analyses: BTEX, GTPH, BTEX, ~~[illegible]~~

QA/QC Reporting Level
☐ Level I ☐ Level II
☐ Level III ☐ Level IV
☐ Other _____

State specific reporting standards: _____

| Lab Id: | Sample Id: | Date: | Time: | Type | Matrix | # of VOA Vials | # of Amber Glass | # of Clear Glass | # of Plastic | BTEX | GTPH | BTEX | ~~[illegible]~~ | Notes |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 06SB27-0911 | 20110620 | 1310 | g | SO | 3 | | 1 | | ✓ | ✓ | | | Frozen 6/20/11 6pm |
| 2 | 06SB27-1315 | 20110620 | 1335 | g | SO | 3 | | 1 | | ✓ | ✓ | | | Frozen 6/20/11 6pm |
| 3 | 06TBSO-20110620 | 6/20/11 | 1200 | g | ~~[illegible]~~ | 3 | | — | | ✓ | ~~[illegible]~~ RC | | | |
| 4 | 06SB25-0507 | 20110621 | 0840 | g | SO | 3 | | 1 | | ✓ | ✓ | | | Frozen 6/21/11 7pm |
| 5 | 06SB25-1820 | 20110621 | 1030 | g | SO | 6 | | 2 | | ✓ | ✓ | | | Lab QC MS/MSD ↓ |
| 6 | 06RB-20110621 | 6/21/11 | 1045 | g | AQ | 2 | 2 | | | ~~[illegible]~~ | ✓ | ✓ | | Rinsate |
| 7 | 06TBAQ-20110621 | 6/21/11 | 0900 | g | AQ | 2 | | | | ~~[illegible]~~ RC | | ✓ | | |

☐ E-mail to _____

EDD Format _____

| Relinquished by: | Received by: | Date: | Time: |
|---|---|---|---|
| [signature] | [signature] | 6/23/11 | 1030 |
| [signature] | [signature] | 6/24/11 | 1120 |

Condition upon receipt: ☒ Iced ☐ Ambient ☐ °C 6.0c



175 Metro Center Boulevard • Warwick, RI 02886-1755 • 401-732-3400 • Fax 401-732-3499 • www.mitkem.com

# SPECTRUM ANALYTICAL, INC. RI DIVISION

## Sample Condition Form

Page 1 of 1

| | | | |
|---|---|---|---|
| Received By: SV | Reviewed By: [illegible] | Date: 6/24/11 | Mitkem Work Order #: K1100 |
| Client Project: New London | | Client: Tetra Navy | |

| Lab Sample ID | | Preservation (pH) $HNO_3$ | $H_2SO_4$ | HCl | NaOH | $H_3PO_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|
| K1100 | 01 | | | | | | F/M | |
| | 02 | | | | | | | |
| | 03 | | | | | | | |
| | 04 | | | | | | | |
| | 05 | | | | | | F/M | |
| | 06 | | | | | | H | |
| K1100 | 07 | | | | | | H | |

1) Cooler Sealed — Yes / No

2) Custody Seal(s) — Present / Absent
Coolers / Bottles
Intact / Broken

3) Custody Seal Number(s) — NA

4) Chain-of-Custody — Present / Absent

5) Cooler Temperature — 6.0°C
IR Temp Gun ID — M7-1
Coolant Condition — ice

6) Airbill(s) — Present / Absent
Airbill Number(s) — courier

7) Samples Bottles — Intact / Broken / Leaking

8) Date Received — 6/24/11

9) Time Received — 11:00

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1F

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1404.D BFB Injection Date: 06/01/2011

Instrument ID: V1 BFB Injection Time: 11:43

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19.3 |
| 75 | 30.0 - 60.0% of mass 95 | 37.0 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 6.2 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 68.7 |
| 175 | 5.0 - 9.0% of mass 174 | 5.8 (8.4)1 |
| 176 | 95.0 - 101.0% of mass 174 | 66.3 (96.5)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.3 (6.4)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501F | VSTD0501F | V1M1405.D | 06/01/2011 | 11:59 |
| 02 | VSTD0201F | VSTD0201F | V1M1406.D | 06/01/2011 | 12:48 |
| 03 | VSTD0051F | VSTD0051F | V1M1407.D | 06/01/2011 | 13:18 |
| 04 | VSTD2001F | VSTD2001F | V1M1408.D | 06/01/2011 | 13:50 |
| 05 | VSTD1001F | VSTD1001F | V1M1409.D | 06/01/2011 | 14:22 |
| 06 | VICV0501F | VICV0501F | V1M1410.D | 06/01/2011 | 14:54 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1P

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1630.D BFB Injection Date: 06/22/2011

Instrument ID: V1 BFB Injection Time: 7:57

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 19.6 |
| 75 | 30.0 - 60.0% of mass 95 | 37.2 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 8.0 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 79.4 |
| 175 | 5.0 - 9.0% of mass 174 | 4.6 (5.9)1 |
| 176 | 95.0 - 101.0% of mass 174 | 76.3 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 4.4 (5.8)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0201P | VSTD0201P | V1M1633.D | 06/22/2011 | 9:07 |
| 02 | VSTD0501P | VSTD0501P | V1M1634.D | 06/22/2011 | 9:34 |
| 03 | VSTD1001P | VSTD1001P | V1M1635.D | 06/22/2011 | 10:02 |
| 04 | VSTD2001P | VSTD2001P | V1M1636.D | 06/22/2011 | 10:30 |
| 05 | VSTD0051P | VSTD0051P | V1M1640.D | 06/22/2011 | 12:41 |
| 06 | VICV0501P | VICV0501P | V1M1643.D | 06/22/2011 | 15:06 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1S

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1710.D BFB Injection Date: 06/27/2011

Instrument ID: V1 BFB Injection Time: 9:13

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 20.5 |
| 75 | 30.0 - 60.0% of mass 95 | 34.1 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 7.5 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 90.8 |
| 175 | 5.0 - 9.0% of mass 174 | 4.6 (5.1)1 |
| 176 | 95.0 - 101.0% of mass 174 | 87.0 (95.8)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.1 (5.9)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501S | VSTD0501S | V1M1712.D | 06/27/2011 | 10:14 |
| 02 | LCS-60011 | LCS-60011 | V1M1713.D | 06/27/2011 | 11:05 |
| 03 | MB-60011 | MB-60011 | V1M1715.D | 06/27/2011 | 12:08 |
| 04 | 06SB27-0911-20110620 | K1100-01B | V1M1727.D | 06/27/2011 | 17:44 |
| 05 | 06SB27-1315-20110620 | K1100-02B | V1M1728.D | 06/27/2011 | 18:12 |
| 06 | 06SB2~~7~~5-0507-20110621 | K1100-04B | V1M1729.D | 06/27/2011 | 18:40 |
| 07 | 06SB2~~7~~5-1820-20110621 | K1100-05B | V1M1730.D | 06/27/2011 | 19:08 |
| 08 | 06TBSO-20110620 | K1100-03B | V1M1732.D | 06/27/2011 | 20:03 |

JD
9-9-11

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1T

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1743.D BFB Injection Date: 06/28/2011

Instrument ID: V1 BFB Injection Time: 8:40

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 21.1 |
| 75 | 30.0 - 60.0% of mass 95 | 38.8 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 5.8 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 79.1 |
| 175 | 5.0 - 9.0% of mass 174 | 6.9 (8.7)1 |
| 176 | 95.0 - 101.0% of mass 174 | 75.9 (96.0)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.5 (7.3)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501T | VSTD0501T | V1M1745.D | 06/28/2011 | 9:32 |
| 02 | LCS-60018 | LCS-60018 | V1M1746.D | 06/28/2011 | 10:09 |
| 03 | LCSD-60018 | LCSD-60018 | V1M1747.D | 06/28/2011 | 10:37 |
| 04 | MB-60018 | MB-60018 | V1M1749.D | 06/28/2011 | 11:32 |
| 05 | 06TBAQ-20110621 | K1100-07A | V1M1756.D | 06/28/2011 | 14:46 |
| 06 | 06RB-20110621 | K1100-06A | V1M1757.D | 06/28/2011 | 15:15 |

5A - FORM V VOA
VOLATILE ORGANIC INSTRUMENT
PERFORMANCE CHECK
BROMOFLUOROBENZENE (BFB)

EPA SAMPLE NO.

BFB1V

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1801.D BFB Injection Date: 06/30/2011

Instrument ID: V1 BFB Injection Time: 8:06

GC Column: DB-624 ID: 0.25 (mm)

| m/e | ION ABUNDANCE CRITERIA | % RELATIVE ABUNDANCE |
|---|---|---|
| 50 | 15.0 - 40.0% of mass 95 | 17.9 |
| 75 | 30.0 - 60.0% of mass 95 | 37.8 |
| 95 | Base peak, 100% relative abundance | 100.0 |
| 96 | 5.0 - 9.0% of mass 95 | 6.7 |
| 173 | Less than 2.0% of mass 174 | 0.0 (0.0)1 |
| 174 | 50.0 - 100.0% of mass 95 | 87.9 |
| 175 | 5.0 - 9.0% of mass 174 | 7.9 (9.0)1 |
| 176 | 95.0 - 101.0% of mass 174 | 86.0 (97.8)1 |
| 177 | 5.0 - 9.0% of mass 176 | 5.2 (6.0)2 |

1 - Value is % mass 174 2 - Value is % mass 176

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|---|
| 01 | VSTD0501V | VSTD0501V | V1M1804.D | 06/30/2011 | 9:40 |
| 02 | LCS-60105 | LCS-60105 | V1M1805.D | 06/30/2011 | 10:17 |
| 03 | MB-60105 | MB-60105 | V1M1807.D | 06/30/2011 | 11:27 |
| 04 | 06SB2S-1820-20110621MS | K1100-05BMS | V1M1823.D | 06/30/2011 | 18:45 |
| 05 | 06SB2S-1820-20110621MSD | K1100-05BMSD | V1M1824.D | 06/30/2011 | 19:12 |

JD
9-9-11

6A - FORM VI VOA-1

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/01/2011 06/01/2011

Heated Purge: (Y/N) N Calibration Time(s): 11:59 14:22

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1407.D RRF020 = V1M1406.D

RRF050 = V1M1405.D RRF100 = V1M1409.D RRF200 = V1M1408.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.712 | 0.676 | 0.676 | 0.716 | 0.719 | 0.700 | 3.1 |
| Benzene | 1.036 | 0.987 | 0.919 | 0.957 | 0.980 | 0.976 | 4.4 |
| Toluene | 1.062 | 0.995 | 0.931 | 0.984 | 1.009 | 0.996 | 4.7 |
| Ethylbenzene | 0.468 | 0.439 | 0.420 | 0.469 | 0.476 | 0.454 | 5.3 |
| m,p-Xylene | 0.597 | 0.551 | 0.529 | 0.574 | 0.585 | 0.567 | 4.8 |
| o-Xylene | 0.546 | 0.548 | 0.512 | 0.565 | 0.561 | 0.546 | 3.8 |

6B - FORM VI VOA-2

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/01/2011 06/01/2011

Heated Purge: (Y/N) N Calibration Time(s): 11:59 14:22

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1407.D RRF020 = V1M1406.D

RRF050 = V1M1405.D RRF100 = V1M1409.D RRF200 = V1M1408.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 0.301 | 0.302 | 0.307 | 0.284 | 0.296 | 0.298 | 3.0 |
| 1,2-Dichloroethane-d4 | 0.062 | 0.062 | 0.064 | 0.064 | 0.063 | 0.063 | 1.8 |
| Toluene-d8 | 1.163 | 1.139 | 1.141 | 1.179 | 1.173 | 1.159 | 1.6 |
| Bromofluorobenzene | 0.494 | 0.494 | 0.477 | 0.483 | 0.495 | 0.489 | 1.7 |

6A - FORM VI VOA-1

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 9:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.555 | 0.543 | 0.645 | 0.466 | 0.582 | 0.558 | 11.6 |
| Benzene | 1.075 | 0.959 | 1.230 | 0.868 | 1.044 | 1.035 | 13.1 |
| Toluene | 1.063 | 0.967 | 1.217 | 0.863 | 1.034 | 1.029 | 12.7 |
| Ethylbenzene | 0.530 | 0.449 | 0.533 | 0.395 | 0.483 | 0.478 | 12.1 |
| m,p-Xylene | 0.627 | 0.587 | 0.652 | 0.506 | 0.600 | 0.594 | 9.3 |
| o-Xylene | 0.627 | 0.569 | 0.612 | 0.481 | 0.574 | 0.573 | 9.9 |

6B - FORM VI VOA-2

VOLATILE ORGANICS INITIAL CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date(s): 06/22/2011 06/22/2011

Heated Purge: (Y/N) Y Calibration Time(s): 9:07 12:41

Purge Volume: 5.0 (mL)

GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

LAB FILE ID: RRF005 = V1M1640.D RRF020 = V1M1633.D

RRF050 = V1M1634.D RRF100 = V1M1635.D RRF200 = V1M1636.D

| COMPOUND | RRF005 | RRF020 | RRF050 | RRF100 | RRF200 | $\overline{RRF}$ | %RSD |
|---|---|---|---|---|---|---|---|
| Dibromofluoromethane | 0.299 | 0.268 | 0.292 | 0.212 | 0.237 | 0.262 | 14.1 |
| 1,2-Dichloroethane-d4 | 0.069 | 0.067 | 0.073 | 0.050 | 0.057 | 0.063 | 14.9 |
| Toluene-d8 | 1.430 | 1.313 | 1.337 | 1.025 | 1.127 | 1.247 | 13.3 |
| Bromofluorobenzene | 0.547 | 0.507 | 0.499 | 0.379 | 0.438 | 0.474 | 13.9 |

# ICV Report
## V1
## V1 110601A
## VICV0501F
## 06/01/2011 14:54

| AT | Analyte | Spike Am | CalcVal | Recovery | Low Limit | High Limit |
|---|---|---|---|---|---|---|
| A | Dichlorodifluoromethane | 50.00 | 45.65 | 91.3 | 80 | 120 |
| A | Chloromethane | 50.00 | 49.15 | 98.3 | 80 | 120 |
| A | Vinyl chloride | 50.00 | 48.62 | 97.2 | 80 | 120 |
| A | Bromomethane | 50.00 | 47.07 | 94.1 | 80 | 120 |
| A | Chloroethane | 50.00 | 48.62 | 97.2 | 80 | 120 |
| A | Trichlorofluoromethane | 50.00 | 45.21 | 90.4 | 80 | 120 |
| A | 1,1-Dichloroethene | 50.00 | 53.08 | 106.2 | 80 | 120 |
| A | Acetone | 50.00 | 55.31 | 110.6 | 80 | 120 |
| A | Iodomethane | 50.00 | 50.05 | 100.1 | 80 | 120 |
| A | Carbon disulfide | 50.00 | 49.31 | 98.6 | 80 | 120 |
| A | Methylene chloride | 50.00 | 56.79 | 113.6 | 80 | 120 |
| A | trans-1,2-Dichloroethene | 50.00 | 47.12 | 94.2 | 80 | 120 |
| A | Methyl tert-butyl ether | 50.00 | 49.32 | 98.6 | 80 | 120 |
| A | 1,1-Dichloroethane | 50.00 | 50.05 | 100.1 | 80 | 120 |
| A | Vinyl acetate | 50.00 | 49.92 | 99.8 | 80 | 120 |
| A | 2-Butanone | 50.00 | 56.25 | 112.5 | 80 | 120 |
| A | cis-1,2-Dichloroethene | 50.00 | 49.79 | 99.6 | 80 | 120 |
| A | 2,2-Dichloropropane | 50.00 | 44.88 | 89.8 | 80 | 120 |
| A | Bromochloromethane | 50.00 | 47.27 | 94.5 | 80 | 120 |
| A | Chloroform | 50.00 | 46.91 | 93.8 | 80 | 120 |
| A | 1,1,1-Trichloroethane | 50.00 | 42.85 | 85.7 | 80 | 120 |
| A | 1,1-Dichloropropene | 50.00 | 46.86 | 93.7 | 80 | 120 |
| A | Carbon tetrachloride | 50.00 | 43.61 | 87.2 | 80 | 120 |
| A | 1,2-Dichloroethane | 50.00 | 44.50 | 89.0 | 80 | 120 |
| A | Benzene | 50.00 | 49.06 | 98.1 | 80 | 120 |
| A | Trichloroethene | 50.00 | 45.43 | 90.9 | 80 | 120 |
| A | 1,2-Dichloropropane | 50.00 | 49.13 | 98.3 | 80 | 120 |
| A | Dibromomethane | 50.00 | 47.78 | 95.6 | 80 | 120 |
| A | Bromodichloromethane | 50.00 | 45.98 | 92.0 | 80 | 120 |
| A | cis-1,3-Dichloropropene | 50.00 | 46.68 | 93.4 | 80 | 120 |
| A | 4-Methyl-2-pentanone | 50.00 | 51.73 | 103.5 | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | Toluene | 50.00 | 49.46 | 98.9 | | 80 | 120 |
| A | trans-1,3-Dichloropropene | 50.00 | 47.21 | 94.4 | | 80 | 120 |
| A | 1,1,2-Trichloroethane | 50.00 | 51.56 | 103.1 | | 80 | 120 |
| A | 1,3-Dichloropropane | 50.00 | 48.51 | 97.0 | | 80 | 120 |
| A | Tetrachloroethene | 50.00 | 48.13 | 96.3 | | 80 | 120 |
| A | 2-Hexanone | 50.00 | 52.71 | 105.4 | | 80 | 120 |
| A | Dibromochloromethane | 50.00 | 49.11 | 98.2 | | 80 | 120 |
| A | 1,2-Dibromoethane | 50.00 | 49.99 | 100.0 | | 80 | 120 |
| A | Chlorobenzene | 50.00 | 49.41 | 98.8 | | 80 | 120 |
| A | 1,1,1,2-Tetrachloroethane | 50.00 | 46.67 | 93.3 | | 80 | 120 |
| A | Ethylbenzene | 50.00 | 49.42 | 98.8 | | 80 | 120 |
| A | m,p-Xylene | 100.0 | 96.67 | 96.7 | | 80 | 120 |
| A | o-Xylene | 50.00 | 49.27 | 98.5 | | 80 | 120 |
| A | Styrene | 50.00 | 50.03 | 100.1 | | 80 | 120 |
| A | Bromoform | 50.00 | 49.83 | 99.7 | | 80 | 120 |
| A | Isopropylbenzene | 50.00 | 47.88 | 95.8 | | 80 | 120 |
| A | 1,1,2,2-Tetrachloroethane | 50.00 | 51.31 | 102.6 | | 80 | 120 |
| A | Bromobenzene | 50.00 | 47.84 | 95.7 | | 80 | 120 |
| A | 1,2,3-Trichloropropane | 50.00 | 49.41 | 98.8 | | 80 | 120 |
| A | n-Propylbenzene | 50.00 | 50.54 | 101.1 | | 80 | 120 |
| A | 2-Chlorotoluene | 50.00 | 48.94 | 97.9 | | 80 | 120 |
| A | 1,3,5-Trimethylbenzene | 50.00 | 48.92 | 97.8 | | 80 | 120 |
| A | 4-Chlorotoluene | 50.00 | 49.30 | 98.6 | | 80 | 120 |
| A | tert-Butylbenzene | 50.00 | 49.94 | 99.9 | | 80 | 120 |
| A | 1,2,4-Trimethylbenzene | 50.00 | 49.12 | 98.2 | | 80 | 120 |
| A | sec-Butylbenzene | 50.00 | 51.45 | 102.9 | | 80 | 120 |
| A | 4-Isopropyltoluene | 50.00 | 50.40 | 100.8 | | 80 | 120 |
| A | 1,3-Dichlorobenzene | 50.00 | 49.21 | 98.4 | | 80 | 120 |
| A | 1,4-Dichlorobenzene | 50.00 | 49.78 | 99.6 | | 80 | 120 |
| A | n-Butylbenzene | 50.00 | 51.13 | 102.3 | | 80 | 120 |
| A | 1,2-Dichlorobenzene | 50.00 | 48.89 | 97.8 | | 80 | 120 |
| A | 1,2-Dibromo-3-chloropropane | 50.00 | 46.42 | 92.8 | | 80 | 120 |
| A | 1,2,4-Trichlorobenzene | 50.00 | 51.82 | 103.6 | | 80 | 120 |
| A | Hexachlorobutadiene | 50.00 | 50.12 | 100.2 | | 80 | 120 |
| A | 1,2,3-Trichlorobenzene | 50.00 | 52.04 | 104.1 | | 80 | 120 |
| A | Naphthalene | 50.00 | 51.78 | 103.6 | | 80 | 120 |
| M | Xylene (Total) | 150.0 | 145.9 | 97.3 | | 80 | 120 |
| X | 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.00 | 60.06 | 120.1 | S | 80 | 120 |
| X | 1,2-Dichloroethene, Total | 100.0 | 96.91 | 96.9 | | 80 | 120 |

| | | | | | | |
|---|---|---|---|---|---|---|
| X | 1,2-Dichlorotetrafluoroethane | 50.00 | 54.03 | 108.1 | 80 | 120 |
| X | 1,4-Dioxane | 1000 | 976.8 | 97.7 | 80 | 120 |
| X | 1-Chlorohexane | 50.00 | 49.25 | 98.5 | 80 | 120 |
| X | 2-Chloro-1,3-butadiene | 50.00 | 46.61 | 93.2 | 80 | 120 |
| X | 2-Chloroethyl vinyl ether | 50.00 | 51.54 | 103.1 | 80 | 120 |
| X | Acetonitrile | 500.0 | 511.8 | 102.4 | 80 | 120 |
| X | Acrolein | 250.0 | 242.2 | 96.9 | 80 | 120 |
| X | Acrylonitrile | 50.00 | 52.24 | 104.5 | 80 | 120 |
| X | Allyl chloride | 50.00 | 42.73 | 85.5 | 80 | 120 |
| X | Cyclohexane | 50.00 | 50.48 | 101.0 | 80 | 120 |
| X | Diethyl ether | 50.00 | 50.49 | 101.0 | 80 | 120 |
| X | Diisopropyl ether | 50.00 | 49.36 | 98.7 | 80 | 120 |
| X | Ethanol | 5000 | 4367 | 87.3 | 80 | 120 |
| X | Ethyl methacrylate | 50.00 | 50.16 | 100.3 | 80 | 120 |
| X | Ethyl tert-butyl ether | 50.00 | 47.80 | 95.6 | 80 | 120 |
| X | Hexachloroethane | 50.00 | 48.04 | 96.1 | 80 | 120 |
| X | Isobutyl alcohol | 1000 | 1087 | 108.7 | 80 | 120 |
| X | Methacrylonitrile | 100.0 | 104.1 | 104.1 | 80 | 120 |
| X | Methyl acetate | 50.00 | 50.97 | 101.9 | 80 | 120 |
| X | Methyl methacrylate | 50.00 | 49.88 | 99.8 | 80 | 120 |
| X | Methylcyclohexane | 50.00 | 52.72 | 105.4 | 80 | 120 |
| X | Propionitrile | 500.0 | 517.3 | 103.5 | 80 | 120 |
| X | tert-Amyl Methyl ether | 50.00 | 48.71 | 97.4 | 80 | 120 |
| X | tert-Butyl Alcohol | 100.0 | 100.4 | 100.4 | 80 | 120 |
| X | Tetrahydrofuran | 100.0 | 107.3 | 107.3 | 80 | 120 |
| X | trans-1,4-Dichloro-2-butene | 50.00 | 51.67 | 103.3 | 80 | 120 |

# ICV Report
## V1
## V1 110622A
## VICV0501P
## 06/22/2011 15:06

| AT | Analyte | Spike Am | CalcVal | Recovery | Low Limit | High Limit |
|---|---|---|---|---|---|---|
| A | Dichlorodifluoromethane | 50.00 | 56.16 | 112.3 | 80 | 120 |
| A | Chloromethane | 50.00 | 53.27 | 106.5 | 80 | 120 |
| A | Vinyl chloride | 50.00 | 53.24 | 106.5 | 80 | 120 |
| A | Bromomethane | 50.00 | 49.79 | 99.6 | 80 | 120 |
| A | Chloroethane | 50.00 | 53.02 | 106.0 | 80 | 120 |
| A | Trichlorofluoromethane | 50.00 | 49.55 | 99.1 | 80 | 120 |
| A | 1,1-Dichloroethene | 50.00 | 56.02 | 112.0 | 80 | 120 |
| A | Acetone | 50.00 | 55.33 | 110.7 | 80 | 120 |
| A | Iodomethane | 50.00 | 47.21 | 94.4 | 80 | 120 |
| A | Carbon disulfide | 50.00 | 48.84 | 97.7 | 80 | 120 |
| A | Methylene chloride | 50.00 | 50.17 | 100.3 | 80 | 120 |
| A | trans-1,2-Dichloroethene | 50.00 | 54.70 | 109.4 | 80 | 120 |
| A | Methyl tert-butyl ether | 50.00 | 51.18 | 102.4 | 80 | 120 |
| A | 1,1-Dichloroethane | 50.00 | 53.12 | 106.2 | 80 | 120 |
| A | Vinyl acetate | 50.00 | 50.00 | 100.0 | 80 | 120 |
| A | 2-Butanone | 50.00 | 52.89 | 105.8 | 80 | 120 |
| A | cis-1,2-Dichloroethene | 50.00 | 51.23 | 102.5 | 80 | 120 |
| A | 2,2-Dichloropropane | 50.00 | 48.44 | 96.9 | 80 | 120 |
| A | Bromochloromethane | 50.00 | 52.30 | 104.6 | 80 | 120 |
| A | Chloroform | 50.00 | 51.29 | 102.6 | 80 | 120 |
| A | 1,1,1-Trichloroethane | 50.00 | 53.20 | 106.4 | 80 | 120 |
| A | 1,1-Dichloropropene | 50.00 | 52.38 | 104.8 | 80 | 120 |
| A | Carbon tetrachloride | 50.00 | 51.71 | 103.4 | 80 | 120 |
| A | 1,2-Dichloroethane | 50.00 | 48.67 | 97.3 | 80 | 120 |
| A | Benzene | 50.00 | 53.89 | 107.8 | 80 | 120 |
| A | Trichloroethene | 50.00 | 51.96 | 103.9 | 80 | 120 |
| A | 1,2-Dichloropropane | 50.00 | 51.26 | 102.5 | 80 | 120 |
| A | Dibromomethane | 50.00 | 52.95 | 105.9 | 80 | 120 |
| A | Bromodichloromethane | 50.00 | 51.76 | 103.5 | 80 | 120 |
| A | cis-1,3-Dichloropropene | 50.00 | 51.56 | 103.1 | 80 | 120 |
| A | 4-Methyl-2-pentanone | 50.00 | 51.08 | 102.2 | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| A | Toluene | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | trans-1,3-Dichloropropene | 50.00 | 51.97 | 103.9 | | 80 | 120 |
| A | 1,1,2-Trichloroethane | 50.00 | 52.29 | 104.6 | | 80 | 120 |
| A | 1,3-Dichloropropane | 50.00 | 50.45 | 100.9 | | 80 | 120 |
| A | Tetrachloroethene | 50.00 | 55.32 | 110.6 | | 80 | 120 |
| A | 2-Hexanone | 50.00 | 48.99 | 98.0 | | 80 | 120 |
| A | Dibromochloromethane | 50.00 | 49.25 | 98.5 | | 80 | 120 |
| A | 1,2-Dibromoethane | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| A | Chlorobenzene | 50.00 | 50.52 | 101.0 | | 80 | 120 |
| A | 1,1,1,2-Tetrachloroethane | 50.00 | 52.23 | 104.5 | | 80 | 120 |
| A | Ethylbenzene | 50.00 | 53.67 | 107.3 | | 80 | 120 |
| A | m,p-Xylene | 100.0 | 107.2 | 107.2 | | 80 | 120 |
| A | o-Xylene | 50.00 | 53.92 | 107.8 | | 80 | 120 |
| A | Styrene | 50.00 | 53.87 | 107.7 | | 80 | 120 |
| A | Bromoform | 50.00 | 52.59 | 105.2 | | 80 | 120 |
| A | Isopropylbenzene | 50.00 | 54.49 | 109.0 | | 80 | 120 |
| A | 1,1,2,2-Tetrachloroethane | 50.00 | 52.46 | 104.9 | | 80 | 120 |
| A | Bromobenzene | 50.00 | 56.08 | 112.2 | | 80 | 120 |
| A | 1,2,3-Trichloropropane | 50.00 | 50.68 | 101.4 | | 80 | 120 |
| A | n-Propylbenzene | 50.00 | 56.19 | 112.4 | | 80 | 120 |
| A | 2-Chlorotoluene | 50.00 | 54.57 | 109.1 | | 80 | 120 |
| A | 1,3,5-Trimethylbenzene | 50.00 | 55.99 | 112.0 | | 80 | 120 |
| A | 4-Chlorotoluene | 50.00 | 55.21 | 110.4 | | 80 | 120 |
| A | tert-Butylbenzene | 50.00 | 55.49 | 111.0 | | 80 | 120 |
| A | 1,2,4-Trimethylbenzene | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| A | sec-Butylbenzene | 50.00 | 56.17 | 112.3 | | 80 | 120 |
| A | 4-Isopropyltoluene | 50.00 | 57.00 | 114.0 | | 80 | 120 |
| A | 1,3-Dichlorobenzene | 50.00 | 52.32 | 104.6 | | 80 | 120 |
| A | 1,4-Dichlorobenzene | 50.00 | 53.43 | 106.9 | | 80 | 120 |
| A | n-Butylbenzene | 50.00 | 56.87 | 113.7 | | 80 | 120 |
| A | 1,2-Dichlorobenzene | 50.00 | 54.27 | 108.5 | | 80 | 120 |
| A | 1,2-Dibromo-3-chloropropane | 50.00 | 47.16 | 94.3 | | 80 | 120 |
| A | 1,2,4-Trichlorobenzene | 50.00 | 54.95 | 109.9 | | 80 | 120 |
| A | Hexachlorobutadiene | 50.00 | 60.29 | 120.6 | S | 80 | 120 |
| A | 1,2,3-Trichlorobenzene | 50.00 | 52.28 | 104.6 | | 80 | 120 |
| A | Naphthalene | 50.00 | 52.05 | 104.1 | | 80 | 120 |
| M | Xylene (Total) | 150.0 | 161.1 | 107.4 | | 80 | 120 |
| X | 1,1,2-Trichloro-1,2,2-trifluoroethane | 50.00 | 51.31 | 102.6 | | 80 | 120 |
| X | 1,4-Dioxane | 1000 | 936.4 | 93.6 | | 80 | 120 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| X | 1-Chlorohexane | 50.00 | 55.23 | 110.5 | | 80 | 120 |
| X | 2-Chloroethyl vinyl ether | 50.00 | 35.14 | 70.3 | S | 80 | 120 |
| X | Acetonitrile | 500.0 | 257.7 | 51.5 | S | 80 | 120 |
| X | Acrolein | 250.0 | 244.8 | 97.9 | | 80 | 120 |
| X | Acrylonitrile | 50.00 | 53.61 | 107.2 | | 80 | 120 |
| X | Cyclohexane | 50.00 | 53.47 | 106.9 | | 80 | 120 |
| X | Diethyl ether | 50.00 | 52.98 | 106.0 | | 80 | 120 |
| X | Diisopropyl ether | 50.00 | 51.19 | 102.4 | | 80 | 120 |
| X | Ethanol | 5000 | 4796 | 95.9 | | 80 | 120 |
| X | Ethyl tert-butyl ether | 50.00 | 50.70 | 101.4 | | 80 | 120 |
| X | Methyl acetate | 50.00 | 51.26 | 102.5 | | 80 | 120 |
| X | Methylcyclohexane | 50.00 | 56.28 | 112.6 | | 80 | 120 |
| X | tert-Amyl Methyl ether | 50.00 | 49.59 | 99.2 | | 80 | 120 |
| X | tert-Butyl Alcohol | 100.0 | 115.5 | 115.5 | | 80 | 120 |
| X | Tetrahydrofuran | 100.0 | 93.11 | 93.1 | | 80 | 120 |
| X | trans-1,4-Dichloro-2-butene | 50.00 | 52.52 | 105.0 | | 80 | 120 |

7A - FORM VII VOA-1

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/27/2011 Time: 10:14

Lab File ID: V1M1712.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501S Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.558 | 0.562 | 0.010 | 0.6 | 20.0 |
| Benzene | 1.035 | 1.112 | 0.010 | 7.4 | 20.0 |
| Toluene | 1.029 | 1.055 | 0.010 | 2.5 | 20.0 |
| Ethylbenzene | 0.478 | 0.514 | 0.010 | 7.4 | 20.0 |
| m,p-Xylene | 0.594 | 0.655 | 0.010 | 10.2 | 20.0 |
| o-Xylene | 0.573 | 0.621 | 0.010 | 8.4 | 20.0 |

7B - FORM VII VOA-2

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/27/2011 Time: 10:14

Lab File ID: V1M1712.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501S Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.262 | 0.253 | 0.010 | -3.2 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.058 | 0.010 | -7.7 | 20.0 |
| Toluene-d8 | 1.247 | 1.238 | 0.010 | -0.7 | 20.0 |
| Bromofluorobenzene | 0.474 | 0.455 | 0.010 | -4.0 | 20.0 |

7A - FORM VII VOA-1

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/28/2011 Time: 9:32

Lab File ID: V1M1745.D Init. Calib. Date(s): 06/01/2011 06/01/2011

EPA Sample No.(VSTD#####) VSTD0501T Init. Calib. Time(s): 11:59 14:22

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.700 | 0.576 | 0.010 | -17.7 | 20.0 |
| Benzene | 0.976 | 0.983 | 0.010 | 0.7 | 20.0 |
| Toluene | 0.996 | 0.977 | 0.010 | -1.9 | 20.0 |
| Ethylbenzene | 0.454 | 0.439 | 0.010 | -3.4 | 20.0 |
| m,p-Xylene | 0.567 | 0.552 | 0.010 | -2.7 | 20.0 |
| o-Xylene | 0.546 | 0.540 | 0.010 | -1.2 | 20.0 |

7B - FORM VII VOA-2

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/28/2011 Time: 9:32

Lab File ID: V1M1745.D Init. Calib. Date(s): 06/01/2011 06/01/2011

EPA Sample No.(VSTD#####) VSTD0501T Init. Calib. Time(s): 11:59 14:22

Heated Purge: (Y/N) N GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.298 | 0.261 | 0.010 | -12.5 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.060 | 0.010 | -4.0 | 20.0 |
| Toluene-d8 | 1.159 | 1.241 | 0.010 | 7.1 | 20.0 |
| Bromofluorobenzene | 0.489 | 0.482 | 0.010 | -1.4 | 20.0 |

7A - FORM VII VOA-1

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/30/2011 Time: 9:40

Lab File ID: V1M1804.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501V Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Methyl tert-butyl ether | 0.558 | 0.569 | 0.010 | 1.9 | 20.0 |
| Benzene | 1.035 | 1.179 | 0.010 | 13.9 | 20.0 |
| Toluene | 1.029 | 1.134 | 0.010 | 10.3 | 20.0 |
| Ethylbenzene | 0.478 | 0.538 | 0.010 | 12.6 | 20.0 |
| m,p-Xylene | 0.594 | 0.680 | 0.010 | 14.5 | 20.0 |
| o-Xylene | 0.573 | 0.645 | 0.010 | 12.6 | 20.0 |

7B - FORM VII VOA-2

VOLATILE CONTINUING CALIBRATION DATA

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Instrument ID: V1 Calibration Date: 06/30/2011 Time: 9:40

Lab File ID: V1M1804.D Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####) VSTD0501V Init. Calib. Time(s): 9:07 12:41

Heated Purge: (Y/N) Y GC Column: DB-624 ID: 0.25 (mm) Length: 30 (m)

Purge Volume: 5.0 (mL)

| COMPOUND | $\overline{RRF}$ | RRF050 | MIN RRF | %D | MAX %D |
|---|---|---|---|---|---|
| Dibromofluoromethane | 0.262 | 0.242 | 0.010 | -7.6 | 20.0 |
| 1,2-Dichloroethane-d4 | 0.063 | 0.053 | 0.010 | -16.0 | 20.0 |
| Toluene-d8 | 1.247 | 1.216 | 0.010 | -2.5 | 20.0 |
| Bromofluorobenzene | 0.474 | 0.471 | 0.010 | -0.7 | 20.0 |

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-60011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1715.D Lab Sample ID: MB-60011

Instrument ID: V1

Matrix: (SOIL/SED/WATER) SOIL Date Analyzed: 06/27/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 12:08

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-60011 | LCS-60011 | V1M1713.D | 11:05 |
| 02 | 06SB27-0911-20110620 | K1100-01B | V1M1727.D | 17:44 |
| 03 | 06SB27-1315-20110620 | K1100-02B | V1M1728.D | 18:12 |
| 04 | 06SB25-0507-20110621 | K1100-04B | V1M1729.D | 18:40 |
| 05 | 06SB25-1820-20110621 | K1100-05B | V1M1730.D | 19:08 |
| 06 | 06TBSO-20110620 | K1100-03B | V1M1732.D | 20:03 |

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9-9-11

COMMENTS:

som11.07.01.A



SW846

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-60011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-60011

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1715.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/27/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1749.D Lab Sample ID: MB-60018

Instrument ID: V1

Matrix: (SOIL/SED/WATER) WATER Date Analyzed: 06/28/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 11:32

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) N

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-60018 | LCS-60018 | V1M1746.D | 10:09 |
| 02 | LCSD-60018 | LCSD-60018 | V1M1747.D | 10:37 |
| 03 | 06TBAQ-20110621 | K1100-07A | V1M1756.D | 14:46 |
| 04 | 06RB-20110621 | K1100-06A | V1M1757.D | 15:15 |

COMMENTS:

som11.07.01.A



SW846

1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) WATER Lab Sample ID: MB-60018

Sample wt/vol: 5.00 (g/mL) ML Lab File ID: V1M1749.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. Date Analyzed: 06/28/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 5.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/L | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 0.50 | U | 0.24 | 0.50 | 5.0 |
| 71-43-2 | Benzene | 0.50 | U | 0.33 | 0.50 | 5.0 |
| 108-88-3 | Toluene | 0.50 | U | 0.32 | 0.50 | 5.0 |
| 100-41-4 | Ethylbenzene | 0.50 | U | 0.35 | 0.50 | 5.0 |
| 1330-20-7 | m,p-Xylene | 1.0 | U | 0.77 | 1.0 | 5.0 |
| 95-47-6 | o-Xylene | 0.50 | U | 0.36 | 0.50 | 5.0 |
| 1330-20-7 | Xylene (Total) | 1.0 | U | 0.36 | 1.0 | 5.0 |

4A - FORM IV VOA

VOLATILE METHOD BLANK SUMMARY

CLIENT SAMPLE NO.

MB-60105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab File ID: V1M1807.D Lab Sample ID: MB-60105

Instrument ID: V1

Matrix: (SOIL/SED/WATER) SOIL Date Analyzed: 06/30/2011

Level: (TRACE or LOW/MED) LOW Time Analyzed: 11:27

GC Column: DB-624 ID: 0.25 (mm) Heated Purge: (Y/N) Y

| | EPA SAMPLE NO. | LAB SAMPLE ID | LAB FILE ID | TIME ANALYZED |
|---|---|---|---|---|
| 01 | LCS-60105 | LCS-60105 | V1M1805.D | 10:17 |
| 02 | 06SB2~~S~~5-1820-20110621MS | K1100-05BMS | V1M1823.D | 18:45 |
| 03 | 06SB2~~S~~5-1820-20110621MSD | K1100-05BMSD | V1M1824.D | 19:12 |

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COMMENTS:

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1A - FORM I VOA-1

VOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

MB-60105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix: (SOIL/SED/WATER) SOIL Lab Sample ID: MB-60105

Sample wt/vol: 5.00 (g/mL) G Lab File ID: V1M1807.D

Level: (TRACE/LOW/MED) LOW Date Received:

% Moisture: not dec. 0.0 Date Analyzed: 06/30/2011

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

Purge Volume: 10.0 (mL)

| CAS NO. | COMPOUND | CONCENTRATION: µG/KG | Q | DL | LOD | LOQ |
|---|---|---|---|---|---|---|
| 1634-04-4 | Methyl tert-butyl ether | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 71-43-2 | Benzene | 2.0 | U | 0.61 | 2.0 | 5.0 |
| 108-88-3 | Toluene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 100-41-4 | Ethylbenzene | 2.0 | U | 0.50 | 2.0 | 5.0 |
| 1330-20-7 | m,p-Xylene | 4.0 | U | 1.6 | 4.0 | 5.0 |
| 95-47-6 | o-Xylene | 2.0 | U | 0.47 | 2.0 | 5.0 |
| 1330-20-7 | Xylene (Total) | 2.0 | U | 0.47 | 2.0 | 5.0 |

2B - FORM II VOA-2

WATER VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Level: (TRACE or LOW) LOW

| | CLIENT SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 01 | LCS-60018 | 87 | 103 | 106 | 100 | | | | 0 |
| 02 | LCSD-60018 | 88 | 94 | 106 | 101 | | | | 0 |
| 03 | MB-60018 | 86 | 99 | 106 | 95 | | | | 0 |
| 04 | 06TBAQ-20110621 | 91 | 98 | 105 | 93 | | | | 0 |
| 05 | 06RB-20110621 | 85 | 101 | 102 | 93 | | | | 0 |

| | | QC LIMITS |
|---|---|---|
| VDMC1 | (DBFM) Dibromofluoromethane | (85-115) |
| VDMC2 | (DCE) = 1,2-Dichloroethane-d4 | (70-120) |
| VDMC3 | (TOL) = Toluene-d8 | (85-120) |
| VDMC4 | (BFB) = Bromofluorobenzene | (75-120) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

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2D - FORM II VOA-4

SOIL VOLATILE DEUTERATED MONITORING COMPOUND RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Level: (LOW/MED) LOW

| | CLIENT SAMPLE NO. | VDMC1 (DBFM) # | VDMC2 (DCE) # | VDMC3 (TOL) # | VDMC4 (BFB) # | | | | TOT OUT |
|---|---|---|---|---|---|---|---|---|---|
| 01 | LCS-60011 | 97 | 95 | 99 | 101 | | | | 0 |
| 02 | MB-60011 | 98 | 91 | 103 | 101 | | | | 0 |
| 03 | 06SB27-0911-20110620 | 94 | 91 | 102 | 96 | | | | 0 |
| 04 | 06SB27-1315-20110620 | 92 | 83 | 90 | 95 | | | | 0 |
| 05 | 06SB25-0507-20110621 | 97 | 81 | 101 | 99 | | | | 0 |
| 06 | 06SB25-1820-20110621 | 95 | 77 | 104 | 100 | | | | 0 |
| 07 | 06TBSO-20110620 | 95 | 80 | 100 | 101 | | | | 0 |
| 08 | LCS-60105 | 96 | 88 | 104 | 100 | | | | 0 |
| 09 | MB-60105 | 95 | 82 | 105 | 100 | | | | 0 |
| 10 | 06SB25-1820-20110621MS | 95 | 83 | 102 | 105 | | | | 0 |
| 11 | 06SB25-1820-20110621MSD | 95 | 72 | 103 | 121 * | | | | 1 |

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| | | QC LIMITS |
|---|---|---|
| VDMC1 | (DBFM) Dibromofluoromethane | (65-132) |
| VDMC2 | (DCE) =1,2-Dichloroethane-d4 | (65-128) |
| VDMC3 | (TOL) =Toluene-d8 | (85-115) |
| VDMC4 | (BFB) =Bromofluorobenzene | (77-111) |

# Column to be used to flag recovery values

* Values outside of contract required QC limits

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3 - FORM III
SOIL LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-60011

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCS-60011 LCS Lot No.:

Date Extracted: 06/27/2011 Date Analyzed (1): 06/27/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 50.6344 | 101 | | 75 - 126 |
| Benzene | 50.0000 | 0.0000 | 57.2146 | 114 | | 75 - 125 |
| Toluene | 50.0000 | 0.0000 | 55.7930 | 112 | | 70 - 125 |
| Ethylbenzene | 50.0000 | 0.0000 | 58.3472 | 117 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 114.9872 | 115 | | 80 - 125 |
| o-Xylene | 50.0000 | 0.0000 | 56.5518 | 113 | | 75 - 125 |
| Xylene (Total) | 150.0000 | 0.0000 | 171.5390 | 114 | | 83 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCS-60018 LCS Lot No.:

Date Extracted: 06/28/2011 Date Analyzed (1): 06/28/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 43.4457 | 87 | | 65 - 125 |
| Benzene | 50.0000 | 0.0000 | 48.1648 | 96 | | 80 - 120 |
| Toluene | 50.0000 | 0.0000 | 44.9450 | 90 | | 75 - 120 |
| Ethylbenzene | 50.0000 | 0.0000 | 43.5957 | 87 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 90.4271 | 90 | | 75 - 130 |
| o-Xylene | 50.0000 | 0.0000 | 46.1703 | 92 | | 80 - 120 |
| Xylene (Total) | 150.0000 | 0.0000 | 136.5974 | 91 | | 81 - 121 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3 - FORM III
SOIL LABORATORY CONTROL
SAMPLE RECOVERY

CLIENT SAMPLE NO.

LCS-60105

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCS-60105 LCS Lot No.:

Date Extracted: 06/30/2011 Date Analyzed (1): 06/30/2011

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | LCS CONCENTRATION | LCS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 0.0000 | 55.5903 | 111 | | 75 - 126 |
| Benzene | 50.0000 | 0.0000 | 58.6914 | 117 | | 75 - 125 |
| Toluene | 50.0000 | 0.0000 | 57.1020 | 114 | | 70 - 125 |
| Ethylbenzene | 50.0000 | 0.0000 | 58.3228 | 117 | | 75 - 125 |
| m,p-Xylene | 100.0000 | 0.0000 | 115.6322 | 116 | | 80 - 125 |
| o-Xylene | 50.0000 | 0.0000 | 57.4384 | 115 | | 75 - 125 |
| Xylene (Total) | 150.0000 | 0.0000 | 173.0706 | 115 | | 83 - 125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3 - FORM III
WATER LABORATORY CONTROL
SAMPLE DUPLICATE RECOVERY

EPA SAMPLE NO.

