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# SITE ASSESSMENT REPORT ADDENDUM II FOR FACILITY 159 – GAS HILL FUEL FARM

## NAVAL AIR STATION JACKSONVILLE
## JACKSONVILLE, FLORIDA

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

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# EXECUTIVE SUMMARY
# of
# SITE ASSESSMENT ADDENDUM II FOR
# Naval Air Station Jacksonville
# Facility 159 – Gas Hill Fuel Farm
# Jacksonville, Florida

Tetra Tech NUS, Inc. (TtNUS) has completed the Site Assessment (SA) Addendum II at the above-referenced facility in general accordance with the requirements of Chapter 62-770, Florida Administrative Code (FAC). This report is being submitted to the Florida Department of Environmental Protection (FDEP) for approval.

Facility 159 or Gas Hill Fuel Farm (Site) is located on Naval Air Station Jacksonville (NASJAX). The Tank Farm is contained within the bounds of NASJAX. Except for the St. Johns River about 2,000 feet north and east of the site, the Tank Farm is more than 0.5 mile from the closest landward boundary of the naval base.

TtNUS performed the following tasks during Phase 1 of the SA Addendum II:

1. Reviewed the Contamination Assessment Report (CAR) and CAR Addendum I to assist with this field investigation.
2. Collected depth-to-groundwater measurements in the existing wells to evaluate the direction of groundwater flow.
3. Installed three shallow monitoring wells and one deep monitoring well downgradient of the impacted groundwater identified at Gas Hill Fuel Farm.
4. Collected groundwater samples from the 25 available, extant assessment wells and the four newly installed wells for laboratory analyses of volatile organic aromatics (VOA), polynuclear aromatic hydrocarbons (PAH), and lead (unfiltered).
5. Used the groundwater analytical data from Step 4 to determine the direct-push technology (DPT) boring and micro-well placement.

Then, the following tasks were conducted during Phase 2 of the SA Addendum II:

1. Advanced five soil borings inside the Gas Hill Fuel Farm using DPT and collected soil samples for lab analyses of VOA, PAH, total recoverable petroleum hydrocarbons (TRPH), and the eight Resource Conservation and Recovery Act (RCRA) metals.

2. Installed five shallow micro-wells inside the Gas Hill Fuel Farm and three shallow micro-wells near the southeast perimeter of Gas Hill Fuel Farm using DPT.
3. Collected groundwater samples from the eight newly installed micro-wells for analyses of VOA, PAH, and lead (unfiltered).
4. Reviewed well surveys provided by the U.S. Army Corps of Engineers (USACE) to identify potential receptors for petroleum hydrocarbons in the vicinity in accordance with Chapter 62-770.600(2)(l), FAC.
5. Collected soil samples and used the resulting analytical data to characterize the solid waste generated during this investigation for disposal purposes.
6. Coordinated and arranged for the transportation and disposal of the solid waste.

Excessively contaminated soil has been delineated on the periphery of the Gas Hill Fuel Farm in previous reports; however, as part of this investigation, field screening and confirmatory lab work were conducted on soils inside Gas Hill Fuel Farm. The OVA-FID screening inside the Tank Farm tentatively identified excessively contaminated soil; however, the lab analytical results indicated that the soils encountered did not exceed regulatory cleanup levels. In accordance with the definition of excessively contaminated soils in Chapter 62-770.200(8) FAC, the lab data nullifies the screening data and the soils are no longer considered excessively contaminated.

Petroleum hydrocarbon-impacted groundwater that exceeds for Groundwater Cleanup Target Levels (GCTLs) and natural attenuation criteria exists outside the southern perimeter of the Tank Farm, and appears to be migrating off of Gas Hill Fuel Farm toward the St. Johns River, which is approximately 2,000 feet east of the Site. For the present, the groundwater impacts on the southern perimeter of the Site have been delineated. Based on the results of this investigation and the two previous reports, TtNUS recommends the design of a Remedial Action Plan (RAP) to address the soil and groundwater contamination identified at Gas Hill Fuel Farm.

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# 1.0 INTRODUCTION

## 1.1 PURPOSE AND SCOPE

This report encompasses a supplemental site investigation for Facility 159 – Gas Hill Fuel Farm conducted by Tetra Tech NUS, Inc. (TtNUS) for the U.S. Navy (Navy) Southern Division Naval Facilities Engineering Command (SOUTHDIV). The work was performed under Contract Task Order 0101, for the Comprehensive Long-term Environmental Action Navy (CLEAN III), Contract Number N62467-94-D-0888.

The U.S. Army Corps of Engineers (USACE) filed the first site investigation (a.k.a., Contamination Assessment Report [CAR]) for Gas Hill Fuel Farm (1992). Following a round of comments by the FDEP (Nuzie, 1992), the USACE responded with Addendum I to the CAR (1993). Since this is the second supplemental site investigation and in accordance with Chapter 62-770, Florida Administrative Code (FAC), this report will be referred to as the Site Assessment Report (SAR) Addendum II.

This investigation was initiated to determine the presence and extent of petroleum impacts to the groundwater at Gas Hill Fuel Farm located at NASJAX in accordance with the requirements of Chapter 62-770, FAC. The scope of work as outlined in the Contamination Assessment Plan (CAP) (TtNUS, 1999a) indicated that the soil impact due to petroleum hydrocarbons was delineated in the CAR and CAR Addendum I (USACE, 1992 and 1993) and would not be addressed during this investigation. However, soil vapor screening and soil sampling for lab analysis was done inside the facility since it appears this task was not done in the past. In regard to drilling activities outside the facility, soil vapor screening was done for health and safety purposes only. This groundwater investigation was planned to allow up to 14 monitoring wells to delineate the plume and investigate the Gas Hill Fuel Farm. Since the Gas Hill Fuel Farm is active, the assessment was planned as two phases of drilling. The first phase of the investigation involved drilling three water table wells and one deep well using conventional drilling methods at locations downgradient of the plume. This phase also included collection of a full round of samples from the assessment wells, and collection of data