LCSD-60018

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Lab Sample ID: LCSD-60018 LCS Lot No.:

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD %REC | # | %RPD | # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 50.0000 | 43.5056 | 87 | | 0 | | 40 | 65 - 125 |
| Benzene | 50.0000 | 44.8881 | 90 | | 6 | | 40 | 80 - 120 |
| Toluene | 50.0000 | 42.1028 | 84 | | 7 | | 40 | 75 - 120 |
| Ethylbenzene | 50.0000 | 43.2876 | 87 | | 0 | | 40 | 75 - 125 |
| m,p-Xylene | 100.0000 | 87.6213 | 88 | | 2 | | 40 | 75 - 130 |
| o-Xylene | 50.0000 | 44.7467 | 89 | | 3 | | 40 | 80 - 120 |
| Xylene (Total) | 150.0000 | 132.3680 | 88 | | 3 | | 40 | 81 - 121 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits

Spike Recovery: 0 out of 7 outside limits

COMMENTS:

3B - FORM III VOA-2

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

Matrix Spike - EPA Sample No.: 06SB2S-1820-20110621 Level: (LOW/MED) LOW

| COMPOUND | SPIKE ADDED (µg/Kg) | SAMPLE CONCENTRATION (µg/Kg) | MS CONCENTRATION (µg/Kg) | MS %REC | # | QC. LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 37.4603 | 0.0000 | 35.7854 | 96 | | 75-126 |
| Benzene | 37.4603 | 0.0000 | 36.9897 | 99 | | 75-125 |
| Toluene | 37.4603 | 0.0000 | 35.4062 | 95 | | 70-125 |
| Ethylbenzene | 37.4603 | 0.0000 | 35.7238 | 95 | | 75-125 |
| m,p-Xylene | 74.9206 | 0.0000 | 71.7639 | 96 | | 80-125 |
| o-Xylene | 37.4603 | 0.0000 | 36.8493 | 98 | | 75-125 |
| Xylene (Total) | 112.3810 | 0.0000 | 108.6132 | 97 | | 83-125 |

| COMPOUND | SPIKE ADDED (µg/Kg) | MSD CONCENTRATION (µg/Kg) | MSD %REC | # | %RPD | # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 35.5636 | 33.9241 | 95 | | 0 | | 0-40 | 75-126 |
| Benzene | 35.5636 | 34.1891 | 96 | | 3 | | 0-40 | 75-125 |
| Toluene | 35.5636 | 32.8718 | 92 | | 2 | | 0-40 | 70-125 |
| Ethylbenzene | 35.5636 | 33.4519 | 94 | | 1 | | 0-40 | 75-125 |
| m,p-Xylene | 71.1272 | 66.7973 | 94 | | 2 | | 0-40 | 80-125 |
| o-Xylene | 35.5636 | 34.5651 | 97 | | 1 | | 0-40 | 75-125 |
| Xylene (Total) | 106.6908 | 101.3624 | 95 | | 2 | | 0-40 | 83-125 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 7 outside limits

Spike Recovery: 0 out of 14 outside limits

COMMENTS:

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501S Date Analyzed: 06/27/2011

Lab File ID (Standard): V1M1712.D Time Analyzed: 10:14

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 561893 | 6.421 | 386662 | 10.114 | 181336 | 12.951 |
| | UPPER LIMIT | 1123786 | 6.921 | 773324 | 10.614 | 362672 | 13.451 |
| | LOWER LIMIT | 280947 | 5.921 | 193331 | 9.614 | 90668 | 12.451 |
| | SAMPLE NO. | | | | | | |
| 01 | LCS-60011 | 442607 | 6.416 | 308863 | 10.109 | 156646 | 12.956 |
| 02 | MB-60011 | 442136 | 6.421 | 305978 | 10.115 | 144023 | 12.951 |
| 03 | 06SB27-0911-20110620 | 458926 | 6.441 | 317833 | 10.124 | 143573 | 12.961 |
| 04 | 06SB27-1315-20110620 | 449571 | 6.431 | 312647 | 10.125 | 142754 | 12.962 |
| 05 | 06SB2~~7~~5-0507-20110621 | 444360 | 6.430 | 310415 | 10.123 | 144214 | 12.960 |
| 06 | 06SB2~~7~~5-1820-20110621 | 461240 | 6.431 | 307869 | 10.114 | 146077 | 12.961 |
| 07 | 06TBSO-20110620 | 439035 | 6.426 | 298632 | 10.119 | 132839 | 12.956 |

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IS1 () = Fluorobenzene

IS2 () = Chlorobenzene-d5

IS3 () = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/01/2011 06/01/2011

EPA Sample No.(VSTD#####): VSTD0501T Date Analyzed: 06/28/2011

Lab File ID (Standard): V1M1745.D Time Analyzed: 9:32

Instrument ID: V1 Heated Purge: (Y/N) N

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 573607 | 6.422 | 396074 | 10.125 | 205894 | 12.962 |
| | UPPER LIMIT | 1147214 | 6.922 | 792148 | 10.625 | 411788 | 13.462 |
| | LOWER LIMIT | 286804 | 5.922 | 198037 | 9.625 | 102947 | 12.462 |
| | SAMPLE NO. | | | | | | |
| 01 | LCS-60018 | 566142 | 6.425 | 406742 | 10.118 | 196551 | 12.955 |
| 02 | LCSD-60018 | 560521 | 6.439 | 395026 | 10.123 | 194408 | 12.960 |
| 03 | MB-60018 | 542986 | 6.436 | 384066 | 10.120 | 183590 | 12.967 |
| 04 | 06TBAQ-20110621 | 538402 | 6.430 | 393521 | 10.124 | 185704 | 12.961 |
| 05 | 06RB-20110621 | 536095 | 6.433 | 393666 | 10.127 | 185634 | 12.964 |

IS1 () = Fluorobenzene

IS2 () = Chlorobenzene-d5

IS3 () = 1,4-Dichlorobenzene-d4

AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area

AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area

RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT

RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

8A - FORM VIII VOA

VOLATILE INTERNAL STANDARD AREA AND RETENTION TIME SUMMARY

Lab Name: SPECTRUM ANALYTICAL, INC. Contract:

Lab Code: MITKEM Case No.: K1100 Mod. Ref No.: SDG No.: SK1100

GC Column: DB-624 ID: 0.25 (mm) Init. Calib. Date(s): 06/22/2011 06/22/2011

EPA Sample No.(VSTD#####): VSTD0501V Date Analyzed: 06/30/2011

Lab File ID (Standard): V1M1804.D Time Analyzed: 9:40

Instrument ID: V1 Heated Purge: (Y/N) Y

| | | IS1 (S1 ) AREA # | RT # | IS2 (S2 ) AREA # | RT # | IS3 (S3 ) AREA # | RT # |
|---|---|---|---|---|---|---|---|
| | 12 HOUR STD | 378961 | 6.426 | 263400 | 10.119 | 121468 | 12.956 |
| | UPPER LIMIT | 757922 | 6.926 | 526800 | 10.619 | 242936 | 13.456 |
| | LOWER LIMIT | 189481 | 5.926 | 131700 | 9.619 | 60734 | 12.456 |
| | SAMPLE NO. | | | | | | |
| 01 | LCS-60105 | 343655 | 6.437 | 237100 | 10.140 | 119194 | 12.967 |
| 02 | MB-60105 | 364360 | 6.431 | 247541 | 10.124 | 118759 | 12.961 |
| 03 | 06SB2~~S~~5-1820-20110621MS | 359490 | 6.445 | 245876 | 10.129 | 120588 | 12.966 |
| 04 | 06SB2~~S~~5-1820-20110621MSD | 366760 | 6.431 | 245412 | 10.115 | 126572 | 12.961 |

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IS1 () = Fluorobenzene
IS2 () = Chlorobenzene-d5
IS3 () = 1,4-Dichlorobenzene-d4
AREA UPPER LIMIT = 200% (Low-Medium Volatiles) and 140% (Trace Volatiles) of internal standard area
AREA LOWER LIMIT = 50% (Low-Medium Volatiles) and 60% (Trace Volatiles) of internal standard area
RT UPPER LIMIT = +0.50 (Low-Medium Volatiles) and +0.33 (Trace Volatiles) minutes of internal standard RT
RT LOWER LIMIT = -0.50 (Low-Medium Volatiles) and -0.33 (Trace Volatiles) minutes of internal standard RT

# Column used to flag values outside contract required QC limits with an asterisk.

Mitkem Laboratories
Volatiles Laboratory

Instrument V1 Injection Log

METHOD: 8260W
ICAL DATE: 6-1-11

ANALYST: [illegible]

BATCH: 110601.B

Start: 01-JUN-11 11:43
End: 01-JUN-11 14:54

Comments:

Standards: IS/SS VW110601A 400 uL
STD VW110519A ___ uL
ISN ___ uL
___ uL

Reviewed By: [illegible] 6/13/11

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1404 | 11:43 | BFB1F | BFB1F | | SL | | | | | | | | | 1 | | [illegible] | |
| V1M1405 | 11:59 | VSTD0501F | VSTD0501F | | AQ | | 100 | 100 | 100 | | | | | 1 | | [illegible] | |
| V1M1406 | 12:48 | VSTD0201F | VSTD0201F | | AQ | | 103 | 101 | 102 | | | | | 1 | | [illegible] | |
| V1M1407 | 13:18 | VSTD0051F | VSTD0051F | | AQ | | 99 | 98 | 97 | | | | | 1 | | [illegible] | |
| V1M1408 | 13:50 | VSTD2001F | VSTD2001F | | AQ | | 104 | 102 | 102 | | | | | 1 | | [illegible] | |
| V1M1409 | 14:22 | VSTD1001F | VSTD1001F | | AQ | | 108 | 103 | 102 | | | | | 1 | | [illegible] | |
| V1M1410 | 14:54 | VICV0501F | VICV0501F | | AQ | | 106 | 104 | 103 | 97 | 106 | 101 | 97 | 1 | E | [illegible] | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

[illegible] 6-2-11

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260L ANALYST: [illegible] BATCH: 110622.B Start: 22-JUN-11 07:57
ICAL DATE: 6-22-11 End: 22-JUN-11 15:06

Comments:

Standards: BFB VW110554A 2 uL
IS/SS VW110621A 1000 uL
STD VW110614A uL
ICV VW110614B 2.5 uL

Reviewed By: [illegible] 6/28/11

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1630 | 07:57 | BFB1P | BFB1P | | SL | | | | | | | | | 1 | | OK | |
| V1M1633 | 09:07 | VSTD0201P | VSTD0201P | | SL | | 110 | 99 | 97 | | | | | 1 | | OK 1 uL | |
| V1M1634 | 09:34 | VSTD0501P | VSTD0501P | | SL | | 100 | 100 | 100 | | | | | 1 | | OK 2.5 uL | |
| V1M1635 | 10:02 | VSTD1001P | VSTD1001P | | SL | | 111 | 101 | 101 | | | | | 1 | | OK 5 uL → 5 mL | |
| V1M1636 | 10:30 | VSTD2001P | VSTD2001P | | SL | | 112 | 103 | 105 | | | | | 1 | | OK 10 uL | |
| V1M1640 | 12:41 | VSTD0051P | VSTD0051P | | SL | | 101 | 94 | 92 | | | | | 1 | | OK 0.25 uL | |
| V1M1643 | 15:06 | VICV0501P | VICV0501P | | SL | | 103 | 97 | 94 | 99 | 85 | 98 | 94 | 1 | R | OK | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

[illegible] 6-23-11

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260-LOW-S ANALYST: [illegible] BATCH: 110627.B Start: 27-JUN-11 09:13
ICAL DATE: 6/22/11 End: 27-JUN-11 21:24

Comments:

Standards: BFB VW110504A 2 uL
ISBS VW110621A Auto uL
STD VW110614A 2.5 uL
uL

Reviewed By: [illegible] Manual Integration: NA MI Review: NA

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1710 | 09:13 | BFB1S | BFB1S | | SL | | | | | | | | | 1 | | OK | |
| V1M1711 | 09:31 | VSTD0501S | VSTD0501S | | | | 100 | 100 | 100 | | | | | 1 | | not used | |
| V1M1712 | 10:14 | VSTD0501S | VSTD0501S | | | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1713 | 11:05 | LCS-60011 | LCS-60011 | 60011 | SL | | 79 | 80 | 86 | 97 | 95 | 98 | 101 | 1 | R | OK | |
| V1M1714 | 11:41 | MB-60011 | MB-60011 | 60011 | SL | | 82 | 80 | 77 | 90 | 84 | 104 | 98 | 1 | | not used | |
| V1M1715 | 12:08 | MB-60011 | MB-60011 | 60011 | SL | | 79 | 79 | 79 | 98 | 91 | 103 | 101 | 1 | | OK | |
| V1M1716 | 12:36 | K1097-07B | SW-N-15 | 60011 | SL | 1 | 83 | 82 | 73 | 93 | 83 | 102 | 102 | 1 | E | NPTH=048 RR @ 1G | |
| V1M1717 | 13:04 | K1097-08B | SW-S-12.5 | 60011 | SL | 1 | 83 | 82 | 77 | 91 | 80 | 104 | 99 | 1 | | RR @ 1X | |
| V1M1718 | 13:31 | K1099-01A | SB-01-31-37 | 60011 | SL | 1 | 85 | 83 | 81 | 96 | 81 | 105 | 100 | 1 | | OK | |
| V1M1719 | 13:59 | K1099-02A | SB-04-133-137 | 60011 | SL | 1 | 84 | 82 | 81 | 95 | 82 | 103 | 98 | 1 | | OK | |
| V1M1720 | 14:27 | K1099-03A | SB-03-60-62 | 60011 | SL | 1 | 83 | 79 | 72 | 93 | 83 | 105 | 97 | 1 | E | PCE=495 RR@ 1G | |
| V1M1721 | 14:55 | K1097-08B | SW-S-12.5 | 60011 | SL | 1 | 82 | 81 | 82 | 96 | 85 | 103 | 100 | 1 | | OK | |
| V1M1722 | 15:23 | K1097-07B | SW-N-15 | 60011 | SL | 1 | 81 | 83 | 82 | 94 | 83 | 98 | 100 | 1 | | NPTH=115 OK | |
| V1M1723 | 15:51 | K1099-04A | SB-05-04-09 | 60011 | SL | 1 | 81 | 79 | 71 | 97 | 88 | 104 | 94 | 1 | | OK | |
| V1M1724 | 16:19 | K1099-05A | SB-02-03-12 | 60011 | SL | 1 | 81 | 80 | 78 | 98 | 80 | 104 | 101 | 1 | | OK | |
| V1M1725 | 16:47 | K1099-06A | SB-09-09-11 | 60011 | SL | 1 | 80 | 81 | 76 | 96 | 78 | 102 | 95 | 1 | | OK | |
| V1M1726 | 17:16 | K1099-07A | SB-59-09-11 | 60011 | SL | 1 | 81 | 80 | 75 | 92 | 76 | 100 | 97 | 1 | | OK | |
| V1M1727 | 17:44 | K1100-01B | 06SB27-0911-201 | 60011 | SL | 1 | 82 | 82 | 79 | 94 | 91 | 102 | 96 | 1 | | OK | |
| V1M1728 | 18:12 | K1100-02B | 06SB27-1315-201 | 60011 | SL | 1 | 80 | 81 | 79 | 92 | 83 | 90 | 95 | 1 | | OK | |
| V1M1729 | 18:40 | K1100-04B | 06SB2S-0507-201 | 60011 | SL | 1 | 79 | 80 | 80 | 97 | 81 | 100 | 99 | 1 | | OK | |
| V1M1730 | 19:08 | K1100-05B | 06SB2S-1820-201 | 60011 | SL | 1 | 82 | 80 | 81 | 95 | 77 | 104 | 100 | 1 | | OK | |
| V1M1731 | 19:36 | VBLK | VBLK | | | | 78 | 79 | 77 | 95 | 87 | 100 | 100 | 1 | | NOT used | |
| V1M1732 | 20:03 | K1100-03B | 06TBSO-20110620 | 60011 | SL | 1 | 78 | 77 | 73 | 95 | 80 | 100 | 101 | 1 | | OK | |
| V1M1733 | 20:30 | K1072-03BMS | 80230-MIP4B-45M | 60011 | SL | 3 | 81 | 82 | 83 | 96 | 81 | 102 | 97 | 1 | R | OK | |
| V1M1734 | 20:57 | K1072-03BMSD | 80230-MIP4B-45M | 60011 | SL | 3 | 84 | 84 | 82 | 95 | 78 | 102 | 96 | 1 | R | OK | |
| V1M1735 | 21:24 | VBLK | VBLK | | | | 78 | 80 | 80 | 97 | 90 | 100 | 97 | 1 | T | NOT used | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

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VEB 6/28/11

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260W/624 ANALYST: th
ICAL DATE: 6-1-11

BATCH: 110628.B

Start: 28-JUN-11 08:40
End: 28-JUN-11 20:23

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Comments:

Standards: BFB VW110504A 2 uL
ISTD VW110621A 100 uL
SM VW110614A 20 uL
uL

Reviewed By: WL 6/29/11 Manual Integration: N/A MI Review: th

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | 1 | | OK | |
| V1M1743 | 08:40 | BFB1T | BFB1T | | SL | | | | | | | | | 1 | | INT USED | |
| V1M1744 | 08:55 | VSTD0501T | VSTD0501T | | AQ | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1745 | 09:32 | VSTD0501T | VSTD0501T | | AQ | | 100 | 100 | 100 | | | | | 1 | | OK | |
| V1M1746 | 10:09 | LCS-60018 | LCS-60018 | 60018 | AQ | | 99 | 103 | 95 | 87 | 103 | 106 | 100 | 1 | ER | OK | |
| V1M1747 | 10:37 | LCSD-60018 | LCSD-60018 | 60018 | AQ | | 98 | 100 | 94 | 88 | 94 | 106 | 101 | 1 | ER | OK | |
| V1M1748 | 11:04 | MB-60018 | MB-60018 | 60018 | AQ | | 94 | 97 | 88 | 85 | 99 | 107 | 97 | 1 | | INT USED | |
| V1M1749 | 11:32 | MB-60018 | MB-60018 | 60018 | AQ | | 95 | 97 | 89 | 86 | 99 | 106 | 95 | 1 | | OK | |
| V1M1750 | 11:59 | K1096-01A | CD-WW-3-062311 | 60018 | AQ | 2 | 96 | 97 | 89 | 85 | 101 | 106 | 96 | 1 | | OK | 2 |
| V1M1751 | 12:27 | K1109-01A | CD-WW-5-062411 | 60018 | AQ | 2 | 95 | 99 | 89 | 88 | 100 | 105 | 95 | 1 | | OK | |
| V1M1752 | 12:55 | K1109-02A | CD-WW-6-062411 | 60018 | AQ | 2 | 97 | 99 | 90 | 86 | 99 | 108 | 98 | 1 | | OK | |
| V1M1753 | 13:22 | K1069-02A | WETWELL | 60018 | AQ | 1 | 94 | 98 | 90 | 87 | 98 | 105 | 96 | 1 | | OK | |
| V1M1754 | 13:50 | K1124-01A | CD-WW-1-062711 | 60018 | AQ | 1 | 71 | 59 | 40* | 67* | 49* | 128* | 79 | 1 | | RUN @ 1X | |
| V1M1755 | 14:18 | K1124-02A | TRIP BLANK | 60018 | AQ | 1 | 93 | 99 | 93 | 85 | 97 | 102 | 98 | 1 | | OK | |
| V1M1756 | 14:46 | K1100-07A | 06TBAQ-20110621 | 60052 | AQ | 1 | 94 | 99 | 90 | 91 | 98 | 105 | 93 | 1 | | OK | |
| V1M1757 | 15:15 | K1100-06A | 06RB-20110621 | 60052 | AQ | 1 | 93 | 99 | 90 | 85 | 101 | 102 | 93 | 1 | | OK | |
| V1M1758 | 15:43 | K1102-01A | DEC-030D | 60052 | AQ | 1 | 95 | 101 | 89 | 89 | 99 | 104 | 95 | 1 | | OK | |
| V1M1759 | 16:11 | K1102-02A | DEC-030 | 60052 | AQ | 1 | 94 | 103 | 92 | 89 | 104 | 98 | 96 | 1 | E | PCE = 2100 RUN @ 25X | |
| V1M1760 | 16:40 | K1102-03A | DEC-064D | 60052 | AQ | 1 | 92 | 99 | 92 | 91 | 100 | 104 | 98 | 1 | | RUN @ 1X | |
| V1M1761 | 17:08 | K1102-04A | DEC-064 | 60052 | AQ | 1 | 95 | 101 | 90 | 84* | 94 | 103 | 95 | 1 | E | PCE = 301 RUN @ 4X | |
| V1M1762 | 17:36 | K1102-05A | DEC-006DD | 60052 | AQ | 1 | 94 | 100 | 92 | 86 | 98 | 105 | 94 | 1 | E | PCE = 542 RUN @ 5X | |
| V1M1763 | 18:04 | K1102-06A | DEC-006D | 60052 | AQ | 1 | 94 | 107 | 94 | 88 | 95 | 93 | 90 | 1 | E | PCE = 3900 RUN @ 50X | |
| V1M1764 | 18:32 | K1102-07A | DUP-062011 | 60052 | AQ | 1 | 94 | 98 | 90 | 87 | 98 | 104 | 95 | 1 | E | PCE = 570 RUN @ 5X | |
| V1M1765 | 19:00 | K1102-08A | DEC-031D | 60052 | AQ | 1 | 91 | 95 | 89 | 90 | 94 | 108 | 97 | 1 | | OK C.O. UNDER R.L. | |
| V1M1766 | 19:28 | K1102-09A | DEC-031 | 60052 | AQ | 1 | 91 | 102 | 93 | 89 | 98 | 100 | 93 | 1 | E | PCE = 3800 RUN @ 50X | |
| V1M1767 | 19:56 | K1102-10A | DEC-045D | 60052 | AQ | 1 | 97 | 96 | 86 | 84* | 83 | 105 | 96 | 1 | | RUN @ 1X | 2 |
| V1M1768 | 20:23 | VBLK | VBLK | 60052 | AQ | | 92 | 97 | 84 | 85 | 94 | 104 | 93 | 1 | | INT USED | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

th 6-29-11

# INJECTION LOG

## VOLATILES LABORATORY

Spectrum Analytical, Inc. RI Division V1 Injection Log
Volatiles Laboratory

METHOD: 8260_LOW_S ANALYST: AED BATCH: 110630.B Start: 30-JUN-11 08:06
ICAL DATE: 6/22/11 End: 30-JUN-11 19:39

Comments:

Standards: BFB VW110504A 2 uL
IS/SS VW110621A AUTO uL
STD VW110614A 20 uL
uL

Reviewed By: [illegible] Manual Integration: N/A MI Review: N/A

| FILE | TIME | LAB ID | CLIENT ID | PREP BATCH | MT | BN | INTERNAL STDS FBZ | CBZ | DCB | SURROGATES DFM | DCE | TOL | BFB | DILN | FLG | | COMMENTS | pH |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| V1M1801 | 08:06 | BFB1V | BFB1V | | | | | | | | | | | 1 | | | OK | |
| V1M1803 | 08:58 | VSTD0501V | VSTD0501V | | | | 100 | 100 | 100 | | | | | 1 | | | NOT USED | |
| V1M1804 | 09:40 | VSTD0501V | VSTD0501V | | | | 100 | 100 | 100 | | | | | 1 | | | OK | |
| V1M1805 | 10:17 | LCS-60105 | LCS-60105 | 60105 | SL | | 91 | 90 | 98 | 96 | 88 | 104 | 100 | 1 | R | | OK | |
| V1M1806 | 11:00 | MB-60105 | MB-60105 | 60105 | SL | | 100 | 101 | 102 | 92 | 82 | 100 | 96 | 1 | | | NOT USED | |
| V1M1807 | 11:27 | MB-60105 | MB-60105 | 60105 | SL | | 96 | 94 | 98 | 95 | 82 | 105 | 100 | 1 | | | OK | |
| V1M1808 | 11:54 | K1111-05B | MW-8 34-37' | 60105 | SL | 1 | 92 | 76 | 31* | 96 | 81 | 115* | 69* | 1 | | | RE-RUN @ 1X, REPORTED | |
| V1M1809 | 12:21 | K1111-06B | MW-2 9-13' | 60105 | SL | 1 | 99 | 101 | 96 | 97 | 83 | 100 | 96 | 1 | | | OK | |
| V1M1810 | 12:49 | K1111-07B | MW-1 11-13' | 60105 | SL | 1 | 98 | 97 | 98 | 92 | 84 | 103 | 102 | 1 | | | OK | |
| V1M1811 | 13:17 | K1111-08B | DUPLICATE | 60105 | SL | 1 | 99 | 98 | 98 | 94 | 83 | 102 | 97 | 1 | | | OK | |
| V1M1812 | 13:44 | K1144-01B | BACKFILL SOIL | 60105 | SL | 1 | 96 | 98 | 96 | 95 | 83 | 101 | 94 | 1 | | | OK | |
| V1M1813 | 14:11 | K1111-05BRE | MW-8 34-37'RE | 60105 | SL | 2 | 72 | 22* | 3* | 114 | 89 | 181* | 34* | 1 | | | OK, MATRIX EFFECT | |
| V1M1814 | 14:38 | K1155-01B | MW-7 23-25' | 60105 | SL | 1 | 99 | 99 | 97 | 95 | 83 | 101 | 94 | 1 | | | OK | |
| V1M1815 | 15:06 | K1155-03B | SG-8 7-8' | 60105 | SL | 1 | 98 | 101 | 97 | 96 | 78 | 100 | 96 | 1 | | | OK | |
| V1M1816 | 15:33 | K1155-04B | SG-5 5-7' | 60105 | SL | 1 | 97 | 95 | 89 | 100 | 79 | 104 | 95 | 1 | | | OK | |
| V1M1817 | 16:00 | K1155-05B | SG-9 7-8' | 60105 | SL | 1 | 100 | 104 | 101 | 98 | 82 | 97 | 96 | 1 | | | OK | |
| V1M1818 | 16:27 | K1151-01B | SW-E-18' | 60105 | SL | 1 | 91 | 89 | 34* | 99 | 88 | 469* | 596* | 1 | E | | 1,2,4 TMB = 10,653, Re-RUN @ MED LEVEL | |
| V1M1819 | 16:55 | K1157-02B | 80230-MIP5C-36. | 60105 | SL | 1 | 99 | 97 | 99 | 92 | 82 | 104 | 99 | 1 | | | TMB C.O., Re-RUN @ 1X | |
| V1M1820 | 17:23 | K1157-03B | 80230-MIP5B-42. | 60105 | SL | 1 | 95 | 95 | 98 | 93 | 81 | 102 | 101 | 1 | | | Re-RUN @ 1X | |
| V1M1821 | 17:50 | K1157-04B | 80230-MW12S-35 | 60105 | SL | 1 | 94 | 92 | 96 | 96 | 79 | 103 | 103 | 1 | E | | PCE = 886, Re-RUN @ MED LEVEL | |
| V1M1822 | 18:18 | K1157-05B | 80230-DUPS-50 | 60105 | SL | 1 | 96 | 92 | 91 | 90 | 74 | 102 | 96 | 1 | | | OK C.O. UNDER RL. | |
| V1M1823 | 18:45 | K1100-05BMS | 06SB2S-1820-201 | 60105 | SL | 2 | 95 | 93 | 99 | 95 | 83 | 102 | 105 | 1 | | | OK | |
| V1M1824 | 19:12 | K1100-05BMSD | 06SB2S-1820-201 | 60105 | SL | 3 | 97 | 93 | 104 | 95 | 72 | 103 | 121* | 1 | | | OK | |
| V1M1825 | 19:39 | K1099-06AMS | SB-09-09-11MS | 60105 | SL | 2 | 94 | 93 | 95 | 95 | 80 | 103 | 101 | 1 | R | | OK | |

E - One or more target compounds are above the calibration range
R - One or more spike compounds are outside of control limits
T - Sample was injected outside of the 12 hour sequence
* - Internal Standard or Surrogate outside of control limit
D - Surrogates are diluted

AED 7/1/11

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Logbook ID 90.0204-05/11

# MITKEM LABORATORIES: Volatile Organics Low/Medium Level Soil Extraction Log

| Date | Lab ID | | Analysis | Initial Wt. (g) | Final Wt. (g) | Sample Wt. (g) | Extraction Volume (mL) | Sample Type | Solvent&Lot# by/Date* | Comments/ Time of Encore transfer | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/27/11 | K1100 | 07BMSD | 8260_L | 32.03 | 39.96 | 7.93 | 5.0 | B | DI | | BED |
| | K1097 | 07B | 8260_L | NA | NA | 1.0 | 5.0 | E | DI H2O | | VEB |
| | K1097 | 08B | 8260_L | NA | NA | 5.0 | 5.0 | E | DI H2O | | VEB |
| | K1072 | 02B | 8260_L | | | 5.2 | | E | DI H2O | | |
| | K1072 | 03B | 8260_L | | | 5.2 | | E | DI H2O | | |
| | K1072 | 05B | 8260_M | NA | NA | 5.1 | 5.0 | E | MEOH 51070 | | |
| 6/27/11 | K1117 | 01C | 8260_M | 37.37 ~~NA VEB~~ | 46.23 ~~NA~~ | 8.9 | 5.0 | A | MEOH 51070 | | VEB |
| 6/27/11 | MB | | 8260_M | NA | NA | 5.0 | 5.0 | E | MEOH 51070 | | VEB |
| 6/27/11 | LCS | | 8260_M | NA | NA | 5.0 | 5.0 | E | MEOH 51070 | | VEB |
| 6/28/11 | MB | | | NA | NA | 5.0 | | E | | | VEB |
| | LCS | | | | | 5.0 | | E | | | VEB |
| | K1123 | 01B | | | | 6.2 | | D | | | |
| | | 01BMS | | | | 6.1 | | | | | |
| | | 01BMSD | | | | 5.4 | | | | | |
| 6/28/11 | K1123 | 02B | 8260_M | NA | NA | 5.8 | 5.0 | D | MEOH 51070 | | VEB |

*=Date added, if different than Rec. date

Sample Type: A. MeOH Pre-preserved; B. DI H2O/Freeze; C. NaHSO4 Pre-preserved; D. Encore; E. Unpreserved Jars

Logbook ID: 90.0189-03/11



Reviewed By: CL 7/8/11

# MITKEM LABORATORIES: Volatile Organics Low/Medium Level Soil Extraction Log

| Date | Lab ID | | Analysis | Initial Wt. (g) | Final Wt. (g) | Sample Wt. (g) | Extraction Volume (mL) | Sample Type | Solvent&Lot# by/Date* | Comments/ Time of Encore transfer | Analyst |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 6/27/11 | K1097 | 07B | 8260_L | N/A | N/A | 5.04 | 5.0 | E | DI | | AED |
| | K1097 | 08B | | N/A | N/A | 5.01 | | E | DI | | |
| | K1099 | 01A | | | | 5.06 | | E | | | |
| | | 02A | | | | 5.61 | | E | | | |
| | | 03A | | | | 5.57 | | E | | | |
| | | 04A | | | | 5.21 | | E | | | |
| | | 05A | | | | 5.15 | | E | | | |
| | | 06A | | | | 5.22 | | E | | | |
| | K1099 | 07A | | N/A | N/A | 5.27 | | E | | | |
| | K1100 | 01B | | 31.76 | 39.43 | 7.67 | | B | | | |
| | | 02B | | 31.90 | 40.66 | 8.76 | | B | | | |
| | | 03B | | 32.14 | 32.57 | 5.0 | | B | | Trip Blank | |
| | | 04B | | 31.80 | 40.39 | 8.59 | | B | | | |
| 6/27/11 | K1100 | 05B | 8260_L | 31.65 | 39.66 | 8.01 | 5.0 | B | DI | | AED |
| 6/27/11 | K1100 | 05B MS | 8260_L | 31.75 | 39.25 | 7.5 | 5.0 | B | DI | | AED |

AED 6/27/11

*=Date added, if different than Rec. date

**Sample Type: A. MeOH Pre-preserved; B. DI H2O/Freeze; C. NaHSO4 Pre-preserved; D. Encore; E. Unpreserved Jars**

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**Logbook ID: 90.0189-03/11**



**Reviewed By:** 7-14-11

# MITKEM LABORATORIES: VOLATILE SAMPLES RECEIVING LOGBOOK

| VOA Log-In Date | Workorder | Client ID | Sample Numbers | Relinquished by: | Received by: | Pres. Used | F/R | Returned to R1 |
|---|---|---|---|---|---|---|---|---|
| 6/~~23~~ 03/11 VEB 6/23/11 | K1064 | Sovereign | 14-17 | VEB | AED | H | R9 | |
| | K1087 | EPA | 01-03 | SN | | T | R4 | |
| | K1076 | EPA | 13-20 | | | T | R4 | |
| | K1080 | EPA | 10-21 | | | UA | R9 | |
| 6/23/11 | K1091 | D&B | 01-09 | SN | AED | H | R10 | |
| 6/24/11 | K1097 | LABELLA | 01-06 | AED | VEB | US | R9 | |
| 6/24/11 | K1095 | Severson | 01 | VEB ~~VEB~~ VEB 6/24/11 | AED | F/M | R10/F10 | |
| | K1096 | Severson | 01 | | | H | R10 | |
| | K1098 | CRA | 01-04 | | | H | R9 | |
| | K1064 | Sovereign | 18-20, 22, 23 | | | H | R9 | |
| 6/24/11 | K1099 | AECOM | 01-07 | VEB | | US | R9 | |
| | K1100 | Tetra | 01-05 | SN | | T | R9 | |
| | K1100 | Tetra | 01-05 | SN | | M | R9 | |
| 6/24/11 | K1100 | Tetra | 06, 07 | SN | AED | H | R9 | |

Logbook ID 90.0191-12/10

Reviewed By: AED

**"Preservative Used" Key**

| | | | | |
|---|---|---|---|---|
| **UA** = Unpreserved Aqueous | **H** = HCL | **A** = Air | **M** = MeOH | **E** = Encore |
| **US** = Unpreserved Soil | **N** = $NaHSO_4$ | | **F** = Freeze | **T** = Trace, HCL |

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1100
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

CTETPH_W
CT ETPH – CT ETPH by GC-FID

Sample ID: MB-60048 SampType: MBLK TestCode: CTETPH_W Prep Date: 06/28/11 11:03 Run ID: F1_110629B
Client ID: MB-60048 Batch ID: 60048 Units: mg/L Analysis Date: 06/29/11 16:12 SeqNo: 1560999

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.07788 | | 0.0025 | 0.1000 | 0 | 77.9 | 50 | 150 | 0 | | | |

Sample ID: LCS-60048 SampType: LCS TestCode: CTETPH_W Prep Date: 06/28/11 11:03 Run ID: F1_110629B
Client ID: LCS-60048 Batch ID: 60048 Units: mg/L Analysis Date: 06/29/11 16:32 SeqNo: 1561000

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.896 | 0.018 | 0.10 | 5.000 | 0 | 77.9 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.08381 | | 0.0025 | 0.1000 | 0 | 83.8 | 50 | 150 | 0 | | | |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
LOD - Limit of Detection
LOQ - Limit of Quantitation
B - Analyte detected in the associated Method Blank
^ Qualified to the Limit of Detection (LOD)

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1100
**Project:** CTO-WE56, NSB New London

CTETPH_S
CT ETPH -- CT ETPH by GC-FID

Sample ID: MB-60160 | SampType: MBLK | TestCode: CTETPH_S | Prep Date: 07/01/11 16:50 | Run ID: F1_110712A
Client ID: MB-60160 | Batch ID: 60160 | Units: mg/Kg | Analysis Date: 07/12/11 9:02 | SeqNo: 1560814

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 2.6 | 14 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 4.204 | | 1.7 | 6.666 | 0 | 63.1 | 50 | 150 | 0 | | | |

Sample ID: MB-60418 | SampType: MBLK | TestCode: CTETPH_S | Prep Date: 07/14/11 8:35 | Run ID: F1_110714A
Client ID: MB-60418 | Batch ID: 60418 | Units: mg/Kg | Analysis Date: 07/14/11 12:46 | SeqNo: 1564025

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 1.3 | 7.0 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 3.098 | | 0.83 | 3.333 | 0 | 93.0 | 50 | 150 | 0 | | | |

Sample ID: LCS-60160 | SampType: LCS | TestCode: CTETPH_S | Prep Date: 07/01/11 16:50 | Run ID: F1_110712A
Client ID: LCS-60160 | Batch ID: 60160 | Units: mg/Kg | Analysis Date: 07/12/11 9:22 | SeqNo: 1560815

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 171.0 | 2.6 | 14 | 333.3 | 0 | 51.3 | 60 | 140 | 0 | | | S |
| Surrogate: ortho-Terphenyl | 3.931 | | 1.7 | 6.666 | 0 | 59.0 | 50 | 150 | 0 | | | |

Sample ID: LCS-60418 | SampType: LCS | TestCode: CTETPH_S | Prep Date: 07/14/11 8:35 | Run ID: F1_110714A
Client ID: LCS-60418 | Batch ID: 60418 | Units: mg/Kg | Analysis Date: 07/14/11 13:06 | SeqNo: 1564026

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 145.5 | 1.3 | 7.0 | 166.7 | 0 | 87.3 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 3.154 | | 0.83 | 3.333 | 0 | 94.6 | 50 | 150 | 0 | | | |

Sample ID: K1100-05AMS | SampType: MS | TestCode: CTETPH_S | Prep Date: 07/01/11 16:50 | Run ID: F1_110712A
Client ID: 06SB2S-1820-201106 | Batch ID: 60160 | Units: mg/Kg | Analysis Date: 07/12/11 11:05 | SeqNo: 1560820

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1365 | 2.9 | 16 | 371.1 | 544.1 | 221 | 50 | 150 | 0 | | | S |
| Surrogate: ortho-Terphenyl | 4.859 | | 1.8 | 7.422 | 0 | 65.5 | 50 | 150 | 0 | | | |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
LOD - Limit of Detection
LOQ - Limit of Quantitation
B - Analyte detected in the associated Method Blank
^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1100
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

CTETPH_S
CT ETPH -- CT ETPH by GC-FID

Sample ID: K1100-05AMSRE | SampType: MS | TestCode: CTETPH_S | Prep Date: 07/14/11 8:35 | Run ID: F1_110715A
Client ID: 06SB2S-1820-201106 | Batch ID: 60418 | Units: mg/Kg | Analysis Date: 07/15/11 10:23 | SeqNo: 1564071

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1381 | 5.8 | 31 | 184.8 | 1384 | 0 | 50 | 150 | 0 | | | S |
| Surrogate: ortho-Terphenyl | 3.042 | | 3.7 | 3.696 | 0 | 82.3 | 50 | 150 | 0 | | | |

ok spike < 5 x Result

Sample ID: K1100-05AMSD | SampType: MSD | TestCode: CTETPH_S | Prep Date: 07/01/11 16:50 | Run ID: F1_110712A
Client ID: 06SB2S-1820-201106 | Batch ID: 60160 | Units: mg/Kg | Analysis Date: 07/12/11 11:45 | SeqNo: 1560821

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1016 | 2.9 | 15 | 366.5 | 544.1 | 129 | 50 | 150 | 1365 | 29.3 | 30 | |
| Surrogate: ortho-Terphenyl | 5.468 | | 1.8 | 7.330 | 0 | 74.6 | 50 | 150 | 0 | | | |

Sample ID: K1100-05AMSDRE | SampType: MSD | TestCode: CTETPH_S | Prep Date: 07/14/11 8:35 | Run ID: F1_110715A
Client ID: 06SB2S-1820-201106 | Batch ID: 60418 | Units: mg/Kg | Analysis Date: 07/15/11 10:44 | SeqNo: 1564072

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 1360 | 5.8 | 31 | 186.7 | 1384 | 0 | 50 | 150 | 1381 | 1.53 | 30 | S |
| Surrogate: ortho-Terphenyl | 2.570 | | 3.7 | 3.733 | 0 | 68.8 | 50 | 150 | 0 | | | |

ok spike < 5 x Result



**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
LOD - Limit of Detection
LOQ - Limit of Quantitation
B - Analyte detected in the associated Method Blank
^ Qualified to the Limit of Detection (LOD)

m11.07.20.B

Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files

| | | | | | |
|---|---|---|---|---|---|
| 5 | =F1H5057.D | 20 | =F1H5059.D | 50 | =F1H5061.D |
| 80 | =F1H5062.D | 100 | =F1H5056.D | 120 | =F1H5063.D |

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV Client Smp ID: FICV
Misc : TPH F ICV Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15 Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 3 | H | DRO C10 to C28 | 336.012 | 377.100 E3 | -12.2 | 54 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 372.820 E3 | -11.4 | 54 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.03 |
| 14 | | C9 Nonane | 0.730 | 0.589 | 19.3 | 52 | 0.02 |
| 15 | | C10 Decane | 0.756 | 0.659 | 12.8 | 52 | 0.02 |
| 16 | | C12 Dodecane | 0.808 | 0.728 | 9.9 | 53 | 0.02 |
| 17 | | C14 Tetradecane | 0.859 | 0.782 | 9.0 | 54 | 0.02 |
| 18 | | C16 Hexadecane | 0.957 | 0.835 | 12.7 | 55 | 0.02 |
| 19 | | C18 Octadecane | 0.941 | 0.863 | 8.3 | 54 | 0.02 |
| 20 | | C19 Nonadecane | 0.950 | 0.872 | 8.2 | 55 | 0.02 |
| 21 | | C20 Eicosane | 0.960 | 0.891 | 7.2 | 55 | 0.02 |
| 22 | | C22 Docosane | 0.991 | 0.907 | 8.5 | 55 | 0.02 |
| 23 | | C24 Tetracosane | 1.001 | 0.910 | 9.1 | 55 | 0.02 |
| 24 | | C26 Hexacosane | 1.011 | 0.917 | 9.3 | 55 | 0.02 |
| 25 | | C28 Octacosane | 1.011 | 0.898 | 11.2 | 54 | 0.02 |
| 26 | | C30 Triacontane | 1.015 | 0.901 | 11.2 | 55 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.861 | 11.2 | 57 | 0.04 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.839 | 9.8 | 54 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 2 | S | ortho-Terphenyl | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 13 | S | ortho-Terphenyl ISTD | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5564.D
Lab Smp Id: FSTD1001L Client Smp ID: FSTD1001L
Misc : TPH F ICAL L5 100 PPM Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 29 Jun 2011 11:32 Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jun 29 13:03:45 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 386.488 E3 | -1.0 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 355.922 E3 | -5.9 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 351.869 E3 | -5.2 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.977 | 7.7 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.668 | 8.5 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.733 | 3.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.798 | 1.2 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.853 | 0.7 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.900 | 6.0 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | 1.2 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.935 | 1.6 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.941 | 2.0 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.964 | 2.7 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.956 | 4.5 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.965 | 4.5 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.957 | 5.3 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.953 | 6.1 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.900 | 7.2 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.900 | 3.2 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.889 | 4.0 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.889 | 4.0 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110629.B\F1H5572.D
Lab Smp Id: FSTD1001M  Client Smp ID: FSTD1001M
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 29 Jun 2011 17:32  Operator: TM
ALS Vial : 1  Sample Multiplier: 1

Quant Time: Jun 30 07:54:41 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 405.549 | E3 | -6.0 | 105 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 374.203 | E3 | -11.4 | 105 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 369.819 | E3 | -10.5 | 105 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 105 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.975 | | 7.8 | 105 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.671 | | 8.1 | 106 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.737 | | 2.5 | 106 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.799 | | 1.1 | 105 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.852 | | 0.8 | 105 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.899 | | 6.1 | 105 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | | 1.2 | 105 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.933 | | 1.8 | 105 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.943 | | 1.8 | 105 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.964 | | 2.7 | 105 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.947 | | 5.4 | 104 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.967 | | 4.4 | 105 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.957 | | 5.3 | 105 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.952 | | 6.2 | 105 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.893 | | 7.9 | 104 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.899 | | 3.3 | 105 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.889 | | 4.0 | 105 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.889 | | 4.0 | 105 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5684.D
Lab Smp Id: FSTD1001B  Client Smp ID: FSTD1001B
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 8:21  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 12 08:52:25 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 379.977 E3 | 0.7 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 347.445 E3 | -3.4 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 342.667 E3 | -2.4 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.963 | 9.0 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.643 | 11.9 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.718 | 5.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.778 | 3.7 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.826 | 3.8 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.870 | 9.1 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.902 | 4.1 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.909 | 4.3 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.918 | 4.4 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.947 | 4.4 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.943 | 5.8 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.956 | 5.4 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.946 | 6.4 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.938 | 7.6 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.862 | 11.1 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.880 | 5.4 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.868 | 6.3 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.868 | 6.3 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110712.B\F1H5695.D
Lab Smp Id: FSTD1001C Client Smp ID: FSTD1001C
Misc : TPH F ICAL L5 100 PPM Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 12 Jul 2011 12:06 Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 12 13:21:53 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 335.953 E3 | 12.2 | 88 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 310.143 E3 | 7.7 | 89 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 307.496 E3 | 8.1 | 90 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 87 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.973 | 8.0 | 88 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.680 | 6.8 | 92 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.752 | 0.5 | 92 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.801 | 0.9 | 90 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.840 | 2.2 | 89 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.879 | 8.2 | 88 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.909 | 3.4 | 88 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.916 | 3.6 | 88 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.927 | 3.4 | 88 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.959 | 3.2 | 89 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.961 | 4.0 | 89 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.980 | 3.1 | 90 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.977 | 3.4 | 90 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.976 | 3.8 | 91 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.915 | 5.7 | 93 | 0.05 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.898 | 3.4 | 89 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.891 | 3.8 | 90 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.891 | 3.8 | 90 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5714.D
Lab Smp Id: FSTD1001E  Client Smp ID: FSTD1001E
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 12:06  Operator: TM
ALS Vial : 1  Sample Multiplier: 1

Quant Time: Jul 14 12:38:02 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 383.885 E3 | -0.3 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 351.372 E3 | -4.6 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 346.751 E3 | -3.6 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.965 | 8.8 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.642 | 12.1 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.716 | 5.3 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.776 | 4.0 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.828 | 3.6 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.875 | 8.6 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.907 | 3.6 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.914 | 3.8 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.923 | 3.9 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.951 | 4.0 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.944 | 5.7 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.961 | 4.9 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.954 | 5.6 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.948 | 6.6 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.867 | 10.6 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.883 | 5.1 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.872 | 5.8 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.872 | 5.8 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5726.D
Lab Smp Id: FSTD1001F  Client Smp ID: FSTD1001F
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 15:33  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 14 15:59:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 359.748 E3 | 6.0 | 94 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 329.104 E3 | 2.1 | 94 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 325.182 E3 | 2.8 | 94 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 93 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.976 | 7.8 | 94 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.657 | 10.0 | 95 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.731 | 3.3 | 95 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.791 | 2.1 | 95 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.842 | 2.0 | 94 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.886 | 7.4 | 94 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.916 | 2.7 | 94 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.922 | 2.9 | 93 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.930 | 3.1 | 93 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.956 | 3.5 | 93 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.950 | 5.1 | 93 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.966 | 4.5 | 93 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.960 | 5.0 | 93 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.955 | 5.9 | 93 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.889 | 8.4 | 95 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.893 | 4.0 | 94 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.882 | 4.8 | 94 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.882 | 4.8 | 94 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110714.B\F1H5739.D
Lab Smp Id: FSTD1001G Client Smp ID: FSTD1001G
Misc : TPH F ICAL L5 100 PPM Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 14 Jul 2011 18:52 Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 15 08:16:50 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 378.612 E3 | 1.1 | 99 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 345.810 E3 | -2.9 | 98 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 341.508 E3 | -2.1 | 98 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.977 | 7.7 | 99 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.658 | 9.9 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.733 | 3.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.793 | 1.9 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.844 | 1.7 | 99 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.888 | 7.2 | 99 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.918 | 2.4 | 99 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.923 | 2.8 | 98 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.930 | 3.1 | 98 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.955 | 3.6 | 98 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.946 | 5.5 | 98 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.960 | 5.0 | 97 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.952 | 5.8 | 97 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.948 | 6.6 | 97 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.883 | 9.0 | 99 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.892 | 4.1 | 98 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.881 | 4.9 | 98 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.881 | 4.9 | 98 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5754.D
Lab Smp Id: FSTD1001H  Client Smp ID: FSTD1001H
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 15 Jul 2011 9:23  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 15 10:01:04 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 329.950 E3 | 13.8 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 301.673 E3 | 10.2 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 298.668 E3 | 10.7 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.972 | 8.1 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.652 | 10.7 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.724 | 4.2 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.780 | 3.5 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.828 | 3.6 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.872 | 8.9 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.904 | 3.9 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.913 | 3.9 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.923 | 3.9 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.955 | 3.6 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.953 | 4.8 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.974 | 3.7 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.970 | 4.1 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.967 | 4.7 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.899 | 7.3 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.888 | 4.5 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.879 | 5.1 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.879 | 5.1 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5761.D
Lab Smp Id: FSTD1001I Client Smp ID: FSTD1001I
Misc : TPH F ICAL L5 100 PPM Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 15 Jul 2011 11:29 Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 15 12:41:40 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 314.869 E3 | 17.7 | 95 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 289.851 E3 | 13.7 | 96 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 287.866 E3 | 14.0 | 96 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 0.973 | 8.0 | 95 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.671 | 8.1 | 98 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.744 | 1.6 | 98 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.795 | 1.6 | 97 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.838 | 2.4 | 96 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.876 | 8.5 | 96 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.905 | 3.8 | 95 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.911 | 4.1 | 95 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.921 | 4.1 | 95 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.955 | 3.6 | 95 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.956 | 4.5 | 96 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.983 | 2.8 | 96 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.985 | 2.6 | 97 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.988 | 2.7 | 97 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.927 | 4.4 | 98 | 0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.896 | 3.7 | 96 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.890 | 3.9 | 96 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.890 | 3.9 | 96 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range SPCC's out = 0 CCC's out = 0

Monday, July 11, 2011 16:03



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: 7/1/2011 4:50:47 P
Prep End Date: 7/11/2011 4:01:00 P
Prep Batch ID: 60160

Prep Code: CTETPH_S_PR
Technician: Jill L Cartwright

Prep Type: PFEX/SW3545

Prep Factor Units: mL / g

QC Matrix: NASO4
QC Matrix Lot: 106147

Solvent (1): MECL2
Solvent (1) Lot: DE 183

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Filter?: FILTER
Filter Lot: FC002266

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60160 | Batch QC | | | 15 | 1 | OFW110118A | 1 | | | JLC | TM | | | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60160 | Batch QC | | | 15 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | TM | | | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-01A | 06S027-0911-20110620 | | S | 15.14 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-02A | 06S027-1315-20110620 | | S | 15.02 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-04A | 06S025-0507-20110621 | | S | 15.16 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05A | 06S025-1820-20110621 | | S | 15.32 | 1 | OFW110118A | 1 | | | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMS | 06S025-1820-20110621 | | S | 15.14 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMSD | 06S025-1820-20110621 | | S | 15.33 | 1 | OFW110118A | 1 | OFW110203A | 1 | JLC | TM | 07/14/11 | 01 | 07/11/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |

Antonio AP Cardoso — 07/11/2011
Analyst Reviewed — Date

Timothy McDaniel — 07/11/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

Soxhlet Cycle/Hour:_____

Drip Rate_____

Reviewed By:_____

Water Bath Temp:_____/MT-___

7/11/11
TM

Logbook ID: 50.0147-06/11

Wednesday, June 29, 2011 11:12



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: 6/28/2011 11:03:07
Prep End Date: 6/29/2011 11:11:00 Prep Code: TPH_W_PR Prep Type: SEPF/SW3510C Prep Factor Units: mL / mL
Prep Batch ID: 60048 Technician: Brian L Dlhopolsky

QC Matrix: NASO4 Solvent (1): MECL2 Solvent (3): N/A Solvent (5): N/A Clean Up (1): N/A Clean Up (3): N/A
QC Matrix Lot: 106147 Solvent (1) Lot: DE 200 Solvent (3) Lot: N/A Solvent (5) Lot: N/A Clean Up (1) Lot: N/A Clean Up (1) Lot: N/A

Filter?: FILTER Solvent (2): N/A Solvent (4): N/A Solvent (6): N/A Clean Up (2): N/A Clean Up (4): N/A
Filter Lot: FC002266 Solvent (2) Lot: N/A Solvent (4) Lot: N/A Solvent (6) Lot: N/A Clean Up (2) Lot: N/A Clean Up (4) Lot: N/A

Start Time: N/A Cycles/Hour 0 Sonicator Tuned? N/A Bath Temp1 (C): N/A Therm ID1: N/A
End Time: N/A

| Mitkem Sample ID | Client Samp ID | | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60048 | Batch QC | | | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | | | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| LCS-60048 | Batch QC | | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | | | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-14J | MW-6-062211-170 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-15J | MW-7-062211-81 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-15JMS | MW-7-062211-81 | | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-15JMSD | MW-7-062211-81 | | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-17B | MW-6S-062211-8 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-18J | MW-7S-062311-18 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-19J | MW-8-062311-40 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-20J | MW-9-062311-45 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1064-22J | RB-062311 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/08/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1100-06B | DERB-20110621 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/14/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1109-01D | CD-WW-5-062411 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/04/11 | 01 | 06/29/11 | AAPC | R21 | 4.0 | ☐ | ☑ | Turbo Vap 1 |
| K1109-02D | CD-WW-6-062411 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/04/11 | 01 | 06/29/11 | AAPC | R21 | 4.0 | ☐ | ☑ | Turbo Vap 1 |
| K1117-02B | COMPOSITE 1, 11, 12 | | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 07/07/11 | 01 | 06/29/11 | AAPC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |

Antonio AP Cardoso 06/29/2011 Timothy McDaniel 06/29/2011
Analyst Reviewed Date Manager Reviewed Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

6/29/11
TM

Logbook ID: 50.0147-06/11

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division PREP BATCH REPORT

Prep Start Date: 7/14/2011 8:35:29 A
Prep End Date: 7/14/2011 11:00:00
Prep Batch ID: 60418

Prep Code: CTETPH_S_PR
Technician: Antonio AP Cardoso

Prep Type: SONC/SW3550B

Prep Factor Units: mL / g

QC Matrix: NASO4
QC Matrix Lot: 106147

Solvent (1): MECL2
Solvent (1) Lot: DE 183

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Filter?: FILTER
Filter Lot: FC002266

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? Yes

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60418 | BatchQC | | 30 | 1 | OFW110622A | 1 | | | APC | TM | | | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60418 | BatchQC | | 30 | 1 | OFW110622A | 1 | OFW110701A | 1 | APC | TM | | | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-01A RE | 06SB27-0911-201106 | S | 30.2 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-02A RE | 06SB27-1315-201106 | S | 30.5 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-04A RE | 06SB2S-0507-201106 | S | 30.2 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05A RE | 06SB2S-1820-201106 | S | 30.1 | 1 | OFW110622A | 1 | | | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMS RE | 06SB2S-1820-201106 | S | 30.4 | 1 | OFW110622A | 1 | OFW110701A | 1 | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1100-05AMSD RE | 06SB2S-1820-201106 | S | 30.1 | 1 | OFW110622A | 1 | OFW110701A | 1 | APC | TM | 07/14/11 | 1 | 07/14/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |

Antonio AP Cardoso — 07/14/2011
Analyst Reviewed — Date

Timothy McDaniel — 07/15/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

7/14/11

Logbook ID: 50.0147-06/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

I INLET MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | TPH (DRO) | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | GM 5/24/11 | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700 | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

GM 5/24/11

Injection Log AQ: TPH-AGF
QT: TPH05205

Directory: O:\F1.I\110629.B

INJECT MAINT: YES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5560.d | 1. | ICAL 7159 | | 29 Jun 2011 10:43 |
| 2 | 96 | F1h5561.d | 1. | | | 29 Jun 2011 11:03 |
| 3 | 99 | F1h5562.d | 1. | | | 29 Jun 2011 11:19 |
| 4 | 99 | F1h5563.d | 1. | | | 29 Jun 2011 11:23 |
| 5 | 1 | F1h5564.d | 1. | FSTD1001L | TPH F ICAL L5 100... | 29 Jun 2011 11:32 |
| 6 | 100 | F1h5565.d | 1. | IBLK | TPH F | 29 Jun 2011 11:51 |
| 7 | 44 | F1h5566.d | 1. | K1109-01D,,60048 | TPH F | 29 Jun 2011 12:09 |
| 8 | 45 | F1h5567.d | 1. | K1109-02D,,60048 | TPH F | 29 Jun 2011 12:28 |
| 9 | 46 | F1h5568.d | 1. | MB-60048,,60048 | TPH F | 29 Jun 2011 16:12 |
| 10 | 47 | F1h5569.d | 1. | LCS-60048,,60048 | TPH F | 29 Jun 2011 16:32 |
| 11 | 48 | F1h5570.d | 1. | K1100-06B,,60048 | TPH F | 29 Jun 2011 16:52 |
| 12 | 49 | F1h5571.d | 1. | K1117-02B,,60048 | TPH F | 29 Jun 2011 17:12 |
| 13 | 1 | F1h5572.d | 1. | FSTD1001M | TPH F ICAL L5 100... | 29 Jun 2011 17:32 |
| 14 | 100 | F1h5573.d | 1. | IBLK | TPH F | 29 Jun 2011 17:52 |
| 15 | 50 | F1h5574.d | 1. | K1064-14J,,60048 | TPH F | 29 Jun 2011 18:12 |
| 16 | 51 | F1h5575.d | 1. | K1064-15J,,60048 | TPH F | 29 Jun 2011 18:32 |
| 17 | 52 | F1h5576.d | 1. | K1064-15JMS,,60048 | TPH F | 29 Jun 2011 18:52 |
| 18 | 53 | F1h5577.d | 1. | K1064-15JMSD,,60048 | TPH F | 29 Jun 2011 19:12 |
| 19 | 54 | F1h5578.d | 1. | K1064-17B,,60048 | TPH F | 29 Jun 2011 19:32 |
| 20 | 55 | F1h5579.d | 1. | K1064-18J,,60048 | TPH F | 29 Jun 2011 19:52 |
| 21 | 56 | F1h5580.d | 1. | K1064-19J,,60048 | TPH F | 29 Jun 2011 20:12 |
| 22 | 57 | F1h5581.d | 1. | K1064-20J,,60048 | TPH F | 29 Jun 2011 20:32 |
| 23 | 58 | F1h5582.d | 1. | K1064-22J,,60048 | TPH F | 29 Jun 2011 20:51 |
| 24 | 1 | F1h5583.d | 1. | FSTD1001N | TPH F ICAL L5 100... | 29 Jun 2011 21:11 |
| 25 | 100 | F1h5584.d | 1. | IBLK | TPH F | 29 Jun 2011 21:31 |

GM 6/30/11

# Injection Log

Directory: O:\F1.I\110712.B

AQ : TPH_AGF
QT: TPH 0 520F

INLET ULN. NT : L/ES

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5680.d | 1. | | | 12 Jul 2011 07:33 |
| 2 | 96 | F1h5681.d | 1. | ICAL 7159 | | 12 Jul 2011 07:52 |
| 3 | 99 | F1h5682.d | 1. | | | 12 Jul 2011 08:08 |
| 4 | 99 | F1h5683.d | 1. | | | 12 Jul 2011 08:12 |
| 5 | 1 | F1h5684.d | 1. | FSTD1001B | TPH F ICAL L5 100... | 12 Jul 2011 08:21 |
| 6 | 100 | F1h5685.d | 1. | IBLK | TPH F | 12 Jul 2011 08:42 |
| 7 | 31 | F1h5686.d | 1. | MB-60160,,60160 X — TPH RR 210 | TPH F RR OTP 63 | 12 Jul 2011 09:02 |
| 8 | 32 | F1h5687.d | 1. | LCS-60160,,60160 X TPH 51% | TPH F RR OTP 58 | 12 Jul 2011 09:22 |
| 9 | 33 | F1h5688.d | 1. | K1100-01A,,60160 TPH 200 | TPH F OTP 69 | 12 Jul 2011 09:43 |
| 10 | 34 | F1h5689.d | 1. | K1100-02A,,60160 TPH 211 | TPH F OTP 61 | 12 Jul 2011 10:03 |
| 11 | 35 | F1h5690.d | 1. | K1100-04A,,60160 X TPH 150 | TPH F X OTP 36 | 12 Jul 2011 10:24 |
| 12 | 36 | F1h5691.d | 1. | K1100-05A,,60160 X TPH 7417 | TPH F X OTP 49 | 12 Jul 2011 10:45 |
| 13 | 37 | F1h5692.d | 1. | K1100-05AMS,,60160 18386 | TPH F OTP 65 | 12 Jul 2011 11:05 |
| 14 | 39 | F1h5693.d | 1. | K1200-01D,,60303 | TPH F | 12 Jul 2011 11:24 |
| 15 | 38 | F1h5694.d | 1. | K1100-05AMSD,,60160 13862 | TPH F OTP 74 | 12 Jul 2011 11:45 |
| 16 | 1 | F1h5695.d | 1. | FSTD1001C | TPH F ICAL L5 100... | 12 Jul 2011 12:06 |
| 17 | 100 | F1h5696.d | 1. | IBLK | TPH F | 12 Jul 2011 12:43 |
| 18 | 100 | F1h5697.d | 1. | IBLK (N.A.) | TPH F | 12 Jul 2011 13:04 |
| 19 | 40 | F1h5698.d | 1. | MB-60303,,60303 | TPH F | 12 Jul 2011 13:24 |
| 20 | 41 | F1h5699.d | 1. | LCS-60303,,60303 | TPH F | 12 Jul 2011 13:45 |
| 21 | 42 | F1h5700.d | 1. | K1209-01D,,60303 | TPH F | 12 Jul 2011 14:05 |
| 22 | 1 | F1h5701.d | 1. | FSTD1001D | TPH F ICAL L5 100... | 12 Jul 2011 14:26 |
| 23 | 100 | F1h5702.d | 1. | IBLK | TPH F | 12 Jul 2011 14:46 |

- Reextract K1100 by sonication
  - Redoll 60160 - MB fails (210 on column, limit is 200)
    LCS fails (51%; limit is 60)
    Have OTP for #4 & 5

Uc 7/12/11

Yer 7/15/11

# Injection Log

AQ: TPH_REF
QT: TPH 0520F

Directory: O:\F1.I\110714.B

INLET MAINT: NONE

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5710.d | 1. | ICAL 7159 | | 14 Jul 2011 11:20 |
| 2 | 96 | F1h5711.d | 1. | | | 14 Jul 2011 11:38 |
| 3 | 99 | F1h5712.d | 1. | | | 14 Jul 2011 11:55 |
| 4 | 99 | F1h5713.d | 1. | | | 14 Jul 2011 11:59 |
| 5 | 1 | F1h5714.d | 1. | FSTD1001E | TPH F ICAL L5 100... | 14 Jul 2011 12:06 |
| 6 | 100 | F1h5715.d | 1. | IBLK | TPH F | 14 Jul 2011 12:27 |
| 7 | 2 | F1h5716.d | 1. | MB-60389,,60389 => 60418 see below | TPH F | 14 Jul 2011 12:46 |
| 8 | 3 | F1h5717.d | 1. | LCS-60389,,60389 | TPH F | 14 Jul 2011 13:06 |
| 9 | 4 | F1h5718.d | 1. | K1219-01D,,60377 | TPH F | 14 Jul 2011 13:25 |
| 10 | 5 | F1h5719.d | 1. | MB-60377,,60377 | TPH F | 14 Jul 2011 13:45 |
| 11 | 6 | F1h5720.d | 1. | LCS-60377,,60377 | TPH F | 14 Jul 2011 14:05 |
| 12 | 7 | F1h5721.d | 1. | LCSD-60377,,60377 | TPH F | 14 Jul 2011 14:25 |
| 13 | 8 | F1h5722.d | 1. | K1233-01D,,60377 | TPH F | 14 Jul 2011 14:45 |
| 14 | 9 | F1h5723.d | 1. | K1216-03B,,60377 RR ~~50~~ 20X | TPH F | 14 Jul 2011 15:04 |
| 15 | 99 | F1h5724.d | 1. | | | 14 Jul 2011 15:20 |
| 16 | 99 | F1h5725.d | 1. | | | 14 Jul 2011 15:24 |
| 17 | 1 | F1h5726.d | 1. | FSTD1001F | TPH F ICAL L5 100... | 14 Jul 2011 15:33 |
| 18 | 100 | F1h5727.d | 1. | IBLK | TPH F | 14 Jul 2011 15:53 |
| 19 | 6 | F1h5728.d | 1. | LCS-60377,,60377 | TPH F | 14 Jul 2011 16:13 |
| 20 | 10 | F1h5729.d | 1. | K1100-05ARE,,60389 RR ~~3X~~ 4X | TPH F | 14 Jul 2011 16:33 |
| 21 | 11 | F1h5730.d | 1. | K1100-02ARE,,60389 | TPH F | 14 Jul 2011 16:53 |
| 22 | 12 | F1h5731.d | 1. | K1100-04ARE,,60389 | TPH F | 14 Jul 2011 17:13 |
| 23 | 13 | F1h5732.d | 1. | K1100-01ARE,,60389 | TPH F | 14 Jul 2011 17:33 |
| 24 | 99 | F1h5733.d | 1. | | | 14 Jul 2011 17:49 |
| 25 | 14 | F1h5734.d | 1. | K1100-05AMSRE,,60389 RR 4X | TPH F | 14 Jul 2011 17:58 |
| 26 | 99 | F1h5735.d | 1. | | | 14 Jul 2011 18:14 |
| 27 | 15 | F1h5736.d | 1. | K1100-05AMSDRE,,60389 RR 4X | TPH F | 14 Jul 2011 18:23 |
| 28 | 99 | F1h5737.d | 1. | | | 14 Jul 2011 18:39 |
| 29 | 99 | F1h5738.d | 1. | | | 14 Jul 2011 18:43 |
| 30 | 1 | F1h5739.d | 1. | FSTD1001G | TPH F ICAL L5 100... | 14 Jul 2011 18:52 |
| 31 | 100 | F1h5740.d | 1. | IBLK | TPH F | 14 Jul 2011 19:12 |

Note - prep batch 60389 is now 60418
- see F1-110712A - K1100 - original extracts within HT (batch ~~60161~~ 60160)
- Re extracts are in batch 60418

GM 7/15/11

# Injection Log

AQ : TPH - ACF
QT : TPH 0520F

Directory: O:\F1.I\110715.B

INLET MAINT: None

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5750.d | 1. | | | 15 Jul 2011 08:36 |
| 2 | 96 | F1h5751.d | 1. | ICAL | | 15 Jul 2011 08:55 |
| 3 | 99 | F1h5752.d | 1. | 7159 | | 15 Jul 2011 09:11 |
| 4 | 99 | F1h5753.d | 1. | | | 15 Jul 2011 09:15 |
| 5 | 1 | F1h5754.d | 1. | FSTD1001H | TPH F ICAL L5 100... | 15 Jul 2011 09:23 |
| 6 | 100 | F1h5755.d | 1. | IBLK | TPH F | 15 Jul 2011 09:43 |
| 7 | 16 | F1h5756.d | 1. | K1100-05ARE,,~~60389~~ 60418,,4 | TPH F 4X DIL | 15 Jul 2011 10:03 |
| 8 | 17 | F1h5757.d | 1. | K1100-05AREMS,,~~60389~~ 60418,,4 | TPH F 4X DIL | 15 Jul 2011 10:23 |
| 9 | 18 | F1h5758.d | 1. | K1100-05AREMSD,,~~60389~~ 60418,,4 | TPH F 4X DIL | 15 Jul 2011 10:44 |
| 10 | 19 | F1h5759.d | 1. | K1216-03B,,60377,,50 | TPH F 50X DIL | 15 Jul 2011 11:04 |
| 11 | 99 | F1h5760.d | 1. | | | 15 Jul 2011 11:20 |
| 12 | 1 | F1h5761.d | 1. | FSTD1001I | TPH F ICAL L5 100... | 15 Jul 2011 11:29 |
| 13 | 100 | F1h5762.d | 1. | IBLK | TPH F | 15 Jul 2011 11:49 |
| 14 | 1 | F1h5763.d | 1. | FSTD1001J | TPH F ICAL L5 100... | 15 Jul 2011 16:03 |
| 15 | 100 | F1h5764.d | 1. | IBLK | TPH F | 15 Jul 2011 16:23 |
| 16 | 20 | F1h5765.d | 1. | MB-60441,,60441 | TPH F | 15 Jul 2011 16:44 |
| 17 | 21 | F1h5766.d | 1. | LCS-60441,,60441 | TPH F | 15 Jul 2011 17:04 |
| 18 | 22 | F1h5767.d | 1. | LCSD-60441,,60441 | TPH F | 15 Jul 2011 17:24 |
| 19 | 23 | F1h5768.d | 1. | K1216-02A,,60441,,50 SS BL OOS | TPH F 50X DIL | 15 Jul 2011 17:44 |
| 20 | 99 | F1h5769.d | 1. | | | 15 Jul 2011 18:00 |
| 21 | 24 | F1h5770.d | 1. | K1216-02A,,60441,,5 use 50X | TPH F 5X DIL | 15 Jul 2011 18:09 |
| 22 | 99 | F1h5771.d | 1. | | | 15 Jul 2011 18:25 |
| 23 | 99 | F1h5772.d | 1. | | | 15 Jul 2011 18:29 |
| 24 | 25 | F1h5773.d | 1. | K1216-02A,,60441 | TPH F | 15 Jul 2011 18:38 |
| 25 | 99 | F1h5774.d | 1. | | | 15 Jul 2011 18:54 |
| 26 | 99 | F1h5775.d | 1. | | | 15 Jul 2011 18:58 |
| 27 | 1 | F1h5776.d | 1. | FSTD1001K | TPH F ICAL L5 100... | 15 Jul 2011 19:07 |
| 28 | 100 | F1h5777.d | 1. | IBLK | TPH F | 15 Jul 2011 19:27 |

7/18/11

Data File: \\avogadro\organics\V1.I\110627.B\V1M1713.D
Report Date: 28-May-2011 14:20

Sample Calc - VOC

Spectrum Analytical, Inc. RI Division

Method 8260 Water and Medium Soil

Data file : \\avogadro\organics\V1.I\110627.B\V1M1713.D
Lab Smp Id: LCS-60011 Client Smp ID: LCS-60011
Inj Date : 27-JUN-2011 11:05
Operator : ALM SRC: LIMS Inst ID: V1.i
Smp Info : 5ML,LCS-60011,LCS-60011,60011
Misc Info :
Comment :
Method : \\avogadro\organics\V1.I\110627.B\v18260GH.m
Meth Date : 28-May-2011 14:16 vbrizard Quant Type: ISTD
Cal Date : 22-JUN-2011 12:41 Cal File: V1M1640.D
Als bottle: 32 Calibration Sample, Level: 3
Dil Factor: 1.00000
Integrator: HP RTE Compound Sublist: all.sub
Target Version: 4.14

methyl tert-butyl ether result: 51 µg/kg

Concentration Formula: Amt * DF * Uf * 5/(Ws * (100 - M)/100) * CpndVariable

| Name | Value | Description |
|---|---|---|
| DF | 1.000 | Dilution Factor |
| Uf | 1.000 | ng unit correction factor |
| Ws | 5.000 | Weight of sample (g) |
| M | 0.00000 | % Moisture (not decanted) |
| Va | 100.000 | Aliquot of methanol (uL) |
| Cpnd Variable | | Local Compound Variable |

$$\frac{250224 \times 50}{442607 \times 0.558} \times \frac{5}{5 \times (100-0)/100} = 50.7 \text{ µg/kg}$$

| Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|
| 1 Dichlorodifluoromethane | 85 | 1.697 | 1.695 | (0.265) | 63566 | 50.0000 | 50 |
| 2 Chloromethane | 50 | 1.894 | 1.882 | (0.295) | 228086 | 50.0000 | 54 |
| 3 Vinyl Chloride | 62 | 2.022 | 2.020 | (0.315) | 162349 | 50.0000 | 55 |
| 4 Bromomethane | 94 | 2.387 | 2.385 | (0.372) | 96811 | 50.0000 | 58 |
| 5 Chloroethane | 64 | 2.495 | 2.503 | (0.389) | 101170 | 50.0000 | 60 |
| 6 Trichlorofluoromethane | 101 | 2.761 | 2.769 | (0.430) | 128369 | 50.0000 | 60 |
| 127 Ethanol | 46 | 2.948 | 2.948 | (0.460) | 90850 | 5000.00 | 9600(Q) |
| 7 Ether | 59 | 3.066 | 3.074 | (0.478) | 133377 | 50.0000 | 54 |
| 8 Acrolein | 56 | 3.194 | 3.202 | (0.498) | 158481 | 250.000 | 260 |
| 9 1,1-Dichloroethene | 96 | 3.312 | 3.320 | (0.516) | 140698 | 50.0000 | 63 |
| 10 1,1,2-Trichloro-1,2,2-trifluo | 101 | 3.332 | 3.340 | (0.519) | 130400 | 50.0000 | 61 |
| 11 Acetone | 58 | 3.352 | 3.370 | (0.523) | 15708 | 50.0000 | 50 |
| 12 Iodomethane | 142 | 3.470 | 3.488 | (0.541) | 245925 | 50.0000 | 56 |
| 13 Carbon Disulfide | 76 | 3.539 | 3.557 | (0.552) | 515935 | 50.0000 | 59 |
| 14 Acetonitrile | 40 | 3.638 | 3.655 | (0.567) | 82393 | 500.000 | 280(Q) |
| 15 Methyl Acetate | 43 | 3.697 | 3.714 | (0.576) | 143626 | 50.0000 | 52 |
| 16 Methylene Chloride | 84 | 3.805 | 3.823 | (0.593) | 143248 | 50.0000 | 53 |
| 17 tert-Butanol | 59 | 3.913 | 3.941 | (0.610) | 29592 | 100.000 | 120 |
| 18 Acrylonitrile | 53 | 4.051 | 4.069 | (0.632) | 56706 | 50.0000 | 56 |
| 20 Methyl tert-butyl ether | 73 | 4.100 | 4.108 | (0.639) | 250224 | 50.0000 | 51 |
| 19 trans-1,2-Dichloroethene | 96 | 4.100 | 4.108 | (0.639) | 137205 | 50.0000 | 56 |

RRF = 0.558

Data File: \\avogadro\organics\V1.I\110627.B\V1M1713.D
Report Date: 28-May-2011 14:20

Sample Calc - VOC

| | Compounds | QUANT SIG MASS | RT | EXP RT | REL RT | RESPONSE | AMOUNTS CAL-AMT ( ug/L) | AMOUNTS ON-COL ( ug/L) |
|---|---|---|---|---|---|---|---|---|
| | 21 1,1-Dichloroethane | 63 | 4.534 | 4.552 | (0.707) | 268981 | 50.0000 | 55 |
| | 22 Vinyl acetate | 43 | 4.593 | 4.630 | (0.716) | 704917 | 50.0000 | 51 |
| | 23 Diisopropyl Ether | 45 | 4.613 | 4.630 | (0.719) | 779207 | 50.0000 | 54 |
| | 24 Ethyl tert-butyl ether | 59 | 4.997 | 5.014 | (0.779) | 376011 | 50.0000 | 50 |
| M | 27 1,2-dichloroethene, (Total) | 100 | | | | 277359 | 100.000 | 110 |
| | 25 cis-1,2-Dichloroethene | 96 | 5.145 | 5.162 | (0.802) | 140154 | 50.0000 | 53 |
| | 26 2,2-Dichloropropane | 77 | 5.154 | 5.172 | (0.803) | 81909 | 50.0000 | 54 |
| | 28 2-Butanone | 72 | 5.164 | 5.172 | (0.805) | 14159 | 50.0000 | 60(Q) |
| | 29 Bromochloromethane | 128 | 5.401 | 5.418 | (0.842) | 68385 | 50.0000 | 52 |
| | 30 Tetrahydrofuran | 72 | 5.470 | 5.477 | (0.853) | 26314 | 100.000 | 110 |
| | 31 Chloroform | 83 | 5.489 | 5.507 | (0.856) | 191905 | 50.0000 | 54 |
| $ | 32 Dibromofluoromethane | 113 | 5.657 | 5.684 | (0.882) | 112443 | 50.0000 | 48 |
| | 33 1,1,1-Trichloroethane | 97 | 5.696 | 5.724 | (0.888) | 118768 | 50.0000 | 56 |
| | 34 Cyclohexane | 56 | 5.775 | 5.793 | (0.900) | 308060 | 50.0000 | 59 |
| | 36 Carbon Tetrachloride | 117 | 5.883 | 5.901 | (0.917) | 120447 | 50.0000 | 56 |
| | 35 1,1-Dichloropropene | 110 | 5.883 | 5.901 | (0.917) | 62045 | 50.0000 | 56 |
| $ | 37 1,2-Dichloroethane-d4 | 102 | 6.031 | 6.049 | (0.940) | 26519 | 50.0000 | 47 |
| | 38 Benzene | 78 | 6.110 | 6.127 | (0.952) | 524350 | 50.0000 | 57 |
| | 39 1,2-Dichloroethane | 62 | 6.120 | 6.137 | (0.954) | 130324 | 50.0000 | 52 |
| | 40 tert-Amyl methyl ether | 73 | 6.228 | 6.246 | (0.971) | 263308 | 50.0000 | 50 |
| * | 41 Fluorobenzene | 96 | 6.415 | 6.433 | (1.000) | 442607 | 50.0000 | |
| | 42 Trichloroethene | 130 | 6.829 | 6.856 | (1.064) | 137669 | 50.0000 | 54 |
| | 43 Methylcyclohexane | 83 | 7.055 | 7.083 | (1.100) | 225900 | 50.0000 | 59 |
| | 44 1,2-Dichloropropane | 63 | 7.075 | 7.103 | (1.103) | 164523 | 50.0000 | 55 |
| | 46 Dibromomethane | 93 | 7.213 | 7.231 | (1.124) | 70119 | 50.0000 | 53 |
| | 47 1,4-Dioxane | 88 | 7.233 | 7.260 | (1.127) | 21548 | 1000.00 | 1300 |
| | 48 Bromodichloromethane | 83 | 7.400 | 7.418 | (1.154) | 136645 | 50.0000 | 55 |
| | 45 2-Chloroethyl vinyl ether | 63 | 7.755 | 7.772 | (1.209) | 9910 | 50.0000 | 28(Q) |
| | 49 cis-1,3-Dichloropropene | 75 | 7.932 | 7.950 | (1.236) | 209102 | 50.0000 | 56 |
| | 50 4-Methyl-2-pentanone | 43 | 8.119 | 8.137 | (1.266) | 153560 | 50.0000 | 52 |
| $ | 51 Toluene-d8 | 98 | 8.267 | 8.285 | (0.818) | 379257 | 50.0000 | 49 |
| | 52 Toluene | 91 | 8.355 | 8.373 | (1.302) | 508039 | 50.0000 | 56 |
| | 53 trans-1,3-Dichloropropene | 75 | 8.612 | 8.629 | (1.342) | 156382 | 50.0000 | 53 |
| | 54 1,1,2-Trichloroethane | 97 | 8.848 | 8.856 | (1.379) | 92292 | 50.0000 | 52 |
| | 55 Tetrachloroethene | 164 | 9.045 | 9.053 | (0.895) | 101562 | 50.0000 | 58 |
| | 56 1,3-Dichloropropane | 76 | 9.055 | 9.072 | (0.896) | 166332 | 50.0000 | 54 |
| | 57 2-Hexanone | 43 | 9.163 | 9.181 | (0.906) | 111088 | 50.0000 | 51 |
| | 58 Dibromochloromethane | 129 | 9.350 | 9.358 | (0.925) | 107363 | 50.0000 | 52 |
| | 59 1,2-Dibromoethane | 107 | 9.498 | 9.506 | (0.940) | 98445 | 50.0000 | 54 |
| * | 60 Chlorobenzene-d5 | 117 | 10.109 | 10.126 | (1.000) | 308863 | 50.0000 | |
| | 63 1-Chlorohexane | 91 | 10.119 | 10.136 | (1.001) | 192375 | 50.0000 | 62 |
| | 61 Chlorobenzene | 112 | 10.148 | 10.166 | (1.004) | 322007 | 50.0000 | 53 |
| | 62 1,1,1,2-Tetrachloroethane | 131 | 10.247 | 10.264 | (1.014) | 111777 | 50.0000 | 56 |
| | 64 Ethylbenzene | 106 | 10.296 | 10.304 | (1.019) | 172264 | 50.0000 | 58 |
| | 65 m,p-Xylene | 106 | 10.444 | 10.461 | (1.033) | 422194 | 100.000 | 110 |
| | 66 o-Xylene | 106 | 10.946 | 10.954 | (1.083) | 200058 | 50.0000 | 56 |
| | 67 Styrene | 104 | 10.956 | 10.973 | (1.084) | 345141 | 50.0000 | 56 |
| | 68 Bromoform | 173 | 11.182 | 11.190 | (1.106) | 67998 | 50.0000 | 55(T) |
| | 69 Isopropylbenzene | 105 | 11.409 | 11.417 | (1.129) | 507476 | 50.0000 | 58 |
| | 126 trans-1,4-Dichloro-2-butene | 75 | 11.478 | 11.486 | (1.135) | 41873 | 50.0000 | 53 |
| $ | 70 Bromofluorobenzene | 95 | 11.586 | 11.594 | (1.146) | 147970 | 50.0000 | 50 |
| | 72 Bromobenzene | 156 | 11.773 | 11.781 | (0.909) | 135917 | 50.0000 | 54 |
| | 71 1,1,2,2-Tetrachloroethane | 83 | 11.763 | 11.761 | (0.908) | 124854 | 50.0000 | 51 |
| | 73 1,2,3-Trichloropropane | 75 | 11.813 | 11.821 | (0.912) | 137535 | 50.0000 | 51 |

Data File: \\Avogadro\Organics\F1.I\110715.B\F1H5756.D
Lab Smp Id: K1100-05ARE BN: 60418 Client Smp ID: 06SB2S-1820-20110621RE
Misc : TPH F 4X DIL Inst ID: F1.I 5
Signal(s) : FID1A.CH Sample Calc - TPH
Inj Date : 15 Jul 2011 10:03 Operator: TM
ALS Vial : 16 Sample Multiplier: 1

ETPH result: 1400 mg/kg

Quant Time: Jul 15 12:47:34 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.19 | 16698063 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.77 | 8331552 | 21.769 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 21.77% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.50 | 3101058150 | 9267.386 ug/mL |
| Integration Range: | | | 1.50 to 10.32 minutes |
| Corrected Range Area (IS,SS): | | 3126417751 | |
| Instrument Blank Area (F1H5755): | | 25359601 | |

Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

$9267.386 \frac{mg}{mL} \times \frac{1}{30.1 mL/g} \times \frac{1}{0.89 \% solids} \times 4$ dilution $= 1384 mg/kg$

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **D. KANE** | **DATE:** | **SEPTEMBER 9, 2011** |
| **FROM:** | **LEANNE M. GANSER** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VPH AND ETPH**
**CTO WE56, NSB NEW LONDON**
**SAMPLE DELIVERY GROUP (SDG) K1283**

**SAMPLES:** 16/Water/

| | | | |
|---|---|---|---|
| 06MW01-20110719 | 06MW02-20110719 | 06MW03-20110720 | 6MW04-20110721 |
| 06MW05-20110721 | 06MW06-20110719 | 06MW07-20110719 | 06MW08-20110719 |
| 06MW09-20110718 | 06MW10-20110720 | 06MW11-20110720 | 06MW12-20110720 |
| 06MW13-20110719 | 06MW-DUP01-20110718 | TB06-071811 | TB06-20110719 |

OVERVIEW

The sample set for CTO WE56, NSB New London, SDG K1283, consists of fourteen (14) aqueous environmental samples and two (2) aqueous trip blanks. One field duplicate pair was included in this SDG: 06MW09-20110718 / 06MW-DUP01-20110718.

All samples were analyzed for volatile petroleum hydrocarbons (VPH). All samples, except the trip blanks were also analyzed for extractable total petroleum hydrocarbons (ETPH). The samples were collected by Tetra Tech NUS on June 20-21, 2011 and analyzed by Spectrum Analytical, Inc. All analyses were conducted in accordance with Massachusetts Department of Environmental Protection VPH and Connecticut ETPH analysis and reporting protocols. A Tier 3 data validation was performed on the referenced samples. The data contained in this SDG were validated with regard to the following parameters:

- * Data Completeness
- * Holding Times
- * Initial/Continuing Calibrations
- Laboratory Method Blank Results
- * Surrogate Recoveries
- * Laboratory Control Sample/Laboratory Control Sample Duplicate Results
- Matrix Spike/Matrix Spike Duplicate Results
- * Compound Quantitation
- * Compound Identification
- * Detection Limits
- * Field Duplicate Results

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A. Results as reported by the laboratory are presented in Appendix B. Appendix C contains Region I worksheets, and Appendix D contains the documentation to support the findings as discussed in this data validation report.

Laboratory Method Blank Results

The following contaminants were detected in the laboratory method blanks at the following maximum concentration:

| Analyte | Maximum Concentration (mg/L) | Action Level (mg/L) |
|---|---|---|
| C5-C8 Aliphatic hydrocarbons(1) | 0.0103 | 0.0515 |
| C5-C8 Aliphatic hydrocarbons(2) | 0.0122 | 0.061 |
| C5-C8 Aliphatic hydrocarbons(3) | 0.0102 | 0.051 |
| C5-C8 Aliphatic hydrocarbons(4) | 0.0120 | 0.06 |
| C9-C10 Aromatic hydrocarbons(4) | 0.00137 | 0.00685 |

1 Maximum concentration affecting sample TB06-071811 in batch 1115032.
2 Maximum concentration affecting samples 06MW-DUP01-20110718 and 06MW09-20110718 in batch 1115046.
3 Maximum concentration affecting samples 06MW01-20110719, 06MW02-20110719, 06MW06-20110719, 06MW07-20110719, 06MW08-20110719, 06MW13-20110719, and TB06-20110719 in batch 1115056.
4 Maximum concentration affecting samples 06MW03-20110720, 6MW04-20110721, 06MW05-20110721, 06MW10-20110720, 06MW11-20110720, and 06MW12-20110720 in batch 1115180.

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results for less than the blank action level were qualified as nondetected, "U", due to blank contamination. Trip blanks were not qualified for laboratory blank contamination.

Matrix Spike (MS)/Matrix Spike Duplicate (MSD) Results

MS percent recovery for n-pentane was greater than quality control limits. No action was taken because LCS recovery was acceptable.

Comments

Positive results reported below the quantitation limit but above the method detection limit were qualified as estimated, "J".

The following samples were analyzed at a 5X dilution for VPH: 06MW01-20110719, 06MW02-20110719, 6MW04-20110721, 06MW05-20110721, 06MW06-20110719, 06MW07-20110719, 06MW08-20110719, 06MW09-20110718, 06MW10-20110720, 06MW11-20110720, 06MW12-20110720, 06MW13-20110719, and 06MW-DUP01-20110718.

Sample 06MW03-20110720 was analyzed at a 10X dilution for VPH.

## EXECUTIVE SUMMARY

**Laboratory Performance Issues:** Re-analyzed samples were extracted outside of hold time.

**Other Factors Affecting Data Quality:** None.

The data for these analyses were reviewed with reference to the Region I EPA "Data Validation Functional Guidelines - Part II" (12/96) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (April 2009). The text of this report has been formulated to address only those problem areas affecting data quality.

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Joseph A. Samchuck
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Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Regional Worksheets
Appendix D – Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

**Data Validation Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (e.g. % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = GFAA PDS-GFAA MSA's r < 0.995 / ICP PDS Recovery Noncompliance
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (e.g. base-line drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; e.g. chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = % Difference between columns/detectors >25% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient r < 0.995
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is greater than sample activity

| PROJ_NO: 02634 | NSAMPLE | 06MW01-20110719 | | | | | | 06MW02-20110719 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-04A | | | | | | K1283-05A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/19/2011 | | | | | | 7/19/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 5 | U | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.0598 | J | P | | | | 0.0469 | U | A | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.2 | | | | | | 0.0469 | U | A | | | |
| C9-C10 AROMATICS | | 0.539 | | | | | | 0.0255 | | | | | |
| C9-C12 ALIPHATICS | | 1.02 | | | | | | 0.0447 | | | | | |
| C9-C12 ALIPHATICS-UNADJ | | 1.55 | | | | | | 0.0703 | | | | | |
| ETHYLBENZENE | | | | | 36.7 | | | | | | 5 | U | |
| M+P-XYLENES | | | | | 46.8 | | | | | | 10 | U | |
| METHYL TERT-BUTYL ETHER | | | | | 5 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 123 | | | | | | 1.6 | J | P |
| O-XYLENE | | | | | 38.3 | | | | | | 5 | U | |
| TOLUENE | | | | | 18.1 | | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW03-20110720 | | | | | | 06MW04-20110721 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-11A | | | | | | K1283-15A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/20/2011 | | | | | | 7/21/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 24.3 | | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.215 | | | | | | 0.0567 | U | A | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.421 | | | | | | 0.0567 | U | A | | | |
| C9-C10 AROMATICS | | 0.396 | | | | | | 0.059 | | | | | |
| C9-C12 ALIPHATICS | | 0.829 | | | | | | 0.102 | | | | | |
| C9-C12 ALIPHATICS-UNADJ | | 1.22 | | | | | | 0.161 | | | | | |
| ETHYLBENZENE | | | | | 52.6 | | | | | | 5 | U | |
| M+P-XYLENES | | | | | 84.6 | | | | | | 2.9 | J | P |
| METHYL TERT-BUTYL ETHER | | | | | 10 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 131 | | | | | | 13 | | |
| O-XYLENE | | | | | 25.1 | | | | | | 5 | U | |
| TOLUENE | | | | | 19.4 | | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW05-20110721 | | | | | | 06MW06-20110719 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-16A | | | | | | K1283-06A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/21/2011 | | | | | | 7/19/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 5 | U | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.0512 | U | A | | | | 0.0518 | J | P | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.0512 | U | A | | | | 0.0518 | J | P | | | |
| C9-C10 AROMATICS | | 0.0065 | U | A | | | | 0.0218 | J | P | | | |
| C9-C12 ALIPHATICS | | 0.0141 | J | P | | | | 0.0423 | | | | | |
| C9-C12 ALIPHATICS-UNADJ | | 0.0206 | J | P | | | | 0.0642 | | | | | |
| ETHYLBENZENE | | | | | 5 | U | | | | | 5 | U | |
| M+P-XYLENES | | | | | 10 | U | | | | | 10 | U | |
| METHYL TERT-BUTYL ETHER | | | | | 5 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 5 | U | | | | | 2.7 | J | P |
| O-XYLENE | | | | | 5 | U | | | | | 5 | U | |
| TOLUENE | | | | | 5 | U | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW07-20110719 | | | | | | 06MW08-20110719 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-07A | | | | | | K1283-08A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/19/2011 | | | | | | 7/19/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 5 | U | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.0468 | U | A | | | | 0.042 | U | A | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.0468 | U | A | | | | 0.042 | U | A | | | |
| C9-C10 AROMATICS | | 0.00602 | J | P | | | | 0.00597 | J | P | | | |
| C9-C12 ALIPHATICS | | 0.0138 | J | P | | | | 0.0127 | J | P | | | |
| C9-C12 ALIPHATICS-UNADJ | | 0.0198 | J | P | | | | 0.0187 | J | P | | | |
| ETHYLBENZENE | | | | | 5 | U | | | | | 5 | U | |
| M+P-XYLENES | | | | | 10 | U | | | | | 10 | U | |
| METHYL TERT-BUTYL ETHER | | | | | 5 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 5 | U | | | | | 5 | U | |
| O-XYLENE | | | | | 5 | U | | | | | 5 | U | |
| TOLUENE | | | | | 5 | U | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW09-20110718 | | | | | | 06MW10-20110720 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-02A | | | | | | K1283-12A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/18/2011 | | | | | | 7/20/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 5 | U | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.0467 | U | A | | | | 0.0568 | U | A | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.0467 | U | A | | | | 0.0568 | U | A | | | |
| C9-C10 AROMATICS | | 0.028 | | | | | | 0.0861 | | | | | |
| C9-C12 ALIPHATICS | | 0.0721 | | | | | | 0.194 | | | | | |
| C9-C12 ALIPHATICS-UNADJ | | 0.1 | | | | | | 0.28 | | | | | |
| ETHYLBENZENE | | | | | 5 | U | | | | | 5 | U | |
| M+P-XYLENES | | | | | 10 | U | | | | | 10 | U | |
| METHYL TERT-BUTYL ETHER | | | | | 5 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 6.2 | | | | | | 17.6 | | |
| O-XYLENE | | | | | 5 | U | | | | | 5 | U | |
| TOLUENE | | | | | 5 | U | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW11-20110720 | | | | | | 06MW12-20110720 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-13A | | | | | | K1283-14A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/20/2011 | | | | | | 7/20/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 5 | U | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.0537 | U | A | | | | 0.0526 | U | A | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.0537 | U | A | | | | 0.0526 | U | A | | | |
| C9-C10 AROMATICS | | 0.0248 | J | P | | | | 0.00855 | J | P | | | |
| C9-C12 ALIPHATICS | | 0.034 | | | | | | 0.0132 | J | P | | | |
| C9-C12 ALIPHATICS-UNADJ | | 0.0588 | | | | | | 0.0217 | J | P | | | |
| ETHYLBENZENE | | | | | 5 | U | | | | | 5 | U | |
| M+P-XYLENES | | | | | 10 | U | | | | | 10 | U | |
| METHYL TERT-BUTYL ETHER | | | | | 5 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 5 | U | | | | | 5 | U | |
| O-XYLENE | | | | | 5 | U | | | | | 5 | U | |
| TOLUENE | | | | | 5 | U | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW13-20110719 | | | | | | 06MW-DUP01-20110718 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-09A | | | | | | K1283-01A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/19/2011 | | | | | | 7/18/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | 06MW09-20110718 | | | 06MW09-20110718 | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 5 | U | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.0499 | U | A | | | | 0.0457 | U | A | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.0499 | U | A | | | | 0.0457 | U | A | | | |
| C9-C10 AROMATICS | | 0.00754 | J | P | | | | 0.0297 | | | | | |
| C9-C12 ALIPHATICS | | 0.0111 | J | P | | | | 0.0716 | | | | | |
| C9-C12 ALIPHATICS-UNADJ | | 0.0187 | J | P | | | | 0.101 | | | | | |
| ETHYLBENZENE | | | | | 5 | U | | | | | 5 | U | |
| M+P-XYLENES | | | | | 10 | U | | | | | 10 | U | |
| METHYL TERT-BUTYL ETHER | | | | | 5 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 5 | U | | | | | 6.7 | | |
| O-XYLENE | | | | | 5 | U | | | | | 5 | U | |
| TOLUENE | | | | | 5 | U | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | TB06-071811 | | | | | | TB06-20110719 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-03A | | | | | | K1283-10A | | | | | |
| FRACTION: PETV | SAMP_DATE | 7/18/2011 | | | | | | 7/19/2011 | | | | | |
| MEDIA: WATER | QC_TYPE | NM | | | | | | NM | | | | | |
| | UNITS | MG/L | | | UG/L | | | MG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | | | | 5 | U | | | | | 5 | U | |
| C5-C8 ALIPHATICS | | 0.0109 | J | P | | | | 0.00932 | J | P | | | |
| C5-C8 ALIPHATICS-UNADJ | | 0.0109 | J | P | | | | 0.00932 | J | P | | | |
| C9-C10 AROMATICS | | 0.00124 | J | P | | | | 0.0012 | J | P | | | |
| C9-C12 ALIPHATICS | | 0.025 | U | | | | | 0.025 | U | | | | |
| C9-C12 ALIPHATICS-UNADJ | | 0.025 | U | | | | | 0.025 | U | | | | |
| ETHYLBENZENE | | | | | 5 | U | | | | | 5 | U | |
| M+P-XYLENES | | | | | 10 | U | | | | | 10 | U | |
| METHYL TERT-BUTYL ETHER | | | | | 5 | U | | | | | 5 | U | |
| NAPHTHALENE | | | | | 5 | U | | | | | 5 | U | |
| O-XYLENE | | | | | 5 | U | | | | | 5 | U | |
| TOLUENE | | | | | 5 | U | | | | | 5 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW01-20110719 | | | 06MW02-20110719 | | | 06MW03-20110720 | | | 06MW04-20110721 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K1283 | LAB_ID | K1283-04B | | | K1283-05B | | | K1283-11B | | | K1283-15B | | |
| FRACTION: PETS | SAMP_DATE | 7/19/2011 | | | 7/19/2011 | | | 7/20/2011 | | | 7/21/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 2.5 | | | 0.23 | | | 3.5 | | | 1.1 | | |

| PROJ_NO: 02634<br>SDG: K1283<br>FRACTION: PETS<br>MEDIA: WATER | NSAMPLE | 06MW05-20110721 | | | 06MW06-20110719 | | | 06MW07-20110719 | | | 06MW08-20110719 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LAB_ID | K1283-16B | | | K1283-06B | | | K1283-07B | | | K1283-08B | | |
| | SAMP_DATE | 7/21/2011 | | | 7/19/2011 | | | 7/19/2011 | | | 7/19/2011 | | |
| | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 0.1 | U | | 0.38 | | | 0.2 | | | 0.19 | | |

| PROJ_NO: 02634<br>SDG: K1283<br>FRACTION: PETS<br>MEDIA: WATER | NSAMPLE | 06MW09-20110718 | | | 06MW10-20110720 | | | 06MW11-20110720 | | | 06MW12-20110720 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | LAB_ID | K1283-02B | | | K1283-12B | | | K1283-13B | | | K1283-14B | | |
| | SAMP_DATE | 7/18/2011 | | | 7/20/2011 | | | 7/20/2011 | | | 7/20/2011 | | |
| | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 0.78 | | | 1.4 | | | 0.26 | | | 0.1 | U | |

| PROJ_NO: 02634<br>SDG: K1283<br>FRACTION: PETS<br>MEDIA: WATER | NSAMPLE | 06MW13-20110719 | | | 06MW-DUP01-20110718 | | |
|---|---|---|---|---|---|---|---|
| | LAB_ID | K1283-09B | | | K1283-01B | | |
| | SAMP_DATE | 7/19/2011 | | | 7/18/2011 | | |
| | QC_TYPE | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | 06MW09-20110718 | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 0.37 | | | 0.86 | | |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW-DUP01-20110718**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-01 | File ID: | 32209-01.D |
| Sampled: | 07/18/11 00:00 | Prepared: | 07/30/11 08:36 | Analyzed: | 07/31/11 23:50 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0457 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0716 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0297 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0457 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.101 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0067 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW01-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-04 | File ID: | 32209-04.D |
| Sampled: | 07/19/11 12:27 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 12:23 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0598 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 1.02 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.539 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.200 mg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1.55 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0367 mg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.123 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0181 mg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 0.0468 mg/l | |
| 95-47-6 | o-Xylene | 5 | 0.0383 mg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

06MW02-20110719

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-05 | File ID: | 32209-05.D |
| Sampled: | 07/19/11 14:07 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 12:50 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0469 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0447 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0255 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0469 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0703 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0016 mg/l | J |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW03-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-11 | File ID: | 32209-11.D |
| Sampled: | 07/20/11 13:44 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/02/11 23:27 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 10 | 0.215 mg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 10 | 0.829 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 10 | 0.396 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 10 | 0.421 mg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 10 | 1.22 mg/l | |
| 71-43-2 | Benzene | 10 | 0.0243 mg/l | |
| 100-41-4 | Ethylbenzene | 10 | 0.0526 mg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 10 | 0.0031 mg/l | U |
| 91-20-3 | Naphthalene | 10 | 0.131 mg/l | |
| 108-88-3 | Toluene | 10 | 0.0194 mg/l | |
| 179601-23-1 | m,p-Xylene | 10 | 0.0846 mg/l | |
| 95-47-6 | o-Xylene | 10 | 0.0251 mg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW04-20110721**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-15 | File ID: | 32209-15r.D |
| Sampled: | 07/21/11 09:07 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 08:04 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0567 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.102 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0590 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0596 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.161 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0130 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0029 mg/l | J |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW05-20110721**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-16 | File ID: | 32209-16.D |
| Sampled: | 07/21/11 08:54 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 01:40 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0512 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0141 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00650 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0512 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0206 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW06-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-06 | File ID: | 32209-06.D |
| Sampled: | 07/19/11 09:17 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 13:17 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0518 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0423 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0218 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0518 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0642 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0027 mg/l | J |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW07-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-07 | File ID: | 32209-07.D |
| Sampled: | 07/19/11 12:48 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 13:44 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0468 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0138 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00602 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0468 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0198 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW08-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-08 | File ID: | 32209-08.D |
| Sampled: | 07/19/11 14:56 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 14:11 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0420 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0127 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00597 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0420 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0187 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW09-20110718**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-02 | File ID: | 32209-02.D |
| Sampled: | 07/18/11 16:20 | Prepared: | 07/30/11 08:36 | Analyzed: | 08/01/11 00:20 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0467 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0721 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0280 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0467 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.100 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0062 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW10-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-12 | File ID: | 32209-12.D |
| Sampled: | 07/20/11 11:16 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/02/11 23:53 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0568 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.194 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0861 mg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0568 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.280 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0176 mg/l | |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW11-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-13 | File ID: | 32209-13.D |
| Sampled: | 07/20/11 10:59 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 00:20 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |
| Instrument: | FID1 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0537 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0340 mg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.0248 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0537 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0588 mg/l | |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW12-20110720**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-14 | File ID: | 32209-14.D |
| Sampled: | 07/20/11 13:50 | Prepared: | 08/02/11 09:09 | Analyzed: | 08/03/11 00:47 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115180 Sequence: S106786 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0526 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0132 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00855 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0526 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0217 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**06MW13-20110719**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-09 | File ID: | 32209-09.D |
| Sampled: | 07/19/11 09:25 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 14:38 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 0.0499 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 0.0111 mg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 0.00754 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 0.0499 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 0.0187 mg/l | J |
| 71-43-2 | Benzene | 5 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 5 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 5 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 5 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

**TB06-071811**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-03 | File ID: | 32209-03.D |
| Sampled: | 07/18/11 10:00 | Prepared: | 07/30/11 08:31 | Analyzed: | 07/30/11 20:08 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115032 Sequence: S106694 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0109 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.00422 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00124 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0109 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.00468 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.0011 mg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## +MADEP VPH 5/2004 Rev. 1.1

TB06-20110719

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Project Number: | K1283 | | | Received: | 07/22/11 16:35 |
| Matrix: | Aqueous | Laboratory ID: | SB32209-10 | File ID: | 32209-10.D |
| Sampled: | 07/19/11 09:00 | Prepared: | 08/01/11 08:14 | Analyzed: | 08/01/11 15:05 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1115056 Sequence: S106728 Calibration: 1106005 Instrument: FID1

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.00932 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.00422 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00120 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.00932 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.00468 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.0013 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.0014 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.0016 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.0012 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.0013 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.0028 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.0011 mg/l | U |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-DUP01-20110718
**Lab ID:** K1283-01

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/18/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.86 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 20:29 | 60579 |
| Surrogate: ortho-Terphenyl | 77.0 | | | 50-150 | %REC | 1 | 07/27/2011 20:29 | 60579 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW01-20110719
**Lab ID:** K1283-04

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/19/11 12:27

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 2.5 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 9:43 | 60598 |
| Surrogate: ortho-Terphenyl | 92.4 | | | 50-150 | %REC | 1 | 08/03/2011 9:43 | 60598 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW02-20110719
**Lab ID:** K1283-05

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/19/11 14:07

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.23 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:09 | 60579 |
| Surrogate: ortho-Terphenyl | 68.7 | | | 50-150 | %REC | 1 | 07/27/2011 21:09 | 60579 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW03-20110720
**Lab ID:** K1283-11

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/20/11 13:44

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 3.5 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:04 | 60598 |
| Surrogate: ortho-Terphenyl | 88.8 | | | 50-150 | %REC | 1 | 08/03/2011 10:04 | 60598 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW04-20110721
**Lab ID:** K1283-15

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/21/11 9:07

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 1.1 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:24 | 60598 |
| Surrogate: ortho-Terphenyl | 83.5 | | | 50-150 | %REC | 1 | 08/03/2011 11:24 | 60598 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW05-20110721
**Lab ID:** K1283-16

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/21/11 8:54

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:45 | 60598 |
| Surrogate: ortho-Terphenyl | 74.4 | | | 50-150 | %REC | 1 | 08/03/2011 11:45 | 60598 |

Qualifiers:
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW06-20110719
**Lab ID:** K1283-06
**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/19/11 9:17

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.38 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:29 | 60579 |
| Surrogate: ortho-Terphenyl | 71.6 | | | 50-150 | %REC | 1 | 07/27/2011 21:29 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW07-20110719
**Lab ID:** K1283-07

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/19/11 12:48

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.20 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 21:49 | 60579 |
| Surrogate: ortho-Terphenyl | 76.1 | | | 50-150 | %REC | 1 | 07/27/2011 21:49 | 60579 |

**Qualifiers:**

- ND - Not Detected at the Limit of Detection
- J - Analyte detected below Limit of Quantitation
- B - Analyte detected in the associated Method Blank
- DF - Dilution Factor
- ^ Qualified to Limit of Detection (LOD)
- S - Spike Recovery outside accepted recovery limits
- R - RPD outside accepted recovery limits
- E - Value above quantitation range
- LOQ - Limit of Quantitation
- LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW08-20110719
**Lab ID:** K1283-08
**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/19/11 14:56

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.19 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 22:09 | 60579 |
| Surrogate: ortho-Terphenyl | 66.5 | | | 50-150 | %REC | 1 | 07/27/2011 22:09 | 60579 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW09-20110718
**Lab ID:** K1283-02

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/18/11 16:20

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.78 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 20:49 | 60579 |
| Surrogate: ortho-Terphenyl | 67.2 | | | 50-150 | %REC | 1 | 07/27/2011 20:49 | 60579 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW10-20110720
**Lab ID:** K1283-12

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/20/11 11:16

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 1.4 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:24 | 60598 |
| Surrogate: ortho-Terphenyl | 78.5 | | | 50-150 | %REC | 1 | 08/03/2011 10:24 | 60598 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW11-20110720
**Lab ID:** K1283-13

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/20/11 10:59

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.26 | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 10:44 | 60598 |
| Surrogate: ortho-Terphenyl | 93.4 | | | 50-150 | %REC | 1 | 08/03/2011 10:44 | 60598 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW12-20110720
**Lab ID:** K1283-14
**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/20/11 13:50

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 08/03/2011 11:04 | 60598 |
| Surrogate: ortho-Terphenyl | 92.7 | | | 50-150 | %REC | 1 | 08/03/2011 11:04 | 60598 |

Qualifiers:
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*16-Aug-*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW13-20110719
**Lab ID:** K1283-09

**Project:** CTO-WE56, NSB New London
**Collection Date:** 07/19/11 9:25

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.37 | | 0.018 | 0.10 | mg/L | 1 | 07/27/2011 22:29 | 60579 |
| Surrogate: ortho-Terphenyl | 77.3 | | | 50-150 | %REC | 1 | 07/27/2011 22:29 | 60579 |

**Qualifiers:**

ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.08.05.A

# APPENDIX C

## REGIONAL WORKSHEETS

Site Name NSB New London
Reference No. _____

# REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Spectrum Analytical
Case/Project No. _____
SDG No. K1283
No. of Samples/Matrix _____

SOW/Method No. _____
Sampling Date(s) _____
Shipping Date(s) _____
Date Rec'd by lab _____

Traffic Report Sample Nos. See DV Report

Trip Blank No. _____
Equipment Blank No. _____
Bottle Blank No. _____
Field Duplicate Nos. _____

PES Nos. _____

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Leanne Ganser Company Name Tetra Tech Phone Number _____

Date Validation Started _____ Date Validation Completed _____

EPA-NE
Data Validation Worksheet Cover Page - Page 2

See DV Report

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/SV worksheets:

| | | |
|---|---|---|
| VOA/SV-Pest/PCB | COMPLETE SDG FILE (CSF) AUDIT | |
| VOA/SV-Pest/PCB-I | PRESERVATION AND HOLDING TIMES | _____ |
| VOA/SV-II | GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING) | _____ |
| VOA/SV-III | INITIAL CALIBRATION | _____ |
| VOA/SV-IV | CONTINUING CALIBRATION | _____ |
| VOA/SV-Pest/PCB-V-A | BLANK ANALYSIS | _____ |
| VOA/SV-Pest/PCB-V-B | BLANK ANALYSIS | _____ |
| VOA-VI | VOA SURROGATE SPIKE RECOVERIES | _____ |
| SV-VI | SV SURROGATE SPIKE RECOVERIES | _____ |
| VOA/SV-VII | INTERNAL STANDARD PERFORMANCE | _____ |
| VOA/SV-Pest/PCB-VIII | MATRIX SPIKE/MATRIX SPIKE DUPLICATE | _____ |
| VOA/SV-Pest/PCB-IX | FIELD DUPLICATE PRECISION | _____ |
| VOA/SV-Pest/PCB-X | SENSITIVITY CHECK | _____ |
| VOA/SV-Pest/PCB-XI | ACCURACY CHECK | _____ |
| VOA/SV-Pest/PCB-XII | TARGET COMPOUND IDENTIFICATION | _____ |
| VOA/SV-Pest/PCB-XIII | SAMPLE QUANTITATION | _____ |
| VOA/SV-XIV | TENTATIVELY IDENTIFIED COMPOUNDS | _____ |
| VOA/SV-XV | SEMIVOLATILE CLEANUP | _____ |
| TABLE II-WORKSHEET | OVERALL EVALUATION OF DATA | _____ |

Pest/PCB worksheets:

| | | |
|---|---|---|
| VOA/SV-Pest/PCB | COMPLETE SDG FILE (CSF) AUDIT | |
| VOA/SV-Pest/PCB-I | PRESERVATION AND HOLDING TIMES | _____ |
| Pest/PCB-IIA | GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION | _____ |
| Pest/PCB-IIB | GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES | _____ |
| Pest/PCB-IIC | GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION | _____ |
| Pest/PCB-IID | GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION | _____ |
| Pest/PCB-III | INITIAL CALIBRATION | _____ |
| Pest/PCB-IV | CONTINUING CALIBRATION | _____ |
| VOA/SV-Pest/PCB-V-A | BLANK ANALYSIS | _____ |
| VOA/SV-Pest/PCB-V-B | BLANK ANALYSIS | _____ |
| Pest/PCB-VI | SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT | _____ |
| Pest/PCB-VII | PESTICIDE CLEANUP | _____ |
| VOA/SV-Pest/PCB-VIII | MATRIX SPIKE/MATRIX SPIKE DUPLICATE | _____ |
| VOA/SV-Pest/PCB-IX | FIELD DUPLICATE PRECISION | _____ |
| VOA/SV-Pest/PCB-X | SENSITIVITY CHECK | _____ |
| VOA/SV-Pest/PCB-XI | ACCURACY CHECK | _____ |
| Pest/PCB-XII | COMPOUND IDENTIFICATION | _____ |
| VOA/SV-Pest/PCB-XIII | SAMPLE QUANTITATION | _____ |
| TABLE II-WORKSHEET | OVERALL EVALUATION OF DATA | _____ |

I certify that all criteria were met for the worksheets checked above.

Signature:_____ Name:_____

Date: _____

The data validator generates a Data Validation Report, applicable to Data Validation Tiers II and III, that consists of the following components in the order specified below: (Refer to Section 11 for a description of each of the Data Validation Report components).

1. Organic Regional Data Assessment/Inorganic Regional Data Assessment (ORDA/IRDA) Form
2. Data Validation Memorandum
   a. Narrative
   b. Table I-Qualifier Recommendation Summary Table
   c. Table II-Overall Evaluation of Data
   d. Table III-Tentatively Identified Compounds
   e. Data Summary Tables
3. Standard Data Validation Worksheets
   a. Manual
   b. Automated Data Review Reports (i.e., CADRE)
4. Support Documentation
   a. Copy of non-CLP analytical method, e.g., DAS methods, modified EPA methods
   b. Copies of PES Score Reports/Vendor PES QC Acceptance Limits
   c. Copies of Telephone Logs/Communication Forms for:
      - RSCC communications
      - Requests for laboratory data resubmissions/clarifications
      - Communications with samplers resolving sampling problems
      - Communications with TPO/Lead Chemist to report contractually-deficient data for rejection/reduced payment
      - Communications with EPA Site Manager concerning possible data rejection
      - EPA Site Manager authorization for alternate DV tier
   d. Copies of data supporting recommendations for reduced payment resulting from CSF Audit and/or PE sample result evaluation
   e. Original data to support recommendations for data rejection/non-payment identified from Tier II or Tier III data validation
   f. Copies of field sampling notes and/or field report supplied by field sampler
   g. Copies of EPA-approved amendments to QAPjP and/or SAP describing modified criteria to be used for validating site data
5. CSF Completeness Evidence Audit
6. DQO Summary Form

The data validator is responsible for implementing all corrective actions required by the contractor Lead Chemist in response to EPA-NE data validation oversight findings.

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

See DV report

| VOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
| | | | | | |

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____

Date: _____

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

See DV report

| SEMIVOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
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* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: _____ Date: _____

# COMPLETE SDG FILE (CSF) AUDIT

Organic Fractions: _____

| Missing Information | Date Lab Contacted | Date Received |
|---|---|---|
| | See DV Report | |

Validator: _____ Date: _____

See DV report

Sampler:_____ Company:_____ Contacted: Yes No Date:_____

## I. PRESERVATION AND HOLDING TIMES -

Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

| Sample No. (TR No.) | Matrix | Pres. Code | Date Sampled | VOA | | | BNA | | | | | PEST/PCB | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Date Analyzed | # of Days from Samp. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action |
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**Preservation Code:**
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

**(*Extraction Code:)**
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

**Action Code:**
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: _____ Date: _____

See DV report

## II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

| Volatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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| Comments: | | | | | | | |

| Semivolatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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| Comments: | | | | | | | |

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Validator:_____ Date:_____

EPA-NE - Data Validation Worksheet
**VOA/SV-III**

See DV report

**III. INITIAL CALIBRATION** - List all analytes that are outside calibration criteria.

| Date of ICAL | Instrument | Parameter | Matrix | Compound | % RSD | $\overline{RRF}$ | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|
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Comments:

Validator: _____ Date: _____

EPA-NE - Data Validation Worksheet

**VOA/SV-IV**

See DV report

**IV. CONTINUING CALIBRATION** - List all analytes that are outside calibration criteria.

| Date of ICAL | Date of CCAL | Instrument | Parameter | Matrix | Compound | %D | RRF | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|
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Comments:

Validator:_____

Date:_____

EPA-NE - Data Validation Worksheet

**VOA/SV - Pest/PCB-V-A**

See DV report

## V. BLANK ANALYSIS

List the blank contamination below.

Concentration Level:_____

Sampler: _____ Company: _____

Contacted: Yes No Date:_____

**1. Laboratory: Method, Storage and Instrument Blanks**

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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**2. Field: Equipment (Rinsate), Trip and Bottle Blanks**

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

See DV report

3. **Blank Actions** - List the maximum concentrations of blank compounds.

| Compound | Type of Blank | Date Blank Sampled/Originated | Max. Conc. (units) | Action Level (units) | Sample QL | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Comments: _____

Validator: _____ Date: _____

See DV report

EPA-NE - Data Validation Worksheet
**VOA-VI**

**VI. VOA SURROGATE SPIKE RECOVERIES** - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Volatile Method QC Acceptance Criteria | | | | |
|---|---|---|---|---|---|
| | Toluene-$d_8$ | BFB | DCE-$d_4$ | Other: | |
| OLM03.2 | Water 88-110 Soil 84-138 | Water 86-115 Soil 59-113 | Water 76-114 Soil 70-121 | | |
| OLC02.1 | NA | 80-120 | NA | | |
| Other: | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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Validator:_____ Date:_____

See DV report



**VI. SV SURROGATE SPIKE RECOVERIES** - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Base/Neutral Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | NBZ-$d_5$ | 2-FBP | TPH-$d_{14}$ | 1,2-DCB-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>35-114 23-120 | Water Soil<br>43-116 30-115 | Water Soil<br>33-141 18-137 | Water Soil<br>16-110 20-130 | | |
| OLC02.1 | 40-110 | 30-110 | 20-140 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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| Method | Acid Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | Phenol-$d_5$ | 2-FP | 2,4,6-TBP | 2-CP-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>10-110 24-113 | Water Soil<br>21-110 25-121 | Water Soil<br>10-123 19-122 | Water Soil<br>33-110 20-130 | | |
| OLC02.1 | 15-115 | 15-110 | 15-130 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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* Advisory Surrogates - OLM03.2

Validator: _____ Date: _____

See DV report

EPA-NE - Data Validation Worksheet
**VOA/SV-VII**

## VII. INTERNAL STANDARD PERFORMANCE

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria:_____
IS Retention Time method QC acceptance criteria:_____

| Sample Number (TR#) | Date and Time Analyzed | Instrument | Parameter | IS Outside Area Count and/or RT Criteria | __IS Area | RT Shift | Acceptable Range (IS area or RT shift) | Action |
|---|---|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

See DV report

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-VIII**

**VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE** - List all MS/MSD analytes that are outside method QC acceptance criteria. Use a separate worksheet for each MS/MSD pair.

Sample # _____ Matrix _____ Concentration Level _____

| Parameter | Compound | MS %Rec | MSD %Rec | RPD | Method QC Limits | | Concentration | | | % RSD | Action |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | % Rec | RPD | Unspiked Sample | MS | MSD | | |
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Validator: _____ Date: _____

See DV report

**IX. FIELD DUPLICATE PRECISION** - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number _____ Duplicate Sample Number _____ Matrix _____

| Parameter | Compound | Sample Conc. | Sample QL | | Duplicate Conc. | Duplicate QL | | RPD | QC Acceptance Criteria RPD or NA* | Action |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | SQL | 2xSQL | | SQL | 2xSQL | | | |
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* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? Y N

Comments: _____

_____

Sampler Name: _____ Contractor Name: _____ Date Contacted: _____

Reason for Contact and resolution obtained: _____

Validator: _____ Date: _____

See DV report

## X. SENSITIVITY CHECK (Method Detection Limit Study)

List all compounds, surrogates, and internal standards that are outside the MDL criteria.

- Has an appropriate MDL study been submitted with seven replicates for each compound and matrix of interest? Y N
- Date of Preparation/Analysis: _____ Within 1 year? Y N
- Instrument I.D.: _____ Same as samples? Y N
- Column I.D.: _____ Same as samples? Y N

| Matrix | Compound | MDL > QL | Method QC Limits < 80% or > 120% | IS Outside Area Count and/or RT Criteria | RSD > 20% | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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If an MDL study has not been submitted, use only the LFB results to evaluate data.

**(Laboratory Fortified Blank)** - List all LFB compounds, surrogates and internal standards that are outside criteria.

- Has an appropriate and complete LFB been submitted at the proper frequency? Y N
- Does it contain all target compounds at the method-required QLs? Y N
- Was the LFB spiked with a standard from a source (vendor) independent of the calibration standard? Y N

| Matrix | Compound | Method QC Limits < 60% or > 140% Other: | IS Outside Area Count and/or RT Criteria | Samples Affected | Action |
|---|---|---|---|---|---|
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Validator: _____ Date: _____

See DV report

**XI. ACCURACY CHECK (Performance Evaluation Results)** - List all analytes that are outside criteria.

SDG No: _____ CASE: _____

Are more than one-half of the PES analytes within criteria for each parameter. **Y N**

| PE Sample Number | Ampule Number | Parameter | Type of PES | Matrix | Analyte | Conc. | Region I EPA PES Scores* | Non-EPA PES Scores** | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|---|
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* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Validator: _____ Date: _____

See DV report

**XII. TARGET COMPOUND IDENTIFICATION** - List the analytes that are outside the acceptance criteria.

| Sample Number | Compound | ___MS Ions | ____RRT | Action |
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Validator: _____

Date: _____

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB-XIII**

See DV report

## XIII. SAMPLE QUANTITATION

Recalculate, from the raw data, the concentrations for one positive detect and one reported sample quantitation limit for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C.1.a, requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one sample quantitation limit calculation on this worksheet.)

Do all soil/sediment samples have % solids greater than 30%? Y N
If no, list sample numbers_____

| Fraction | | Calculation |
|---|---|---|
| **VOA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **BNA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **Pesticide/PCB** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |

Validator:_____ Date:_____

See DV report

## XIV. TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

List the 5 TICs having the highest concentration for each sample parameter.

| Sample Number | Parameter | Compound | ____RRT | __Est. Conc. | Action |
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Validator: _____

Date: _____

See DV report

## XV. SEMIVOLATILE CLEANUP - List all analytes that are outside method cleanup QC criteria.

| Cleanup Procedure | Instrument # or Lot # | Date/Time GPC Calibrated or Check Solution Analyzed | Compound | % Rec | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Did the GPC column meet; resolution requirements? Y or N
peak shape requirements? Y or N
retention time shift requirements? Y or N

Was the GPC calibration, Silica Gel cleanup checked at the method required frequency with correct compounds and concentrations? Y or N

Were all compounds less than QL for the GPC/Silica Gel/Acid-Partition blank? Y or N

Did the blank surrogate recoveries and IS area counts and RTs (if added) meet method QC acceptance criteria? Y or N

Comments:_____

Validator:_____ Date:_____

# APPENDIX D

## SUPPORT DOCUMENTATION

# HOLDTIME

PROJ_NO 02634

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1283 | EPH | MG/L | 06MW12-20110720 | K1283-14B | NM | 07/20/2011 | 07/25/2011 | 08/03/2011 | 5 | 9 | 14 |
| K1283 | EPH | MG/L | 06MW01-20110719 | K1283-04B | NM | 07/19/2011 | 07/25/2011 | 08/03/2011 | 6 | 9 | 15 |
| K1283 | EPH | MG/L | 06MW02-20110719 | K1283-05B | NM | 07/19/2011 | 07/24/2011 | 07/27/2011 | 5 | 3 | 8 |
| K1283 | EPH | MG/L | 06MW03-20110720 | K1283-11B | NM | 07/20/2011 | 07/25/2011 | 08/03/2011 | 5 | 9 | 14 |
| K1283 | EPH | MG/L | 06MW04-20110721 | K1283-15B | NM | 07/21/2011 | 07/25/2011 | 08/03/2011 | 4 | 9 | 13 |
| K1283 | EPH | MG/L | 06MW05-20110721 | K1283-16B | NM | 07/21/2011 | 07/25/2011 | 08/03/2011 | 4 | 9 | 13 |
| K1283 | EPH | MG/L | 06MW06-20110719 | K1283-06B | NM | 07/19/2011 | 07/24/2011 | 07/27/2011 | 5 | 3 | 8 |
| K1283 | EPH | MG/L | 06MW07-20110719 | K1283-07B | NM | 07/19/2011 | 07/24/2011 | 07/27/2011 | 5 | 3 | 8 |
| K1283 | EPH | MG/L | 06MW08-20110719 | K1283-08B | NM | 07/19/2011 | 07/24/2011 | 07/27/2011 | 5 | 3 | 8 |
| K1283 | EPH | MG/L | 06MW09-20110718 | K1283-02B | NM | 07/18/2011 | 07/24/2011 | 07/27/2011 | 6 | 3 | 9 |
| K1283 | EPH | MG/L | 06MW10-20110720 | K1283-12B | NM | 07/20/2011 | 07/25/2011 | 08/03/2011 | 5 | 9 | 14 |
| K1283 | EPH | MG/L | 06MW11-20110720 | K1283-13B | NM | 07/20/2011 | 07/25/2011 | 08/03/2011 | 5 | 9 | 14 |
| K1283 | EPH | MG/L | 06MW13-20110719 | K1283-09B | NM | 07/19/2011 | 07/24/2011 | 07/27/2011 | 5 | 3 | 8 |
| K1283 | EPH | MG/L | 06MW-DUP01-20110718 | K1283-01B | NM | 07/18/2011 | 07/24/2011 | 07/27/2011 | 6 | 3 | 9 |
| K1283 | VPH | MG/L | 06MW09-20110718 | K1283-02A | NM | 07/18/2011 | 07/30/2011 | 08/01/2011 | 12 | 2 | 14 |
| K1283 | VPH | MG/L | 06MW02-20110719 | K1283-05A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1283 | VPH | MG/L | 06MW03-20110720 | K1283-11A | NM | 07/20/2011 | 08/02/2011 | 08/02/2011 | 13 | 0 | 13 |
| K1283 | VPH | MG/L | 06MW04-20110721 | K1283-15A | NM | 07/21/2011 | 08/02/2011 | 08/03/2011 | 12 | 1 | 13 |
| K1283 | VPH | MG/L | 06MW05-20110721 | K1283-16A | NM | 07/21/2011 | 08/02/2011 | 08/03/2011 | 12 | 1 | 13 |
| K1283 | VPH | MG/L | 06MW06-20110719 | K1283-06A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | MG/L | 06MW07-20110719 | K1283-07A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | MG/L | 06MW12-20110720 | K1283-14A | NM | 07/20/2011 | 08/02/2011 | 08/03/2011 | 13 | 1 | 14 |
| K1283 | VPH | MG/L | 06MW08-20110719 | K1283-08A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | MG/L | 06MW10-20110720 | K1283-12A | NM | 07/20/2011 | 08/02/2011 | 08/02/2011 | 13 | 0 | 13 |
| K1283 | VPH | MG/L | 06MW11-20110720 | K1283-13A | NM | 07/20/2011 | 08/02/2011 | 08/03/2011 | 13 | 1 | 14 |
| K1283 | VPH | MG/L | 06MW-DUP01-20110718 | K1283-01A | NM | 07/18/2011 | 07/30/2011 | 07/31/2011 | 12 | 1 | 13 |
| K1283 | VPH | MG/L | TB06-20110719 | K1283-10A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | MG/L | 06MW13-20110719 | K1283-09A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | MG/L | TB06-071811 | K1283-03A | NM | 07/18/2011 | 07/30/2011 | 07/30/2011 | 12 | 0 | 12 |
| K1283 | VPH | MG/L | 06MW01-20110719 | K1283-04A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | TB06-071811 | K1283-03A | NM | 07/18/2011 | 07/30/2011 | 07/30/2011 | 12 | 0 | 12 |
| K1283 | VPH | UG/L | 06MW01-20110719 | K1283-04A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW-DUP01-20110718 | K1283-01A | NM | 07/18/2011 | 07/30/2011 | 07/31/2011 | 12 | 1 | 13 |
| K1283 | VPH | UG/L | 06MW13-20110719 | K1283-09A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW12-20110720 | K1283-14A | NM | 07/20/2011 | 08/02/2011 | 08/03/2011 | 13 | 1 | 14 |

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K1283 | VPH | UG/L | 06MW03-20110720 | K1283-11A | NM | 07/20/2011 | 08/02/2011 | 08/02/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW08-20110719 | K1283-08A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW10-20110720 | K1283-12A | NM | 07/20/2011 | 08/02/2011 | 08/02/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW04-20110721 | K1283-15A | NM | 07/21/2011 | 08/02/2011 | 08/03/2011 | 12 | 1 | 13 |
| K1283 | VPH | UG/L | 06MW09-20110718 | K1283-02A | NM | 07/18/2011 | 07/30/2011 | 08/01/2011 | 12 | 2 | 14 |
| K1283 | VPH | UG/L | TB06-20110719 | K1283-10A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW02-20110719 | K1283-05A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW07-20110719 | K1283-07A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW05-20110721 | K1283-16A | NM | 07/21/2011 | 08/02/2011 | 08/03/2011 | 12 | 1 | 13 |
| K1283 | VPH | UG/L | 06MW06-20110719 | K1283-06A | NM | 07/19/2011 | 08/01/2011 | 08/01/2011 | 13 | 0 | 13 |
| K1283 | VPH | UG/L | 06MW11-20110720 | K1283-13A | NM | 07/20/2011 | 08/02/2011 | 08/03/2011 | 13 | 1 | 14 |

# SDG32209
# SB32209 General Narrative

Spectrum Analytical, Inc. submits the enclosed data for the site characterization of subcontracted samples. Samples submitted for analysis by Mitkem Laboratories. This deliverable contains data for sixteen aqueous samples submitted on July 22nd, 2011.

In addition to USEPA SW846 method analytical guidelines, the analysis was performed according to criteria dictated by National Environmental Laboratory Accreditation Conference (NELAC) and within the guidelines established by the New York State Department of Environmental Conservation Technical and Administrative Guidance Memorandum (TAGM) requirements.

The following observations and/or deviations are observed for the following analyses:

1. **Overall Observations:**

   All of the attached submittals are original other than logbook pages and copies of quality assurance data, which may be shared by other cases. For these, the originals are archived within the laboratory. Standard Operating Procedures follow the corresponding methods without modification.

The pages in this report have been numbered consecutively, starting with the general narrative and ending with the page labeled as "Last Page of data Report".

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this electronic data package, has been authorized by the laboratory director as verified by the following signature.

Nicole Leja

Date: 8/10/11

Nicole Leja
Laboratory Director

**CASE NARRATIVE**

**Spectrum Analytical, Inc. Lab Reference No. SB32209**

**Client: Mitkem Laboratories**

**Project: See Chain of Custody / K1283**

**SDG #: 32209**

## I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

## II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

## III. METHODS

Analyses were performed according to +MADEP VPH 5/2004 Rev. 1.1.

## IV. PREPARATION

Aqueous samples were prepared according to VPH - EPA 5030B.

## V. INSTRUMENTATION

The following equipment was used to analyze +MADEP VPH 5/2004 Rev. 1.1:

FID1 details: GC/FID/PID Tekmar ALS 2016 and ALS 2032 purge and trap autosamplers Tekmar 3100 sample concentrator Supelco vocarb 3000 (K) trap and conditions used Hewlett Packard 6890N series gas chromatograph OI analytical Photo ionization detector and flame ionization detector Column – DB-MTBE, 30 meters, 0.45mm diameter 2.55um film

FID2 details: GC/FID/PID Tekmar Solatek 72 Multi-matrix vial autosampler Tekmar Velocity sample concentrator Supelco vocarb 3000 (K) trap and conditions used Hewlett Packard 6890N series gas chromatograph OI analytical Photo ionization detector and flame ionization detector Column – DB-MTBE, 30 meters, 0.45mm diameter 2.55um film

## VI. ANALYSIS

### A. Calibration:

All quality control samples were within the acceptance criteria.

### B. Blanks:

All blanks were within the acceptance criteria.

### C. Surrogates:

All method criteria were met.

**D. Spikes:**

**1. Laboratory Control Samples (LCS):**

All method criteria were met.

**2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):**

A matrix spike was analyzed:

In batch 1115056 from source sample 06MW13-20110719 (SB32209-09).

All method criteria were met with the following exceptions:

n-Pentane in batch 1115056, lab sample 1115056-MS1 from source sample 06MW13-20110719 (SB32209-09): The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.

**E. Duplicates:**

A duplicate was analyzed:

In batch 1115056 from source sample 06MW13-20110719 (SB32209-09).

All method criteria were met.

**F. Internal Standards:**

Internal standards were within the acceptance criteria.

**G. Samples:**

All method criteria were met with the following exceptions:

In batch 1115180, sample 06MW03-20110720 (SB32209-11): Sample dilution required for high concentration of target analytes to be within the instrument calibration range.

REPORT NARRATIVE

**Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.**

**Client : Tetra Tech NUS Inc.**

**Project: CTO-WE56, NSB New London**

**Laboratory Workorder / SDG #: K1283**

**CT ETPH, CT ETPH by GC-FID**

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

Analyses for Volatile Petroleum Hydrocarbons by the Massachusetts method (MA_VPH) were performed by Mitkem's parent company, Spectrum Analytical, Inc. of Agawam, MA. The entire Spectrum report, including any notes on these analyses, follows the "Last Page" of the Mitkem data report.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH.

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510.

## V. INSTRUMENTATION

The following instrumentation was used:

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

The following analytes were detected below the reporting limit in method blanks associated with these samples:

MB-60579 in batch 60579, and MB-60598 in batch 60598, contained Extractable Total Petroleum Hydrocarbons above the Method Detection Limit but below the Reporting Limit.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on sample: 06MW13-20110719 (K1283-09BMS/MSD).

Percent recoveries and replicate RPDs were within the QC limits.

E. **Dilutions:**

No sample in this SDG required analysis at dilution.

F. **Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:___ _____

Date:_____8/17/11_____

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000162-1

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Lab Pick-Up** | **Mitkem Laboratories**<br>**175 Metro Center Blvd**<br>**Warwick, RI 02886-1755** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Edward Lawler**<br>**(401) 732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/18/2011 | 06MW-DUP01-20110718 | 00:00 | **CT DPH ETPH - Mitkem SOP 60.0050** | QC | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/18/2011 | 06MW-DUP01-20110718 | 00:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/18/2011 | 06MW09-20110718 | 16:20 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-09 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/18/2011 | 06MW09-20110718 | 16:20 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-09 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/18/2011 | TB06-071811 | 10:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 07/19/2011 | 06MW01-20110719 | 12:27 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-01 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/19/2011 | 06MW01-20110719 | 12:27 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-01 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/19/2011 | 06MW02-20110719 | 14:07 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-02 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/19/2011 | 06MW02-20110719 | 14:07 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-02 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/19/2011 | 06MW06-20110719 | 09:17 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-06 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW06-20110719 | 09:17 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-06 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW07-20110719 | 12:48 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-07 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW07-20110719 | 12:48 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-07 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW08-20110719 | 14:56 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-08 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | A.Carey |
| 07/19/2011 | 06MW08-20110719 | 14:56 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-08 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | A.Carey |
| 07/19/2011 | 06MW13-20110719 | 09:25 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-13 | GW | ETPH | 4°C | 6 | Glass - Amber | 1L | lab QC MS/MSD |
| 07/19/2011 | 06MW13-20110719 | 09:25 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-13 | GW | VPH | 4°C/HCL | 6 | Glass - Clear | 40ml vials | lab QC MS/MSD |

| 1. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
|---|---|---|---|---|---|
| **Robin Clark** | 07/20/2011 | 06:40 | **Lab Pick-Up** | 07/20/2011 | 07:40 |
| 2. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| [illegible] | 7/20/11 | 1010 | [illegible] | 7-20-11 | 10:10 |

5°C Iced

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|---|---|---|---|---|---|
| | | | | | |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| | 7.21.11 | 10:38 | | 7/21/11 | 10:38 |

5°C

Comments:

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000162-3

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Hand Deliver** | **Mitkem Laboratories**<br>**175 Metro Center Blvd**<br>**Warwick, RI 02886-1755** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Edward Lawler**<br>**(401) 732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 07/19/2011 | TB06-20110719 | 09:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 07/20/2011 | 06MW03-20110720 | 13:44 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-03 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW03-20110720 | 13:44 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-03 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW10-20110720 | 11:16 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-10 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW10-20110720 | 11:16 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-10 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW11-20110720 | 10:59 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-11 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW11-20110720 | 10:59 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-11 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/20/2011 | 06MW12-20110720 | 13:50 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-12 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/20/2011 | 06MW12-20110720 | 13:50 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-12 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/21/2011 | 06MW04-20110721 | 09:07 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-04 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/21/2011 | 06MW04-20110721 | 09:07 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-04 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 07/21/2011 | 06MW05-20110721 | 08:54 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-05 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 07/21/2011 | 06MW05-20110721 | 08:54 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-05 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |

| 1. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
|---|---|---|---|---|---|
| **Robin Clark** | 07/21/2011 | 12:08 | **Hand Deliver** | 07/21/2011 | 13:08 |
| 2. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| [illegible] | 7/21/11 | 1240 | [illegible] | 7-21-11 | 13:30 |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |
| | | | | | |

6.5°C

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Comments:
last set of samples for this sampling event.

# SPECTRUM ANALYTICAL, INC. RI DIVISION

## Sample Condition Form

Page 1 of 1

| | | | |
|---|---|---|---|
| Received By: Daniel Mitkem | Reviewed By: | Date: 7-21-11 | Mitkem Work Order #: K1283 |
| Client Project: New London | | Client: TETRA Navy | |

| | | Lab Sample ID | | Preservation (pH) $HNO_3$ | $H_2SO_4$ | HCl | NaOH | $H_3PO_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) Cooler Sealed | Yes / No | K1283 | 01 | | | | | | H | |
| | | | 02 | | | | | | | |
| 2) Custody Seal(s) | Present / Absent | | 03 | | | | | | | |
| | Coolers / Bottles | | 04 | | | | | | | |
| | Intact / Broken | | 05 | | | | | | | |
| | | | 06 | | | | | | | |
| 3) Custody Seal Number(s) | N/A | | 07 | | | | | | | |
| | | | 08 | | | | | | | |
| | | K1283 | 09 | | | | | | H | |
| 4) Chain-of-Custody | Present / Absent | | | | | | | | | |
| 5) Cooler Temperature | 5°C | | | | | | | | | |
| IR Temp Gun ID | MT-1 | | | | | | | | | |
| Coolant Condition | Iced | | | | | | | | | |
| 6) Airbill(s) | Present / Absent | | | | | | | | | |
| Airbill Number(s) | Courier | | | | | | | | | |
| 7) Samples Bottles | Intact / Broken / Leaking | | | | | | | | | |
| 8) Date Received | 7-21-11 | | | | | | | | | |
| 9) Time Received | 10:10 | | | | | | | | | |

DRM 7-21-11

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

# SPECTRUM ANALYTICAL, INC. RI DIVISION

## Sample Condition Form

Page 1 of 1

| Received By: Dennis Mecken | Reviewed By: CM | Date: 7-21 | Mitkem Work Order #: K1283 |
|---|---|---|---|
| Client Project: New London | | Client: Tetra navy | |

| | | Lab Sample ID | | Preservation (pH) $HNO_3$ | $H_2SO_4$ | HCl | NaOH | $H_3PO_4$ | VOA Matrix | Soil Headspace or Air Bubble ≥ 1/4" |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) Cooler Sealed | Yes / No | K1283 | 10 | | | | | | H | |
| | | | 11 | | | | | | | |
| 2) Custody Seal(s) | Present / Absent | | 12 | | | | | | | |
| | Coolers / Bottles | | 13 | | | | | | | |
| | Intact / Broken | | 14 | | | | | | | |
| | | | 15 | | | | | | | |
| 3) Custody Seal Number(s) | NA | K1283 | 16 | | | | | | H | |
| 4) Chain-of-Custody | Present / Absent | | | | | | | | | |
| 5) Cooler Temperature | 6°C 5°C | | | | | | | | | |
| IR Temp Gun ID | MT-1 | | | | | | | | | |
| Coolant Condition | Iced | | | | | | | | | |
| 6) Airbill(s) | Present / Absent | | | | | | | | | |
| Airbill Number(s) | Courier | | | | | | | | | |
| 7) Samples Bottles | Intact / Broken / Leaking | | | | | | | | | |
| 8) Date Received | 7-21-11 | | | | | | | | | |
| 9) Time Received | 13:30 | | | | | | | | | |

DRM 7-21-11

Preservative Name/Lot No.:

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A = Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form yes / no

Form ID: QAF.0006

Rad OK yes / no

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S104952 | Instrument: | FID2 |
| | | Calibration: | 1106002 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Cal Standard | S104952-CAL1 | vph001.D | 06/03/11 17:24 |
| Cal Standard | S104952-CAL2 | vph005.D | 06/03/11 18:22 |
| Cal Standard | S104952-CAL3 | vph010.D | 06/03/11 18:52 |
| Cal Standard | S104952-CAL4 | vph020.D | 06/03/11 19:21 |
| Cal Standard | S104952-CAL5 | vph050.D | 06/03/11 20:18 |
| Cal Standard | S104952-CAL6 | vph100.D | 06/03/11 21:16 |
| Cal Standard | S104952-CAL7 | vph200.D | 06/03/11 22:43 |
| Initial Cal Check | S104952-ICV1 | icv001.D | 06/04/11 00:40 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S104984 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Cal Standard | S104984-CAL2 | vph005.D | 06/06/11 20:24 |
| Cal Standard | S104984-CAL3 | vph010.D | 06/06/11 20:51 |
| Cal Standard | S104984-CAL4 | vph020.D | 06/06/11 21:17 |
| Cal Standard | S104984-CAL5 | vph050.D | 06/06/11 21:44 |
| Cal Standard | S104984-CAL6 | vph100.D | 06/06/11 22:10 |
| Cal Standard | S104984-CAL7 | vph200.D | 06/06/11 22:37 |
| Initial Cal Check | S104984-ICV1 | icv020.D | 06/06/11 23:04 |
| Cal Standard | S104984-CAL1 | vph001.D | 06/07/11 08:15 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106694 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115032-BLK1 | blk0730a.D | 07/30/11 08:21 |
| Calibration Check | S106694-CCV1 | ccc0730a.D | 07/30/11 09:29 |
| LCS | 1115032-BS1 | lcs0730a.D | 07/30/11 09:56 |
| LCS Dup | 1115032-BSD1 | lcs0730b.D | 07/30/11 10:23 |
| TB06-071811 | SB32209-03 | 32209-03.D | 07/30/11 20:08 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106699 | Instrument: | FID2 |
| | | Calibration: | 1106002 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115046-BLK1 | blk0731b.D | 07/31/11 17:24 |
| Calibration Check | S106699-CCV1 | ccc0731a.D | 07/31/11 17:53 |
| LCS | 1115046-BS1 | lcs0731a.D | 07/31/11 18:22 |
| LCS Dup | 1115046-BSD1 | lcs0731b.D | 07/31/11 18:51 |
| 06MW-DUP01-20110718 | SB32209-01 | 32209-01.D | 07/31/11 23:50 |
| 06MW09-20110718 | SB32209-02 | 32209-02.D | 08/01/11 00:20 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106728 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115056-BLK1 | blk0801a.D | 08/01/11 10:11 |
| Calibration Check | S106728-CCV1 | ccc0801a.D | 08/01/11 10:37 |
| LCS | 1115056-BS1 | lcs0801a.D | 08/01/11 11:30 |
| 06MW01-20110719 | SB32209-04 | 32209-04.D | 08/01/11 12:23 |
| 06MW02-20110719 | SB32209-05 | 32209-05.D | 08/01/11 12:50 |
| 06MW06-20110719 | SB32209-06 | 32209-06.D | 08/01/11 13:17 |
| 06MW07-20110719 | SB32209-07 | 32209-07.D | 08/01/11 13:44 |
| 06MW08-20110719 | SB32209-08 | 32209-08.D | 08/01/11 14:11 |
| 06MW13-20110719 | SB32209-09 | 32209-09.D | 08/01/11 14:38 |
| TB06-20110719 | SB32209-10 | 32209-10.D | 08/01/11 15:05 |
| LCS Dup | 1115056-BSD1 | lcs0801c.D | 08/01/11 15:32 |
| 06MW13-20110719 | 1115056-MS1 | 32209-09m.D | 08/01/11 16:53 |
| 06MW13-20110719 | 1115056-DUP1 | 32209-09r.D | 08/02/11 09:08 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Sequence: | S106786 | Instrument: | FID1 |
| | | Calibration: | 1106005 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1115180-BLK1 | blk0802b.D | 08/02/11 14:58 |
| LCS | 1115180-BS1 | lcs0802c.D | 08/02/11 15:51 |
| LCS Dup | 1115180-BSD1 | lcs0802d.D | 08/02/11 16:18 |
| Calibration Check | S106786-CCV1 | ccc0802c.D | 08/02/11 17:12 |
| 06MW03-20110720 | SB32209-11 | 32209-11.D | 08/02/11 23:27 |
| 06MW10-20110720 | SB32209-12 | 32209-12.D | 08/02/11 23:53 |
| 06MW11-20110720 | SB32209-13 | 32209-13.D | 08/03/11 00:20 |
| 06MW12-20110720 | SB32209-14 | 32209-14.D | 08/03/11 00:47 |
| 06MW05-20110721 | SB32209-16 | 32209-16.D | 08/03/11 01:40 |
| 06MW04-20110721 | SB32209-15 | 32209-15r.D | 08/03/11 08:04 |

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106002 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 06/06/11 13:37 |
| File ID: | f2060611 | | |

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 239871.8 | 17.74325 | 11.80143 | 3.217237E-02 | | | 25 | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 49689.45 | 3.73198 | 6.36 | 21.63193 | | | 25 | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 38075.18 | 15.24855 | 12.09143 | 3.006021 | | | 25 | |
| Benzene | 212327.6 | 3.29178 | 4.402857 | 0.1107532 | | | 25 | |
| Ethylbenzene | 144558.8 | 4.465685 | 9.23 | 1.825055E-02 | | | 25 | |
| Methyl tert-butyl ether | 36518.41 | 17.70606 | 2.305714 | 0.2318922 | | | 25 | |
| Naphthalene | 132573.5 | 3.398496 | 14.97143 | 0.0244361 | | | 25 | |
| Toluene | 178024.6 | 4.107232 | 7.204286 | 7.326321E-02 | | | 25 | |
| m,p-Xylene | 166271.3 | 4.199404 | 9.482857 | 5.231349E-02 | | | 25 | |
| o-Xylene | 146369.9 | 3.653716 | 9.905714 | 5.638476E-02 | | | 25 | |
| 2-Methylpentane | 37139.6 | 16.10143 | 2.471429 | 0.5442216 | | | 25 | |
| n-Nonane | 27811.19 | 6.718449 | 10.16667 | 4.960274E-02 | | | 25 | |
| n-Pentane | 30616.71 | 16.45919 | 1.641429 | 0.2304703 | | | 25 | |
| 1,2,4-Trimethylbenzene | 139382.1 | 4.587245 | 11.80143 | 3.217237E-02 | | | 25 | |
| 2,2,4-Trimethylpentane | 38047.22 | 5.734003 | 5.504286 | 0.1421522 | | | 25 | |
| n-Butylcyclohexane | 31717.04 | 12.49727 | 12.62 | 2.294238E-02 | | | 25 | |
| n-Decane | 21500.7 | 11.84938 | 11.94 | 2.406603E-02 | | | 25 | |
| 2,5-Dibromotoluene (FID) | 15786.16 | 4.556944 | 16.5 | 0 | | | 25 | |
| 2,5-Dibromotoluene (PID) | 101246.3 | 4.740942 | 16.5 | 0 | | | 25 | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Calibration: | 1106005 | Instrument: | FID1 |
| Matrix: | Aqueous | Calibration Date: | 06/07/11 10:50 |
| File ID: | f1060711 | | |

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 174860.9 | 12.13508 | 12.53 | 5.031163E-02 | | | 25 | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 43516.38 | 11.17445 | 8.45 | 24.68612 | | | 25 | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 29014.34 | 13.85045 | 12.61857 | 1.892352 | | | 25 | |
| Benzene | 179228.6 | 5.407235 | 4.89 | 1.929826E-02 | | | 25 | |
| Ethylbenzene | 93597.09 | 5.556501 | 9.861428 | 0.0435001 | | | 25 | |
| Methyl tert-butyl ether | 103030.9 | 5.78073 | 2.565714 | 0.2091137 | | | 25 | |
| Naphthalene | 94392.66 | 5.538949 | 15.65571 | 4.972399E-02 | | | 25 | |
| Toluene | 123997.8 | 5.470431 | 7.761429 | 4.507991E-02 | | | 25 | |
| m,p-Xylene | 104544.3 | 5.416379 | 10.12429 | 5.442295E-02 | | | 25 | |
| o-Xylene | 88112.43 | 5.430729 | 10.57143 | 3.397159E-02 | | | 25 | |
| 2-Methylpentane | 44377.2 | 9.095074 | 2.762857 | 0.1764506 | | | 25 | |
| n-Nonane | 31647.96 | 9.289166 | 10.80857 | 3.620869E-02 | | | 25 | |
| n-Pentane | 33260.4 | 4.314969 | 1.805714 | 0.2954849 | | | 25 | |
| 1,2,4-Trimethylbenzene | 90374.64 | 4.596908 | 12.53 | 5.031163E-02 | | | 25 | |
| 2,2,4-Trimethylpentane | 44897.64 | 8.837252 | 5.997143 | 0.1257972 | | | 25 | |
| n-Butylcyclohexane | 30710.99 | 9.157739 | 13.35286 | 3.286932E-02 | | | 25 | |
| n-Decane | 22618.66 | 13.69271 | 12.63571 | 4.315869E-02 | | | 25 | |
| 2,5-Dibromotoluene (FID) | 12410.83 | 4.822779 | 17.00857 | 2.934281E-02 | | | 25 | |
| 2,5-Dibromotoluene (PID) | 81708.93 | 5.311308 | 17.00286 | 3.075856E-02 | | | 25 | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VIIa - INITIAL CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA
**SDG:** 32209
**Client:** Mitkem Laboratories
**Project:** See Chain of Custody
**Calibration:** 1106002
**Laboratory ID:** S104952-ICV1
**Sequence:** S104952
**Standard ID:** 11F0125
**Analyzed:** 06/04/11 00:40
**File ID:** icv001.D

| ANALYTE | EXPECTED | FOUND | % R | QC LIMIT |
|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 17.8 µg/l | 89 | 0 - 200 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 211 µg/l | 105 | 0 - 200 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 80.6 µg/l | 101 | 0 - 200 |
| Benzene | 20.0 µg/l | 19.8 µg/l | 99 | 80 - 120 |
| Ethylbenzene | 20.0 µg/l | 20.1 µg/l | 101 | 80 - 120 |
| Methyl tert-butyl ether | 20.0 µg/l | 20.6 µg/l | 103 | 80 - 120 |
| Naphthalene | 20.0 µg/l | 20.5 µg/l | 102 | 80 - 120 |
| Toluene | 20.0 µg/l | 20.1 µg/l | 101 | 80 - 120 |
| m,p-Xylene | 40.0 µg/l | 40.8 µg/l | 102 | 80 - 120 |
| o-Xylene | 20.0 µg/l | 20.5 µg/l | 103 | 80 - 120 |
| 2-Methylpentane | 20.0 µg/l | 18.2 µg/l | 91 | 80 - 120 |
| n-Nonane | 20.0 µg/l | 16.7 µg/l | 83 | 80 - 120 |
| n-Pentane | 20.0 µg/l | 18.4 µg/l | 92 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 20.2 µg/l | 101 | 80 - 120 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 17.8 µg/l | 89 | 80 - 120 |
| n-Butylcyclohexane | 20.0 µg/l | 17.1 µg/l | 85 | 80 - 120 |
| n-Decane | 20.0 µg/l | 19.9 µg/l | 100 | 80 - 120 |

* Values outside of QC limits

# FORM VIIa - INITIAL CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA
**SDG:** 32209
**Client:** Mitkem Laboratories
**Project:** See Chain of Custody
**Calibration:** 1106005
**Laboratory ID:** S104984-ICV1
**Sequence:** S104984
**Standard ID:** 11F0125
**Analyzed:** 06/06/11 23:04
**File ID:** icv020.D

| ANALYTE | EXPECTED | FOUND | % R | QC LIMIT |
|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 18.6 µg/l | 93 | 0 - 200 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 196 µg/l | 98 | 0 - 200 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 81.3 µg/l | 102 | 0 - 200 |
| Benzene | 20.0 µg/l | 19.2 µg/l | 96 | 80 - 120 |
| Ethylbenzene | 20.0 µg/l | 18.7 µg/l | 93 | 80 - 120 |
| Methyl tert-butyl ether | 20.0 µg/l | 19.3 µg/l | 97 | 80 - 120 |
| Naphthalene | 20.0 µg/l | 18.4 µg/l | 92 | 80 - 120 |
| Toluene | 20.0 µg/l | 19.0 µg/l | 95 | 80 - 120 |
| m,p-Xylene | 40.0 µg/l | 37.4 µg/l | 93 | 80 - 120 |
| o-Xylene | 20.0 µg/l | 18.8 µg/l | 94 | 80 - 120 |
| 2-Methylpentane | 20.0 µg/l | 23.3 µg/l | 117 | 80 - 120 |
| n-Nonane | 20.0 µg/l | 18.5 µg/l | 92 | 80 - 120 |
| n-Pentane | 20.0 µg/l | 23.1 µg/l | 116 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 18.1 µg/l | 90 | 80 - 120 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 20.6 µg/l | 103 | 80 - 120 |
| n-Butylcyclohexane | 20.0 µg/l | 18.1 µg/l | 90 | 80 - 120 |
| n-Decane | 20.0 µg/l | 19.3 µg/l | 97 | 80 - 120 |

* Values outside of QC limits

# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID1 | Calibration: | 1106005 |
| Lab File ID: | ccc0730a.D | Calibration Date: | 06/07/11 10:50 |
| Sequence: | S106694 | Analyzed: | 07/30/11 09:29 |
| Lab Sample ID: | S106694-CCV1 | | |
| Spike ID: | 10F0116 | | |

| COMPOUND | TYPE | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 46.9 µg/l | 174860.9 | 164018.2 | | -6.2 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 481 µg/l | 43516.38 | 41865.3 | | -3.8 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 223 µg/l | 29014.34 | 32320.94 | | 11.4 | 25 |
| Benzene | A | 50.0 µg/l | 47.4 µg/l | 179228.6 | 169845 | | -5.2 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 47.9 µg/l | 93597.09 | 89669.4 | | -4.2 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 47.3 µg/l | 103030.9 | 97474.68 | | -5.4 | 25 |
| Naphthalene | A | 50.0 µg/l | 49.5 µg/l | 94392.66 | 93415.52 | | -1.0 | 25 |
| Toluene | A | 50.0 µg/l | 47.0 µg/l | 123997.8 | 116650.8 | | -5.9 | 25 |
| m,p-Xylene | A | 100 µg/l | 96.2 µg/l | 104544.3 | 100551.8 | | -3.8 | 25 |
| o-Xylene | A | 50.0 µg/l | 47.7 µg/l | 88112.43 | 84096.22 | | -4.6 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 48.3 µg/l | 44377.2 | 42881.04 | | -3.4 | 25 |
| n-Nonane | A | 50.0 µg/l | 55.6 µg/l | 31647.96 | 35209.04 | | 11.3 | 30 |
| n-Pentane | A | 50.0 µg/l | 42.8 µg/l | 33260.4 | 28485.58 | | -14.4 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 47.4 µg/l | 90374.64 | 85717.5 | | -5.2 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 53.2 µg/l | 44897.64 | 47791.2 | | 6.4 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 54.7 µg/l | 30710.99 | 33617.82 | | 9.5 | 25 |
| n-Decane | A | 50.0 µg/l | 62.2 µg/l | 22618.66 | 28140.52 | | 24.4 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID2 | Calibration: | 1106002 |
| Lab File ID: | ccc0731a.D | Calibration Date: | 06/06/11 13:37 |
| Sequence: | S106699 | Analyzed: | 07/31/11 17:53 |
| Lab Sample ID: | S106699-CCV1 | | |
| Spike ID: | 10F0116 | | |

| COMPOUND | TYPE | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 44.0 µg/l | 239871.8 | 211326.8 | | -11.9 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 475 µg/l | 49689.45 | 47160.8 | | -5.1 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 214 µg/l | 38075.18 | 40750.37 | | 7.0 | 25 |
| Benzene | A | 50.0 µg/l | 47.5 µg/l | 212327.6 | 201718.6 | | -5.0 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 49.5 µg/l | 144558.8 | 143144.1 | | -1.0 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 40.4 µg/l | 36518.41 | 29482.82 | | -19.3 | 25 |
| Naphthalene | A | 50.0 µg/l | 47.0 µg/l | 132573.5 | 124618.1 | | -6.0 | 25 |
| Toluene | A | 50.0 µg/l | 48.6 µg/l | 178024.6 | 172984.9 | | -2.8 | 25 |
| m,p-Xylene | A | 100 µg/l | 99.6 µg/l | 166271.3 | 165540.8 | | -0.4 | 25 |
| o-Xylene | A | 50.0 µg/l | 48.9 µg/l | 146369.9 | 143041.5 | | -2.3 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 61.6 µg/l | 37139.6 | 45722.22 | | 23.1 | 25 |
| n-Nonane | A | 50.0 µg/l | 61.0 µg/l | 27811.19 | 33949.68 | | 22.1 | 30 |
| n-Pentane | A | 50.0 µg/l | 55.8 µg/l | 30616.71 | 34180.1 | | 11.6 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 49.1 µg/l | 139382.1 | 136762.2 | | -1.9 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 56.5 µg/l | 38047.22 | 42975.58 | | 13.0 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 54.7 µg/l | 31717.04 | 34721.16 | | 9.5 | 25 |
| n-Decane | A | 50.0 µg/l | 62.0 µg/l | 21500.7 | 26649.88 | | 23.9 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID1 | Calibration: | 1106005 |
| Lab File ID: | ccc0801a.D | Calibration Date: | 06/07/11 10:50 |
| Sequence: | S106728 | Analyzed: | 08/01/11 10:37 |
| Lab Sample ID: | S106728-CCV1 | | |
| Spike ID: | 10F0116 | | |

| COMPOUND | TYPE | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 37.9 µg/l | 174860.9 | 132600.4 | | -24.2 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 477 µg/l | 43516.38 | 41489.68 | | -4.7 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 201 µg/l | 29014.34 | 29173.82 | | 0.5 | 25 |
| Benzene | A | 50.0 µg/l | 43.7 µg/l | 179228.6 | 156699.4 | | -12.6 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 42.6 µg/l | 93597.09 | 79690.98 | | -14.9 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 42.9 µg/l | 103030.9 | 88308.04 | | -14.3 | 25 |
| Naphthalene | A | 50.0 µg/l | 40.3 µg/l | 94392.66 | 76029.52 | | -19.5 | 25 |
| Toluene | A | 50.0 µg/l | 43.0 µg/l | 123997.8 | 106699.1 | | -14.0 | 25 |
| m,p-Xylene | A | 100 µg/l | 84.6 µg/l | 104544.3 | 88479.94 | | -15.4 | 25 |
| o-Xylene | A | 50.0 µg/l | 41.5 µg/l | 88112.43 | 73196.84 | | -16.9 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 53.7 µg/l | 44377.2 | 47700.9 | | 7.5 | 25 |
| n-Nonane | A | 50.0 µg/l | 45.7 µg/l | 31647.96 | 28933.12 | | -8.6 | 30 |
| n-Pentane | A | 50.0 µg/l | 58.9 µg/l | 33260.4 | 39212.76 | | 17.9 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 40.1 µg/l | 90374.64 | 72416.06 | | -19.9 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 51.2 µg/l | 44897.64 | 45953.92 | | 2.4 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 42.4 µg/l | 30710.99 | 26021.78 | | -15.3 | 25 |
| n-Decane | A | 50.0 µg/l | 45.2 µg/l | 22618.66 | 20428.3 | | -9.7 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VII - CONTINUING CALIBRATION CHECK

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Instrument ID: | FID1 | Calibration: | 1106005 |
| Lab File ID: | ccc0802c.D | Calibration Date: | 06/07/11 10:50 |
| Sequence: | S106786 | Analyzed: | 08/02/11 17:12 |
| Lab Sample ID: | S106786-CCV1 | | |
| Spike ID: | 11H0080 | | |

| COMPOUND | TYPE | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 42.3 µg/l | 174860.9 | 147897.9 | | -15.4 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 481 µg/l | 43516.38 | 41877.24 | | -3.8 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 222 µg/l | 29014.34 | 32147.1 | | 10.8 | 25 |
| Benzene | A | 50.0 µg/l | 44.8 µg/l | 179228.6 | 160494.6 | | -10.5 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 46.0 µg/l | 93597.09 | 86133.3 | | -8.0 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 43.0 µg/l | 103030.9 | 88653.16 | | -14.0 | 25 |
| Naphthalene | A | 50.0 µg/l | 47.1 µg/l | 94392.66 | 88899.74 | | -5.8 | 25 |
| Toluene | A | 50.0 µg/l | 45.5 µg/l | 123997.8 | 112753.3 | | -9.1 | 25 |
| m,p-Xylene | A | 100 µg/l | 91.1 µg/l | 104544.3 | 95232.51 | | -8.9 | 25 |
| o-Xylene | A | 50.0 µg/l | 45.2 µg/l | 88112.43 | 79616.62 | | -9.6 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 44.7 µg/l | 44377.2 | 39632.92 | | -10.7 | 25 |
| n-Nonane | A | 50.0 µg/l | 52.6 µg/l | 31647.96 | 33283.04 | | 5.2 | 30 |
| n-Pentane | A | 50.0 µg/l | 38.5 µg/l | 33260.4 | 25589.6 | | -23.1 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 44.7 µg/l | 90374.64 | 80718.2 | | -10.7 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 52.1 µg/l | 44897.64 | 46767.52 | | 4.2 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 51.3 µg/l | 30710.99 | 31502.68 | | 2.6 | 25 |
| n-Decane | A | 50.0 µg/l | 60.5 µg/l | 22618.66 | 27374.66 | | 21.0 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IV - METHOD BLANK SUMMARY
## +MADEP VPH 5/2004 Rev. 1.1

**1115032-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | SDG: | 32209 | |
| Client: | Mitkem Laboratories | | Project: | See Chain of Custody | |
| Matrix: | Aqueous | Laboratory ID: | 1115032-BLK1 | File ID: | blk0730a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 08:21 | Instrument: | FID1 | | |
| Batch: | 1115032 | Sequence: | S106694 | Calibration: | 1106005 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115032-BLK1 | blk0730a.D | 07/30/11 | 8:21 |
| LCS | 1115032-BS1 | lcs0730a.D | 07/30/11 | 9:56 |
| LCS Dup | 1115032-BSD1 | lcs0730b.D | 07/30/11 | 10:23 |
| TB06-071811 | SB32209-03 | 32209-03.D | 07/30/11 | 20:08 |

# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115032-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115032-BLK1 | File ID: | blk0730a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 08:21 | Instrument: | FID1 | | |
| Batch: | 1115032 | Sequence: | S106694 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0103 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0103 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

# FORM IV - METHOD BLANK SUMMARY

**1115046-BLK1**

**+MADEP VPH 5/2004 Rev. 1.1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | SDG: | 32209 | |
| Client: | Mitkem Laboratories | | Project: | See Chain of Custody | |
| Matrix: | Aqueous | Laboratory ID: | 1115046-BLK1 | File ID: | blk0731b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 17:24 | Instrument: | FID2 | | |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115046-BLK1 | blk0731b.D | 07/31/11 | 17:24 |
| LCS | 1115046-BS1 | lcs0731a.D | 07/31/11 | 18:22 |
| LCS Dup | 1115046-BSD1 | lcs0731b.D | 07/31/11 | 18:51 |
| 06MW-DUP01-20110718 | SB32209-01 | 32209-01.D | 07/31/11 | 23:50 |
| 06MW09-20110718 | SB32209-02 | 32209-02.D | 08/01/11 | 0:20 |

# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115046-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115046-BLK1 | File ID: | blk0731b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 17:24 | Instrument: | FID2 | | |
| Batch: | 1115046 | Sequence: | S106699 | Calibration: | 1106002 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0122 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0122 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

# FORM IV - METHOD BLANK SUMMARY

**1115056-BLK1**

## +MADEP VPH 5/2004 Rev. 1.1

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | SDG: | 32209 | |
| Client: | Mitkem Laboratories | | Project: | See Chain of Custody | |
| Matrix: | Aqueous | Laboratory ID: | 1115056-BLK1 | File ID: | blk0801a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 10:11 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115056-BLK1 | blk0801a.D | 08/01/11 | 10:11 |
| LCS | 1115056-BS1 | lcs0801a.D | 08/01/11 | 11:30 |
| 06MW01-20110719 | SB32209-04 | 32209-04.D | 08/01/11 | 12:23 |
| 06MW02-20110719 | SB32209-05 | 32209-05.D | 08/01/11 | 12:50 |
| 06MW06-20110719 | SB32209-06 | 32209-06.D | 08/01/11 | 13:17 |
| 06MW07-20110719 | SB32209-07 | 32209-07.D | 08/01/11 | 13:44 |
| 06MW08-20110719 | SB32209-08 | 32209-08.D | 08/01/11 | 14:11 |
| 06MW13-20110719 | SB32209-09 | 32209-09.D | 08/01/11 | 14:38 |
| TB06-20110719 | SB32209-10 | 32209-10.D | 08/01/11 | 15:05 |
| LCS Dup | 1115056-BSD1 | lcs0801c.D | 08/01/11 | 15:32 |
| Matrix Spike | 1115056-MS1 | 32209-09m.D | 08/01/11 | 16:53 |
| Duplicate | 1115056-DUP1 | 32209-09r.D | 08/02/11 | 9:08 |

# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115056-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115056-BLK1 | File ID: | blk0801a.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 10:11 | Instrument: | FID1 | | |
| Batch: | 1115056 | Sequence: | S106728 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0102 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0102 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

# FORM IV - METHOD BLANK SUMMARY

**1115180-BLK1**

**+MADEP VPH 5/2004 Rev. 1.1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | SDG: | 32209 | |
| Client: | Mitkem Laboratories | | Project: | See Chain of Custody | |
| Matrix: | Aqueous | Laboratory ID: | 1115180-BLK1 | File ID: | blk0802b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 14:58 | Instrument: | FID1 | | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1115180-BLK1 | blk0802b.D | 08/02/11 | 14:58 |
| LCS | 1115180-BS1 | lcs0802c.D | 08/02/11 | 15:51 |
| LCS Dup | 1115180-BSD1 | lcs0802d.D | 08/02/11 | 16:18 |
| 06MW03-20110720 | SB32209-11 | 32209-11.D | 08/02/11 | 23:27 |
| 06MW10-20110720 | SB32209-12 | 32209-12.D | 08/02/11 | 23:53 |
| 06MW11-20110720 | SB32209-13 | 32209-13.D | 08/03/11 | 0:20 |
| 06MW12-20110720 | SB32209-14 | 32209-14.D | 08/03/11 | 0:47 |
| 06MW05-20110721 | SB32209-16 | 32209-16.D | 08/03/11 | 1:40 |
| 06MW04-20110721 | SB32209-15 | 32209-15r.D | 08/03/11 | 8:04 |

# FORM I - ORGANIC ANALYSIS DATA SHEET
## +MADEP VPH 5/2004 Rev. 1.1

**1115180-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 32209 |
| Client: | Mitkem Laboratories | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1115180-BLK1 | File ID: | blk0802b.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 14:58 | Instrument: | FID1 | | |
| Batch: | 1115180 | Sequence: | S106786 | Calibration: | 1106005 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 0.0120 mg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 0.00137 mg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 0.0120 mg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 0.0250 mg/l | U |
| 71-43-2 | Benzene | 1 | 0.005 mg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 0.005 mg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 0.005 mg/l | U |
| 91-20-3 | Naphthalene | 1 | 0.005 mg/l | U |
| 108-88-3 | Toluene | 1 | 0.005 mg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 0.01 mg/l | U |
| 95-47-6 | o-Xylene | 1 | 0.005 mg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 0.005 mg/l | U |
| 111-84-2 | n-Nonane | 1 | 0.01 mg/l | U |
| 109-66-0 | n-Pentane | 1 | 0.01 mg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 0.005 mg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 0.005 mg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 0.005 mg/l | U |
| 124-18-5 | n-Decane | 1 | 0.005 mg/l | U |

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115032-BLK1)** | 85 | 80 | | | | | 0 |
| **LCS (1115032-BS1)** | 84 | 75 | | | | | 0 |
| **LCS Dup (1115032-BSD1)** | 96 | 84 | | | | | 0 |
| **Calibration Check (S106694-CCV1)** | 108 | 100 | | | | | 0 |
| **TB06-071811 (SB32209-03)** | 80 | 74 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values

* Values outside of QC limits

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115046-BLK1)** | 100 | 92 | | | | | 0 |
| **LCS (1115046-BS1)** | 101 | 91 | | | | | 0 |
| **LCS Dup (1115046-BSD1)** | 99 | 88 | | | | | 0 |
| **Calibration Check (S106699-CCV1)** | 95 | 88 | | | | | 0 |
| **06MW-DUP01-20110718 (SB32209-01)** | 108 | 101 | | | | | 0 |
| **06MW09-20110718 (SB32209-02)** | 102 | 97 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values

* Values outside of QC limits

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115056-BLK1)** | 86 | 81 | | | | | 0 |
| **LCS (1115056-BS1)** | 93 | 81 | | | | | 0 |
| **LCS Dup (1115056-BSD1)** | 86 | 77 | | | | | 0 |
| **Duplicate (1115056-DUP1)** | 107 | 99 | | | | | 0 |
| **Matrix Spike (1115056-MS1)** | 83 | 73 | | | | | 0 |
| **Calibration Check (S106728-CCV1)** | 96 | 88 | | | | | 0 |
| **06MW01-20110719 (SB32209-04)** | 78 | 73 | | | | | 0 |
| **06MW02-20110719 (SB32209-05)** | 89 | 86 | | | | | 0 |
| **06MW06-20110719 (SB32209-06)** | 92 | 90 | | | | | 0 |
| **06MW07-20110719 (SB32209-07)** | 102 | 93 | | | | | 0 |
| **06MW08-20110719 (SB32209-08)** | 101 | 91 | | | | | 0 |
| **06MW13-20110719 (SB32209-09)** | 99 | 90 | | | | | 0 |
| **TB06-20110719 (SB32209-10)** | 93 | 83 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values

* Values outside of QC limits

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 32209

Client: Mitkem Laboratories Project: See Chain of Custody

Spike ID: 11E1073

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1115180-BLK1)** | 100 | 88 | | | | | 0 |
| **LCS (1115180-BS1)** | 94 | 78 | | | | | 0 |
| **LCS Dup (1115180-BSD1)** | 93 | 81 | | | | | 0 |
| **Calibration Check (S106786-CCV1)** | 111 | 98 | | | | | 0 |
| **06MW03-20110720 (SB32209-11)** | 73 | 73 | | | | | 0 |
| **06MW10-20110720 (SB32209-12)** | 80 | 77 | | | | | 0 |
| **06MW11-20110720 (SB32209-13)** | 78 | 76 | | | | | 0 |
| **06MW12-20110720 (SB32209-14)** | 83 | 76 | | | | | 0 |
| **06MW04-20110721 (SB32209-15)** | 86 | 81 | | | | | 0 |
| **06MW05-20110721 (SB32209-16)** | 77 | 71 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values

* Values outside of QC limits

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115032 | Laboratory ID: | 1115032-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 09:56 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 69.5 µg/l | 116 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 62.4 µg/l | 104 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.6 µg/l | 83 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 187 µg/l | 94 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 79.0 µg/l | 99 | 70 - 130 |
| Benzene | 20.0 µg/l | 18.8 µg/l | 94 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 15.5 µg/l | 78 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 20.1 µg/l | 100 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 15.1 µg/l | 76 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.7 µg/l | 84 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 31.0 µg/l | 77 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 15.7 µg/l | 78 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 16.7 µg/l | 84 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 22.8 µg/l | 114 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 14.9 µg/l | 75 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 20.0 µg/l | 100 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.9 µg/l | 84 | 70 - 130 |
| n-Decane | 20.0 µg/l | 19.3 µg/l | 97 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 59.8 µg/l | 100 | 15 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 64.4 µg/l | 107 | 3 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.2 µg/l | 81 | 2 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 183 µg/l | 91 | 3 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 80.6 µg/l | 101 | 2 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 18.2 µg/l | 91 | 3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 17.0 µg/l | 85 | 9 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115032 | Laboratory ID: | 1115032-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/30/11 10:23 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 18.6 µg/l | 93 | 7 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 16.3 µg/l | 81 | 7 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.5 µg/l | 88 | 5 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 34.1 µg/l | 85 | 10 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 17.3 µg/l | 86 | 10 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 19.8 µg/l | 99 | 7 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 17.1 µg/l | 86 | 3 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 21.4 µg/l | 107 | 7 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 16.4 µg/l | 82 | 9 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.3 µg/l | 96 | 4 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 17.7 µg/l | 89 | 5 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 20.1 µg/l | 100 | 4 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1115046 | Laboratory ID: | 1115046-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 18:22 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 53.7 µg/l | 90 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 62.9 µg/l | 105 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 17.1 µg/l | 85 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 175 µg/l | 87 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 79.9 µg/l | 100 | 70 - 130 |
| Benzene | 20.0 µg/l | 16.1 µg/l | 81 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 18.2 µg/l | 91 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 14.1 µg/l | 70 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 20.2 µg/l | 101 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.2 µg/l | 86 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 36.5 µg/l | 91 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 19.0 µg/l | 95 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 14.7 µg/l | 73 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 18.3 µg/l | 92 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 17.9 µg/l | 90 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 19.1 µg/l | 95 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 17.2 µg/l | 86 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 20.0 µg/l | 100 | 70 - 130 |
| n-Decane | 20.0 µg/l | 22.3 µg/l | 112 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 55.6 µg/l | 93 | 3 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 60.4 µg/l | 101 | 4 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.4 µg/l | 82 | 4 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 174 µg/l | 87 | 0.7 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 76.9 µg/l | 96 | 4 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 15.6 µg/l | 78 | 3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 17.7 µg/l | 88 | 3 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1115046 | Laboratory ID: | 1115046-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 07/31/11 18:51 | | |
| | | Spike ID: | 11G0707 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 14.3 µg/l | 71 | 1 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 19.4 µg/l | 97 | 4 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.7 µg/l | 84 | 3 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 35.5 µg/l | 89 | 3 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 18.4 µg/l | 92 | 3 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 15.4 µg/l | 77 | 5 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 18.0 µg/l | 90 | 2 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 18.1 µg/l | 90 | 0.9 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 18.5 µg/l | 92 | 3 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 16.4 µg/l | 82 | 5 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 18.9 µg/l | 95 | 6 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 20.7 µg/l | 104 | 7 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115056 | Laboratory ID: | 1115056-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 11:30 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 72.0 µg/l | 120 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 63.6 µg/l | 106 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 15.3 µg/l | 77 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 188 µg/l | 94 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 78.9 µg/l | 99 | 70 - 130 |
| Benzene | 20.0 µg/l | 17.4 µg/l | 87 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 16.2 µg/l | 81 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 17.0 µg/l | 85 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 15.2 µg/l | 76 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.9 µg/l | 84 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 32.2 µg/l | 81 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 16.2 µg/l | 81 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 21.7 µg/l | 109 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 17.3 µg/l | 86 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.7 µg/l | 128 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 15.2 µg/l | 76 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.3 µg/l | 97 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.8 µg/l | 84 | 70 - 130 |
| n-Decane | 20.0 µg/l | 17.2 µg/l | 86 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 64.5 µg/l | 107 | 11 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 64.8 µg/l | 108 | 2 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 16.9 µg/l | 85 | 10 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 183 µg/l | 92 | 3 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 81.7 µg/l | 102 | 4 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 17.5 µg/l | 87 | 0.3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 16.6 µg/l | 83 | 3 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115056 | Laboratory ID: | 1115056-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/01/11 15:32 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 17.4 µg/l | 87 | 2 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 15.6 µg/l | 78 | 2 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.1 µg/l | 86 | 2 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 33.1 µg/l | 83 | 3 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 16.8 µg/l | 84 | 4 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 20.0 µg/l | 100 | 8 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 16.3 µg/l | 82 | 6 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.0 µg/l | 125 | 2 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 15.8 µg/l | 79 | 4 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 18.1 µg/l | 91 | 7 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.0 µg/l | 80 | 5 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 17.0 µg/l | 85 | 1 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115180 | Laboratory ID: | 1115180-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 15:51 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 77.9 µg/l | 130 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 61.5 µg/l | 103 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 15.1 µg/l | 76 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 190 µg/l | 95 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 76.6 µg/l | 96 | 70 - 130 |
| Benzene | 20.0 µg/l | 18.4 µg/l | 92 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 14.7 µg/l | 74 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 19.0 µg/l | 95 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 14.2 µg/l | 71 | 70 - 130 |
| Toluene | 20.0 µg/l | 16.3 µg/l | 81 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 29.1 µg/l | 73 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 14.5 µg/l | 72 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 23.1 µg/l | 116 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 17.5 µg/l | 87 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.9 µg/l | 130 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 14.2 µg/l | 71 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 20.6 µg/l | 103 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 16.8 µg/l | 84 | 70 - 130 |
| n-Decane | 20.0 µg/l | 20.3 µg/l | 101 | 70 - 130 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 72.9 µg/l | 122 | 7 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 67.9 µg/l | 113 | 10 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 17.0 µg/l | 85 | 11 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 192 µg/l | 96 | 1 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 84.9 µg/l | 106 | 10 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 17.8 µg/l | 89 | 3 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 16.4 µg/l | 82 | 11 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115180 | Laboratory ID: | 1115180-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 08/02/11 16:18 | | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 18.2 µg/l | 91 | 4 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 16.2 µg/l | 81 | 13 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 17.2 µg/l | 86 | 5 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 32.7 µg/l | 82 | 12 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 16.6 µg/l | 83 | 13 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 21.7 µg/l | 109 | 6 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 18.2 µg/l | 91 | 4 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 25.4 µg/l | 127 | 2 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 15.6 µg/l | 78 | 9 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.9 µg/l | 100 | 3 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 18.3 µg/l | 91 | 9 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 22.3 µg/l | 112 | 10 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIb (Organic) / FORM V (Inorganic)
# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

06MW13-20110719

## +MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 32209 |
| Client: | Mitkem Laboratories | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID1 |
| Batch: | 1115056 | Laboratory ID: | 1115056-MS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Source Sample Name: | 06MW13-20110719 | % Solids: | |
| | | Spike ID: | 11H0001 |

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | MS CONCENTRATION | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| Benzene | 20.0 µg/l | BRL µg/l | 17.6 | 88 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | BRL µg/l | 17.2 | 86 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | BRL µg/l | 17.3 | 87 | 70 - 130 |
| Naphthalene | 20.0 µg/l | BRL µg/l | 15.7 | 79 | 70 - 130 |
| Toluene | 20.0 µg/l | BRL µg/l | 17.5 | 88 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | BRL µg/l | 34.1 | 85 | 70 - 130 |
| o-Xylene | 20.0 µg/l | BRL µg/l | 17.1 | 86 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | BRL µg/l | 24.0 | 120 | 70 - 130 |
| n-Nonane | 20.0 µg/l | BRL µg/l | 18.6 | 93 | 70 - 130 |
| n-Pentane | 20.0 µg/l | BRL µg/l | 29.5 | 148 * | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | BRL µg/l | 16.2 | 81 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | BRL µg/l | 21.7 | 109 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | BRL µg/l | 17.5 | 88 | 70 - 130 |
| n-Decane | 20.0 µg/l | BRL µg/l | 19.3 | 97 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

# FORM IIIc - DUPLICATES

06MW13-20110719

## +MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA
Client: Mitkem Laboratories
Matrix: Aqueous
Batch: 1115056
Preparation: VPH - EPA 5030B
Source Sample Name: 06MW13-20110719

SDG: 32209
Project: See Chain of Custody
Laboratory ID: 1115056-DUP1
Lab Source ID: SB32209-09
Initial/Final: 5 ml / 5 ml
% Solids:
File ID: 32209-09r.D

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION | C | DUPLICATE CONCENTRATION | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 50 | 0.0499 mg/l | | 0.0466 mg/l | | 7 | | +MADEP VPH 5/2004 Rev. 1.1 |
| C9-C12 Aliphatic Hydrocarbons | 50 | 0.0111 mg/l | | 0.0104 mg/l | | 6 | | +MADEP VPH 5/2004 Rev. 1.1 |
| C9-C10 Aromatic Hydrocarbons | 50 | 0.00754 mg/l | | 0.00731 mg/l | | 3 | | +MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C5-C8 Aliphatic Hydrocarl | 50 | 0.0499 mg/l | | 0.0466 mg/l | | 7 | | +MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C9-C12 Aliphatic Hydroca | 50 | 0.0187 mg/l | | 0.0177 mg/l | | 5 | | +MADEP VPH 5/2004 Rev. 1.1 |
| Benzene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Ethylbenzene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Methyl tert-butyl ether | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Naphthalene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| Toluene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| m,p-Xylene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |
| o-Xylene | 50 | BDL | | BDL | | | | +MADEP VPH 5/2004 Rev. 1.1 |

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

## +MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA **SDG:** 32209

**Client:** Mitkem Laboratories **Project:** See Chain of Custody

**Matrix:** Aqueous

| Analyte | MDL | MRL | Units |
|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 0.00111 | 0.0150 | mg/l |
| C9-C12 Aliphatic Hydrocarbons | 0.000844 | 0.00500 | mg/l |
| C9-C10 Aromatic Hydrocarbons | 0.000224 | 0.00500 | mg/l |
| Unadjusted C5-C8 Aliphatic Hydrocarb | 0.00142 | 0.0150 | mg/l |
| Unadjusted C9-C12 Aliphatic Hydrocar | 0.000936 | 0.00500 | mg/l |
| Benzene | 0.0003 | 0.001 | mg/l |
| Ethylbenzene | 0.0003 | 0.001 | mg/l |
| Methyl tert-butyl ether | 0.0003 | 0.001 | mg/l |
| Naphthalene | 0.0002 | 0.001 | mg/l |
| Toluene | 0.0003 | 0.001 | mg/l |
| m,p-Xylene | 0.0006 | 0.002 | mg/l |
| o-Xylene | 0.0002 | 0.001 | mg/l |
| 2-Methylpentane | 0.0005 | 0.001 | mg/l |
| n-Nonane | 0.0004 | 0.002 | mg/l |
| n-Pentane | 0.0002 | 0.002 | mg/l |
| 1,2,4-Trimethylbenzene | 0.0002 | 0.001 | mg/l |
| 2,2,4-Trimethylpentane | 0.0003 | 0.001 | mg/l |
| n-Butylcyclohexane | 0.0003 | 0.001 | mg/l |
| n-Decane | 0.0005 | 0.001 | mg/l |

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115032

Method No.: f 10607 L

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115032-BLK1 | Blank | | QC | 5 | 5 | | | | 30-Jul-11 07:00 | | |
| 1115032-BS1 | LCS | | QC | 5 | 5 | 11G0707 | | | 30-Jul-11 07:00 | | |
| 1115032-BSD1 | LCS Dup | | QC | 5 | 5 | 11G0707 | | | 30-Jul-11 07:00 | | |
| 1115032-DUP1 | Duplicate | | QC | 5 | 5 | | SB31855-01 | | 19-Jul-11 16:00 | | |
| 1115032-MS1 | Matrix Spike | | QC | 5 | 5 | 11G0707 | SB31855-01 | | 19-Jul-11 16:00 | | |
| SB31849-01 | GT-1 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 10:20 | CAM | |
| SB31849-01 | GT-1 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 10:20 | CAM | |
| SB31849-02 | GT-4 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:50 | CAM | |
| SB31849-02 | GT-4 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:50 | CAM | |
| SB31849-03 | GT-107S | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:05 | CAM | |
| SB31849-03 | GT-107S | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 09:05 | CAM | |
| SB31849-04 | GT-109 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 08:30 | CAM | |
| SB31849-04 | GT-109 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 08:30 | CAM | |
| SB31849-05 | MW-301 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:55 | CAM | |
| SB31849-05 | MW-301 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:55 | CAM | |
| SB31849-06 | SVE-1 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:00 | CAM | |
| SB31849-06 | SVE-1 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 11:00 | CAM | |
| SB31855-01 | LEI-27 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 16:00 | CAM | |
| SB31855-01 | LEI-27 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 16:00 | CAM | |
| SB31855-02 | LEI-23 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 14:00 | CAM | |
| SB31855-02 | LEI-23 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 14:00 | CAM | |
| SB31899-07 | MW-8 | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 13:40 | CAM | |
| SB31899-07 | MW-8 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 13:40 | CAM | |

Analyst Reviewed 8/1/11 Date

Manager Reviewed 8/1/11 Date

Extracts Received By Date

**Printed: 8/1/2011 10:08:51AM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115032

Method No.: f1060 n

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB31899-08 | MW-2 mp | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 14:45 | **CAM** | |
| SB31899-08 | MW-2 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 18-Jul-11 14:45 | **CAM** | |
| SB31922-01 | ECS-1 | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:58 | **CAM/GW-2/GW-3** | |
| SB31922-01 | ECS-1 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:58 | **CAM/GW-2/GW-3** | |
| SB31922-06 | ECS-6 | A | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 10:18 | **CAM/GW-2/GW-3** | |
| SB31922-06 | ECS-6 | A | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 10:18 | **CAM/GW-2/GW-3** | |
| SB32209-03 | TB06-071811 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 10:00 | **Level 4** | |
| SB32209-03 | TB06-071811 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 10:00 | **Level 4** | |

07/30/11
VPH water
mp
fid1

Analyst Reviewed 8/1/11 Date

Manager Reviewed Date

Extracts Received By Date

**Printed: 8/1/2011 10:08:51AM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115046

Method No.: f2-606.11

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115046-BLK1 | Blank | | QC | 5 | 5 | | | | 31-Jul-11 07:00 | | |
| 1115046-BS1 | LCS | | QC | 5 | 5 | 11G0707 | | | 31-Jul-11 07:00 | | |
| 1115046-BSD1 | LCS Dup | | QC | 5 | 5 | 11G0707 | | | 31-Jul-11 07:00 | | |
| 1115046-DUP1 | Duplicate | | QC | 5 | 5 | | SB32062-01 | | 19-Jul-11 13:00 | | |
| 1115046-MS1 | Matrix Spike | | QC | 5 | 5 | 11G0707 | SB32062-01 | | 19-Jul-11 13:00 | | |
| SB31835-06 | MCW-2 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 10:15 | CAM/GW-1/GW-3 | |
| SB31835-06 | MCW-2 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 10:15 | CAM/GW-1/GW-3 | |
| SB31835-08 | MCW-4 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:05 | CAM/GW-1/GW-3 | |
| SB31835-08 | MCW-4 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:05 | CAM/GW-1/GW-3 | |
| SB31835-09 | MCW-5 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:40 | CAM/GW-1/GW-3 | |
| SB31835-09 | MCW-5 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 09:40 | CAM/GW-1/GW-3 | |
| SB31835-10 | MW-1R | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 11:30 | CAM/GW-1/GW-3 | |
| SB31835-10 | MW-1R | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 20-Jul-11 11:30 | CAM/GW-1/GW-3 | |
| SB31855-03 | LEI-21 | B | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:26 | CAM | |
| SB31855-03 | LEI-21 | B | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:26 | CAM | |
| SB31922-02 | ECS-2 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:56 | CAM/GW-2/GW-3 | |
| SB31922-02 | ECS-2 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 08:56 | CAM/GW-2/GW-3 | |
| SB31922-03 | ECS-3 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:04 | CAM/GW-2/GW-3 | |
| SB31922-03 | ECS-3 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:04 | CAM/GW-2/GW-3 | |
| SB31922-04 | ECS-4 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:52 | CAM/GW-2/GW-3 | |
| SB31922-04 | ECS-4 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:52 | CAM/GW-2/GW-3 | |
| SB31922-05 | ECS-5 | B | VPH CC | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:16 | CAM/GW-2/GW-3 | |
| SB31922-05 | ECS-5 | B | VPH Targets | 5 | 5 | | | 28-Jul-11 16:00 | 19-Jul-11 11:16 | CAM/GW-2/GW-3 | |

Analyst Reviewed 8/1/11 Date

Manager Reviewed 8/2/11 Date

Extracts Received By Date

Printed: 8/1/2011 3:53:52PM

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115046

Method No.: f20060 1

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB31952-02 | MW-7 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:10 | **CAM** | |
| SB31952-02 | MW-7 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:10 | **CAM** | |
| SB31952-03 | MW-8 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 11:35 | **CAM** | |
| SB31952-03 | MW-8 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 11:35 | **CAM** | |
| SB31952-05 | MW-10 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:50 | **CAM** | |
| SB31952-05 | MW-10 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 10:50 | **CAM** | |
| SB31952-07 | MW-18 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 09:10 | **CAM** | |
| SB31952-07 | MW-18 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 09:10 | **CAM** | |
| SB32062-01 | OW-6 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 13:00 | **CAM** | |
| SB32062-01 | OW-6 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 13:00 | **CAM** | |
| SB32062-02 | VP-101 | A | VPH CC | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:30 | **CAM** | |
| SB32062-02 | VP-101 | A | VPH Targets | 5 | 5 | | | 29-Jul-11 16:00 | 19-Jul-11 12:30 | **CAM** | |
| SB32063-01 | ECS-1 | A | VPH CC | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 11:27 | **CAM** | |
| SB32063-01 | ECS-1 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 11:27 | **CAM** | |
| SB32063-02 | ECS-2 | A | VPH CC | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 12:31 | **CAM** | |
| SB32063-02 | ECS-2 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 15:00 | 20-Jul-11 12:31 | **CAM** | |
| SB32209-01 | 06MW-DUP01-20110718 | B | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 00:00 | **Level 4** | |
| SB32209-01 | 06MW-DUP01-20110718 | B | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 00:00 | **Level 4** | |
| SB32209-02 | 06MW09-20110718 | B | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 16:20 | **Level 4** | |
| SB32209-02 | 06MW09-20110718 | B | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 18-Jul-11 16:20 | **Level 4** | |

07/31/11
VPH h20
mp
fid2

Analyst Reviewed Date Manager Reviewed Date Extracts Received By Date

**Printed: 8/1/2011 3:53:52PM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115056

Method No.: F060714

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115056-BLK1 | Blank | | QC | 5 | 5 | | | | 01-Aug-11 07:00 | | |
| 1115056-BS1 | LCS | | QC | 5 | 5 | 11H0001 | | | 01-Aug-11 07:00 | | |
| 1115056-BSD1 | LCS Dup | | QC | 5 | 5 | 11H0001 | | | 01-Aug-11 07:00 | | |
| 1115056-DUP1 | Duplicate | | QC | 5 | 5 | | SB32209-09 | | 19-Jul-11 09:25 | | |
| 1115056-MS1 | Matrix Spike | | QC | 5 | 5 | 11H0001 | SB32209-09 | | 19-Jul-11 09:25 | | |
| SB31952-08 | MW-24 | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 14:55 | **CAM** | |
| SB31952-08 | MW-24 | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 20-Jul-11 14:55 | **CAM** | |
| SB32209-04 | 06MW01-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:27 | **Level 4** | |
| SB32209-04 | 06MW01-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:27 | **Level 4** | |
| SB32209-05 | 06MW02-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:07 | **Level 4** | |
| SB32209-05 | 06MW02-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:07 | **Level 4** | |
| SB32209-06 | 06MW06-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:17 | **Level 4** | |
| SB32209-06 | 06MW06-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:17 | **Level 4** | |
| SB32209-07 | 06MW07-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:48 | **Level 4** | |
| SB32209-07 | 06MW07-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 12:48 | **Level 4** | |
| SB32209-08 | 06MW08-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:56 | **Level 4** | |
| SB32209-08 | 06MW08-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 14:56 | **Level 4** | |
| SB32209-09 | 06MW13-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:25 | **Level 4/RUN MS/MSD** | |
| SB32209-09 | 06MW13-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:25 | **Level 4/RUN MS/MSD** | |
| SB32209-10 | TB06-20110719 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:00 | **Level 4** | |
| SB32209-10 | TB06-20110719 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 19-Jul-11 09:00 | **Level 4** | |
| SB32360-01 | AECOM-1D | D | VPH CC | 5 | 5 | | | 01-Aug-11 15:00 | 22-Jul-11 15:30 | **CAM** | |
| SB32360-01 | AECOM-1D | D | VPH Targets | 5 | 5 | | | 01-Aug-11 15:00 | 22-Jul-11 15:30 | **CAM** | |

Analyst Reviewed 8/2/11 Date

Manager Reviewed 8/2/11 Date

Extracts Received By Date

**Printed: 8/2/2011 10:20:51AM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115056

Method No.: f 1060511

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB32491-01 | So. Influent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:00 | CAM | |
| SB32491-01 | So. Influent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:00 | CAM | |
| SB32491-02 | So. Effluent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:05 | CAM | |
| SB32491-02 | So. Effluent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:05 | CAM | |
| SB32491-03 | So. Mid | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:10 | CAM | |
| SB32491-03 | So. Mid | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:10 | CAM | |
| SB32491-04 | So. Ditch | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:15 | CAM | |
| SB32491-04 | So. Ditch | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:15 | CAM | |
| SB32491-05 | No. Influent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:20 | CAM | |
| SB32491-05 | No. Influent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:20 | CAM | |
| SB32491-06 | No. Effluent | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:25 | CAM | |
| SB32491-06 | No. Effluent | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:25 | CAM | |
| SB32491-07 | No. Mid | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:30 | CAM | |
| SB32491-07 | No. Mid | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:30 | CAM | |
| SB32491-08 | No. Ditch #1 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:35 | CAM | |
| SB32491-08 | No. Ditch #1 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:35 | CAM | |
| SB32491-09 | No. Ditch #2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:40 | CAM | |
| SB32491-09 | No. Ditch #2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 18:40 | CAM | |
| SB32493-01 | MW-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:15 | CAM | |
| SB32493-01 | MW-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:15 | CAM | |
| SB32493-02 | MW-3 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:25 | CAM | |
| SB32493-02 | MW-3 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 28-Jul-11 15:25 | CAM | |
| SB32506-01 | SP-1 | A | VPH CC | 5 | 5 | | | 02-Aug-11 15:00 | 29-Jul-11 09:30 | CAM | |

Analyst Reviewed Date Manager Reviewed Date Extracts Received By Date

**Printed: 8/2/2011 10:20:51AM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115056

Method No.: f10607 11

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB32506-01 | SP-1 mD | A | VPH Targets | 5 | 5 | | | 02-Aug-11 15:00 | 29-Jul-11 09:30 | CAM | |

08/01/11
VPH water
mp
fid1

Analyst Reviewed 8/2/11 Date

Manager Reviewed Date

Extracts Received By Date

**Printed: 8/2/2011 10:20:51AM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115180

Method No.: F 10607 n

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1115180-BLK1 | Blank | | QC | 5 | 5 | | | | 02-Aug-11 07:00 | | |
| 1115180-BS1 | LCS | | QC | 5 | 5 | 11H0001 | | | 02-Aug-11 07:00 | | |
| 1115180-BSD1 | LCS Dup | | QC | 5 | 5 | 11H0001 | | | 02-Aug-11 07:00 | | |
| 1115180-DUP1 | Duplicate | | QC | 5 | 5 | | SB32042-02 | | 21-Jul-11 16:30 | | |
| 1115180-MS1 | Matrix Spike | | QC | 5 | 5 | 11H0001 | SB32042-02 | | 21-Jul-11 16:30 | | |
| SB31961-08 | Trip | A | VPH CC | 5 | 5 | | | 01-Aug-11 16:00 | 21-Jul-11 00:00 | **CAM/GW-2/3** | |
| SB31961-08 | Trip | A | VPH Targets | 5 | 5 | | | 01-Aug-11 16:00 | 21-Jul-11 00:00 | **CAM/GW-2/3** | |
| SB32036-01 | LEI-13 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:45 | **CAM/GW-1** | |
| SB32036-01 | LEI-13 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:45 | **CAM/GW-1** | |
| SB32036-02 | LEI-14 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 17:15 | **CAM/GW-1** | |
| SB32036-02 | LEI-14 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 17:15 | **CAM/GW-1** | |
| SB32038-01 | MW-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:00 | **CAM/GW-1** | |
| SB32038-01 | MW-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:00 | **CAM/GW-1** | |
| SB32038-02 | LEI-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:30 | **CAM/GW-1** | |
| SB32038-02 | LEI-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 11:30 | **CAM/GW-1** | |
| SB32038-03 | OW-2 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 10:30 | **CAM/GW-1** | |
| SB32038-03 | OW-2 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 10:30 | **CAM/GW-1** | |
| SB32038-04 | AS-1C | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 12:30 | **CAM/GW-1** | |
| SB32038-04 | AS-1C | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 12:30 | **CAM/GW-1** | |
| SB32040-01 | LEI-32 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:00 | **CAM/GW-1** | |
| SB32040-01 | LEI-32 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:00 | **CAM/GW-1** | |
| SB32040-02 | Trip Blank | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:05 | **CAM/GW-1** | |
| SB32040-02 | Trip Blank | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 14:05 | **CAM/GW-1** | |

Analyst Reviewed 8/3/11 Date

Manager Reviewed 8/3/11 Date

Extracts Received By Date

**Printed: 8/3/2011 12:01:59PM**

# SPECTRUM ANALYTICAL, INC. - PREPARATION BENCH SHEET

1115180

Method No.: fvc6071

**Matrix: Aqueous** **Prepared using: VOC - VPH - EPA 5030B** **Surrogate used: 11E1073**

| Lab Number | Client ID | ID | Analysis | Initial (ml) | Final (ml) | Spike ID | Source ID | Due Date | Collection Date | Sample Comments | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SB32042-01 | LEI-1 mp | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 15:00 | **CAM/GW-1** | |
| SB32042-01 | LEI-1 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 15:00 | **CAM/GW-1** | |
| SB32042-02 | LEI-19 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:30 | **CAM/GW-1** | |
| SB32042-02 | LEI-19 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 16:30 | **CAM/GW-1** | |
| SB32209-11 | 06MW03-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:44 | **Level 4** | |
| SB32209-11 | 06MW03-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:44 | **Level 4** | |
| SB32209-12 | 06MW10-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 11:16 | **Level 4** | |
| SB32209-12 | 06MW10-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 11:16 | **Level 4** | |
| SB32209-13 | 06MW11-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 10:59 | **Level 4** | |
| SB32209-13 | 06MW11-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 10:59 | **Level 4** | |
| SB32209-14 | 06MW12-20110720 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:50 | **Level 4** | |
| SB32209-14 | 06MW12-20110720 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 20-Jul-11 13:50 | **Level 4** | |
| SB32209-15 | 06MW04-20110721 | B | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 09:07 | **Level 4** | |
| SB32209-15 | 06MW04-20110721 | B | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 09:07 | **Level 4** | |
| SB32209-16 | 06MW05-20110721 | A | VPH CC | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 08:54 | **Level 4** | |
| SB32209-16 | 06MW05-20110721 | A | VPH Targets | 5 | 5 | | | 02-Aug-11 16:00 | 21-Jul-11 08:54 | **Level 4** | |

08/02/11 b
VPH water
mp
fid1

8/3/11

Analyst Reviewed Date Manager Reviewed Date Extracts Received By Date

**Printed: 8/3/2011 12:01:59PM**

# ANALYTICAL QC SUMMARY REPORT

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1283
**Project:** CTO-WE56, NSB New London

**CTETPH_W**
**CT ETPH – CT ETPH by GC-FID**

Sample ID: MB-60579 SampType: MBLK TestCode: CTETPH_W Prep Date: 07/24/11 15:52 Run ID: F1_110727A
Client ID: MB-60579 Batch ID: 60579 Units: mg/L Analysis Date: 07/27/11 16:06 SeqNo: 1578267

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.07407 | | 0.0025 | 0.1000 | 0 | 74.1 | 50 | 150 | 0 | | | |

Sample ID: MB-60598 SampType: MBLK TestCode: CTETPH_W Prep Date: 07/25/11 9:22 Run ID: F1_110803A
Client ID: MB-60598 Batch ID: 60598 Units: mg/L Analysis Date: 08/03/11 8:44 SeqNo: 1578361

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | ND | 0.018 | 0.10 | | | | | | | | | |
| Surrogate: ortho-Terphenyl | 0.09679 | | 0.0025 | 0.1000 | 0 | 96.8 | 50 | 150 | 0 | | | |

Sample ID: LCS-60579 SampType: LCS TestCode: CTETPH_W Prep Date: 07/24/11 15:52 Run ID: F1_110727A
Client ID: LCS-60579 Batch ID: 60579 Units: mg/L Analysis Date: 07/27/11 16:26 SeqNo: 1578268

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.754 | 0.018 | 0.10 | 5.000 | 0 | 75.1 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.09053 | | 0.0025 | 0.1000 | 0 | 90.5 | 50 | 150 | 0 | | | |

Sample ID: LCS-60598 SampType: LCS TestCode: CTETPH_W Prep Date: 07/25/11 9:22 Run ID: F1_110803A
Client ID: LCS-60598 Batch ID: 60598 Units: mg/L Analysis Date: 08/03/11 9:03 SeqNo: 1578363

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 4.130 | 0.018 | 0.10 | 5.000 | 0 | 82.6 | 60 | 140 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.09054 | | 0.0025 | 0.1000 | 0 | 90.5 | 50 | 150 | 0 | | | |

Sample ID: LCSD-60598 SampType: LCSD TestCode: CTETPH_W Prep Date: 07/25/11 9:22 Run ID: F1_110803A
Client ID: LCSD-60598 Batch ID: 60598 Units: mg/L Analysis Date: 08/03/11 9:23 SeqNo: 1578364

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 4.472 | 0.018 | 0.10 | 5.000 | 0 | 89.4 | 60 | 140 | 4.130 | 7.96 | 20 | |
| Surrogate: ortho-Terphenyl | 0.09916 | | 0.0025 | 0.1000 | 0 | 99.2 | 50 | 150 | 0 | | | |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
S - Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
LOD - Limit of Detection
LOQ - Limit of Quantitation
B - Analyte detected in the associated Method Blank
^ Qualified to the Limit of Detection (LOD)

**CLIENT:** Tetra Tech NUS Inc.
**Work Order:** K1283
**Project:** CTO-WE56, NSB New London

# ANALYTICAL QC SUMMARY REPORT

## CTETPH_W

## CT ETPH – CT ETPH by GC-FID

Sample ID: K1283-09BMS | SampType: MS | TestCode: CTETPH_W | Prep Date: 07/24/11 15:52 | Run ID: F1_110727A
Client ID: 06MW13-20110719 | Batch ID: 60579 | Units: mg/L | Analysis Date: 07/27/11 22:49 | SeqNo: 1578279

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.529 | 0.018 | 0.10 | 5.000 | 0.3716 | 63.2 | 50 | 150 | 0 | | | |
| Surrogate: ortho-Terphenyl | 0.07388 | | 0.0025 | 0.1000 | 0 | 73.9 | 50 | 150 | 0 | | | |

Sample ID: K1283-09BMSD | SampType: MSD | TestCode: CTETPH_W | Prep Date: 07/24/11 15:52 | Run ID: F1_110727A
Client ID: 06MW13-20110719 | Batch ID: 60579 | Units: mg/L | Analysis Date: 07/27/11 23:09 | SeqNo: 1578280

| Analyte | Result | LOD | LOQ | SPK value | SPK Ref Val | %REC | LowLimit | HighLimit | RPD Ref Val | %RPD | RPDLimit | Qual |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Extractable Total Petroleum Hydrocarbon | 3.762 | 0.018 | 0.10 | 5.000 | 0.3716 | 67.8 | 50 | 150 | 3.529 | 6.39 | 30 | |
| Surrogate: ortho-Terphenyl | 0.07748 | | 0.0025 | 0.1000 | 0 | 77.5 | 50 | 150 | 0 | | | |

Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files

| | | | | | |
|---|---|---|---|---|---|
| 5 | =F1H5057.D | 20 | =F1H5059.D | 50 | =F1H5061.D |
| 80 | =F1H5062.D | 100 | =F1H5056.D | 120 | =F1H5063.D |

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 | E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 | E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 | E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Data File: \\Avogadro\Organics\F1.I\110520.B\F1H5067.D
Lab Smp Id: FICV  Client Smp ID: FICV
Misc : TPH F ICV  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 20 May 2011 21:15  Operator: TM
ALS Vial : 11 Sample Multiplier: 1

Quant Time: May 24 09:53:36 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 3 | H | DRO C10 to C28 | 336.012 | 377.100 E3 | -12.2 | 54 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 372.820 E3 | -11.4 | 54 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 114 | 0.03 |
| 14 | | C9 Nonane | 0.730 | 0.589 | 19.3 | 52 | 0.02 |
| 15 | | C10 Decane | 0.756 | 0.659 | 12.8 | 52 | 0.02 |
| 16 | | C12 Dodecane | 0.808 | 0.728 | 9.9 | 53 | 0.02 |
| 17 | | C14 Tetradecane | 0.859 | 0.782 | 9.0 | 54 | 0.02 |
| 18 | | C16 Hexadecane | 0.957 | 0.835 | 12.7 | 55 | 0.02 |
| 19 | | C18 Octadecane | 0.941 | 0.863 | 8.3 | 54 | 0.02 |
| 20 | | C19 Nonadecane | 0.950 | 0.872 | 8.2 | 55 | 0.02 |
| 21 | | C20 Eicosane | 0.960 | 0.891 | 7.2 | 55 | 0.02 |
| 22 | | C22 Docosane | 0.991 | 0.907 | 8.5 | 55 | 0.02 |
| 23 | | C24 Tetracosane | 1.001 | 0.910 | 9.1 | 55 | 0.02 |
| 24 | | C26 Hexacosane | 1.011 | 0.917 | 9.3 | 55 | 0.02 |
| 25 | | C28 Octacosane | 1.011 | 0.898 | 11.2 | 54 | 0.02 |
| 26 | | C30 Triacontane | 1.015 | 0.901 | 11.2 | 55 | 0.02 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.861 | 11.2 | 57 | 0.04 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.839 | 9.8 | 54 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.830 | 10.4 | 54 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 2 | S | ortho-Terphenyl | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 13 | S | ortho-Terphenyl ISTD | 0.026 | 0.000 | 100.0# | 0# | -5.77# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5830.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 15:05  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 27 15:26:55 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 377.558 E3 | 1.3 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 330.628 E3 | 1.6 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 327.001 E3 | 2.3 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.077 | -1.8 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.753 | -3.2 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.791 | -4.6 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.861 | -6.6 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.915 | -6.5 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.957 | 0.0 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.978 | -3.9 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.978 | -2.9 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.981 | -2.2 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.997 | -0.6 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.982 | 1.9 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.989 | 2.2 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.979 | 3.2 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.974 | 4.0 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.922 | 4.9 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.943 | -1.4 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.933 | -0.8 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.933 | -0.8 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5840.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 18:28  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 28 11:35:33 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev. 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 361.378 | E3 | 5.6 | 96 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 317.709 | E3 | 5.4 | 96 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 314.976 | E3 | 5.9 | 96 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | | 0.0 | 96 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.073 | | -1.4 | 96 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.755 | | -3.4 | 96 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.790 | | -4.5 | 96 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.855 | | -5.8 | 95 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.907 | | -5.6 | 95 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.950 | | 0.7 | 95 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.973 | | -3.4 | 96 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.975 | | -2.6 | 96 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.980 | | -2.1 | 96 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.000 | | -0.9 | 96 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.988 | | 1.3 | 97 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.998 | | 1.3 | 97 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.989 | | 2.2 | 97 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.987 | | 2.8 | 97 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.941 | | 3.0 | 98 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.943 | | -1.4 | 96 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.935 | | -1.0 | 96 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.935 | | -1.0 | 96 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5844.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 19:49  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 28 11:40:27 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 367.321 E3 | 4.0 | 97 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 321.245 E3 | 4.4 | 97 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 317.657 E3 | 5.1 | 97 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 98 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.072 | -1.3 | 97 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.732 | -0.3 | 95 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.769 | -1.7 | 95 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.843 | -4.3 | 96 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.903 | -5.1 | 96 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.951 | 0.6 | 97 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.976 | -3.7 | 97 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.978 | -2.9 | 98 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.982 | -2.3 | 98 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.000 | -0.9 | 98 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.985 | 1.6 | 98 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.991 | 2.0 | 98 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.979 | 3.2 | 98 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.973 | 4.1 | 98 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.922 | 4.9 | 98 | -0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.938 | -0.9 | 97 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.927 | -0.1 | 97 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.927 | -0.1 | 97 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5855.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 23:29  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Jul 28 11:41:16 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 378.752 E3 | 1.0 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 331.298 E3 | 1.4 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 327.441 E3 | 2.1 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 101 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.073 | -1.4 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.735 | -0.7 | 98 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.773 | -2.2 | 98 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.847 | -4.8 | 99 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.906 | -5.5 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.952 | 0.5 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.976 | -3.7 | 101 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.978 | -2.9 | 101 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.982 | -2.3 | 101 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.999 | -0.8 | 101 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.984 | 1.7 | 101 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.989 | 2.2 | 101 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.976 | 3.5 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.970 | 4.4 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.917 | 5.5 | 100 | 0.01 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.939 | -1.0 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.928 | -0.2 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.928 | -0.2 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5861.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 7:54  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 03 08:35:29 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 404.484 E3 | -5.7 | 100 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 357.088 E3 | -6.3 | 100 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 353.514 E3 | -5.6 | 100 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 100 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.072 | -1.3 | 100 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.747 | -2.3 | 100 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.786 | -4.0 | 100 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.857 | -6.1 | 100 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.913 | -6.3 | 100 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.956 | 0.1 | 100 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.978 | -3.9 | 100 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.979 | -3.1 | 100 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.983 | -2.4 | 100 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.004 | -1.3 | 100 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.993 | 0.8 | 100 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.003 | 0.8 | 100 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.994 | 1.7 | 100 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.991 | 2.4 | 100 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.937 | 3.4 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.947 | -1.8 | 100 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.937 | -1.2 | 100 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.937 | -1.2 | 100 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\110803.B\F1H5873.D
Lab Smp Id: FSTD1001W  Client Smp ID: FSTD1001W
Misc : TPH F ICAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 03 Aug 2011 12:05  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Aug 04 08:51:49 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 391.670 E3 | -2.3 | 97 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 342.851 E3 | -2.0 | 96 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 339.055 E3 | -1.3 | 96 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 97 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.076 | -1.7 | 97 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.751 | -2.9 | 97 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.789 | -4.4 | 97 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.860 | -6.4 | 97 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.915 | -6.5 | 97 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.957 | 0.0 | 97 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.977 | -3.8 | 97 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.977 | -2.8 | 96 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.980 | -2.1 | 96 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 0.996 | -0.5 | 96 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 0.980 | 2.1 | 95 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 0.987 | 2.4 | 95 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 0.976 | 3.5 | 95 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 0.972 | 4.2 | 95 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 0.920 | 5.2 | 95 | -0.02 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.942 | -1.3 | 96 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.931 | -0.5 | 96 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.931 | -0.5 | 96 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/24/2011 3:52:23 P**
Prep End Date: **7/26/2011 2:30:00 P**
Prep Batch ID: **60579**

Prep Code: **TPH_W_PR**
Technician: **Brian L Dlhopolsky**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: mL / mL

QC Matrix: NASO4
QC Matrix Lot: 106147

Solvent (1): MECL2
Solvent (1) Lot: DE 155

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Filter?: FILTER
Filter Lot: FC002266

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| LCS-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-02B | MSW9002 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-03B | MSW0619 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04B | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04BMS | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-04BMSD | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-01B | 06MW-DUP01-201107 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-02B | 06MW09-20110718 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-05B | 06MW02-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-06B | 06MW06-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1283-07B | 06MW07-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-08B | 06MW08-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09B | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMS | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMSD | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |

Jill L Cartwright — 07/26/2011
Analyst Reviewed — Date

Timothy McDaniel — 07/26/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

7/26/11 TM

Logbook ID: 50.0147-07/11

Tuesday, August 02, 2011 09:39



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: 7/25/2011 9:22:38 A
Prep End Date: 8/2/2011 9:38:00 A
Prep Batch ID: 60598

Prep Code: TPH_W_PR
Technician: Timothy McDaniel

Prep Type: SEPF/SW3510C

Prep Factor Units: mL / mL

QC Matrix: NASO4
QC Matrix Lot: 106147

Filter?: FILTER
Filter Lot: FC002266

Solvent (1): MECL2
Solvent (1) Lot: DE 155

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-04B | 06MW01-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-11B | 06MW03-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-12B | 06MW10-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-13B | 06MW11-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-14B | 06MW12-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-15B | 06MW04-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-16B | 06MW05-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |

Antonio AP Cardoso — 08/02/2011
Analyst Reviewed — Date

Timothy McDaniel — 08/02/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

8/2/11

Logbook ID: 50.0147-07/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | KM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 => 500/700 | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

KM 5/24/11

# Injection Log

AG: TPH_ACOF
QT: TPH 0520F

Directory: O:\F1.I\110727.B

INLET MAINT = YES

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5830.d | 1. | FSTD1001R | TPH F ICAL L5 100... | 27 Jul 2011 15:05 |
| 2 | 96 | F1h5831.d | 1. | QC | TPH F | 27 Jul 2011 15:25 |
| 3 | 100 | F1h5832.d | 1. | IBLK | TPH F | 27 Jul 2011 15:45 |
| 4 | 21 | F1h5833.d | 1. | MB-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:06 |
| 5 | 22 | F1h5834.d | 1. | LCS-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:26 |
| 6 | 23 | F1h5835.d | 1. | K1270-02B,,60579 | ME DRO | 27 Jul 2011 16:46 |
| 7 | 24 | F1h5836.d | 1. | K1270-03B,,60579 | ME DRO | 27 Jul 2011 17:07 |
| 8 | 25 | F1h5837.d | 1. | K1270-04B,,60579 | ME DRO | 27 Jul 2011 17:27 |
| 9 | 26 | F1h5838.d | 1. | K1270-04BMS,,60579 | ME DRO | 27 Jul 2011 17:47 |
| 10 | 27 | F1h5839.d | 1. | K1270-04BMSD,,60579 | ME DRO | 27 Jul 2011 18:08 |
| 11 | 1 | F1h5840.d | 1. | FSTD1001S | TPH F CCAL L5 100... | 27 Jul 2011 18:28 |
| 12 | 96 | F1h5841.d | 1. | QC | TPH F | 27 Jul 2011 18:48 |
| 13 | 100 | F1h5842.d | 1. | IBLK | TPH F | 27 Jul 2011 19:08 |
| 14 | 95 | F1h5843.d | 1. | QC | TPH F | 27 Jul 2011 19:29 |
| 15 | 1 | F1h5844.d | 1. | FSTD1001T | TPH F CCAL L5 100... | 27 Jul 2011 19:49 |
| 16 | 100 | F1h5845.d | 1. | IBLK | TPH F | 27 Jul 2011 20:09 |
| 17 | 28 | F1h5846.d | 1. | K1283-01B,,60579 | TPH F | 27 Jul 2011 20:29 |
| 18 | 29 | F1h5847.d | 1. | K1283-02B,,60579 | TPH F | 27 Jul 2011 20:49 |
| 19 | 30 | F1h5848.d | 1. | K1283-05B,,60579 | TPH F | 27 Jul 2011 21:09 |
| 20 | 31 | F1h5849.d | 1. | K1283-06B,,60579 | TPH F | 27 Jul 2011 21:29 |
| 21 | 32 | F1h5850.d | 1. | K1283-07B,,60579 | TPH F | 27 Jul 2011 21:49 |
| 22 | 33 | F1h5851.d | 1. | K1283-08B,,60579 | TPH F | 27 Jul 2011 22:09 |
| 23 | 34 | F1h5852.d | 1. | K1283-09B,,60579 | TPH F | 27 Jul 2011 22:29 |
| 24 | 35 | F1h5853.d | 1. | K1283-09BMS,,60579 | TPH F | 27 Jul 2011 22:49 |
| 25 | 36 | F1h5854.d | 1. | K1283-09BMSD,,60579 | TPH F | 27 Jul 2011 23:09 |
| 26 | 1 | F1h5855.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 27 Jul 2011 23:29 |
| 27 | 100 | F1h5856.d | 1. | IBLK | TPH F | 27 Jul 2011 23:49 |
| 28 | 98 | F1h5857.d | 1. | QC | TPH F | 28 Jul 2011 11:39 |

M 7/28/11

# Injection Log

AQ : TPH-AGF
QT: TPH05ZOF

Directory: O:\F1.I\110803.B

INLET MAINT: NONE

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5860.d | 1. | QC | TPH F | 03 Aug 2011 07:35 |
| 2 | 1 | F1h5861.d | 1. | FSTD1001V | TPH F ICAL L5 100... | 03 Aug 2011 07:54 |
| 3 | 100 | F1h5862.d | 1. | IBLK | TPH F | 03 Aug 2011 08:14 |
| 4 | 2 | F1h5863.d | 1. | MB-60598,,60598 | TPH F | 03 Aug 2011 08:44 |
| 5 | 3 | F1h5864.d | 1. | LCS-60598,,60598 | TPH F | 03 Aug 2011 09:03 |
| 6 | 4 | F1h5865.d | 1. | LCSD-60598,,60598 | TPH F | 03 Aug 2011 09:23 |
| 7 | 5 | F1h5866.d | 1. | K1283-04B,,60598 | TPH F | 03 Aug 2011 09:43 |
| 8 | 6 | F1h5867.d | 1. | K1283-11B,,60598 | TPH F | 03 Aug 2011 10:04 |
| 9 | 7 | F1h5868.d | 1. | K1283-12B,,60598 | TPH F | 03 Aug 2011 10:24 |
| 10 | 8 | F1h5869.d | 1. | K1283-13B,,60598 | TPH F | 03 Aug 2011 10:44 |
| 11 | 9 | F1h5870.d | 1. | K1283-14B,,60598 | TPH F | 03 Aug 2011 11:04 |
| 12 | 10 | F1h5871.d | 1. | K1283-15B,,60598 | TPH F | 03 Aug 2011 11:24 |
| 13 | 11 | F1h5872.d | 1. | K1283-16B,,60598 | TPH F | 03 Aug 2011 11:45 |
| 14 | 1 | F1h5873.d | 1. | FSTD1001W | TPH F ICAL L5 100... | 03 Aug 2011 12:05 |
| 15 | 100 | F1h5874.d | 1. | IBLK | TPH F | 03 Aug 2011 12:25 |

8/10/11

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/24/2011 3:52:23 P**
Prep End Date: **7/26/2011 2:30:00 P**
Prep Batch ID: **60579**

Prep Code: **TPH_W_PR**
Technician: **Brian L Dlhopolsky**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: mL / mL

QC Matrix: **NASO4**
QC Matrix Lot: **106147**

Solvent (1): **MECL2**
Solvent (1) Lot: **DE 155**

Solvent (3): **N/A**
Solvent (3) Lot: **N/A**

Solvent (5): **N/A**
Solvent (5) Lot: **N/A**

Clean Up (1): **N/A**
Clean Up (1) Lot: **N/A**

Clean Up (3): **N/A**
Clean Up (1) Lot: **N/A**

Filter?: **FILTER**
Filter Lot: **FC002266**

Solvent (2): **N/A**
Solvent (2) Lot: **N/A**

Solvent (4): **N/A**
Solvent (4) Lot: **N/A**

Solvent (6): **N/A**
Solvent (6) Lot: **N/A**

Clean Up (2): **N/A**
Clean Up (2) Lot: **N/A**

Clean Up (4): **N/A**
Clean Up (4) Lot: **N/A**

Start Time: **N/A**
End Time: **N/A**

Cycles/Hour **0**

Sonicator Tuned? **N/A**

Bath Temp1 (C): **N/A**

Therm ID1: **N/A**

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| LCS-60579 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | | | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-02B | MSW9002 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-03B | MSW0619 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04B | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| ME DRO method | | | | | | | | | | | | | | | | | | | |
| K1270-04BMS | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 1 |
| K1270-04BMSD | MSW0620 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/08/11 | 01 | 07/26/11 | JLC | R21 | 3.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-01B | 06MW-DUP01-201107 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-02B | 06MW09-20110718 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-05B | 06MW02-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-06B | 06MW06-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 1 |
| K1283-07B | 06MW07-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 2 |
| K1283-08B | 06MW08-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09B | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMS | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |
| K1283-09BMSD | 06MW13-20110719 | A | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | BLD | JLC | 08/11/11 | 01 | 07/26/11 | JLC | R21 | 7.0 | ☐ | ☑ | Turbo Vap 3 |

Jill L Cartwright — 07/26/2011
Analyst Reviewed — Date

Timothy McDaniel — 07/26/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

7/26/11 TM

144

Logbook ID: 50.0147-07/11

Tuesday, August 02, 2011 09:39



# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

# PREP BATCH REPORT

Prep Start Date: **7/25/2011 9:22:38 A**
Prep End Date: **8/2/2011 9:38:00 A**
Prep Batch ID: **60598**

Prep Code: **TPH_W_PR**
Technician: **Timothy McDaniel**

Prep Type: **SEPF/SW3510C**

Prep Factor Units: mL / mL

QC Matrix: NASO4
QC Matrix Lot: 106147

Solvent (1): MECL2
Solvent (1) Lot: DE 155

Solvent (3): N/A
Solvent (3) Lot: N/A

Solvent (5): N/A
Solvent (5) Lot: N/A

Clean Up (1): N/A
Clean Up (1) Lot: N/A

Clean Up (3): N/A
Clean Up (1) Lot: N/A

Filter?: FILTER
Filter Lot: FC002266

Solvent (2): N/A
Solvent (2) Lot: N/A

Solvent (4): N/A
Solvent (4) Lot: N/A

Solvent (6): N/A
Solvent (6) Lot: N/A

Clean Up (2): N/A
Clean Up (2) Lot: N/A

Clean Up (4): N/A
Clean Up (4) Lot: N/A

Start Time: N/A
End Time: N/A

Cycles/Hour 0

Sonicator Tuned? N/A

Bath Temp1 (C): N/A

Therm ID1: N/A

| Mitkem Sample ID | Client Samp ID | M | Initial (mL/g) | Final (mL) | Surrogate Spike ID | Surr (mL) | LCS/D MS/D Spike ID | Spike (mL) | A* Init | W* Init | Due Date | Bottle Number | Trans Date | Trans By | Storage | pH | pH >11 | pH <2 | CNCNTR Unit |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MB-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | | | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCS-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| LCSD-60598 | BatchQC | | 1000 | 1 | OFW110622A | 1 | OFW110203A | 1 | TM | APC | | | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-04B | 06MW01-20110719 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-11B | 06MW03-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-12B | 06MW10-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 01 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 1 |
| K1283-13B | 06MW11-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-14B | 06MW12-20110720 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-15B | 06MW04-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |
| K1283-16B | 06MW05-20110721 | A | 1000 | 1 | OFW110622A | 1 | | | TM | APC | 08/11/11 | 02 | 08/02/11 | AAPC | R21 | | ☐ | ☐ | Turbo Vap 2 |

Antonio AP Cardoso — 08/02/2011
Analyst Reviewed — Date

Timothy McDaniel — 08/02/2011
Manager Reviewed — Date

Comments:

*A = Analyst (Spiked) *W = Witnessed (Spike) *T = Transferred

8/2/11

145

Logbook ID: 50.0147-07/11

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | KM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ⇒ 500/700L | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

KM 5/24/11

# Injection Log

AG: TPH_ARCF
QT: TPH 0520F

Directory: O:\F1.I\110727.B

INLET MAINT = YES

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h5830.d | 1. | FSTD1001R | TPH F ICAL L5 100... | 27 Jul 2011 15:05 |
| 2 | 96 | F1h5831.d | 1. | QC | TPH F | 27 Jul 2011 15:25 |
| 3 | 100 | F1h5832.d | 1. | IBLK | TPH F | 27 Jul 2011 15:45 |
| 4 | 21 | F1h5833.d | 1. | MB-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:06 |
| 5 | 22 | F1h5834.d | 1. | LCS-60579,,60579 | ME DRO / TPH | 27 Jul 2011 16:26 |
| 6 | 23 | F1h5835.d | 1. | K1270-02B,,60579 | ME DRO | 27 Jul 2011 16:46 |
| 7 | 24 | F1h5836.d | 1. | K1270-03B,,60579 | ME DRO | 27 Jul 2011 17:07 |
| 8 | 25 | F1h5837.d | 1. | K1270-04B,,60579 | ME DRO | 27 Jul 2011 17:27 |
| 9 | 26 | F1h5838.d | 1. | K1270-04BMS,,60579 | ME DRO | 27 Jul 2011 17:47 |
| 10 | 27 | F1h5839.d | 1. | K1270-04BMSD,,60579 | ME DRO | 27 Jul 2011 18:08 |
| 11 | 1 | F1h5840.d | 1. | FSTD1001S | TPH F CCAL L5 100... | 27 Jul 2011 18:28 |
| 12 | 96 | F1h5841.d | 1. | QC | TPH F | 27 Jul 2011 18:48 |
| 13 | 100 | F1h5842.d | 1. | IBLK | TPH F | 27 Jul 2011 19:08 |
| 14 | 95 | F1h5843.d | 1. | QC | TPH F | 27 Jul 2011 19:29 |
| 15 | 1 | F1h5844.d | 1. | FSTD1001T | TPH F CCAL L5 100... | 27 Jul 2011 19:49 |
| 16 | 100 | F1h5845.d | 1. | IBLK | TPH F | 27 Jul 2011 20:09 |
| 17 | 28 | F1h5846.d | 1. | K1283-01B,,60579 | TPH F | 27 Jul 2011 20:29 |
| 18 | 29 | F1h5847.d | 1. | K1283-02B,,60579 | TPH F | 27 Jul 2011 20:49 |
| 19 | 30 | F1h5848.d | 1. | K1283-05B,,60579 | TPH F | 27 Jul 2011 21:09 |
| 20 | 31 | F1h5849.d | 1. | K1283-06B,,60579 | TPH F | 27 Jul 2011 21:29 |
| 21 | 32 | F1h5850.d | 1. | K1283-07B,,60579 | TPH F | 27 Jul 2011 21:49 |
| 22 | 33 | F1h5851.d | 1. | K1283-08B,,60579 | TPH F | 27 Jul 2011 22:09 |
| 23 | 34 | F1h5852.d | 1. | K1283-09B,,60579 | TPH F | 27 Jul 2011 22:29 |
| 24 | 35 | F1h5853.d | 1. | K1283-09BMS,,60579 | TPH F | 27 Jul 2011 22:49 |
| 25 | 36 | F1h5854.d | 1. | K1283-09BMSD,,60579 | TPH F | 27 Jul 2011 23:09 |
| 26 | 1 | F1h5855.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 27 Jul 2011 23:29 |
| 27 | 100 | F1h5856.d | 1. | IBLK | TPH F | 27 Jul 2011 23:49 |
| 28 | 98 | F1h5857.d | 1. | QC | TPH F | 28 Jul 2011 11:39 |

MC 7/28/11

# Injection Log

AQ : TPH-AGF
QT: TPH0520F

Directory: O:\F1.I\110803.B

INLET MAINT: NONE

ICAL 7159

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5860.d | 1. | QC | TPH F | 03 Aug 2011 07:35 |
| 2 | 1 | F1h5861.d | 1. | FSTD1001V | TPH F ICAL L5 100... | 03 Aug 2011 07:54 |
| 3 | 100 | F1h5862.d | 1. | IBLK | TPH F | 03 Aug 2011 08:14 |
| 4 | 2 | F1h5863.d | 1. | MB-60598,,60598 | TPH F | 03 Aug 2011 08:44 |
| 5 | 3 | F1h5864.d | 1. | LCS-60598,,60598 | TPH F | 03 Aug 2011 09:03 |
| 6 | 4 | F1h5865.d | 1. | LCSD-60598,,60598 | TPH F | 03 Aug 2011 09:23 |
| 7 | 5 | F1h5866.d | 1. | K1283-04B,,60598 | TPH F | 03 Aug 2011 09:43 |
| 8 | 6 | F1h5867.d | 1. | K1283-11B,,60598 | TPH F | 03 Aug 2011 10:04 |
| 9 | 7 | F1h5868.d | 1. | K1283-12B,,60598 | TPH F | 03 Aug 2011 10:24 |
| 10 | 8 | F1h5869.d | 1. | K1283-13B,,60598 | TPH F | 03 Aug 2011 10:44 |
| 11 | 9 | F1h5870.d | 1. | K1283-14B,,60598 | TPH F | 03 Aug 2011 11:04 |
| 12 | 10 | F1h5871.d | 1. | K1283-15B,,60598 | TPH F | 03 Aug 2011 11:24 |
| 13 | 11 | F1h5872.d | 1. | K1283-16B,,60598 | TPH F | 03 Aug 2011 11:45 |
| 14 | 1 | F1h5873.d | 1. | FSTD1001W | TPH F ICAL L5 100... | 03 Aug 2011 12:05 |
| 15 | 100 | F1h5874.d | 1. | IBLK | TPH F | 03 Aug 2011 12:25 |

8/10/11

# NSB NEW LONDON
# WATER DATA
# K1283

| FRACTION | CHEMICAL | 06MW09-20110718 | UNITS | 06MW-DUP01-20110718 | RPD | D |
|---|---|---|---|---|---|---|
| PETS | EXTRACTABLE PETROLEUM HYDROC | 0.78 | MG/L | 0.86 | 9.76 | 0.08 |
| PETV | C5-C8 ALIPHATICS | 0.0467 J | MG/L | 0.0457 J | 2.16 | 0.00 |
| PETV | C9-C10 AROMATICS | 0.028 | MG/L | 0.0297 | 5.89 | 0.00 |
| PETV | C9-C12 ALIPHATICS | 0.0721 | MG/L | 0.0716 | 0.70 | 0.00 |
| PETV | NAPHTHALENE | 6.2 | UG/L | 6.7 | 7.75 | 0.50 |

**Current RPD Quality Control Limit: 35 %.**
**Shaded cells indicate RPDs that exceed the applicable quality control limit.**

Data File: \\Avogadro\Organics\F1.I\110727.B\F1H5846.D
Lab Smp Id: K1283-01B BN: 60579 Client Smp ID: 06MW-DUP01-20110718
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 27 Jul 2011 20:29 Operator: TM
ALS Vial : 28 Sample Multiplier: 1

Sample Calc - ETPH
result: 0.86 mg/L

Quant Time: Jul 28 12:11:23 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.16 | 14172299 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.74 | 29478153 | 77.023 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 77.02% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 287814595 | 860.122 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 349518763 | |
| Corrected Range Area (IS,SS): | | 305868311 | |
| Instrument Blank Area (F1H5845): | | 18053716 | |

Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

$$860.122 \frac{mg}{mL} \times \frac{1\ mL}{1000\ mL/g} = 0.860 \frac{mg}{L}$$

Quantitation Report (QT Reviewed)

Sample Calc - VPH

Data File : G:\Jul2011\FID2\0731\32209-01.D Vial: 12
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 31 Jul 2011 11:50 pm Operator: mp
Sample : sb32209-01 @ 06mw-dup01 1:5 vphw Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Aug 01 11:17:44 2011
Quant Results File: F2060611.RES

Sample: 06MW-DUP01-20110718
naphthalene result: 6.7 µg/L
Dup of -02

Quant Method : F:\VOC\HPMETHODS\Fid2\F2060611.M
Quant Title :
QLast Update : Mon Jun 06 09:09:47 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L |
|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | |
| 8) S | 2,5-Dibromotolue | 16.50 | 16.50 | 849643 | 5095084 | 53.822 | 50.324 |
| | Spiked Amount 50.000 | | | Recovery | = | 107.64% | 100.65% |
| | Target Compounds | | | | | | |
| 1) | Unadjusted C5-C8 | 5.84 | 5.82 | 454379 | 154 | 9.144m | NoCal # |
| 2) | C9-C10 Aromatic | 12.50 | 14.47f | 7652 | 1426882 | NoCal | 5.949m |
| 3) | Unadjusted C9-C1 | 14.47f | 12.50 | 771391 | 21996 | 20.260m | NoCal # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 5) | Methyl tert-buty | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 7) | Benzene | 4.75 | 4.43 | 1688 | 20282 | NoCal | <MDL |
| 8) | 2,2,4-Trimethylp | 5.48 | 5.81 | 1777 | 47 | <MDL | NoCal # |
| 9) | Toluene | 7.53 | 7.24 | 2005 | 10228 | NoCal | <MDL |
| 10) | Ethylbenzene | 0.00 | 9.26 | 0 | 3321 | N.D. | <MDL |
| 11) | m,p-Xylene | 0.00 | 9.51 | 0 | 5268 | N.D. | <MDL |
| 12) | o-Xylene | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. |
| 13) | n-Nonane | 0.00 | 10.44 | 0 | 11360 | N.D. | NoCal |
| 14) | n-Decane | 0.00 | 12.29 | 0 | 6418 | N.D. d | NoCal |
| 15) | n-Butylcyclohexa | 12.63 | 12.82 | 11433 | 45786 | 0.360m | NoCal # |
| 16) | 1,2,4-Trimethylb | 12.28 | 11.81 | 3571 | 17146 | NoCal | <MDL |
| 17) | Naphthalene | 15.26 | 15.02 | 13844 | 177235 | NoCal | 1.337 |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

$\frac{177235}{132573.5} = 1.337$ µg/L

1.337 µg/L × 5 (Dilution) = 6.69 µg/L

RRF = 132573.5

**Tetra Tech NUS** **INTERNAL CORRESPONDENCE**

| | | | |
|---|---|---|---|
| **TO:** | **D. KANE** | **DATE:** | **DECMEBER 23, 2011** |
| **FROM:** | **A. COGNETTI** | **COPIES:** | **DV FILE** |

**SUBJECT:** **ORGANIC DATA VALIDATION- VPH AND ETPH**
**CTO WE56, NSB NEW LONDON**
**SAMPLE DELIVERY GROUP (SDG) K2139**

**SAMPLES:** 14/Aqueous/ETPH

| | | |
|---|---|---|
| 06MW-01-111025 | 06MW-02-111025 | 06MW-03-111025 |
| 06MW-04-111024 | 06MW-05-111025 | 06MW-06-20111024 |
| 06MW-07-111025 | 06MW-08-20111024 | 06MW-09-111025 |
| 06MW-10-20111024 | 06MW-11-111024 | 06MW-12-111024 |
| 06MW-13-111025 | 06MWDUP01-111024 | |

15/Aqueous/VPH

| | | |
|---|---|---|
| 06MW-01-111025 | 06MW-02-111025 | 06MW-03-111025 |
| 06MW-04-111024 | 06MW-05-111025 | 06MW-06-20111024 |
| 06MW-07-111025 | 06MW-08-20111024 | 06MW-09-111025 |
| 06MW-10-20111024 | 06MW-11-111024 | 06MW-12-111024 |
| 06MW-13-111025 | 06MWDUP01-111024 | 06TBMW0-111024 |

OVERVIEW

The sample set for CTO WE56, NSB New London, SDG K2139, consists of fourteen (14) aqueous environmental samples and one (1) aqueous trip blank. All samples were analyzed for volatile petroleum hydrocarbons (VPH). All samples, except the trip blank, were also analyzed for extractable total petroleum hydrocarbons (ETPH). One field duplicate pair was included in this SDG: 06MW-06-20111024/ 06MWDUP01-111024.

The samples were collected by Tetra Tech NUS on October 24 and 25, 2011 and analyzed by Spectrum Analytical, Inc. All analyses were conducted in accordance with Massachusetts Department of Environmental Protection VPH and Connecticut ETPH analysis and reporting protocols. A Tier 3 data validation was performed on the referenced samples. The data contained in this SDG were validated with regard to the following parameters:

- Data Completeness
- * Holding Times
- * GC/MS Tuning
- * Initial/Continuing Calibrations
- * Laboratory Method Blank Results
- * Surrogate Recoveries
- * Laboratory Control Sample/Laboratory Control Sample Duplicate Results
- * Matrix Spike/Matrix Spike Duplicate Results
- * Internal Standards
- * Compound Quantitation
- * Compound Identification
- * Detection Limits

* • Field Duplicate Results

The asterisk (*) indicates that all quality control criteria were met for this parameter. Qualified (if applicable) analytical results are summarized in Appendix A. Results as reported by the laboratory are presented in Appendix B. Appendix C contains Region I worksheets, and Appendix D contains the documentation to support the findings as discussed in this data validation report.

Laboratory Method Blank Results

The following contaminants were detected in the laboratory method blank associated with batch 1122848 at the following maximum concentrations affecting all samples in this SDG.

| Contaminant | Maximum Concentration (ug/L) | Action Level (ug/L) |
|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 9.37 | 46.85 |
| C9-C10 Aromatic Hydrocarbons | 1.36 | 6.8 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 9.37 | 46.85 |

An action level of 5X the maximum contaminant level has been used to evaluate sample data for blank contamination. Sample aliquot and dilution factors, if applicable, were taken into consideration when evaluating for blank contamination. Positive results for less than the blank action level were qualified as nondetected, (U) due to blank contamination. Trip blank was not qualified for laboratory blank contamination.

Comments

The data validator found an error in the raw data when performing a sample calculation. The laboratory associated sample data with an incorrect initial calibration curve. The raw data was reprinted and a revised report was issued. Also, the laboratory was contacted due to inconsistencies in the nondetected VPH results on the form 1s and the EDD. The hardcopy results were reported with the "U" value at the MDL; however, the EDD file reported had the "U" values at the RL. The laboratory edited the EDD to change the nondetected results to the MDL. Finally, the revised EDD did not include unadjusted C5-C8 Aliphatic Hydrocarbons and unadjusted C9-C12 Aliphatic Hydrocarbons. These target analytes were manually added.

All the aqueous samples, except the trip blank were diluted 5X, in the VPH fraction.

Positive results reported below the quantitation limit but above the method detection limit (MDL) were qualified as estimated (J).

Nondetected ETPH results were reported to the limit of detection (LOD). VPH target analytes were reported to the MDL.

## EXECUTIVE SUMMARY

**Laboratory Performance Issues:** Contamination was detected in the laboratory method blank in the VPH fraction.

**Other Factors Affecting Data Quality:** None.

**TO:** **D. Kane**
**FROM:** **A. Cognetti**
**SDG:** **K2139** **– PAGE 3**
**DATE:** **December 23, 2011**

The data for these analyses were reviewed with reference to the Region I EPA "Data Validation Functional Guidelines - Part II" (12/96) and the Department of Defense (DoD) document entitled "Quality Systems Manual (QSM) for Environmental Laboratories" (April 2009). The text of this report has been formulated to address only those problem areas affecting data quality.

Ann Cognetti

Tetra Tech NUS
Ann Cognetti
Chemist/ Data Validator

TetraTech NUS
Joseph A. Samchuck
Data Validation Quality Assurance Officer

Attachments:

Appendix A – Qualified Analytical Results
Appendix B – Results as Reported by the Laboratory
Appendix C – Regional Worksheets
Appendix D – Support Documentation

# APPENDIX A

## QUALIFIED ANALYTICAL RESULTS

**Qualifier Codes:**

A = Lab Blank Contamination
B = Field Blank Contamination
C = Calibration Noncompliance (i.e., % RSDs, %Ds, ICVs, CCVs, RRFs, etc.)
C01 = GC/MS Tuning Noncompliance
D = MS/MSD Recovery Noncompliance
E = LCS/LCSD Recovery Noncompliance
F = Lab Duplicate Imprecision
G = Field Duplicate Imprecision
H = Holding Time Exceedance
I = ICP Serial Dilution Noncompliance
J = ICP PDS Recovery Noncompliance; MSA's $r < 0.995$
K = ICP Interference - includes ICS % R Noncompliance
L = Instrument Calibration Range Exceedance
M = Sample Preservation Noncompliance
N = Internal Standard Noncompliance
N01 = Internal Standard Recovery Noncompliance Dioxins
N02 = Recovery Standard Noncompliance Dioxins
N03 = Clean-up Standard Noncompliance Dioxins
O = Poor Instrument Performance (i.e., base-time drifting)
P = Uncertainty near detection limit (< 2 x IDL for inorganics and <CRQL for organics)
Q = Other problems (can encompass a number of issues; i.e.chromatography,interferences, etc.)
R = Surrogates Recovery Noncompliance
S = Pesticide/PCB Resolution
T = % Breakdown Noncompliance for DDT and Endrin
U = RPD between columns/detectors >40% for positive results determined via GC/HPLC
V = Non-linear calibrations; correlation coefficient $r < 0.995$
W = EMPC result
X = Signal to noise response drop
Y = Percent solids <30%
Z = Uncertainty at 2 sigma deviation is less than sample activity
Z1 = Tentatively Identified Compound considered presumptively present
Z2 = Tentatively Identified Compound column bleed

| PROJ_NO: 02634 | NSAMPLE | 06MW-01-111025 | | | 06MW-02-111025 | | | 06MW-03-111025 | | | 06MW-04-111024 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K2139 | LAB_ID | K2139-09A | | | K2139-10A | | | K2139-11A | | | K2139-01A | | |
| FRACTION: PETV | SAMP_DATE | 10/25/2011 | | | 10/25/2011 | | | 10/25/2011 | | | 10/24/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/L | | | UG/L | | | UG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.3 | U | | 1.3 | U | | 39.5 | | | 1.3 | U | |
| C5-C8 ALIPHATICS | | 118 | U | A | 64.4 | U | A | 138 | U | A | 55.9 | U | A |
| C5-C8 ALIPHATICS-UNADJ | | 288 | | | 64.4 | U | A | 406 | | | 55.9 | U | A |
| C9-C10 AROMATICS | | 509 | | | 21.5 | U | A | 459 | | | 36 | | |
| C9-C12 ALIPHATICS | | 796 | | | 56.8 | | | 714 | | | 72.9 | | |
| C9-C12 ALIPHATICS-UNADJ | | 1310 | | | 78.3 | | | 1170 | | | 109 | | |
| ETHYLBENZENE | | 44.2 | | | 1.4 | U | | 73.7 | | | 1.4 | U | |
| M+P-XYLENES | | 58.3 | | | 2.8 | U | | 109 | | | 2.8 | U | |
| METHYL TERT-BUTYL ETHER | | 1.6 | U | | 1.6 | U | | 1.6 | U | | 1.6 | U | |
| NAPHTHALENE | | 128 | | | 8 | | | 155 | | | 6.8 | | |
| O-XYLENE | | 50.5 | | | 1.1 | U | | 33.8 | | | 1.1 | U | |
| TOLUENE | | 16.7 | | | 1.3 | U | | 12 | | | 1.3 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW-05-111025 | | | 06MW-06-20111024 | | | 06MW-07-111025 | | | 06MW-08-20111024 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K2139 | LAB_ID | K2139-12A | | | K2139-02A | | | K2139-13A | | | K2139-03A | | |
| FRACTION: PETV | SAMP_DATE | 10/25/2011 | | | 10/24/2011 | | | 10/25/2011 | | | 10/24/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/L | | | UG/L | | | UG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.3 | U | | 1.3 | U | | 1.3 | U | | 1.3 | U | |
| C5-C8 ALIPHATICS | | 50.3 | U | A | 64.6 | U | A | 53.9 | U | A | 48.9 | U | A |
| C5-C8 ALIPHATICS-UNADJ | | 50.3 | U | A | 64.6 | U | A | 53.9 | U | A | 48.9 | U | A |
| C9-C10 AROMATICS | | 13.4 | U | A | 6.42 | U | A | 6.46 | U | A | 4.46 | U | A |
| C9-C12 ALIPHATICS | | 23.2 | J | P | 14 | J | P | 15.2 | J | P | 9.4 | J | P |
| C9-C12 ALIPHATICS-UNADJ | | 36.6 | | | 20.4 | | | 21.7 | | | 13.9 | | |
| ETHYLBENZENE | | 1.4 | U | | 1.4 | U | | 1.4 | U | | 1.4 | U | |
| M+P-XYLENES | | 2.8 | U | | 2.8 | U | | 2.8 | U | | 2.8 | U | |
| METHYL TERT-BUTYL ETHER | | 1.6 | U | | 1.6 | U | | 1.6 | U | | 1.6 | U | |
| NAPHTHALENE | | 1.2 | U | | 1.2 | U | | 1.2 | U | | 1.2 | U | |
| O-XYLENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| TOLUENE | | 1.3 | U | | 1.3 | U | | 1.3 | U | | 1.3 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW-09-111025 | | | 06MW-10-20111024 | | | 06MW-11-111024 | | | 06MW-12-111024 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K2139 | LAB_ID | K2139-14A | | | K2139-04A | | | K2139-05A | | | K2139-06A | | |
| FRACTION: PETV | SAMP_DATE | 10/25/2011 | | | 10/24/2011 | | | 10/24/2011 | | | 10/24/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | UG/L | | | UG/L | | | UG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.3 | U | | 1.3 | U | | 1.3 | U | | 1.3 | U | |
| C5-C8 ALIPHATICS | | 63.7 | U | A | 36.5 | U | A | 55.4 | U | A | 49.4 | U | A |
| C5-C8 ALIPHATICS-UNADJ | | 63.7 | U | A | 36.5 | U | A | 55.4 | U | A | 49.4 | U | A |
| C9-C10 AROMATICS | | 19 | U | A | 72.7 | | | 85 | | | 9.82 | U | A |
| C9-C12 ALIPHATICS | | 47 | | | 125 | | | 146 | | | 10.2 | J | P |
| C9-C12 ALIPHATICS-UNADJ | | 66 | | | 198 | | | 231 | | | 20 | | |
| ETHYLBENZENE | | 1.4 | U | | 1.4 | U | | 1.4 | U | | 1.4 | U | |
| M+P-XYLENES | | 2.8 | U | | 2.8 | U | | 2.8 | U | | 2.8 | U | |
| METHYL TERT-BUTYL ETHER | | 1.6 | U | | 1.6 | U | | 1.6 | U | | 1.6 | U | |
| NAPHTHALENE | | 1.2 | U | | 18.3 | | | 10.9 | | | 1.2 | U | |
| O-XYLENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| TOLUENE | | 1.3 | U | | 1.3 | U | | 1.3 | U | | 1.3 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW-13-111025 | | | 06MWDUP01-111024 | | | 06TBMW0-111024 | | |
|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K2139 | LAB_ID | K2139-15A | | | K2139-07A | | | K2139-08A | | |
| FRACTION: PETV | SAMP_DATE | 10/25/2011 | | | 10/24/2011 | | | 10/24/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | |
| | UNITS | UG/L | | | UG/L | | | UG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | 06MW-06-20111024 | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| BENZENE | | 1.3 | U | | 1.3 | U | | 1.3 | U | |
| C5-C8 ALIPHATICS | | 62.2 | U | A | 53.3 | U | A | 8.53 | J | P |
| C5-C8 ALIPHATICS-UNADJ | | 63.8 | U | A | 53.3 | U | A | 8.53 | J | P |
| C9-C10 AROMATICS | | 8.2 | U | A | 6.69 | U | A | 1.12 | U | |
| C9-C12 ALIPHATICS | | 27.9 | | | 9.52 | J | P | 4.22 | U | |
| C9-C12 ALIPHATICS-UNADJ | | 36.1 | | | 16.2 | | | 4.68 | U | |
| ETHYLBENZENE | | 1.4 | U | | 1.4 | U | | 1.4 | U | |
| M+P-XYLENES | | 2.8 | U | | 2.8 | U | | 2.8 | U | |
| METHYL TERT-BUTYL ETHER | | 1.6 | J | P | 1.6 | U | | 1.6 | U | |
| NAPHTHALENE | | 1.2 | U | | 1.2 | U | | 1.2 | U | |
| O-XYLENE | | 1.1 | U | | 1.1 | U | | 1.1 | U | |
| TOLUENE | | 1.3 | U | | 1.3 | U | | 1.3 | U | |

| PROJ_NO: 02634 | NSAMPLE | 06MW-01-111025 | | | 06MW-02-111025 | | | 06MW-03-111025 | | | 06MW-04-111024 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K2139 | LAB_ID | K2139-09B | | | K2139-10B | | | K2139-11B | | | K2139-01B | | |
| FRACTION: PET | SAMP_DATE | 10/25/2011 | | | 10/25/2011 | | | 10/25/2011 | | | 10/24/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 2.8 | | | 0.66 | | | 3.5 | | | 0.68 | | |

| PROJ_NO: 02634 | NSAMPLE | 06MW-05-111025 | | | 06MW-06-20111024 | | | 06MW-07-111025 | | | 06MW-08-20111024 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K2139 | LAB_ID | K2139-12B | | | K2139-02B | | | K2139-13B | | | K2139-03B | | |
| FRACTION: PET | SAMP_DATE | 10/25/2011 | | | 10/24/2011 | | | 10/25/2011 | | | 10/24/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 0.11 | | | 0.31 | | | 0.19 | | | 0.21 | | |

| PROJ_NO: 02634 | NSAMPLE | 06MW-09-111025 | | | 06MW-10-20111024 | | | 06MW-11-111024 | | | 06MW-12-111024 | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SDG: K2139 | LAB_ID | K2139-14B | | | K2139-04B | | | K2139-05B | | | K2139-06B | | |
| FRACTION: PET | SAMP_DATE | 10/25/2011 | | | 10/24/2011 | | | 10/24/2011 | | | 10/24/2011 | | |
| MEDIA: WATER | QC_TYPE | NM | | | NM | | | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | | | | | | | | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 0.97 | | | 1.1 | | | 0.64 | | | 0.018 | U | |

| PROJ_NO: 02634<br>SDG: K2139<br>FRACTION: PET<br>MEDIA: WATER | NSAMPLE | 06MW-13-111025 | | | 06MWDUP01-111024 | | |
|---|---|---|---|---|---|---|---|
| | LAB_ID | K2139-15B | | | K2139-07B | | |
| | SAMP_DATE | 10/25/2011 | | | 10/24/2011 | | |
| | QC_TYPE | NM | | | NM | | |
| | UNITS | MG/L | | | MG/L | | |
| | PCT_SOLIDS | 0.0 | | | 0.0 | | |
| | DUP_OF | | | | 06MW-06-20111024 | | |
| PARAMETER | | RESULT | VQL | QLCD | RESULT | VQL | QLCD |
| EXTRACTABLE PETROLEUM HYDROCARBONS | | 0.49 | | | 0.28 | | |

# APPENDIX B

## RESULTS AS REPORTED BY THE LABORATORY

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-01-111025**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-09 | File ID: | 38520-09.D |
| Sampled: | 10/25/11 12:46 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 17:01 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 118 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 796 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 509 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 288 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1310 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 44.2 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 128 µg/l | |
| 108-88-3 | Toluene | 5 | 16.7 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 58.3 µg/l | |
| 95-47-6 | o-Xylene | 5 | 50.5 µg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-02-111025**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-10 | File ID: | 38520-10.D |
| Sampled: | 10/25/11 10:38 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 17:31 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 64.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 56.8 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 21.5 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 64.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 78.3 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 8.0 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-03-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-11 | | File ID: | 38520-11.D | |
| Sampled: | 10/25/11 09:10 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 18:02 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 138 µg/l | |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 714 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 459 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 406 µg/l | |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 1170 µg/l | |
| 71-43-2 | Benzene | 5 | 39.5 µg/l | |
| 100-41-4 | Ethylbenzene | 5 | 73.7 µg/l | |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 155 µg/l | |
| 108-88-3 | Toluene | 5 | 12.0 µg/l | |
| 179601-23-1 | m,p-Xylene | 5 | 109 µg/l | |
| 95-47-6 | o-Xylene | 5 | 33.8 µg/l | |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-04-111024**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-01 | | File ID: | 38520-01.D | |
| Sampled: | 10/24/11 16:15 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 13:59 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 55.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 72.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 36.0 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 55.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 109 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 6.8 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-05-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-12 | | File ID: | 38520-12.D | |
| Sampled: | 10/25/11 09:20 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 18:32 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 50.3 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 23.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 13.4 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 50.3 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 36.6 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

06MW-06-20111024

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-02 | File ID: | 38520-02.D |
| Sampled: | 10/24/11 13:54 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 11:28 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 64.6 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 14.0 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.42 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 64.6 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 20.4 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-07-111025**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 | | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody | | |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 | | |
| Matrix: | Aqueous | Laboratory ID: | SB38520-13 | | File ID: | 38520-13.D | |
| Sampled: | 10/25/11 11:30 | Prepared: | 11/04/11 08:34 | | Analyzed: | 11/04/11 19:02 | |
| % Solids: | | Preparation: | VPH - EPA 5030B | | Initial/Final: | 5 ml / 5 ml | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 | Instrument: | FID2 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 53.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 15.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.46 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 53.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 21.7 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-08-20111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-03 | File ID: | 38520-03.D |
| Sampled: | 10/24/11 15:34 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 14:29 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 48.9 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 9.40 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 4.46 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 48.9 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 13.9 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-09-111025**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-14 | File ID: | 38520-14.D |
| Sampled: | 10/25/11 10:25 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 19:32 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 63.7 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 47.0 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 19.0 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 63.7 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 66.0 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

06MW-10-20111024

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-04 | File ID: | 38520-04.D |
| Sampled: | 10/24/11 12:15 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 14:59 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 125 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 72.7 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 198 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 18.3 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-11-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-05 | File ID: | 38520-05.D |
| Sampled: | 10/24/11 13:40 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 15:30 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 55.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 146 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 85.0 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 55.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 231 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 10.9 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-12-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-06 | File ID: | 38520-06.D |
| Sampled: | 10/24/11 15:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 16:00 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 49.4 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 10.2 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 9.82 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 49.4 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 20.0 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MW-13-111025**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-15 | File ID: | 38520-15.D |
| Sampled: | 10/25/11 12:40 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 20:03 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 62.2 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 27.9 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 8.20 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 63.8 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 36.1 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | J |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

**06MWDUP01-111024**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-07 | File ID: | 38520-07.D |
| Sampled: | 10/24/11 00:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 16:30 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |

Batch: 1122848 Sequence: S110143 Calibration: 1109006 Instrument: FID2

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 53.3 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 9.52 µg/l | J |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 6.69 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 53.3 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 16.2 µg/l | J |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

06TBMW0-111024

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-08 | File ID: | 38520-08.D |
| Sampled: | 10/24/11 00:00 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 13:28 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 8.53 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 4.22 µg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 1.12 µg/l | U |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 8.53 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 4.68 µg/l | U |
| 71-43-2 | Benzene | 1 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 1 | 1.2 µg/l | U |
| 108-88-3 | Toluene | 1 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 1 | 1.1 µg/l | U |

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division *11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-01-111025
**Lab ID:** K2139-09

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 12:46

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | 2.8 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 3:49 | 62553 |
| Surrogate: ortho-Terphenyl | 76.6 | | | 50-150 | %REC | 1 | 11/11/2011 3:49 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-02-111025
**Lab ID:** K2139-10

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 10:38

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.66 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:09 | 62553 |
| Surrogate: ortho-Terphenyl | 67.6 | | | 50-150 | %REC | 1 | 11/11/2011 4:09 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-03-111025
**Lab ID:** K2139-11

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 9:10

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 3.5 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:30 | 62553 |
| Surrogate: ortho-Terphenyl | 75.1 | | | 50-150 | %REC | 1 | 11/11/2011 4:30 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-04-111024
**Lab ID:** K2139-01

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 16:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.68 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 18:02 | 62548 |
| Surrogate: ortho-Terphenyl | 51.9 | | | 50-150 | %REC | 1 | 11/10/2011 18:02 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division *11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-05-111025
**Lab ID:** K2139-12

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 9:20

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.11 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 4:50 | 62553 |
| Surrogate: ortho-Terphenyl | 67.6 | | | 50-150 | %REC | 1 | 11/11/2011 4:50 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-06-20111024
**Lab ID:** K2139-02

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 13:54

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.31 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 18:23 | 62548 |
| Surrogate: ortho-Terphenyl | 59.2 | | | 50-150 | %REC | 1 | 11/10/2011 18:23 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-07-111025
**Lab ID:** K2139-13

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 11:30

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.19 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 5:10 | 62553 |
| Surrogate: ortho-Terphenyl | 67.4 | | | 50-150 | %REC | 1 | 11/11/2011 5:10 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-08-20111024
**Lab ID:** K2139-03

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 15:34

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.21 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 19:24 | 62548 |
| Surrogate: ortho-Terphenyl | 68.8 | | | 50-150 | %REC | 1 | 11/10/2011 19:24 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-09-111025
**Lab ID:** K2139-14

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/25/11 10:25

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.97 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 6:31 | 62553 |
| Surrogate: ortho-Terphenyl | 78.7 | | | 50-150 | %REC | 1 | 11/11/2011 6:31 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-10-20111024
**Lab ID:** K2139-04
**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 12:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 1.1 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 19:44 | 62548 |
| Surrogate: ortho-Terphenyl | 72.1 | | | 50-150 | %REC | 1 | 11/10/2011 19:44 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division *11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-11-111024
**Lab ID:** K2139-05

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 13:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | **CTETPH_W** | | | |
| Extractable Total Petroleum Hydrocarbon | 0.64 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 20:04 | 62548 |
| Surrogate: ortho-Terphenyl | 65.5 | | | 50-150 | %REC | 1 | 11/10/2011 20:04 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-12-111024
**Lab ID:** K2139-06

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 15:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | ND | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 20:24 | 62548 |
| Surrogate: ortho-Terphenyl | 72.0 | | | 50-150 | %REC | 1 | 11/10/2011 20:24 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division *11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-13-111025 **Project:** CTO-WE56, NSB New London
**Lab ID:** K2139-15 **Collection Date:** 10/25/11 12:40

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.49 | | 0.018 | 0.10 | mg/L | 1 | 11/11/2011 6:51 | 62553 |
| Surrogate: ortho-Terphenyl | 51.3 | | | 50-150 | %REC | 1 | 11/11/2011 6:51 | 62553 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division *11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MWDUP01-111024
**Lab ID:** K2139-07

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 0:00

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | CTETPH_W | |
| Extractable Total Petroleum Hydrocarbon | 0.28 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 21:46 | 62548 |
| Surrogate: ortho-Terphenyl | 55.4 | | | 50-150 | %REC | 1 | 11/10/2011 21:46 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

# APPENDIX C

## REGIONAL WORKSHEETS

EPA-NE
Data Validation Worksheet Cover Page - Page 1

Site Name New London
Reference No. _____

REGION I ORGANIC DATA VALIDATION

The following data package has been validated:

Lab Name Spectrum Analytical
Case/Project No. 11260263 4
SDG No. K2139
No. of Samples/Matrix 14 Aqueous

SOW/Method No. ETPH, VPH
Sampling Date(s) 10/24/2011 10/25/2011
Shipping Date(s) _____
Date Rec'd by lab 10/25/2011

Traffic Report Sample Nos. _____

Trip Blank No. 06TBMW0-111024
Equipment Blank No. _____
Bottle Blank No. _____
Field Duplicate Nos. 06MW-06-20111024 and 06MWDUP01-111024

PES Nos. _____

The Region I, EPA-NE Data Validation Functional Guidelines for Evaluating Environmental Analyses, revision _____ was used to evaluate the data and/or approved modifications to the EPA-NE Functional Guidelines were used to evaluate the data and are attached to this cover page: (attach modified criteria from EPA approved QAPjP or amendment to QAPjP).

A Tier II or Tier III evaluation was used to validate the data (circle one). If a Tier II validation with a partial Tier III was used, then identify samples, parameters, etc. that received partial Tier III validation

_____

The data were evaluated based upon the following parameters:

- Overall Evaluation of Data
- Data Completeness (CSF Audit - Tier I)
- Preservation & Technical Holding Times
- GC/MS & GC/ECD Instrument Performance Check
- Initial & Continuing Calibrations
- Blanks
- Surrogate Compounds
- Internal Standards
- Matrix Spike/Matrix Spike Duplicate
- Field Duplicates
- Sensitivity Check
- PE Samples/Accuracy Check
- Target Compound Identification
- Compound Quantitation and Reported Quantitation Limits
- TICs
- Semivolatile and Pesticide/PCB Cleanup
- System Performance

Region I Definitions and Qualifiers:

A - Acceptable Data
J - Numerical value associated with compound is an estimated quantity.
R - The data are rejected as unusable. The R replaces the numerical value or sample quantitation limit.
U - Compound not detected at that numerical sample quantitation limit.
UJ - The sample quantitation limit is an estimated quantity.
TB, BB, EB - Compound detected in aqueous trip blank, aqueous bottle blank, or aqueous equipment blank associated with soil/sediment samples.

Validator's Name Ann Cognetti Company Name TetraTech Phone Number (412) 921-8862

Date Validation Started 12-14-11 Date Validation Completed _____

EPA-NE
Data Validation Worksheet Cover Page - Page 2

Check if all criteria are met and no hard copy worksheet provided. Indicate NA if worksheet is not applicable to analytical method. Note: there is no standard worksheet for System Performance, however, the validator must document all system performance issues in the Data Validation Memorandum.

VOA/SV worksheets:

| | | |
|---|---|---|
| VOA/SV-Pest/PCB | COMPLETE SDG FILE (CSF) AUDIT | _____ |
| VOA/SV-Pest/PCB-I | PRESERVATION AND HOLDING TIMES | _____ |
| VOA/SV-II | GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING) | _____ |
| VOA/SV-III | INITIAL CALIBRATION | _____ |
| VOA/SV-IV | CONTINUING CALIBRATION | _____ |
| VOA/SV-Pest/PCB-V-A | BLANK ANALYSIS | _____ |
| VOA/SV-Pest/PCB-V-B | BLANK ANALYSIS | _____ |
| VOA-VI | VOA SURROGATE SPIKE RECOVERIES | _____ |
| SV-VI | SV SURROGATE SPIKE RECOVERIES | _____ |
| VOA/SV-VII | INTERNAL STANDARD PERFORMANCE | _____ |
| VOA/SV-Pest/PCB-VIII | MATRIX SPIKE/MATRIX SPIKE DUPLICATE | _____ |
| VOA/SV-Pest/PCB-IX | FIELD DUPLICATE PRECISION | _____ |
| VOA/SV-Pest/PCB-X | SENSITIVITY CHECK | _____ |
| VOA/SV-Pest/PCB-XI | ACCURACY CHECK | _____ |
| VOA/SV-Pest/PCB-XII | TARGET COMPOUND IDENTIFICATION | _____ |
| VOA/SV-Pest/PCB-XIII | SAMPLE QUANTITATION | _____ |
| VOA/SV-XIV | TENTATIVELY IDENTIFIED COMPOUNDS | _____ |
| VOA/SV-XV | SEMIVOLATILE CLEANUP | _____ |
| TABLE II-WORKSHEET | OVERALL EVALUATION OF DATA | _____ |

Pest/PCB worksheets:

| | | |
|---|---|---|
| VOA/SV-Pest/PCB | COMPLETE SDG FILE (CSF) AUDIT | _____ |
| VOA/SV-Pest/PCB-I | PRESERVATION AND HOLDING TIMES | _____ |
| Pest/PCB-IIA | GC/ECD INSTRUMENT PERFORMANCE CHECK-RESOLUTION | _____ |
| Pest/PCB-IIB | GC/ECD INSTRUMENT PERFORMANCE CHECK-RETENTION TIMES | _____ |
| Pest/PCB-IIC | GC/ECD INSTRUMENT PERFORMANCE CHECK-ACCURACY CHECK OF INITIAL CALIBRATION | _____ |
| Pest/PCB-IID | GC/ECD INSTRUMENT PERFORMANCE CHECK-PESTICIDE DEGRADATION | _____ |
| Pest/PCB-III | INITIAL CALIBRATION | _____ |
| Pest/PCB-IV | CONTINUING CALIBRATION | _____ |
| VOA/SV-Pest/PCB-V-A | BLANK ANALYSIS | _____ |
| VOA/SV-Pest/PCB-V-B | BLANK ANALYSIS | _____ |
| Pest/PCB-VI | SURROGATE COMPOUNDS: SPIKE RECOVERIES AND RETENTION TIME SHIFT | _____ |
| Pest/PCB-VII | PESTICIDE CLEANUP | _____ |
| VOA/SV-Pest/PCB-VIII | MATRIX SPIKE/MATRIX SPIKE DUPLICATE | _____ |
| VOA/SV-Pest/PCB-IX | FIELD DUPLICATE PRECISION | _____ |
| VOA/SV-Pest/PCB-X | SENSITIVITY CHECK | _____ |
| VOA/SV-Pest/PCB-XI | ACCURACY CHECK | _____ |
| Pest/PCB-XII | COMPOUND IDENTIFICATION | _____ |
| VOA/SV-Pest/PCB-XIII | SAMPLE QUANTITATION | _____ |
| TABLE II-WORKSHEET | OVERALL EVALUATION OF DATA | _____ |

I certify that all criteria were met for the worksheets checked above.

Signature: Ann Cognetti  Name: Ann Cognetti

Date: 12-14-11

The data validator generates a Data Validation Report, applicable to Data Validation Tiers II and III, that consists of the following components in the order specified below: (Refer to Section 11 for a description of each of the Data Validation Report components).

1. Organic Regional Data Assessment/Inorganic Regional Data Assessment (ORDA/IRDA) Form
2. Data Validation Memorandum
   a. Narrative
   b. Table I-Qualifier Recommendation Summary Table
   c. Table II-Overall Evaluation of Data
   d. Table III-Tentatively Identified Compounds
   e. Data Summary Tables
3. Standard Data Validation Worksheets
   a. Manual
   b. Automated Data Review Reports (i.e., CADRE)
4. Support Documentation
   a. Copy of non-CLP analytical method, e.g., DAS methods, modified EPA methods
   b. Copies of PES Score Reports/Vendor PES QC Acceptance Limits
   c. Copies of Telephone Logs/Communication Forms for:
      - RSCC communications
      - Requests for laboratory data resubmissions/clarifications
      - Communications with samplers resolving sampling problems
      - Communications with TPO/Lead Chemist to report contractually-deficient data for rejection/reduced payment
      - Communications with EPA Site Manager concerning possible data rejection
      - EPA Site Manager authorization for alternate DV tier
   d. Copies of data supporting recommendations for reduced payment resulting from CSF Audit and/or PE sample result evaluation
   e. Original data to support recommendations for data rejection/non-payment identified from Tier II or Tier III data validation
   f. Copies of field sampling notes and/or field report supplied by field sampler
   g. Copies of EPA-approved amendments to QAPjP and/or SAP describing modified criteria to be used for validating site data
5. CSF Completeness Evidence Audit
6. DQO Summary Form

The data validator is responsible for implementing all corrective actions required by the contractor Lead Chemist in response to EPA-NE data validation oversight findings.

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

| VOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
| | | | | | |

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: Ann Cognetti

Date: 12-14-11

EPA-NE - Data Validation Worksheet
**Overall Evaluation of Data - Data Validation Memorandum - Table II**

| SEMIVOLATILE ORGANICS | | | | | |
|---|---|---|---|---|---|
| DQO (list all DQOs) | Sampling and/or Analytical Method Appropriate Yes or No | Measurement Error | | Sampling Variability** | Potential Usability Issues |
| | | Analytical Error | Sampling Error* | | |
| | | | | | |
| | | | | | |

* The evaluation of "sampling error" cannot be completely assessed in data validation.

** Sampling variability is not assessed in data validation.

Validator: Ann Cognetti

Date: 12-14-11

EPA-NE - Data Validation Worksheet
**VOA/SV - Pest/PCB**

COMPLETE SDG FILE (CSF) AUDIT

Organic Fractions: ETPH, VPH

| Missing Information | Date Lab Contacted | Date Received |
|---|---|---|
| Form 1 and EDD do not match | | |
| Form 1 for Trip Blank incorrect | 12-14-11 | |
| No ical for FID1 | | |

Validator: Ann Cognetti Date: _____

EPA-NE - Data Validation
**VOA/SV - Pest/PCB-I**

Sampler:_____ Company:_____ Contacted: Yes No Date:_____

**I. PRESERVATION AND HOLDING TIMES -** Circle sample numbers with exceeded technical holding times or omitted preservation.
List all required preservation codes and circle omitted preservation codes.
Circle all exceeded technical holding times.
Identify extraction technique after "# of Days"/(*Extraction Code).

| Sample No. (TR No.) | Matrix | Pres. Code | Date Sampled | VOA | | | BNA | | | | | PEST/PCB | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Date Analyzed | # of Days from Samp. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action | Date Extracted | # of Days from Samp. to Extr./(*) | Date Analyzed | # of Days from Extr. to Anal. | Action |
| | | | | | | | | | | | | | | | | |
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**Preservation Code:**
1. Cool @ 4°C (± 2°)
2. Preserve with HCl to at least pH 2
3. Protect from light
4. Freeze
5. Room Temperature (Avoid excessive heat)

**(*Extraction Code:)**
L/L - Liquid/Liquid
SON - Sonication
SEP - Separatory Funnel
SOX - Soxhlet
SPE - Solid Phase Extraction

**Action Code:**
J - Estimate (J) Detected Values
UJ - Estimate (UJ) Non-Detected Values
R - Reject (R) Non-Detected Values

Validator: _____

Date: _____

## II. GC/MS INSTRUMENT PERFORMANCE CHECK (TUNING)

List all Instrument Performance Checks that are outside method QC tuning acceptance criteria.

| Volatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Comments:

| Semivolatile Instrument Performance Check (Compound Name) | Analysis Date and Time | Instrument | Ion(s) Affected | Percent Relative Abundance | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
| | | | | | | | |
| | | | | | | | |
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Comments:

If tuning compounds and criteria are different from those specified in CLP SOW OLM03.1, then the validator should include a copy of the method-specific tuning criteria with this worksheet.

Validator:_____ Date:_____

EPA-NE - Data Validation Worksheet
**VOA/SV-III**

## III. INITIAL CALIBRATION - List all analytes that are outside calibration criteria.

| Date of ICAL | Instrument | Parameter | Matrix | Compound | % RSD | $\overline{RRF}$ | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|
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Comments:

Validator: _____

Date: _____

EPA-NE - Data Validation Worksheet

**VOA/SV-IV**

**IV. CONTINUING CALIBRATION** - List all analytes that are outside calibration criteria.

| Date of ICAL | Date of CCAL | Instrument | Parameter | Matrix | Compound | %D | RRF | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|
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Comments:

Validator:_____

Date:_____

## V. BLANK ANALYSIS

List the blank contamination below. Concentration Level:_____

Sampler: _____ Company: _____ Contacted: Yes No Date:_____

### 1. Laboratory: Method, Storage and Instrument Blanks

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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### 2. Field: Equipment (Rinsate), Trip and Bottle Blanks

| Date Extracted | Date Analyzed | Parameter/ Matrix | Sample No. (Blank Type) | Instrument/ Column | Compound | Conc. (units) |
|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

3. **Blank Actions** - List the maximum concentrations of blank compounds.

| Compound | Type of Blank | Date Blank Sampled/Originated | Max. Conc. (units) | Action Level (units) | Sample QL | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Comments: _____

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Validator: _____ Date: _____

**VI. VOA SURROGATE SPIKE RECOVERIES** - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Volatile Method QC Acceptance Criteria | | | | |
|---|---|---|---|---|---|
| | Toluene-$d_8$ | BFB | DCE-$d_4$ | Other: | |
| OLM03.2 | Water 88-110 Soil 84-138 | Water 86-115 Soil 59-113 | Water 76-114 Soil 70-121 | | |
| OLC02.1 | NA | 80-120 | NA | | |
| Other: | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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Validator:_____ Date:_____

## VI. SV SURROGATE SPIKE RECOVERIES - List all surrogate compound recoveries that are outside method QC acceptance criteria.

| Method | Base/Neutral Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | NBZ-$d_5$ | 2-FBP | TPH-$d_{14}$ | 1,2-DCB-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>35-114 23-120 | Water Soil<br>43-116 30-115 | Water Soil<br>33-141 18-137 | Water Soil<br>16-110 20-130 | | |
| OLC02.1 | 40-110 | 30-110 | 20-140 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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| Method | Acid Method QC Acceptance Criteria | | | | | |
|---|---|---|---|---|---|---|
| | Phenol-$d_5$ | 2-FP | 2,4,6-TBP | 2-CP-$d_4$* | Other: | |
| OLM03.2 | Water Soil<br>10-110 24-113 | Water Soil<br>21-110 25-121 | Water Soil<br>10-123 19-122 | Water Soil<br>33-110 20-130 | | |
| OLC02.1 | 15-115 | 15-110 | 15-130 | NA | | |
| Other: | | | | | | |
| **Sample Number/Matrix** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **% Recovery** | **Action** |
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* Advisory Surrogates - OLM03.2

Validator:_____ Date:_____

## VII. INTERNAL STANDARD PERFORMANCE

List the internal standards that are outside the area count and retention time method QC acceptance criteria.
IS Area Count method QC acceptance criteria:_____
IS Retention Time method QC acceptance criteria:_____

| Sample Number (TR#) | Date and Time Analyzed | Instrument | Parameter | IS Outside Area Count and/or RT Criteria | __IS Area | RT Shift | Acceptable Range (IS area or RT shift) | Action |
|---|---|---|---|---|---|---|---|---|
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Validator:_____ Date:_____

**VIII. MATRIX SPIKE/MATRIX SPIKE DUPLICATE** - List all MS/MSD analytes that are outside method QC acceptance criteria.

Use a separate worksheet for each MS/MSD pair.

Sample # _____ Matrix _____ Concentration Level _____

| Parameter | Compound | MS %Rec | MSD %Rec | RPD | Method QC Limits | | Concentration | | | % RSD | Action |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | % Rec | RPD | Unspiked Sample | MS | MSD | | |
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Validator: _____ Date: _____

**IX. FIELD DUPLICATE PRECISION** - List all field duplicate analytes that are outside criteria.

Use a separate worksheet for each field duplicate pair.

Sample Number _____ Duplicate Sample Number _____ Matrix _____

| Parameter | Compound | Sample Conc. | Sample QL | | Duplicate Conc. | Duplicate QL | | RPD | QC Acceptance Criteria RPD or NA* | Action |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | SQL | 2xSQL | | SQL | 2xSQL | | | |
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* For instances where one duplicate result is ND (or reported less than the sample QL).

Does the MS/MSD data indicate acceptable laboratory precision? Y N

Comments: _____

_____

Sampler Name: _____ Contractor Name: _____ Date Contacted: _____

Reason for Contact and resolution obtained: _____

Validator: _____ Date: _____

## X. SENSITIVITY CHECK (Method Detection Limit Study)

List all compounds, surrogates, and internal standards that are outside the MDL criteria.

- Has an appropriate MDL study been submitted with seven replicates for each compound and matrix of interest? **Y N**
- Date of Preparation/Analysis: _____ Within 1 year? **Y N**
- Instrument I.D.: _____ Same as samples? **Y N**
- Column I.D.: _____ Same as samples? **Y N**

| Matrix | Compound | MDL > QL | Method QC Limits < 80% or > 120% | IS Outside Area Count and/or RT Criteria | RSD > 20% | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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If an MDL study has not been submitted, use only the LFB results to evaluate data.

**(Laboratory Fortified Blank)** - List all LFB compounds, surrogates and internal standards that are outside criteria.

- Has an appropriate and complete LFB been submitted at the proper frequency? **Y N**
- Does it contain all target compounds at the method-required QLs? **Y N**
- Was the LFB spiked with a standard from a source (vendor) independent of the calibration standard? **Y N**

| Matrix | Compound | Method QC Limits < 60% or > 140% Other: | IS Outside Area Count and/or RT Criteria | Samples Affected | Action |
|---|---|---|---|---|---|
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Validator: _____ Date: _____

**XI. ACCURACY CHECK (Performance Evaluation Results)** - List all analytes that are outside criteria.

SDG No: _____ CASE: _____

Are more than one-half of the PES analytes within criteria for each parameter. **Y N**

| PE Sample Number | Ampule Number | Parameter | Type of PES | Matrix | Analyte | Conc. | Region I EPA PES Scores* | Non-EPA PES Scores** | Samples Affected | Action |
|---|---|---|---|---|---|---|---|---|---|---|
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* For Region I PESs indicate the Region I PES Score Report Result: Action High; Action Low; TCL MISS; TCL CONTAMINANT; TIC HIT; TIC MISS; TIC CONTAMINANT

** For Non-EPA PESs indicate the Non-EPA PES Score: PES COMPOUND MISS; PES COMPOUND CONTAMINANT; PES COMPOUND HIT (% Recovery Limits)

Validator: _____ Date: _____

**XII. TARGET COMPOUND IDENTIFICATION** - List the analytes that are outside the acceptance criteria.

| Sample Number | Compound | ___MS Ions | ____RRT | Action |
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Validator: _____

Date: _____

## XIII. SAMPLE QUANTITATION

Recalculate, from the raw data, the concentrations for one positive detect and one reported sample quantitation limit for a non-detect in a diluted sample or soil sample per fraction. (Note: Although Section XIII, C.1.a, requires that one calculation for each fraction in each sample be performed, the validator is only required to reproduce an example, for each fraction, of one positive detect and one sample quantitation limit calculation on this worksheet.)

Do all soil/sediment samples have % solids greater than 30%? **Y N**
If no, list sample numbers_____

| Fraction | | Calculation |
|---|---|---|
| **VOA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **BNA** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |
| **Pesticide/PCB** | | |
| Sample No.: | | |
| Reported Compound: | | |
| Reported Value: | | |
| Not Detected Compound: | | |
| Reported Quantitation Limit: | | |

Validator:_____ Date:_____

## XIV. TENTATIVELY IDENTIFIED COMPOUNDS (TICs)

List the 5 TICs having the highest concentration for each sample parameter.

| Sample Number | Parameter | Compound | ____RRT | __Est. Conc. | Action |
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Validator: _____

Date: _____

## XV. SEMIVOLATILE CLEANUP - List all analytes that are outside method cleanup QC criteria.

| Cleanup Procedure | Instrument # or Lot # | Date/Time GPC Calibrated or Check Solution Analyzed | Compound | % Rec | QC Limits | Samples Affected | Action |
|---|---|---|---|---|---|---|---|
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Did the GPC column meet; resolution requirements? Y or N
peak shape requirements? Y or N
retention time shift requirements? Y or N

Was the GPC calibration, Silica Gel cleanup checked at the method required frequency with correct compounds and concentrations? Y or N

Were all compounds less than QL for the GPC/Silica Gel/Acid-Partition blank? Y or N

Did the blank surrogate recoveries and IS area counts and RTs (if added) meet method QC acceptance criteria? Y or N

Comments:_____

Validator:_____ Date:_____

# APPENDIX D

## SUPPORT DOCUMENTATION

Report Date:
05-Dec-11 14:50

☑ Final Report
☐ Re-Issued Report
☐ Revised Report

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

# Laboratory Report

Tetra Tech NUS Inc.
661 Andersen Drive, Foster Plaza #7
Pittsburgh, PA 15220

Attn: Tobrena Sedlmyer

Work Order: K2139
Project : CTO-WE56, NSB New London
Project #:

| Laboratory ID | Client Sample ID | Matrix | Date Sampled | Date Received |
|---|---|---|---|---|
| K2139-01 | 06MW-04-111024 | Aqueous | 24-Oct-11 16:15 | 25-Oct-11 16:30 |
| K2139-02 | 06MW-06-20111024 | Aqueous | 24-Oct-11 13:54 | 25-Oct-11 16:30 |
| K2139-03 | 06MW-08-20111024 | Aqueous | 24-Oct-11 15:34 | 25-Oct-11 16:30 |
| K2139-04 | 06MW-10-20111024 | Aqueous | 24-Oct-11 12:15 | 25-Oct-11 16:30 |
| K2139-05 | 06MW-11-111024 | Aqueous | 24-Oct-11 13:40 | 25-Oct-11 16:30 |
| K2139-06 | 06MW-12-111024 | Aqueous | 24-Oct-11 15:00 | 25-Oct-11 16:30 |
| K2139-07 | 06MWDUP01-111024 | Aqueous | 24-Oct-11 00:00 | 25-Oct-11 16:30 |
| K2139-08 | 06TBMW0-111024 | Aqueous | 24-Oct-11 00:00 | 25-Oct-11 16:30 |
| K2139-09 | 06MW-01-111025 | Aqueous | 25-Oct-11 12:46 | 25-Oct-11 16:30 |
| K2139-10 | 06MW-02-111025 | Aqueous | 25-Oct-11 10:38 | 25-Oct-11 16:30 |
| K2139-11 | 06MW-03-111025 | Aqueous | 25-Oct-11 09:10 | 25-Oct-11 16:30 |
| K2139-12 | 06MW-05-111025 | Aqueous | 25-Oct-11 09:20 | 25-Oct-11 16:30 |
| K2139-13 | 06MW-07-111025 | Aqueous | 25-Oct-11 11:30 | 25-Oct-11 16:30 |
| K2139-14 | 06MW-09-111025 | Aqueous | 25-Oct-11 10:25 | 25-Oct-11 16:30 |
| K2139-15 | 06MW-13-111025 | Aqueous | 25-Oct-11 12:40 | 25-Oct-11 16:30 |

I attest that the information contained within the report has been reviewed for accuracy and checked against the quality control requirements for each method. The results relate only to the samples(s) as received. This report may not be reproduced, except in full, without written approval from Mitkem Laboratories.

All applicable NELAC or USEPA CLP requirments have been meet.

Spectrum Analytical (Rhode Island) is accredited under the National Environmental Laboratory Approval Program (NELAP) and is certified by several States, as well as USEPA and US Department of Defense. The current list of our laboratory approvals and certifications is available on the Certifications page on our web site at www.mitkem.com.

Please contact the Laboratory or Technical Director at 401-732-3400 with any questions regarding the data contained in the laboratory report.

| | |
|---|---|
| Department of Defense | N/A |
| Connecticut | PH-0153 |
| Delaware | N/A |
| Maine | 2007037 |
| Massachusetts | M-RI907 |
| New Hampshire | 2631 |
| New Jersey | RI001 |
| New York | 11522 |
| North Carolina | 581 |
| Pennsylvania | 68-00520 |
| Rhode Island | LAI00301 |
| USDA | P330-08-00023 |
| USEPA - ISM | EP-W-09-039 |
| USEPA - SOM | EP-W-11-033 |

LABORATORY ACCREDITATION BUREAU ACCREDITED
Certificate # L2247 Testing

Authorized by:

Yihai Ding
Laboratory Director

TETRA TECH NUS, INC

CHAIN OF CUSTODY
NUMBER: ED00000173-1

| Project No: | Facility: | Project Manager: | Carrier: | Laboratory Name: |
|---|---|---|---|---|
| **112G02634** | **NEW LONDON NSB** | **Dave Kane** | **Hand Deliver** | **Mitkem Laboratory**<br>**175 Metrocenter Blvd**<br>**Warwick, RI 02886** |
| Task No: | Turn Around Time: | Field Ops Leader: | Carrier/Waybill No. | Point of Contact: |
| **WE56** | **Standard** | **Robin Clark** | | **Ed Lawler**<br>**401-732-3400** |

| Date | Sample ID # | Time | Analysis | Loc ID | Matrix | Description | Preservative | Container Count | Container Type | Container Reqs | Comments |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/24/2011 | 06MW-04-111024 | 16:15 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-04 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-04-111024 | 16:15 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-04 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-06-20111024 | 13:54 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-06 | GW | ETPH | 4°C | 4 | Glass - Amber | 1L | LAB QC MS/MSD |
| 10/24/2011 | 06MW-06-20111024 | 13:54 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-06 | GW | VPH | 4°C/HCL | 4 | Glass - Clear | 40ml vials | LAB QC MS/MSD |
| 10/24/2011 | 06MW-08-20111024 | 15:34 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-08 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-08-20111024 | 15:34 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-08 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-10-20111024 | 12:15 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-10 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-10-20111024 | 12:15 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-10 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-11-111024 | 13:40 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-11 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-11-111024 | 13:40 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-11 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MW-12-111024 | 15:00 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-12 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06MW-12-111024 | 15:00 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-12 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MWDUP01-111024 | 00:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/24/2011 | 06MWDUP01-111024 | 00:00 | **CT DPH ETPH - Mitkem SOP 60.0050** | QC | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/24/2011 | 06TBMW0-111024 | 09:00 | **MADEP VPH - Mitkem SOP 90.0037** | QC | AQ | VPH | 4°C/HCL | 2 | Glass - Amber | 40ml vials | |
| 10/25/2011 | 06MW-01-111025 | 12:46 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-01 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-01-111025 | 12:46 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-01 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-02-111025 | 10:38 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-02 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-02-111025 | 10:38 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-02 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-03-111025 | 09:10 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-03 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-03-111025 | 09:10 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-03 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-05-111025 | 09:20 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-05 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-05-111025 | 09:20 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-05 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-07-111025 | 11:30 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-07 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 10/25/2011 | 06MW-07-111025 | 11:30 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-07 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-09-111025 | 10:25 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-09 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-09-111025 | 10:25 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-09 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |
| 10/25/2011 | 06MW-13-111025 | 12:40 | **CT DPH ETPH - Mitkem SOP 60.0050** | 06MW-13 | GW | ETPH | 4°C | 2 | Glass - Amber | 1L | |
| 10/25/2011 | 06MW-13-111025 | 12:40 | **MADEP VPH - Mitkem SOP 90.0037** | 06MW-13 | GW | VPH | 4°C/HCL | 2 | Glass - Clear | 40ml vials | |

| | | | | | |
|---|---|---|---|---|---|
| 1. Relinquished By: **Robin Clark** | Date: 10/25/2011 | Time: 16:00 | Received By: **Hand Deliver** | Date: 10/25/2011 | Time: 16:00 |
| 2. Relinquished By: Robin | Date: 10/25/11 | Time: 1630 | Received By: Damismuler | Date: 10-25-11 | Time: 16:30 |
| 3. Relinquished By: | Date: | Time: | Received By: | Date: | Time: |

Comments:

5°C 4°C 2°C

Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

| | |
|---|---|
| Received By: Dawn McKenna | Page 01 of 01 |
| Reviewed By: | Log-in Date 10/25/2011 |
| Work Order: K2139 | Client Name: Tetra Tech NUS Inc. |
| Project Name/Event: CTO-WE56, NSB New London | |

Remarks: (1/2) Please see associated sample/extract transfer logbook pages submitted with this data package.

1. Custody Seal(s) — Present / Absent
   Intact / Broken
2. Custody Seal Nos. — N/A
3. Traffic Reports/ Chain of Custody Records (TR/COCs) or Packing Lists — Present / Absent
4. Airbill — AirBill / Sticker
   Present / Absent
5. Airbill No. — Courier N/A
6. Sample Tags — Present / Absent
   Sample Tag Numbers — Listed / Not Listed on Chain-of-Custody
7. Sample Condition — Intact / Broken / Leaking
8. Cooler Temperature Indicator Bottle — Present / Absent

| | |
|---|---|
| 9. Cooler Temperature | 5 °C |
| 10. Does information on TR/COCs and sample tags agree? | Yes / No |
| 11. Date Received at Laboratory | 10/25/2011 |
| 12. Time Received | 16:30 |

Sample Transfer

| Fraction (1) TVOA/VOA | Fraction (2) SVOA/PEST/ARO |
|---|---|
| Area # | Area # |
| By | By |
| On | On |

IR Temp Gun ID:MT-1

CoolantCondition: ICE

Preservative Name/Lot No:

| Lab Sample ID | Preservation (pH) HNO3 | H2SO4 | HCl | NaOH | H3PO4 | VOA Matrix | Soil HeadSpace or Air Bubble > or equal to 1/4" |
|---|---|---|---|---|---|---|---|
| K2139-01 | | | | | | H | |
| K2139-02 | | | | | | H | |
| K2139-03 | | | | | | H | |
| K2139-04 | | | | | | H | |
| K2139-05 | | | | | | H | |
| K2139-06 | | | | | | H | |
| K2139-07 | | | | | | H | |
| K2139-08 | | | | | | H | |
| K2139-09 | | | | | | H | |
| K2139-10 | | | | | | H | |
| K2139-11 | | | | | | H | |
| K2139-12 | | | | | | H | |
| K2139-13 | | | | | | H | |
| K2139-14 | | | | | | H | |
| K2139-15 | | | | | | H | |

VOA Matrix Key:

| | |
|---|---|
| US = Unpreserved Soil | A= Air |
| UA = Unpreserved Aqueous | H = HCl |
| M = MeOH | E = Encore |
| N = NaHSO4 | F = Freeze |

See Sample Condition Notification/Corrective Action Form Yes / No

Rad OK Yes / No



WO: K2139 / CID:000 759 / CWID:001 267

Sample Condition Form

REPORT NARRATIVE

Spectrum Analytical, Inc. Featuring Hanibal Technology, RI Division.

Client : Tetra Tech NUS Inc.

Project: CTO-WE56, NSB New London

Laboratory Workorder / SDG #: K2139

CT ETPH, CT ETPH by GC-FID

## I. SAMPLE RECEIPT

No exceptions or unusual conditions were encountered.

Analyses for Volatile Petroleum Hydrocarbons by the Massachusetts method (MA_VPH) were performed by Mitkem's parent company, Spectrum Analytical, Inc. of Agawam, MA. The entire Spectrum report, including any notes on these analyses, follows the "Last Page" of the Mitkem data report.

## II. HOLDING TIMES

### A. Sample Preparation:

All samples were prepared within the method-specified holding times.

### B. Sample Analysis:

All samples were analyzed within the method-specified holding times.

## III. METHODS

Samples were analyzed following procedures in laboratory test code: CT ETPH

## IV. PREPARATION

Aqueous Samples were prepared following procedures in laboratory test code: SW3510

## V. INSTRUMENTATION

The following instrumentation was used

Instrument Code: F1
Instrument Type: GC-FID
Description: HP6890
Manufacturer: Hewlett-Packard
Model: 6890
GC Column used: 30 m X 0.32 mm ID [0.25 um thickness] Rtx-5MS capillary column.

## VI. ANALYSIS

### A. Calibration:

Calibrations met the method/SOP acceptance criteria.

### B. Blanks:

All method blanks were within the acceptance criteria.

### C. Surrogates:

Surrogate standard percent recoveries were within the QC limits.

### D. Spikes:

#### 1. Laboratory Control Spikes (LCS):

Percent recoveries for lab control samples were within the QC limits.

#### 2. Matrix Spike / Matrix Spike Duplicate (MS/MSD):

Matrix spikes were performed on samples: 06MW-06-20111024 (K2139-02BMS) and 06MW-06-20111024 (K2139-02BMSD).

Percent recoveries were within the QC limits.

Replicate RPDs were within the advisory QC limits.

### E. Dilutions:

No sample in this SDG required analysis at dilution.

F. **Samples:**

No other unusual occurrences were noted during sample analysis.

I certify that this data package is in compliance with the terms and conditions agreed to by the client and Spectrum, both technically and for completeness, except for the conditions noted above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or designated person, as verified by the following signature.

Signed:

Date: 12/5/11

# HOLDTIME

**PROJ_NO** 02634

| SDG | SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|---|
| K2139 | VPH | UG/L | 06TBMW0-111024 | K2139-08A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MWDUP01-111024 | K2139-07A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MW-13-111025 | K2139-15A | NM | 10/25/2011 | 11/04/2011 | 11/04/2011 | 10 | 0 | 10 |
| K2139 | VPH | UG/L | 06MW-12-111024 | K2139-06A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MW-11-111024 | K2139-05A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MW-10-20111024 | K2139-04A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MW-09-111025 | K2139-14A | NM | 10/25/2011 | 11/04/2011 | 11/04/2011 | 10 | 0 | 10 |
| K2139 | VPH | UG/L | 06MW-08-20111024 | K2139-03A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MW-07-111025 | K2139-13A | NM | 10/25/2011 | 11/04/2011 | 11/04/2011 | 10 | 0 | 10 |
| K2139 | VPH | UG/L | 06MW-06-20111024 | K2139-02A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MW-05-111025 | K2139-12A | NM | 10/25/2011 | 11/04/2011 | 11/04/2011 | 10 | 0 | 10 |
| K2139 | VPH | UG/L | 06MW-04-111024 | K2139-01A | NM | 10/24/2011 | 11/04/2011 | 11/04/2011 | 11 | 0 | 11 |
| K2139 | VPH | UG/L | 06MW-03-111025 | K2139-11A | NM | 10/25/2011 | 11/04/2011 | 11/04/2011 | 10 | 0 | 10 |
| K2139 | VPH | UG/L | 06MW-02-111025 | K2139-10A | NM | 10/25/2011 | 11/04/2011 | 11/04/2011 | 10 | 0 | 10 |
| K2139 | VPH | UG/L | 06MW-01-111025 | K2139-09A | NM | 10/25/2011 | 11/04/2011 | 11/04/2011 | 10 | 0 | 10 |

# HOLDTIME

**SDG** K2139

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| TPH | MG/L | 06MWDUP01-111024 | K2139-07B | NM | 10/24/2011 | 10/31/2011 | 11/10/2011 | 7 | 10 | 17 |
| TPH | MG/L | 06MW-02-111025 | K2139-10B | NM | 10/25/2011 | 10/31/2011 | 11/11/2011 | 6 | 11 | 17 |
| TPH | MG/L | 06MW-03-111025 | K2139-11B | NM | 10/25/2011 | 10/31/2011 | 11/11/2011 | 6 | 11 | 17 |
| TPH | MG/L | 06MW-04-111024 | K2139-01B | NM | 10/24/2011 | 10/31/2011 | 11/10/2011 | 7 | 10 | 17 |
| TPH | MG/L | 06MW-05-111025 | K2139-12B | NM | 10/25/2011 | 10/31/2011 | 11/11/2011 | 6 | 11 | 17 |
| TPH | MG/L | 06MW-06-20111024 | K2139-02B | NM | 10/24/2011 | 10/31/2011 | 11/10/2011 | 7 | 10 | 17 |
| TPH | MG/L | 06MW-07-111025 | K2139-13B | NM | 10/25/2011 | 10/31/2011 | 11/11/2011 | 6 | 11 | 17 |
| TPH | MG/L | 06MW-08-20111024 | K2139-03B | NM | 10/24/2011 | 10/31/2011 | 11/10/2011 | 7 | 10 | 17 |
| TPH | MG/L | 06MW-09-111025 | K2139-14B | NM | 10/25/2011 | 10/31/2011 | 11/11/2011 | 6 | 11 | 17 |
| TPH | MG/L | 06MW-10-20111024 | K2139-04B | NM | 10/24/2011 | 10/31/2011 | 11/10/2011 | 7 | 10 | 17 |
| TPH | MG/L | 06MW-11-111024 | K2139-05B | NM | 10/24/2011 | 10/31/2011 | 11/10/2011 | 7 | 10 | 17 |
| TPH | MG/L | 06MW-12-111024 | K2139-06B | NM | 10/24/2011 | 10/31/2011 | 11/10/2011 | 7 | 10 | 17 |
| TPH | MG/L | 06MW-13-111025 | K2139-15B | NM | 10/25/2011 | 10/31/2011 | 11/11/2011 | 6 | 11 | 17 |
| TPH | MG/L | 06MW-01-111025 | K2139-09B | NM | 10/25/2011 | 10/31/2011 | 11/11/2011 | 6 | 11 | 17 |
| VPH | UG/L | 06MW-02-111025 | K2139-10A | NM | 10/25/2011 | 11/4/2011 | 11/4/2011 | 10 | 0 | 10 |

| SORT | UNITS | NSAMPLE | LAB_ID | QC_TYPE | SAMP_DATE | EXTR_DATE | ANAL_DATE | SMP_EXTR | EXTR_ANL | SMP_ANL |
|---|---|---|---|---|---|---|---|---|---|---|
| VPH | UG/L | 06TBMW0-111024 | K2139-08A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-03-111025 | K2139-11A | NM | 10/25/2011 | 11/4/2011 | 11/4/2011 | 10 | 0 | 10 |
| VPH | UG/L | 06MW-04-111024 | K2139-01A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-05-111025 | K2139-12A | NM | 10/25/2011 | 11/4/2011 | 11/4/2011 | 10 | 0 | 10 |
| VPH | UG/L | 06MW-06-20111024 | K2139-02A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-07-111025 | K2139-13A | NM | 10/25/2011 | 11/4/2011 | 11/4/2011 | 10 | 0 | 10 |
| VPH | UG/L | 06MW-08-20111024 | K2139-03A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-09-111025 | K2139-14A | NM | 10/25/2011 | 11/4/2011 | 11/4/2011 | 10 | 0 | 10 |
| VPH | UG/L | 06MW-10-20111024 | K2139-04A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-11-111024 | K2139-05A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-12-111024 | K2139-06A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-13-111025 | K2139-15A | NM | 10/25/2011 | 11/4/2011 | 11/4/2011 | 10 | 0 | 10 |
| VPH | UG/L | 06MWDUP01-111024 | K2139-07A | NM | 10/24/2011 | 11/4/2011 | 11/4/2011 | 11 | 0 | 11 |
| VPH | UG/L | 06MW-01-111025 | K2139-09A | NM | 10/25/2011 | 11/4/2011 | 11/4/2011 | 10 | 0 | 10 |

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Sequence: | S108047 | Instrument: | FID2 |
| | | Calibration: | 1109006 |

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Cal Standard | S108047-CAL1 | vph001.D | 09/08/11 12:13 |
| Cal Standard | S108047-CAL2 | vph005.D | 09/08/11 12:42 |
| Cal Standard | S108047-CAL3 | vph010.D | 09/08/11 13:11 |
| Cal Standard | S108047-CAL4 | vph020.D | 09/08/11 13:40 |
| Cal Standard | S108047-CAL5 | vph050.D | 09/08/11 14:38 |
| Cal Standard | S108047-CAL6 | vph100.D | 09/08/11 16:05 |
| Cal Standard | S108047-CAL7 | vph200.D | 09/08/11 18:01 |
| Initial Cal Check | S108047-ICV1 | icv020.D | 09/08/11 19:57 |

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Calibration: | 1109006 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 09/08/11 10:26 |
| File ID: | F2090911M | | |

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 114119 | 5.062119 | 11.84571 | 6.910667E-02 | | | 25 | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 33766.41 | 9.341831 | 7.955714 | 24.87611 | | | 25 | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 22715.96 | 13.91067 | 12.39714 | 1.981688 | | | 25 | |
| Benzene | 103819 | 13.6316 | 4.481429 | 8.413137E-02 | | | 25 | |
| Ethylbenzene | 68517.78 | 18.06733 | 9.292857 | 8.205252E-02 | | | 25 | |
| Methyl tert-butyl ether | 37800.12 | 18.72232 | 2.334286 | 0.3374139 | | | 25 | |
| Naphthalene | 63931.34 | 8.536715 | 14.98571 | 5.307255E-02 | | | 25 | |
| Toluene | 84080.87 | 15.59174 | 7.275714 | 0.1088462 | | | 25 | |
| m,p-Xylene | 82053.67 | 16.35125 | 9.545714 | 0.0820313 | | | 25 | |
| o-Xylene | 70333.24 | 15.34912 | 9.964286 | 5.089186E-02 | | | 25 | |
| 2-Methylpentane | 20844.22 | 13.82908 | 2.505714 | 0.2130662 | | | 25 | |
| n-Nonane | 16711.25 | 14.36647 | 10.22667 | 7.956644E-02 | | | 25 | |
| n-Pentane | 20034.37 | 11.292 | 1.651429 | 0.2283937 | | | 25 | |
| 1,2,4-Trimethylbenzene | 64784.58 | 15.85033 | 11.84571 | 6.910667E-02 | | | 25 | |
| 2,2,4-Trimethylpentane | 21412.03 | 12.72785 | 5.581429 | 6.591151E-02 | | | 25 | |
| n-Butylcyclohexane | 18335.56 | 17.43001 | 12.65571 | 3.899972E-02 | | | 25 | |
| n-Decane | 13379.33 | 11.6912 | 11.982 | 3.581222E-02 | | | 25 | |
| 2,5-Dibromotoluene (FID) | 9151.344 | 3.432143 | 16.51 | 6.814298E-03 | | | 25 | |
| 2,5-Dibromotoluene (PID) | 52599.05 | 4.040142 | 16.50714 | 3.011659E-02 | | | 25 | |

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VIIa - INITIAL CALIBRATION CHECK

## MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA
**SDG:** 38520
**Client:** Spectrum Analytical, Inc.-- RI Division
**Project:** See Chain of Custody
**Calibration:** 1109006
**Laboratory ID:** S108047-ICV1
**Sequence:** S108047
**Standard ID:** 11I0120
**Analyzed:** 09/08/11 19:57
**File ID:** icv020.D

| ANALYTE | EXPECTED | FOUND | % R | QC LIMIT |
|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 18.1 µg/l | 91 | 80 - 120 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 201 µg/l | 100 | 80 - 120 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 75.5 µg/l | 94 | 80 - 120 |
| Benzene | 20.0 µg/l | 20.5 µg/l | 103 | 80 - 120 |
| Ethylbenzene | 20.0 µg/l | 21.3 µg/l | 106 | 80 - 120 |
| Methyl tert-butyl ether | 20.0 µg/l | 17.0 µg/l | 85 | 80 - 120 |
| Naphthalene | 20.0 µg/l | 19.9 µg/l | 99 | 80 - 120 |
| Toluene | 20.0 µg/l | 21.0 µg/l | 105 | 80 - 120 |
| m,p-Xylene | 40.0 µg/l | 42.1 µg/l | 105 | 80 - 120 |
| o-Xylene | 20.0 µg/l | 21.3 µg/l | 106 | 80 - 120 |
| 2-Methylpentane | 20.0 µg/l | 19.4 µg/l | 97 | 80 - 120 |
| n-Nonane | 20.0 µg/l | 17.0 µg/l | 85 | 80 - 120 |
| n-Pentane | 20.0 µg/l | 19.2 µg/l | 96 | 80 - 120 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 21.0 µg/l | 105 | 80 - 120 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 19.4 µg/l | 97 | 80 - 120 |
| n-Butylcyclohexane | 20.0 µg/l | 17.6 µg/l | 88 | 80 - 120 |
| n-Decane | 20.0 µg/l | 18.2 µg/l | 91 | 80 - 120 |

* Values outside of QC limits

# FORM VIII(Organics)/FORM XIII(Inorganics)
# ANALYSIS BATCH (SEQUENCE) SUMMARY
## MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA
Client: Spectrum Analytical, Inc.-- RI Division
Sequence: S110143

SDG: 38520
Project: See Chain of Custody
Instrument: FID2
Calibration: 1109006

| Sample Name | Lab Sample ID | Lab File ID | Analyzed |
|---|---|---|---|
| Blank | 1122848-BLK1 | blk1104c.D | 11/04/11 08:47 |
| Calibration Check | S110143-CCV1 | ccc1104a.D | 11/04/11 09:16 |
| LCS | 1122848-BS1 | lcs1104a.D | 11/04/11 09:45 |
| LCS Dup | 1122848-BSD1 | lcs1104b.D | 11/04/11 10:14 |
| 06MW-06-20111024 | SB38520-02 | 38520-02.D | 11/04/11 11:28 |
| 06MW-06-20111024 | 1122848-DUP1 | 38520-02d.D | 11/04/11 11:59 |
| 06MW-06-20111024 | 1122848-MS1 | 38520-02m.D | 11/04/11 12:27 |
| 06TBMW0-111024 | SB38520-08 | 38520-08.D | 11/04/11 13:28 |
| 06MW-04-111024 | SB38520-01 | 38520-01.D | 11/04/11 13:59 |
| 06MW-08-20111024 | SB38520-03 | 38520-03.D | 11/04/11 14:29 |
| 06MW-10-20111024 | SB38520-04 | 38520-04.D | 11/04/11 14:59 |
| 06MW-11-111024 | SB38520-05 | 38520-05.D | 11/04/11 15:30 |
| 06MW-12-111024 | SB38520-06 | 38520-06.D | 11/04/11 16:00 |
| 06MWDUP01-111024 | SB38520-07 | 38520-07.D | 11/04/11 16:30 |
| 06MW-01-111025 | SB38520-09 | 38520-09.D | 11/04/11 17:01 |
| 06MW-02-111025 | SB38520-10 | 38520-10.D | 11/04/11 17:31 |
| 06MW-03-111025 | SB38520-11 | 38520-11.D | 11/04/11 18:02 |
| 06MW-05-111025 | SB38520-12 | 38520-12.D | 11/04/11 18:32 |
| 06MW-07-111025 | SB38520-13 | 38520-13.D | 11/04/11 19:02 |
| 06MW-09-111025 | SB38520-14 | 38520-14.D | 11/04/11 19:32 |
| 06MW-13-111025 | SB38520-15 | 38520-15.D | 11/04/11 20:03 |
| Calibration Check | S110143-CCV2 | ccc1104b.D | 11/04/11 23:03 |

# FORM VII - CONTINUING CALIBRATION CHECK

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Instrument ID: | FID2 | Calibration: | 1109006 |
| Lab File ID: | ccc1104a.D | Calibration Date: | 09/08/11 10:26 |
| Sequence: | S110143 | Analyzed: | 11/04/11 09:16 |
| Lab Sample ID: | S110143-CCV1 | | |
| Spike ID: | 11H0080 | | |

| COMPOUND | TYPE | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 47.0 µg/l | 114119 | 107261.3 | | -6.0 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 484 µg/l | 33766.41 | 32696.52 | | -3.2 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 188 µg/l | 22715.96 | 21364.91 | | -5.9 | 25 |
| Benzene | A | 50.0 µg/l | 51.8 µg/l | 103819 | 107550.7 | | 3.6 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 53.3 µg/l | 68517.78 | 73008.82 | | 6.6 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 48.8 µg/l | 37800.12 | 36856.62 | | -2.5 | 25 |
| Naphthalene | A | 50.0 µg/l | 49.5 µg/l | 63931.34 | 63343.18 | | -0.9 | 25 |
| Toluene | A | 50.0 µg/l | 52.3 µg/l | 84080.87 | 87898.84 | | 4.5 | 25 |
| m,p-Xylene | A | 100 µg/l | 104 µg/l | 82053.67 | 85063.97 | | 3.7 | 25 |
| o-Xylene | A | 50.0 µg/l | 51.7 µg/l | 70333.24 | 72713.36 | | 3.4 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 56.9 µg/l | 20844.22 | 23724.48 | | 13.8 | 25 |
| n-Nonane | A | 50.0 µg/l | 51.7 µg/l | 16711.25 | 17279.42 | | 3.4 | 30 |
| n-Pentane | A | 50.0 µg/l | 57.0 µg/l | 20034.37 | 22825.34 | | 13.9 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 51.9 µg/l | 64784.58 | 67198.24 | | 3.7 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 54.6 µg/l | 21412.03 | 23376.82 | | 9.2 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 48.0 µg/l | 18335.56 | 17610.62 | | -4.0 | 25 |
| n-Decane | A | 50.0 µg/l | 54.9 µg/l | 13379.33 | 14685.7 | | 9.8 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VII - CONTINUING CALIBRATION CHECK

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Instrument ID: | FID2 | Calibration: | 1109006 |
| Lab File ID: | ccc1104b.D | Calibration Date: | 09/08/11 10:26 |
| Sequence: | S110143 | Analyzed: | 11/04/11 23:03 |
| Lab Sample ID: | S110143-CCV2 | | |
| Spike ID: | 11H0080 | | |

| COMPOUND | TYPE | CONC. | | RESPONSE FACTOR | | | % DIFF / DRIFT | |
|---|---|---|---|---|---|---|---|---|
| | | STD | CCV | ICAL | CCV | MIN (#) | CCV | LIMIT (#) |
| C9-C10 Aromatic Hydrocarbons | A | 50.0 µg/l | 46.4 µg/l | 114119 | 105985.3 | | -7.1 | 25 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | A | 500 µg/l | 477 µg/l | 33766.41 | 32237.68 | | -4.5 | 25 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | A | 200 µg/l | 176 µg/l | 22715.96 | 20014.46 | | -11.9 | 25 |
| Benzene | A | 50.0 µg/l | 52.3 µg/l | 103819 | 108690 | | 4.7 | 25 |
| Ethylbenzene | A | 50.0 µg/l | 53.7 µg/l | 68517.78 | 73567.14 | | 7.4 | 25 |
| Methyl tert-butyl ether | A | 50.0 µg/l | 44.4 µg/l | 37800.12 | 33528.5 | | -11.3 | 25 |
| Naphthalene | A | 50.0 µg/l | 50.6 µg/l | 63931.34 | 64677.64 | | 1.2 | 25 |
| Toluene | A | 50.0 µg/l | 52.5 µg/l | 84080.87 | 88339.1 | | 5.1 | 25 |
| m,p-Xylene | A | 100 µg/l | 104 µg/l | 82053.67 | 85557.79 | | 4.3 | 25 |
| o-Xylene | A | 50.0 µg/l | 52.1 µg/l | 70333.24 | 73253.18 | | 4.2 | 25 |
| 2-Methylpentane | A | 50.0 µg/l | 55.2 µg/l | 20844.22 | 23030.2 | | 10.5 | 25 |
| n-Nonane | A | 50.0 µg/l | 45.0 µg/l | 16711.25 | 15045.2 | | -10.0 | 30 |
| n-Pentane | A | 50.0 µg/l | 55.5 µg/l | 20034.37 | 22219.3 | | 10.9 | 25 |
| 1,2,4-Trimethylbenzene | A | 50.0 µg/l | 52.3 µg/l | 64784.58 | 67744.98 | | 4.6 | 25 |
| 2,2,4-Trimethylpentane | A | 50.0 µg/l | 51.9 µg/l | 21412.03 | 22241.06 | | 3.9 | 25 |
| n-Butylcyclohexane | A | 50.0 µg/l | 43.1 µg/l | 18335.56 | 15793.8 | | -13.9 | 25 |
| n-Decane | A | 50.0 µg/l | 45.9 µg/l | 13379.33 | 12281.28 | | -8.2 | 25 |

# Column to be used to flag Response Factor and %Diff/Drift values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IV - METHOD BLANK SUMMARY

**1122848-BLK1**

## MADEP VPH 5/2004 Rev. 1.1

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | SDG: | 38520 | |
| Client: | Spectrum Analytical, Inc.-- RI Division | | Project: | See Chain of Custody | |
| Matrix: | Aqueous | Laboratory ID: | 1122848-BLK1 | File ID: | blk1104c.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 08:47 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

This method blank applies to the following sample analyses:

| SAMPLE NO. | LAB SAMPLE ID | FILE ID | DATE ANALYZED | TIME ANALYZED |
|---|---|---|---|---|
| Blank | 1122848-BLK1 | blk1104c.D | 11/04/11 | 8:47 |
| LCS | 1122848-BS1 | lcs1104a.D | 11/04/11 | 9:45 |
| LCS Dup | 1122848-BSD1 | lcs1104b.D | 11/04/11 | 10:14 |
| 06MW-06-20111024 | SB38520-02 | 38520-02.D | 11/04/11 | 11:28 |
| Duplicate | 1122848-DUP1 | 38520-02d.D | 11/04/11 | 11:59 |
| Matrix Spike | 1122848-MS1 | 38520-02m.D | 11/04/11 | 12:27 |
| 06TBMW0-111024 | SB38520-08 | 38520-08.D | 11/04/11 | 13:28 |
| 06MW-04-111024 | SB38520-01 | 38520-01.D | 11/04/11 | 13:59 |
| 06MW-08-20111024 | SB38520-03 | 38520-03.D | 11/04/11 | 14:29 |
| 06MW-10-20111024 | SB38520-04 | 38520-04.D | 11/04/11 | 14:59 |
| 06MW-11-111024 | SB38520-05 | 38520-05.D | 11/04/11 | 15:30 |
| 06MW-12-111024 | SB38520-06 | 38520-06.D | 11/04/11 | 16:00 |
| 06MWDUP01-111024 | SB38520-07 | 38520-07.D | 11/04/11 | 16:30 |
| 06MW-01-111025 | SB38520-09 | 38520-09.D | 11/04/11 | 17:01 |
| 06MW-02-111025 | SB38520-10 | 38520-10.D | 11/04/11 | 17:31 |
| 06MW-03-111025 | SB38520-11 | 38520-11.D | 11/04/11 | 18:02 |
| 06MW-05-111025 | SB38520-12 | 38520-12.D | 11/04/11 | 18:32 |
| 06MW-07-111025 | SB38520-13 | 38520-13.D | 11/04/11 | 19:02 |
| 06MW-09-111025 | SB38520-14 | 38520-14.D | 11/04/11 | 19:32 |
| 06MW-13-111025 | SB38520-15 | 38520-15.D | 11/04/11 | 20:03 |

# FORM I - ORGANIC ANALYSIS DATA SHEET
## MADEP VPH 5/2004 Rev. 1.1

**1122848-BLK1**

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Matrix: | Aqueous | Laboratory ID: | 1122848-BLK1 | File ID: | blk1104c.D |
| | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 08:47 | Instrument: | FID2 | | |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 1 | 9.37 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 1 | 25.0 µg/l | U |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 1 | 1.36 µg/l | J |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 1 | 9.37 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 1 | 25.0 µg/l | U |
| 71-43-2 | Benzene | 1 | 5.0 µg/l | U |
| 100-41-4 | Ethylbenzene | 1 | 5.0 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 1 | 5.0 µg/l | U |
| 91-20-3 | Naphthalene | 1 | 5.0 µg/l | U |
| 108-88-3 | Toluene | 1 | 5.0 µg/l | U |
| 179601-23-1 | m,p-Xylene | 1 | 10.0 µg/l | U |
| 95-47-6 | o-Xylene | 1 | 5.0 µg/l | U |
| 107-83-5 | 2-Methylpentane | 1 | 5.0 µg/l | U |
| 111-84-2 | n-Nonane | 1 | 10.0 µg/l | U |
| 109-66-0 | n-Pentane | 1 | 10.0 µg/l | U |
| 95-63-6 | 1,2,4-Trimethylbenzene | 1 | 5.0 µg/l | U |
| 540-84-1 | 2,2,4-Trimethylpentane | 1 | 5.0 µg/l | U |
| 1678-93-9 | n-Butylcyclohexane | 1 | 5.0 µg/l | U |
| 124-18-5 | n-Decane | 1 | 5.0 µg/l | U |

C9-C10 Aromatics 1.36 6.8

9.37 46.8

# FORM II - SURROGATE STANDARD RECOVERY SUMMARY

## MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA SDG: 38520

Client: Spectrum Analytical, Inc.-- RI Division Project: See Chain of Custody

Spike ID: 11H0419

| Client ID | S1 # | S2 # | S3 # | S4 # | S5 # | S6 # | Total Out |
|---|---|---|---|---|---|---|---|
| **Blank (1122848-BLK1)** | 108 | 105 | | | | | 0 |
| **LCS (1122848-BS1)** | 115 | 109 | | | | | 0 |
| **LCS Dup (1122848-BSD1)** | 109 | 103 | | | | | 0 |
| **Duplicate (1122848-DUP1)** | 117 | 112 | | | | | 0 |
| **Matrix Spike (1122848-MS1)** | 110 | 104 | | | | | 0 |
| **Calibration Check (S110143-CCV1)** | 98 | 95 | | | | | 0 |
| **Calibration Check (S110143-CCV2)** | 99 | 96 | | | | | 0 |
| **06MW-04-111024 (SB38520-01)** | 115 | 110 | | | | | 0 |
| **06MW-06-20111024 (SB38520-02)** | 121 | 118 | | | | | 0 |
| **06MW-08-20111024 (SB38520-03)** | 116 | 113 | | | | | 0 |
| **06MW-10-20111024 (SB38520-04)** | 117 | 114 | | | | | 0 |
| **06MW-11-111024 (SB38520-05)** | 122 | 115 | | | | | 0 |
| **06MW-12-111024 (SB38520-06)** | 117 | 110 | | | | | 0 |
| **06MWDUP01-111024 (SB38520-07)** | 115 | 110 | | | | | 0 |
| **06TBMW0-111024 (SB38520-08)** | 107 | 102 | | | | | 0 |
| **06MW-01-111025 (SB38520-09)** | 120 | 119 | | | | | 0 |
| **06MW-02-111025 (SB38520-10)** | 123 | 115 | | | | | 0 |
| **06MW-03-111025 (SB38520-11)** | 120 | 121 | | | | | 0 |
| **06MW-05-111025 (SB38520-12)** | 114 | 118 | | | | | 0 |
| **06MW-07-111025 (SB38520-13)** | 118 | 112 | | | | | 0 |
| **06MW-09-111025 (SB38520-14)** | 120 | 115 | | | | | 0 |
| **06MW-13-111025 (SB38520-15)** | 120 | 115 | | | | | 0 |

| | **Control Limits** |
|---|---|
| S1 = 2,5-Dibromotoluene (FID) | 70 - 130 |
| S2 = 2,5-Dibromotoluene (PID) | 70 - 130 |

# Column to be used to flag recovery values
* Values outside of QC limits

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1122848 | Laboratory ID: | 1122848-BS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 09:45 | Spike ID: | 11K0001 |
| | | File ID: | lcs1104a.D |

| COMPOUND | SPIKE ADDED | LCS CONCENTRATION | LCS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 49.6 µg/l | 83 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 61.0 µg/l | 102 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 200 µg/l | 193 µg/l | 97 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 80.0 µg/l | 82.2 µg/l | 103 | 70 - 130 |
| Benzene | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 21.9 µg/l | 110 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | 14.1 µg/l | 71 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 24.3 µg/l | 121 | 70 - 130 |
| Toluene | 20.0 µg/l | 21.7 µg/l | 108 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 42.9 µg/l | 107 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 21.7 µg/l | 109 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 20.9 µg/l | 104 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 20.5 µg/l | 103 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 21.8 µg/l | 109 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 21.2 µg/l | 106 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 20.0 µg/l | 100 | 70 - 130 |
| n-Decane | 20.0 µg/l | 22.4 µg/l | 112 | 70 - 130 |

File ID: lcs1104b.D

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 50.8 µg/l | 85 | 2 | 25 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 59.8 µg/l | 100 | 2 | 25 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 20.6 µg/l | 103 | 3 | 25 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 195 µg/l | 98 | 1 | 25 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 80.3 µg/l | 100 | 2 | 25 | 70 - 130 |
| Benzene | 20.0 µg/l | 21.2 µg/l | 106 | 0.05 | 25 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | 22.1 µg/l | 110 | 0.7 | 25 | 70 - 130 |

# FORM IIIa - LCS / LCS DUPLICATE RECOVERY

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1122848 | Laboratory ID: | 1122848-BSD1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Analyzed: | 11/04/11 10:14 | Spike ID: | 11K0001 |
| | | File ID: | lcs1104b.D |

| COMPOUND | SPIKE ADDED | LCSD CONCENTRATION | LCSD % REC. # | % RPD # | QC LIMITS RPD | QC LIMITS REC. |
|---|---|---|---|---|---|---|
| Methyl tert-butyl ether | 20.0 µg/l | 14.1 µg/l | 70 | 0.5 | 25 | 70 - 130 |
| Naphthalene | 20.0 µg/l | 22.9 µg/l | 114 | 6 | 25 | 70 - 130 |
| Toluene | 20.0 µg/l | 21.8 µg/l | 109 | 0.6 | 25 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | 43.3 µg/l | 108 | 0.8 | 25 | 70 - 130 |
| o-Xylene | 20.0 µg/l | 21.9 µg/l | 110 | 0.9 | 25 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | 20.6 µg/l | 103 | 1 | 25 | 70 - 130 |
| n-Nonane | 20.0 µg/l | 20.5 µg/l | 103 | 0.2 | 25 | 70 - 130 |
| n-Pentane | 20.0 µg/l | 21.3 µg/l | 107 | 0.8 | 25 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | 21.8 µg/l | 109 | 0.3 | 25 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | 21.1 µg/l | 105 | 0.5 | 25 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | 19.9 µg/l | 99 | 0.8 | 25 | 70 - 130 |
| n-Decane | 20.0 µg/l | 21.6 µg/l | 108 | 4 | 25 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM IIIb (Organic) / FORM V (Inorganic)
# MATRIX SPIKE / MATRIX SPIKE DUPLICATE RECOVERY

06MW-06-20111024

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Matrix: | Aqueous | Instrument: | FID2 |
| Batch: | 1122848 | Laboratory ID: | 1122848-MS1 |
| Preparation: | VPH - EPA 5030B | Initial/Final: | 1 ml / 5 ml |
| Source Sample Name: | 06MW-06-20111024 | % Solids: | |
| | | Spike ID: | 11K0001 |
| | | File ID: | 38520-02m.D |

| COMPOUND | SPIKE ADDED | SAMPLE CONCENTRATION | MS CONCENTRATION | MS % REC. # | QC LIMITS REC. |
|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 60.0 µg/l | 12.9 µg/l | 56.3 | 72 | 70 - 130 |
| C9-C12 Aliphatic Hydrocarbons | 60.0 µg/l | 2.80 µg/l | 65.1 | 104 | 70 - 130 |
| C9-C10 Aromatic Hydrocarbons | 20.0 µg/l | 1.28 µg/l | 22.5 | 106 | 70 - 130 |
| Unadjusted C5-C8 Aliphatic Hydroca | 200 µg/l | 12.9 µg/l | 216 | 101 | 70 - 130 |
| Unadjusted C9-C12 Aliphatic Hydroc | 80.0 µg/l | 4.08 µg/l | 87.5 | 104 | 70 - 130 |
| Benzene | 20.0 µg/l | BRL µg/l | 23.2 | 116 | 70 - 130 |
| Ethylbenzene | 20.0 µg/l | BRL µg/l | 24.0 | 120 | 70 - 130 |
| Methyl tert-butyl ether | 20.0 µg/l | BRL µg/l | 16.9 | 85 | 70 - 130 |
| Naphthalene | 20.0 µg/l | BRL µg/l | 23.1 | 116 | 70 - 130 |
| Toluene | 20.0 µg/l | BRL µg/l | 24.5 | 123 | 70 - 130 |
| m,p-Xylene | 40.0 µg/l | BRL µg/l | 46.9 | 117 | 70 - 130 |
| o-Xylene | 20.0 µg/l | BRL µg/l | 23.8 | 119 | 70 - 130 |
| 2-Methylpentane | 20.0 µg/l | BRL µg/l | 23.1 | 116 | 70 - 130 |
| n-Nonane | 20.0 µg/l | BRL µg/l | 24.3 | 122 | 70 - 130 |
| n-Pentane | 20.0 µg/l | BRL µg/l | 22.9 | 114 | 70 - 130 |
| 1,2,4-Trimethylbenzene | 20.0 µg/l | BRL µg/l | 23.7 | 118 | 70 - 130 |
| 2,2,4-Trimethylpentane | 20.0 µg/l | BRL µg/l | 24.4 | 122 | 70 - 130 |
| n-Butylcyclohexane | 20.0 µg/l | BRL µg/l | 23.5 | 118 | 70 - 130 |
| n-Decane | 20.0 µg/l | BRL µg/l | 25.4 | 127 | 70 - 130 |

# Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

# FORM IIIc - DUPLICATES

**06MW-06-20111024**

## MADEP VPH 5/2004 Rev. 1.1

Laboratory: Spectrum Analytical, Inc. - Agawam, MA
Client: Spectrum Analytical, Inc.-- RI Division
Matrix: Aqueous
Batch: 1122848
Preparation: VPH - EPA 5030B
Source Sample Name: 06MW-06-20111024

SDG: 38520
Project: See Chain of Custody
Laboratory ID: 1122848-DUP1
Lab Source ID: SB38520-02
Initial/Final: 5 ml / 5 ml
% Solids:
File ID: 38520-02d.D

| ANALYTE | CONTROL LIMIT | SAMPLE CONCENTRATION | C | DUPLICATE CONCENTRATION | C | RPD % | Q | METHOD |
|---|---|---|---|---|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 50 | 64.6 µg/l | | 66.9 µg/l | | 3 | | MADEP VPH 5/2004 Rev. 1.1 |
| C9-C12 Aliphatic Hydrocarbons | 50 | 14.0 µg/l | | 13.5 µg/l | | 3 | | MADEP VPH 5/2004 Rev. 1.1 |
| C9-C10 Aromatic Hydrocarbons | 50 | 6.42 µg/l | | 6.10 µg/l | | 5 | | MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C5-C8 Aliphatic Hydrocarl | 50 | 64.6 µg/l | | 66.9 µg/l | | 3 | | MADEP VPH 5/2004 Rev. 1.1 |
| Unadjusted C9-C12 Aliphatic Hydroca | 50 | 20.4 µg/l | | 19.6 µg/l | | 4 | | MADEP VPH 5/2004 Rev. 1.1 |
| Benzene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Ethylbenzene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Methyl tert-butyl ether | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Naphthalene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| Toluene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| m,p-Xylene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |
| o-Xylene | 50 | BRL µg/l | | BDL | | | | MADEP VPH 5/2004 Rev. 1.1 |

* Values outside of QC limits

Individual peaks for multi-component analytes are indicated by a number in parentheses

# FORM VIIIa - INTERNAL STANDARD AREA AND RT SUMMARY

Laboratory:

Client:

Sequence:

Matrix:

Analyzed:

SDG:

Project:

Instrument:

Calibration:

File ID:

| | IS1 Area # | RT # | IS2 Area # | RT # | IS3 Area # | RT # | IS4 Area # | RT # | IS5 Area # | RT # | IS6 Area # | RT # |
|---|---|---|---|---|---|---|---|---|---|---|---|---|

# Column to be used to flag internal standard area values
* Values outside of QC limits

Area Upper Limit = 200% of internal standard area
Area Lower Limit = 50% of internal standard area
RT Limit = +/- 0.50

# Organic/FORM IX(Inorganic) - METHOD DETECTION AND REPORTING LIMITS

## MADEP VPH 5/2004 Rev. 1.1

**Laboratory:** Spectrum Analytical, Inc. - Agawam, MA **SDG:** 38520

**Client:** Spectrum Analytical, Inc.-- RI Division **Project:** See Chain of Custody

**Matrix:** Aqueous

| Analyte | MDL | MRL | Units |
|---|---|---|---|
| C5-C8 Aliphatic Hydrocarbons | 1.11 | 15.0 | µg/l |
| C9-C12 Aliphatic Hydrocarbons | 0.844 | 5.00 | µg/l |
| C9-C10 Aromatic Hydrocarbons | 0.224 | 5.00 | µg/l |
| Unadjusted C5-C8 Aliphatic Hydrocarb | 1.42 | 15.0 | µg/l |
| Unadjusted C9-C12 Aliphatic Hydrocar | 0.936 | 5.00 | µg/l |
| Benzene | 0.3 | 1.0 | µg/l |
| Ethylbenzene | 0.3 | 1.0 | µg/l |
| Methyl tert-butyl ether | 0.3 | 1.0 | µg/l |
| Naphthalene | 0.2 | 1.0 | µg/l |
| Toluene | 0.3 | 1.0 | µg/l |
| m,p-Xylene | 0.6 | 2.0 | µg/l |
| o-Xylene | 0.2 | 1.0 | µg/l |
| 2-Methylpentane | 0.5 | 1.0 | µg/l |
| n-Nonane | 0.4 | 2.0 | µg/l |
| n-Pentane | 0.2 | 2.0 | µg/l |
| 1,2,4-Trimethylbenzene | 0.2 | 1.0 | µg/l |
| 2,2,4-Trimethylpentane | 0.3 | 1.0 | µg/l |
| n-Butylcyclohexane | 0.3 | 1.0 | µg/l |
| n-Decane | 0.5 | 1.0 | µg/l |

# Injection Log

AQ : TPH-AGF
QT: TPH 0520F

Directory: O:\F1.I\110520.B

Inlet Maint: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 96 | F1h5050.d | 1. | ICAL 7159 | | 20 May 2011 16:15 |
| 2 | 96 | F1h5051.d | 1. | TPH (DRO) | | 20 May 2011 16:36 |
| 3 | 99 | F1h5052.d | 1. | | | 20 May 2011 16:52 |
| 4 | 99 | F1h5053.d | 1. | GM 5/24/11 | | 20 May 2011 16:56 |
| 5 | 99 | F1h5054.d | 1. | | | 20 May 2011 17:00 |
| 6 | 100 | F1h5055.d | 1. | IBLK | TPH F | 20 May 2011 17:09 |
| 7 | 1 | F1h5056.d | 1. L5/ccv | FSTD1001A | TPH F ICAL L5 100... | 20 May 2011 17:29 |
| 8 | 2 | F1h5057.d | 1. L1 | FSTD0051A | TPH F ICAL L1 5 PPM | 20 May 2011 17:50 |
| 9 | 3 | F1h5058.d | 1. | FSTD0101A | TPH F ICAL L1A 10... | 20 May 2011 18:10 |
| 10 | 4 | F1h5059.d | 1. L2 | FSTD0201A | TPH F ICAL L2 20 PPM | 20 May 2011 18:31 |
| 11 | 5 | F1h5060.d | 1. | FSTD0251A | TPH F ICAL L2A 25... | 20 May 2011 18:52 |
| 12 | 6 | F1h5061.d | 1. L3 | FSTD0501A | TPH F ICAL L3 50 PPM | 20 May 2011 19:12 |
| 13 | 7 | F1h5062.d | 1. L4 | FSTD0801A | TPH F ICAL L4 80 PPM | 20 May 2011 19:32 |
| 14 | 8 | F1h5063.d | 1. L6 | FSTD1201A | TPH F ICAL L6 120... | 20 May 2011 19:53 |
| 15 | 9 | F1h5064.d | 1. L7 | FSTD1501A | TPH F ICAL L7 150... | 20 May 2011 20:13 |
| 16 | 10 | F1h5065.d | 1. L8 | FSTD2001A | TPH F ICAL L8 200... | 20 May 2011 20:34 |
| 17 | 100 | F1h5066.d | 1. | IBLK | TPH F | 20 May 2011 20:55 |
| 18 | 11 | F1h5067.d | 1. | FICV 50 ≈ 500/7000 | TPH F ICV | 20 May 2011 21:15 |
| 19 | 100 | F1h5068.d | 1. | IBLK | TPH F | 20 May 2011 21:36 |

GM 5/24/11

# Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files

| | | | | | |
|---|---|---|---|---|---|
| 5 | =F1H5057.D | 20 | =F1H5059.D | 50 | =F1H5061.D |
| 80 | =F1H5062.D | 100 | =F1H5056.D | 120 | =F1H5063.D |

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

# Injection Log

AQ: TPH-AGF
QT: TPH0520F

Directory: O:\F1.I\111110A.B

INJECT MAINT: Yes

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| | | | | ICAL 7159 | | 10 Nov 2011 13:24 |
| 1 | 1 | F1h7090.d | 1. | QC | TPH F | 10 Nov 2011 13:44 |
| 2 | 96 | F1h7091.d | 1. | FSTD1001Q FW111102A | TPH F CCAL L5 100... | 10 Nov 2011 14:04 |
| 3 | 1 | F1h7092.d | 1. | IBLK | TPH F | 10 Nov 2011 14:24 |
| 4 | 100 | F1h7093.d | 1. | MB-62896,,62896 | TPH F | 10 Nov 2011 14:43 |
| 5 | 16 | F1h7094.d | 1. | LCS-62896,,62896 | TPH F | 10 Nov 2011 15:02 |
| 6 | 17 | F1h7095.d | 1. | K2329-01E,,62896 | TPH F | 10 Nov 2011 15:22 |
| 7 | 18 | F1h7096.d | 1. | K2329-02E,,62896 | TPH F | 10 Nov 2011 15:42 |
| 8 | 19 | F1h7097.d | 1. | K2346-01E,,62896 | TPH F | 10 Nov 2011 16:03 |
| 9 | 20 | F1h7098.d | 1. | FSTD1001R | TPH F CCAL L5 100... | 10 Nov 2011 16:22 |
| 10 | 1 | F1h7099.d | 1. | QC | TPH F | 10 Nov 2011 16:42 |
| 11 | 96 | F1h7100.d | 1. | IBLK | TPH F | 10 Nov 2011 17:02 |
| 12 | 100 | F1h7101.d | 1. | MB-62548,,62548 RR | TPH/ME DRO F | 10 Nov 2011 17:22 |
| 13 | 21 | F1h7102.d | 1. | LCS-62548,,62548 | TPH/ME DRO F | 10 Nov 2011 17:42 |
| 14 | 22 | F1h7103.d | 1. | K2139-01B,,62548 | TPH F | 10 Nov 2011 18:02 |
| 15 | 23 | F1h7104.d | 1. | K2139-02B,,62548 | TPH F | 10 Nov 2011 18:23 |
| 16 | 24 | F1h7105.d | 1. | K2139-02BMS,,62548 | TPH F | 10 Nov 2011 18:43 |
| 17 | 25 | F1h7106.d | 1. | K2139-02BMSD,,62548 | TPH F | 10 Nov 2011 19:03 |
| 18 | 26 | F1h7107.d | 1. | K2139-03B,,62548 | TPH F | 10 Nov 2011 19:24 |
| 19 | 27 | F1h7108.d | 1. | K2139-04B,,62548 | TPH F | 10 Nov 2011 19:44 |
| 20 | 28 | F1h7109.d | 1. | K2139-05B,,62548 | TPH F | 10 Nov 2011 20:04 |
| 21 | 29 | F1h7110.d | 1. | K2139-06B,,62548 | TPH F | 10 Nov 2011 20:24 |
| 22 | 30 | F1h7111.d | 1. | FSTD1001S | TPH F CCAL L5 100... | 10 Nov 2011 20:45 |
| 23 | 1 | F1h7112.d | 1. | QC | TPH F | 10 Nov 2011 21:05 |
| 24 | 96 | F1h7113.d | 1. | IBLK | TPH F | 10 Nov 2011 21:25 |
| 25 | 100 | F1h7114.d | 1. | K2139-07B,,62548 | TPH F | 10 Nov 2011 21:46 |
| 26 | 31 | F1h7115.d | 1. | K2158-02B,,62548 | ME DRO F | 10 Nov 2011 22:06 |
| 27 | 32 | F1h7116.d | 1. | K2158-03B,,62548 | ME DRO F | 10 Nov 2011 22:26 |
| 28 | 33 | F1h7117.d | 1. | K2158-04B,,62548 | ME DRO F | 10 Nov 2011 22:46 |
| 29 | 34 | F1h7118.d | 1. | K2158-05B,,62548 | ME DRO F | 10 Nov 2011 23:07 |
| 30 | 35 | F1h7119.d | 1. | K2158-05BMS,,62548 | ME DRO F | 10 Nov 2011 23:27 |
| 31 | 36 | F1h7120.d | 1. | K2158-05BMSD,,62548 | ME DRO F | 10 Nov 2011 23:47 |
| 32 | 37 | F1h7121.d | 1. | K2158-07B,,62548 | ME DRO F | 11 Nov 2011 00:08 |
| 33 | 38 | F1h7122.d | 1. | K2158-08B,,62548 RR | ME DRO F | 11 Nov 2011 00:28 |
| 34 | 39 | F1h7123.d | 1. | K2158-09B,,62548 | ME DRO F | 11 Nov 2011 00:48 |
| 35 | 40 | F1h7124.d | 1. | FSTD1001T | TPH F CCAL L5 100... | 11 Nov 2011 01:09 |
| 36 | 1 | F1h7125.d | 1. | QC | TPH F | 11 Nov 2011 01:29 |
| 37 | 96 | F1h7126.d | 1. | IBLK | TPH F | 11 Nov 2011 01:49 |
| 38 | 100 | F1h7127.d | 1. | K2158-10B,,62548 | ME DRO F | 11 Nov 2011 02:09 |
| 39 | 41 | F1h7128.d | 1. | K2158-11B,,62548 | ME DRO F | 11 Nov 2011 02:29 |
| 40 | 42 | F1h7129.d | 1. | K2158-12B,,62548 | ME DRO F | 11 Nov 2011 02:49 |
| 41 | 43 | F1h7130.d | 1. | MB-62553,,62553 RR | TPH/ME DRO F | 11 Nov 2011 03:09 |
| 42 | 44 | F1h7131.d | 1. | LCS-62553,,62553 | TPH/ME DRO F | 11 Nov 2011 03:29 |
| 43 | 45 | F1h7132.d | 1. | K2139-09B,,62553 | TPH F | 11 Nov 2011 03:49 |
| 44 | 46 | F1h7133.d | 1. | K2139-10B,,62553 | TPH F | 11 Nov 2011 04:09 |
| 45 | 47 | F1h7134.d | 1. | K2139-11B,,62553 | TPH F | 11 Nov 2011 04:30 |
| 46 | 48 | F1h7135.d | 1. | K2139-12B,,62553 | TPH F | 11 Nov 2011 04:50 |
| 47 | 49 | F1h7136.d | 1. | K2139-13B,,62553 | TPH F | 11 Nov 2011 05:10 |
| 48 | 50 | F1h7137.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 11 Nov 2011 05:30 |
| 49 | 1 | F1h7138.d | 1. | QC | TPH F | 11 Nov 2011 05:50 |
| 50 | 96 | F1h7139.d | 1. | IBLK | TPH F | 11 Nov 2011 06:11 |
| 51 | 100 | F1h7140.d | 1. | | | |

Cpr ~~tot~~ 11/14/11 11/14/11

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7099.D
Lab Smp Id: FSTD1001R  Client Smp ID: FSTD1001R
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 16:22  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 08:14:58 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 393.537 E3 | -2.8 | 106 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 357.961 E3 | -6.5 | 107 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 361.520 E3 | -8.0 | 106 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.042 | 1.5 | 106 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.789 | -8.1 | 106 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.816 | -7.9 | 107 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.838 | -3.7 | 107 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.866 | -0.8 | 107 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.905 | 5.4 | 107 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.937 | 0.4 | 107 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.946 | 0.4 | 107 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.963 | -0.3 | 107 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.005 | -1.4 | 107 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.019 | -1.8 | 106 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.055 | -4.4 | 106 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.071 | -5.9 | 106 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.091 | -7.5 | 105 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.095 | -12.9 | 104 | 0.03 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.947 | -1.8 | 107 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.957 | -3.3 | 106 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.957 | -3.3 | 106 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7112.D
Lab Smp Id: FSTD1001S  Client Smp ID: FSTD1001S
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 20:45  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 08:15:56 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 378.466 E3 | 1.1 | 102 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 343.671 E3 | -2.3 | 102 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 347.119 E3 | -3.7 | 102 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 102 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.038 | 1.9 | 102 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.784 | -7.4 | 102 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.810 | -7.1 | 102 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.832 | -3.0 | 102 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.859 | 0.0 | 102 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.897 | 6.3 | 102 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | 1.2 | 102 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.940 | 1.1 | 103 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.958 | 0.2 | 103 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.002 | -1.1 | 103 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.017 | -1.6 | 103 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.054 | -4.3 | 102 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.069 | -5.7 | 102 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.089 | -7.3 | 102 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.090 | -12.4 | 100 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.943 | -1.4 | 102 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.952 | -2.8 | 102 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.952 | -2.8 | 102 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7125.D
Lab Smp Id: FSTD1001T  Client Smp ID: FSTD1001T
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 1:09  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 08:16:47 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 379.458 E3 | 0.9 | 102 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 344.312 E3 | -2.5 | 102 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 347.727 E3 | -3.9 | 102 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 103 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.038 | 1.9 | 102 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.774 | -6.0 | 101 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.800 | -5.8 | 101 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.823 | -1.9 | 101 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.853 | 0.7 | 102 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.893 | 6.7 | 102 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.930 | 1.2 | 102 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.942 | 0.8 | 103 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.961 | -0.1 | 103 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.006 | -1.5 | 103 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.021 | -2.0 | 103 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.058 | -4.6 | 103 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.072 | -6.0 | 103 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.091 | -7.5 | 102 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.092 | -12.6 | 101 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.942 | -1.3 | 102 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.951 | -2.7 | 102 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.951 | -2.7 | 102 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7138.D
Lab Smp Id: FSTD1001U  Client Smp ID: FSTD1001U
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 5:30  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 10:50:48 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000  Min. Rel. Area : 50%  Max. R.T. Dev 0.50min
Max. RRF Dev : 20%  Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 351.131 E3 | 8.3 | 95 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 317.748 E3 | 5.4 | 95 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 320.877 E3 | 4.1 | 94 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 95 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.037 | 2.0 | 95 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.763 | -4.5 | 92 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.791 | -4.6 | 93 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.816 | -1.0 | 93 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.850 | 1.0 | 94 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.891 | 6.9 | 94 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.928 | 1.4 | 95 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.939 | 1.2 | 95 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.959 | 0.1 | 95 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.003 | -1.2 | 96 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.018 | -1.7 | 95 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.055 | -4.4 | 95 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.070 | -5.8 | 95 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.088 | -7.2 | 94 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.091 | -12.5 | 93 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.938 | -0.9 | 95 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.947 | -2.3 | 94 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.947 | -2.3 | 94 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Injection Log

AQ: TPHLOACF
GT: TPHOSZOF

Directory: O:\F1.I\111111A.B

INLET MAINT: NONE

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 1 | 1 | F1h7138.d | 1. | FSTD1001U | TPH F CCAL L5 100... | 11 Nov 2011 05:30 |
| 2 | 96 | F1h7139.d | 1. | QC | TPH F | 11 Nov 2011 05:50 |
| 3 | 100 | F1h7140.d | 1. | IBLK | TPH F | 11 Nov 2011 06:11 |
| 4 | 51 | F1h7141.d | 1. | K2139-14B,,62553 | TPH F | 11 Nov 2011 06:31 |
| 5 | 52 | F1h7142.d | 1. | K2139-15B,,62553 | TPH F | 11 Nov 2011 06:51 |
| 6 | 53 | F1h7143.d | 1. | K2159-02B,,62553 | ME DRO F | 11 Nov 2011 07:11 |
| 7 | 54 | F1h7144.d | 1. | K2159-03B,,62553 | ME DRO F | 11 Nov 2011 07:30 |
| 8 | 55 | F1h7145.d | 1. | K2159-04B,,62553 | ME DRO F | 11 Nov 2011 07:49 |
| 9 | 56 | F1h7146.d | 1. | K2159-05B,,62553 | ME DRO F | 11 Nov 2011 08:08 |
| 10 | 57 | F1h7147.d | 1. | K2159-06B,,62553 | ME DRO F | 11 Nov 2011 08:28 |
| 11 | 2 | F1h7148.d | 1. | MB-62727,,62727 | TPH F | 11 Nov 2011 08:47 |
| 12 | 3 | F1h7149.d | 1. | LCS-62727,,62727 | TPH F | 11 Nov 2011 09:07 |
| 13 | 4 | F1h7150.d | 1. | K2257-06A,,62727 | TPH F | 11 Nov 2011 09:27 |
| 14 | 1 | F1h7151.d | 1. | FSTD1001V | TPH F CCAL L5 100... | 11 Nov 2011 09:45 |
| 15 | 96 | F1h7152.d | 1. | QC | TPH F | 11 Nov 2011 10:06 |
| 16 | 100 | F1h7153.d | 1. | IBLK | TPH F | 11 Nov 2011 10:26 |
| 17 | 58 | F1h7154.d | 1. | K2159-07B,,62553 | ME DRO F | 11 Nov 2011 10:46 |
| 18 | 59 | F1h7155.d | 1. | K2159-09B,,62553 | ME DRO F | 11 Nov 2011 11:05 |
| 19 | 60 | F1h7156.d | 1. | K2159-10B,,62553 | ME DRO F | 11 Nov 2011 11:25 |
| 20 | 61 | F1h7157.d | 1. | K2159-11B,,62553 | ME DRO F | 11 Nov 2011 11:45 |
| 21 | 62 | F1h7158.d | 1. | K2159-11BMS,,62553 | ME DRO F | 11 Nov 2011 12:05 |
| 22 | 63 | F1h7159.d | 1. | K2159-11BMSD,,62553 | ME DRO F | 11 Nov 2011 12:26 |
| 23 | 64 | F1h7160.d | 1. | K2159-12B,,62553 | ME DRO F | 11 Nov 2011 12:46 |
| 24 | 39 | F1h7161.d | 1. | K2158-08B,,62548 | ME DRO F | 11 Nov 2011 13:03 |
| 25 | 1 | F1h7162.d | 1. | FSTD1001W | TPH F CCAL L5 100... | 11 Nov 2011 13:23 |
| 26 | 96 | F1h7163.d | 1. | QC | TPH F | 11 Nov 2011 13:43 |
| 27 | 100 | F1h7164.d | 1. | IBLK | TPH F | 11 Nov 2011 14:04 |
| 28 | 2 | F1h7165.d | 1. | MB-62727,,62727 | ME DRO F | 11 Nov 2011 14:23 |
| 29 | 3 | F1h7166.d | 1. | LCS-62727,,62727 | ME DRO F | 11 Nov 2011 14:43 |
| 30 | 4 | F1h7167.d | 1. | K2233-02B,,62727 | ME DRO F | 11 Nov 2011 15:02 |
| 31 | 5 | F1h7168.d | 1. | K2233-03B,,62727 | ME DRO F | 11 Nov 2011 15:21 |
| 32 | 6 | F1h7169.d | 1. | K2233-04B,,62727 | ME DRO F | 11 Nov 2011 15:40 |
| 33 | 7 | F1h7170.d | 1. | K2233-05B,,62727 | ME DRO F | 11 Nov 2011 15:59 |
| 34 | 8 | F1h7171.d | 1. | K2233-06B,,62727 | ME DRO F | 11 Nov 2011 16:20 |
| 35 | 9 | F1h7172.d | 1. | K2233-07B,,62727 | ME DRO F | 11 Nov 2011 16:40 |
| 36 | 10 | F1h7173.d | 1. | K2233-09B,,62727 | ME DRO F | 11 Nov 2011 17:00 |
| 37 | 31 | F1h7174.d | 1. | MB-62548,,62548 | ME DRO F | 11 Nov 2011 17:20 |
| 38 | 1 | F1h7175.d | 1. | FSTD1001X | TPH F CCAL L5 100... | 11 Nov 2011 17:40 |
| 39 | 96 | F1h7176.d | 1. | QC | TPH F | 11 Nov 2011 18:00 |
| 40 | 100 | F1h7177.d | 1. | IBLK | TPH F | 11 Nov 2011 18:20 |
| 41 | 11 | F1h7178.d | 1. | K2233-10B,,62727 | ME DRO F | 11 Nov 2011 18:40 |
| 42 | 12 | F1h7179.d | 1. | K2233-10BMS,,62727 | ME DRO F | 11 Nov 2011 19:00 |
| 43 | 13 | F1h7180.d | 1. | K2233-10BMSD,,62727 | ME DRO F | 11 Nov 2011 19:20 |
| 44 | 14 | F1h7181.d | 1. | K2233-11B,,62727 | ME DRO F | 11 Nov 2011 19:41 |
| 45 | 15 | F1h7182.d | 1. | K2233-12B,,62727 | ME DRO F | 11 Nov 2011 20:01 |
| 46 | | F1h7183.d | 1. | K2259-02B,,62727 yes 11/14/11 | | Unrecognized:Un |
| 47 | 17 | F1h7184.d | 1. | K2259-03B,,62727 | ME DRO F | 11 Nov 2011 20:41 |
| 48 | 18 | F1h7185.d | 1. | K2259-04B,,62727 | ME DRO F | 11 Nov 2011 21:01 |
| 49 | 19 | F1h7186.d | 1. | MB-62607,,62607 | ME DRO F | 11 Nov 2011 21:21 |
| 50 | 20 | F1h7187.d | 1. | LCS-62607,,62607 | ME DRO F | 11 Nov 2011 21:41 |
| 51 | 1 | F1h7188.d | 1. | FSTD1001Y | TPH F CCAL L5 100... | 11 Nov 2011 22:02 |
| 52 | 96 | F1h7189.d | 1. | QC | TPH F | 11 Nov 2011 22:22 |
| 53 | 100 | F1h7190.d | 1. | IBLK | TPH F | 11 Nov 2011 22:42 |
| 54 | 21 | F1h7191.d | 1. | LCSD-62607,,62607 | ME DRO F | 11 Nov 2011 23:02 |
| 55 | 22 | F1h7192.d | 1. | K2171-02B,,62607 | ME DRO F | 11 Nov 2011 23:22 |

moved to 111111B for ext TPH

NA

<CONT>

Data File: \\Avogadro\Organics\F1.I\111111A.B\F1H7151.D
Lab Smp Id: FSTD1001V  Client Smp ID: FSTD1001V
Misc : TPH F CCAL L5 100 PPM  Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 11 Nov 2011 9:45  Operator: TM
ALS Vial : 1 Sample Multiplier: 1

Quant Time: Nov 11 13:09:37 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

| | | Compound | AvgRF | CCRF | %Dev | Area% | Dev(Min) |
|---|---|---|---|---|---|---|---|
| 2 | S | ortho-Terphenyl | 382.720 | 391.915 E3 | -2.4 | 106 | 0.00 |
| 3 | H | DRO C10 to C28 | 336.012 | 353.800 E3 | -5.3 | 105 | 0.00 |
| 4 | H | TPH C9 to C36 | 334.621 | 356.767 E3 | -6.6 | 105 | 0.00 |
| 11 | I | 5a-Androstane | 1.000 | 1.000 | 0.0 | 106 | 0.00 |
| 13 | S | ortho-Terphenyl ISTD | 1.058 | 1.036 | 2.1 | 106 | 0.00 |
| 14 | | C9 Nonane | 0.730 | 0.761 | -4.2 | 103 | 0.00 |
| 15 | | C10 Decane | 0.756 | 0.789 | -4.4 | 103 | 0.00 |
| 16 | | C12 Dodecane | 0.808 | 0.816 | -1.0 | 104 | 0.00 |
| 17 | | C14 Tetradecane | 0.859 | 0.848 | 1.3 | 105 | 0.00 |
| 18 | | C16 Hexadecane | 0.957 | 0.886 | 7.4 | 105 | 0.00 |
| 19 | | C18 Octadecane | 0.941 | 0.923 | 1.9 | 105 | 0.00 |
| 20 | | C19 Nonadecane | 0.950 | 0.935 | 1.6 | 106 | 0.00 |
| 21 | | C20 Eicosane | 0.960 | 0.955 | 0.5 | 106 | 0.00 |
| 22 | | C22 Docosane | 0.991 | 1.001 | -1.0 | 106 | 0.00 |
| 23 | | C24 Tetracosane | 1.001 | 1.018 | -1.7 | 106 | 0.00 |
| 24 | | C26 Hexacosane | 1.011 | 1.054 | -4.3 | 106 | 0.00 |
| 25 | | C28 Octacosane | 1.011 | 1.067 | -5.5 | 105 | 0.00 |
| 26 | | C30 Triacontane | 1.015 | 1.083 | -6.7 | 105 | 0.00 |
| 27 | | C36 Hexatriacontane | 0.970 | 1.074 | -10.7 | 102 | 0.00 |
| 28 | H | DRO C10 to C28 ISTD | 0.930 | 0.936 | -0.6 | 105 | 0.00 |
| 29 | H | TPH C8 to C40 ISTD | 0.926 | 0.943 | -1.8 | 105 | 0.00 |
| 30 | H | TPH C9 to C36 ISTD | 0.926 | 0.943 | -1.8 | 105 | 0.00 |

Evaluate Continuing Calibration Report - Not Founds

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | S | 1-Chlorooctadecane | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 5 | H | Gasoline | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 6 | H | Jet Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 7 | H | Motor Oil/Other | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 8 | H | Number 2 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 9 | H | Number 4 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 10 | H | Number 6 Fuel | 0.000 | 0.000 | 0.0 | 0# | 0.00 |
| 12 | S | 1-Chlorooctadecane ISTD | 0.000 | 0.000 | 0.0 | 0# | -6.44# |
| 31 | | ---------- | 0.000 | 0.000 | 0.0 | 0# | 0.00 |

(#) = Out of Range  SPCC's out = 0  CCC's out = 0

# Injection Log

AQ : TPH = AEOF
QT : TPH0520F

Directory: O:\F1.I\111111A.B

INLET MAINT: NONE

<LONG>

| Line | Vial | FileName | Multiplier | SampleName | Misc Info | Injected |
|---|---|---|---|---|---|---|
| 56 | 23 | F1h7193.d | 1. | K2171-03B,,62607 | ME DRO F | 11 Nov 2011 23:42 |
| 57 | 24 | F1h7194.d | 1. | K2171-04B,,62607 | ME DRO F | 12 Nov 2011 00:02 |
| 58 | 25 | F1h7195.d | 1. | K2171-05B,,62607 | | 12 Nov 2011 00:22 |
| 59 | 26 | F1h7196.d | 1. | K2171-07B,,62607 | ME DRO F | 12 Nov 2011 00:42 |
| 60 | 27 | F1h7197.d | 1. | K2171-08B,,62607 | ME DRO F | 12 Nov 2011 01:03 |
| 61 | 28 | F1h7198.d | 1. | K2171-09B,,62607 | | 12 Nov 2011 01:23 |
| 62 | 29 | F1h7199.d | 1. | K2171-10B,,62607 | ME DRO F | 12 Nov 2011 01:43 |
| 63 | 30 | F1h7200.d | 1. | K2171-11B,,62607 | ME DRO F | 12 Nov 2011 02:03 |
| 64 | 1 | F1h7201.d | 1. | FSTD1001Y | TPH F CCAL L5 100... | 12 Nov 2011 02:23 |
| 65 | 98 | F1h7202.d | 1. | QC | TPH F | 12 Nov 2011 02:43 |
| 66 | 100 | F1h7203.d | 1. | IBLK | TPH F | 12 Nov 2011 03:03 |
| 67 | 32 | F1h7204.d | 1. | MB-62553,,62553 | ME DRO F | 12 Nov 2011 03:23 |
| 68 | 33 | F1h7205.d | 1. | MB-62839,,62839 | DRO F | 12 Nov 2011 03:43 |
| 69 | 34 | F1h7206.d | 1. | LCS-62839,,62839 | DRO F | 12 Nov 2011 04:03 |
| 70 | 35 | F1h7207.d | 1. | LCSD-62839,,62839 | DRO F | 12 Nov 2011 04:23 |
| 71 | 36 | F1h7208.d | 1. | K2134-13A,,62839 | DRO F | 12 Nov 2011 04:42 |
| 72 | 1 | F1h7209.d | 1. | FSTD1001Z | TPH F CCAL L5 100... | 12 Nov 2011 05:02 |
| 73 | 98 | F1h7210.d | 1. | QC | TPH F | 12 Nov 2011 05:22 |
| 74 | 100 | F1h7211.d | 1. | IBLK | TPH F | 12 Nov 2011 05:43 |
| 75 | 37 | F1h7212.d | 1. | MB-62952,,62952 | TPH F | 12 Nov 2011 06:03 |
| 76 | 38 | F1h7213.d | 1. | LCS-62952,,62952 | TPH F | 12 Nov 2011 06:23 |
| 77 | 39 | F1h7214.d | 1. | LCSD-62952,,62952 | TPH F | 12 Nov 2011 06:43 |
| 78 | 40 | F1h7215.d | 1. | K2334-01A,,62952 | TPH F | 12 Nov 2011 07:03 |
| 79 | 41 | F1h7216.d | 1. | K2334-02A,,62952 | TPH F | 12 Nov 2011 07:23 |
| 80 | 42 | F1h7217.d | 1. | K2334-03A,,62952 | TPH F | 12 Nov 2011 07:43 |
| 81 | 43 | F1h7218.d | 1. | K2334-04A,,62952 | TPH F | 12 Nov 2011 08:03 |
| 82 | 44 | F1h7219.d | 1. | K2334-05A,,62952 | TPH F | 12 Nov 2011 08:23 |
| 83 | 1 | F1h7220.d | 1. | FSTD1001A | TPH F CCAL L5 100... | 12 Nov 2011 08:43 |
| 84 | 96 | F1h7221.d | 1. | QC | TPH F | 12 Nov 2011 09:03 |
| 85 | 100 | F1h7222.d | 1. | IBLK | TPH F | 12 Nov 2011 09:23 |

Ver 11/14/11

# CROSS REFERENCE TABLE

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Project Number: | K2139 | | |

| Client Sample ID: | Lab Sample ID: |
|---|---|
| 06MW-04-111024 | SB38520-01 |
| 06MW-06-20111024 | SB38520-02 |
| 06MW-08-20111024 | SB38520-03 |
| 06MW-10-20111024 | SB38520-04 |
| 06MW-11-111024 | SB38520-05 |
| 06MW-12-111024 | SB38520-06 |
| 06MWDUP01-111024 | SB38520-07 |
| 06TBMW0-111024 | SB38520-08 |
| 06MW-01-111025 | SB38520-09 |
| 06MW-02-111025 | SB38520-10 |
| 06MW-03-111025 | SB38520-11 |
| 06MW-05-111025 | SB38520-12 |
| 06MW-07-111025 | SB38520-13 |
| 06MW-09-111025 | SB38520-14 |
| 06MW-13-111025 | SB38520-15 |

**CASE NARRATIVE**

**Spectrum Analytical, Inc. Lab Reference No. SB38520**

**Client: Spectrum Analytical, Inc.-- RI Division**

**Project: See Chain of Custody / K2139**

**SDG #: 38520**

## I. RECEIPT

No exceptions were encountered unless a Sample Receipt Exception or a communication form is included in the addendum with this package.

## II. HOLDING TIMES

All samples were prepared and analyzed within the method-specific holding time.

## III. METHODS

Analyses were performed according to MADEP VPH 5/2004 Rev. 1.1.

## IV. PREPARATION

Aqueous samples were prepared according to VPH - EPA 5030B.

## V. INSTRUMENTATION

The following equipment was used to analyze MADEP VPH 5/2004 Rev. 1.1:

FID2 details: GC/FID/PID Tekmar Solatek 72 Multi-matrix vial autosampler Tekmar Velocity sample concentrator Supelco vocarb 3000 (K) trap and conditions used Hewlett Packard 6890N series gas chromatograph OI analytical Photo ionization detector and flame ionization detector Column – DB-MTBE, 30 meters, 0.45mm diameter 2.55um film

## VI. ANALYSIS

### A. Calibration:

All quality control samples were within the acceptance criteria.

### B. Blanks:

All blanks were within the acceptance criteria.

### C. Surrogates:

All method criteria were met.

### D. Spikes:

#### 1. Laboratory Control Samples (LCS):

All method criteria were met.

**2. Matrix Spike / Matrix Spike Duplicate Samples (MS/MSD):**

A matrix spike was analyzed:

In batch 1122848 from source sample 06MW-06-20111024 (SB38520-02).

All method criteria were met.

**E. Duplicates:**

A duplicate was analyzed.

In batch 1122848 from source sample 06MW-06-20111024 (SB38520-02).

All method criteria were met.

**F. Internal Standards:**

Internal standards were within the acceptance criteria.

**G. Samples:**

All method criteria were met.

✓ SB 38520 M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

Requested Test

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W |
|---|---|---|---|---|---|
| 06MW-04-111024 38520.01 | 10/24/2011 4:15:00 PM | Aqueous | | K2139-01A | X |
| 06MW-06-20111024 02 | 10/24/2011 1:54:00 PM | Aqueous | X | K2139-02A | X |
| 06MW-08-20111024 03 | 10/24/2011 3:34:00 PM | Aqueous | | K2139-03A | X |
| 06MW-10-20111024 04 | 10/24/2011 12:15:00 PM | Aqueous | | K2139-04A | X |
| 06MW-11-111024 05 | 10/24/2011 1:40:00 PM | Aqueous | | K2139-05A | X |
| 06MW-12-111024 06 | 10/24/2011 3:00:00 PM | Aqueous | | K2139-06A | X |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| Relinquished by: | | 10/29/11 10:17 | Received by: | | 4:30 |
| Relinquished by: | | | Received by: | | 11/3/11 1425 |

10/29/2011
Page 1 of 3
3.1

175 Metro Center Blvd * Warwick * RI * 02886-1755 * 401-732-3400 * 401-732-3499
www.spectrum-analytical.com

SB 38520 M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Formerly
HANIBAL TECHNOLOGY

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 06MWDUP01-111024 38520 .07 | 10/24/2011 | Aqueous | | K2139-07A | X | | | | | | | | | | |
| 06TBMW0-111024 .08 | 10/24/2011 | Aqueous | | K2139-08A | X | | | | | | | | | | |
| 06MW-01-111025 .09 | 10/25/2011 12:46:00 PM | Aqueous | | K2139-09A | X | | | | | | | | | | |
| 06MW-02-111025 .10 | 10/25/2011 10:38:00 AM | Aqueous | | K2139-10A | X | | | | | | | | | | |
| 06MW-03-111025 .11 | 10/25/2011 9:10:00 AM | Aqueous | | K2139-11A | X | | | | | | | | | | |
| 06MW-05-111025 .12 | 10/25/2011 9:20:00 AM | Aqueous | | K2139-12A | X | | | | | | | | | | |

1) MAVPH_W, MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| Relinquished by: | Edward A Lawler | 10/29/11 10:17 | Received by: | Kevin Keith | 11-3-11 |
| Relinquished by: | Kevin Keith | | Received by: | | 11/3/11 14:25 |



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www.spectrum-analytical.com

SB 38520M

# CHAIN-OF-CUSTODY RECORD

SPECTRUM ANALYTICAL, INC.
Featuring
HANIBAL TECHNOLOGY

**Subcontractor:**
Spectrum Analytical, Inc.
11 Almgren Drive
Agawam, Massachusetts 01001

Phone: (413) 789-9018

EQuISFacilityCode: N/A

WorkOrder : K2139
Report Type : LEVEL 4
Due Date : 11/15/2011
FAX Due Date :
Report To : Edward A Lawler
Purchase Order : K2139
EDD Type : ADAPT_TTNUS

**Requested Test**

| Client Sample ID | Collection Date | Matrix | DUP/MS/MSD | Mitkem Sample ID | MAVPH_W |
|---|---|---|---|---|---|
| 06MW-07-111025 38520.13 | 10/25/2011 11:30:00 AM | Aqueous | | K2139-13A | X |
| 06MW-09-111025 14 | 10/25/2011 10:25:00 AM | Aqueous | | K2139-14A | X |
| 06MW-13-111025 15 | 10/25/2011 12:40:00 PM | Aqueous | | K2139-15A | X |

1) MAVPH_W. MA VPH BY GC-FID

Use 'Client Sample IDs' when reporting data. If needed, truncate 'Client Sample IDs' to fit on reports. Use full 'Client Sample ID' when generating EDD.

**Comments:** Level 4 data package needed. Just like SB32209.
PEL EDD is required for this sub-contracted work instead of the EDD listed above.

| | | Date/Time | | | Date/Time |
|---|---|---|---|---|---|
| Relinquished by: | | 10/29/11 10:17 | Received by: | | 11.3-11 |
| Relinquished by: | | | Received by: | | 11/3/11 1425 |

3.1



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**TETRA TECH** **CALCULATION WORKSHEET** PAGE 1 OF 1

| | | | |
|---|---|---|---|
| CLIENT NSB New London | | JOB NUMBER SDGK2139 | |
| SUBJECT Sample Calculation | | | |
| BASED ON | | DRAWING NUMBER | |
| BY Ann Coppotelli | CHECKED BY | APPROVED BY | DATE Dec. 20, 2011 |

ETPH; Sample 06MN-04-111024

$$\frac{226046669}{334600} * \frac{1}{1000} = 0.676 \text{ mg/L}$$

VPH; (naphthalene); Sample 06MW-10-20111024

$$\frac{233606}{63931.34} * 5 = 18.3 \text{ ug/L}$$

Sample Calculation

# Spectrum Analytical, Inc. Featuring Hanibal Technology -- Rhode Island Division

*11/17/2011*

**Client:** Tetra Tech NUS Inc.
**Client Sample ID:** 06MW-04-111024
**Lab ID:** K2139-01

**Project:** CTO-WE56, NSB New London
**Collection Date:** 10/24/11 16:15

| Analyses | Result | Qual | LOD | LOQ | Units | DF | Date Analyzed | Batch ID |
|---|---|---|---|---|---|---|---|---|
| **CT ETPH -- CT ETPH BY GC-FID** | | | | | | | **CTETPH_W** | |
| Extractable Total Petroleum Hydrocarbon | 0.68 | | 0.018 | 0.10 | mg/L | 1 | 11/10/2011 18:02 | 62548 |
| Surrogate: ortho-Terphenyl | 51.9 | | | 50-150 | %REC | 1 | 11/10/2011 18:02 | 62548 |

**Qualifiers:**
ND - Not Detected at the Limit of Detection
J - Analyte detected below Limit of Quantitation
B - Analyte detected in the associated Method Blank
DF - Dilution Factor
^ Qualified to Limit of Detection (LOD)
S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
E - Value above quantitation range
LOQ - Limit of Quantitation
LOD - Limit of Detection

m11.11.16.A

Sample Calculation

Data File: \\Avogadro\Organics\F1.I\111110A.B\F1H7104.D
Lab Smp Id: K2139-01B BN: 62548 Client Smp ID: 06MW-04-111024
Misc : TPH F Inst ID: F1.I
Signal(s) : FID1A.CH
Inj Date : 10 Nov 2011 18:02 Operator: TM
ALS Vial : 23 Sample Multiplier: 1

Quant Time: Nov 11 15:04:05 2011
Quant Method : O:\F1.I\QMETHODS\TPH0520F.M
Quant Title : TPH, ETPH, DRO, Fuel ID, ORO
Response via : Initial Calibration
Volume Inj. : 1
Signal Phase : DB-5MS
Signal Info : 0.25

| Compound | R.T. | Response | Conc Units |
|---|---|---|---|
| Internal Standards | | | |
| 11) I 5a-Androstane | 6.08 | 10370309 | 40.000 ug/mL |
| System Monitoring Compounds | | | |
| 2) S ortho-Terphenyl | 5.67 | 19852550 | 51.872 ug/mL |
| Spiked Amount 100.000 | | Recovery = | 51.87% |
| Target Compounds | | | |
| 4) H TPH C9 to C36 | 1.44 | 226046669 | 675.531 ug/mL |
| Integration Range: | | 1.44 to 10.17 minutes | |
| Raw Range Area: | | 276053352 | |
| Corrected Range Area (IS,SS): | | 245830493 | |
| Instrument Blank Area (F1H7101): | | 19783824 | |

Corrected Range Area = Raw Range Area - Internal and Surrogate Area
Reported Area = Corrected Range Area - Instrument Blank Area

(f)=RT Delta > 1/2 Window (m)=manual int.

Sample Calculation

# Response Factor Report FID1

Method Path : O:\F1.I\QMETHODS\
Method File : TPH0520F.M
Title : TPH, ETPH, DRO, Fuel ID, ORO
Last Update : Tue May 24 08:43:11 2011
Response Via : Initial Calibration

Calibration Files

| | | | | | |
|---|---|---|---|---|---|
| 5 | =F1H5057.D | 20 | =F1H5059.D | 50 | =F1H5061.D |
| 80 | =F1H5062.D | 100 | =F1H5056.D | 120 | =F1H5063.D |

| | | Compound | 5 | 20 | 50 | 80 | 100 | 120 | Avg | %RSD |
|---|---|---|---|---|---|---|---|---|---|---|
| 1) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 2) | S | ortho-Terphenyl | 4.182 | 3.649 | 4.036 | 3.919 | 3.116 | 3.812 | 3.827 E5 | 8.71 |
| 3) | H | DRO C10 to C28 | 3.740 | 3.193 | 3.475 | 3.435 | 2.912 | 3.297 | 3.360 E5 | 7.35 |
| 4) | H | TPH C9 to C36 | 3.714 | 3.184 | 3.471 | 3.419 | 2.895 | 3.286 | 3.346 E5 | 7.33 |
| 5) | H | Gasoline | | | | | | | 0.000 | -1.00 |
| 6) | H | Jet Fuel | | | | | | | 0.000 | -1.00 |
| 7) | H | Motor Oil/Other | | | | | | | 0.000 | -1.00 |
| 8) | H | Number 2 Fuel | | | | | | | 0.000 | -1.00 |
| 9) | H | Number 4 Fuel | | | | | | | 0.000 | -1.00 |
| 10) | H | Number 6 Fuel | | | | | | | 0.000 | -1.00 |
| 11) | I | 5a-Androstane | ----------ISTD---------- | | | | | | | |
| 12) | S | 1-Chlorooctadeca | | | | | | | 0.000 | -1.00 |
| 13) | S | ortho-Terphenyl | 1.079 | 1.050 | 1.073 | 1.078 | 0.968 | 1.081 | 1.058 | 3.60 |
| 14) | T | C9 Nonane | 0.722 | 0.717 | 0.705 | 0.751 | 0.696 | 0.749 | 0.730 | 3.14 |
| 15) | TD | C10 Decane | 0.744 | 0.741 | 0.732 | 0.780 | 0.726 | 0.775 | 0.756 | 2.98 |
| 16) | TD | C12 Dodecane | 0.792 | 0.791 | 0.785 | 0.838 | 0.789 | 0.826 | 0.808 | 2.64 |
| 17) | TD | C14 Tetradecane | 0.858 | 0.843 | 0.839 | 0.887 | 0.843 | 0.874 | 0.859 | 2.06 |
| 18) | TD | C16 Hexadecane | 1.116 | 0.950 | 0.911 | 0.975 | 0.915 | 0.946 | 0.957 | 7.07 |
| 19) | TD | C18 Octadecane | 0.969 | 0.930 | 0.932 | 0.959 | 0.922 | 0.949 | 0.941 | 1.75 |
| 20) | T | C19 Nonadecane | 0.978 | 0.938 | 0.944 | 0.965 | 0.930 | 0.956 | 0.950 | 1.71 |
| 21) | TD | C20 Eicosane | 0.993 | 0.949 | 0.958 | 0.974 | 0.939 | 0.965 | 0.960 | 1.78 |
| 22) | TD | C22 Docosane | 1.025 | 0.981 | 0.998 | 1.002 | 0.969 | 0.994 | 0.991 | 1.78 |
| 23) | TD | C24 Tetracosane | 1.069 | 0.995 | 1.011 | 1.003 | 0.971 | 0.997 | 1.001 | 3.04 |
| 24) | TD | C26 Hexacosane | 1.040 | 1.001 | 1.031 | 1.018 | 0.984 | 1.014 | 1.011 | 1.85 |
| 25) | TD | C28 Octacosane | 1.043 | 1.003 | 1.036 | 1.018 | 0.983 | 1.015 | 1.011 | 2.04 |
| 26) | T | C30 Triacontane | 1.045 | 1.008 | 1.042 | 1.022 | 0.985 | 1.019 | 1.015 | 2.12 |
| 27) | T | C36 Hexatriacon | 1.021 | 0.976 | 0.988 | 0.980 | 0.936 | 0.972 | 0.970 | 2.89 |
| 28) | H | DRO C10 to C28 | 0.965 | 0.918 | 0.923 | 0.945 | 0.904 | 0.935 | 0.930 | 2.03 |
| 29) | H | TPH C8 to C40 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 30) | H | TPH C9 to C36 I | 0.958 | 0.916 | 0.922 | 0.941 | 0.899 | 0.932 | 0.926 | 1.95 |
| 31) | | ---------- | | | | | | | 0.000 | -1.00 |

(#) = Out of Range ### Number of calibration levels exceeded format ###

Sample Calculation

# FORM I - ORGANIC ANALYSIS DATA SHEET

## MADEP VPH 5/2004 Rev. 1.1

06MW-10-20111024

| | | | | | |
|---|---|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | | | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | | | Project: | See Chain of Custody |
| Project Number: | K2139 | | | Received: | 11/03/11 14:25 |
| Matrix: | Aqueous | Laboratory ID: | SB38520-04 | File ID: | 38520-04.D |
| Sampled: | 10/24/11 12:15 | Prepared: | 11/04/11 08:34 | Analyzed: | 11/04/11 14:59 |
| % Solids: | | Preparation: | VPH - EPA 5030B | Initial/Final: | 5 ml / 5 ml |
| Batch: | 1122848 | Sequence: | S110143 | Calibration: | 1109006 |
| Instrument: | FID2 | | | | |

| CAS NO. | COMPOUND | DILUTION | CONC. | Q |
|---|---|---|---|---|
| ALIH(5-8) | C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| ALIH(9-12) | C9-C12 Aliphatic Hydrocarbons | 5 | 125 µg/l | |
| AROH(9-10) | C9-C10 Aromatic Hydrocarbons | 5 | 72.7 µg/l | |
| | Unadjusted C5-C8 Aliphatic Hydrocarbons | 5 | 36.5 µg/l | J |
| | Unadjusted C9-C12 Aliphatic Hydrocarbons | 5 | 198 µg/l | |
| 71-43-2 | Benzene | 5 | 1.3 µg/l | U |
| 100-41-4 | Ethylbenzene | 5 | 1.4 µg/l | U |
| 1634-04-4 | Methyl tert-butyl ether | 5 | 1.6 µg/l | U |
| 91-20-3 | Naphthalene | 5 | 18.3 µg/l | |
| 108-88-3 | Toluene | 5 | 1.3 µg/l | U |
| 179601-23-1 | m,p-Xylene | 5 | 2.8 µg/l | U |
| 95-47-6 | o-Xylene | 5 | 1.1 µg/l | U |

Sample Calculation

Quantitation Report (QT Reviewed)

Data File : G:\Nov2011\FID2\1104\38520-04.D Vial: 11
Signal(s) : Signal #1: FID1A.CH Signal #2: ELC2B.CH
Acq On : 04 Nov 2011 2:59 pm Operator: mp
Sample : sb38520-04 @ 06mw-10-20111024 1:5 vph Inst : HP G1530A
Misc : 5 Multiplr: 1.00
Integration File signal 1: RTEINT.P
Integration File signal 2: RTEINT2.P
Quant Time: Nov 07 09:26:58 2011
Quant Results File: F2090911.RES

Quant Method : F:\VOC\HPMETHODS\Fid2\F2090911.M
Quant Title :
QLast Update : Fri Sep 09 08:46:56 2011
Response via : Initial Calibration
DataAcq Meth:F2022409.M

Volume Inj. :
Signal #1 Phase : Signal #2 Phase:
Signal #1 Info : Signal #2 Info :

| | Compound | RT#1 | RT#2 | Resp#1 | Resp#2 | ug/L | ug/L | |
|---|---|---|---|---|---|---|---|---|
| | System Monitoring Compounds | | | | | | | |
| 18) S | 2,5-Dibromotolue | 16.51 | 16.51 | 534116 | 2985859 | 58.365 | 56.766 | |
| | Spiked Amount 50.000 | | | Recovery | = | 116.73% | 113.53% | |
| | Target Compounds | | | | | | | |
| 1) | Unadjusted C5-C8 | 2.12f | 5.83 | 246792 | 118 | 7.309m | NoCal | # |
| 2) | C9-C10 Aromatic | 12.53 | 12.53 | 99641 | 1658904 | NoCal | 14.537m | |
| 3) | Unadjusted C9-C1 | 12.53 | 12.53 | 898752 | 196359 | 39.565m | NoCal | # |
| 4) | n-Pentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 5) | Methyl tert-buty | 2.84 | 0.00 | 1489 | 0 | NoCal | N.D. | |
| 6) | 2-Methylpentane | 0.00 | 0.00 | 0 | 0 | N.D. | N.D. | |
| 7) | Benzene | 5.06 | 4.46 | 849 | 198 | NoCal | <MDL | |
| 8) | 2,2,4-Trimethylp | 5.52 | 5.83 | 1635 | 118 | <MDL | NoCal | # |
| 9) | Toluene | 7.71 | 7.30 | 738 | 610 | NoCal | <MDL | |
| 10) | Ethylbenzene | 9.73f | 9.32 | 686 | 8506 | NoCal | <MDL | |
| 11) | m,p-Xylene | 10.23 | 9.50 | 838 | 505 | NoCal | <MDL | |
| 12) | o-Xylene | 10.49 | 9.93 | 14244 | 828 | NoCal | <MDL | |
| 13) | n-Nonane | 10.23 | 10.37 | 838 | 44 | <MDL | NoCal | # |
| 14) | n-Decane | 0.00 | 12.66 | 0 | 24386 | N.D. d | NoCal | |
| 15) | n-Butylcyclohexa | 12.65 | 12.84 | 15122 | 37356 | 0.825m | NoCal | # |
| 16) | 1,2,4-Trimethylb | 12.65 | 11.86 | 16152 | 5044 | NoCal | <MDL | |
| 17) | Naphthalene | 15.65 | 15.03 | 23888 | 233606 | NoCal | 3.654 | |

(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 25% (m)=manual int.

Sample Calculation

# FORM VI - INITIAL CALIBRATION DATA (Continued)

## MADEP VPH 5/2004 Rev. 1.1

| | | | |
|---|---|---|---|
| Laboratory: | Spectrum Analytical, Inc. - Agawam, MA | SDG: | 38520 |
| Client: | Spectrum Analytical, Inc.-- RI Division | Project: | See Chain of Custody |
| Calibration: | 1109006 | Instrument: | FID2 |
| Matrix: | Aqueous | Calibration Date: | 09/08/11 10:26 |
| File ID: | F2090911M | | |

| Compound | Mean RF | RF RSD | Mean RT | RT RSD | Linear r | Quad COD | LIMIT | Q |
|---|---|---|---|---|---|---|---|---|
| C9-C10 Aromatic Hydrocarbons | 114119 | 5.062119 | 11.84571 | 6.910667E-02 | | | 25 | |
| Unadjusted C5-C8 Aliphatic Hydrocarbons | 33766.41 | 9.341831 | 7.955714 | 24.87611 | | | 25 | |
| Unadjusted C9-C12 Aliphatic Hydrocarbons | 22715.96 | 13.91067 | 12.39714 | 1.981688 | | | 25 | |
| Benzene | 103819 | 13.6316 | 4.481429 | 8.413137E-02 | | | 25 | |
| Ethylbenzene | 68517.78 | 18.06733 | 9.292857 | 8.205252E-02 | | | 25 | |
| Methyl tert-butyl ether | 37800.12 | 18.72232 | 2.334286 | 0.3374139 | | | 25 | |
| Naphthalene | 63931.34 | 8.536715 | 14.98571 | 5.307255E-02 | | | 25 | |
| Toluene | 84080.87 | 15.59174 | 7.275714 | 0.1088462 | | | 25 | |
| m,p-Xylene | 82053.67 | 16.35125 | 9.545714 | 0.0820313 | | | 25 | |
| o-Xylene | 70333.24 | 15.34912 | 9.964286 | 5.089186E-02 | | | 25 | |
| 2-Methylpentane | 20844.22 | 13.82908 | 2.505714 | 0.2130662 | | | 25 | |
| n-Nonane | 16711.25 | 14.36647 | 10.22667 | 7.956644E-02 | | | 25 | |
| n-Pentane | 20034.37 | 11.292 | 1.651429 | 0.2283937 | | | 25 | |
| 1,2,4-Trimethylbenzene | 64784.58 | 15.85033 | 11.84571 | 6.910667E-02 | | | 25 | |
| 2,2,4-Trimethylpentane | 21412.03 | 12.72785 | 5.581429 | 6.591151E-02 | | | 25 | |
| n-Butylcyclohexane | 18335.56 | 17.43001 | 12.65571 | 3.899972E-02 | | | 25 | |
| n-Decane | 13379.33 | 11.6912 | 11.982 | 3.581222E-02 | | | 25 | |
| 2,5-Dibromotoluene (FID) | 9151.344 | 3.432143 | 16.51 | 6.814298E-03 | | | 25 | |
| 2,5-Dibromotoluene (PID) | 52599.05 | 4.040142 | 16.50714 | 3.011659E-02 | | | 25 | |

Individual peaks for multi-component analytes are indicated by a number in parentheses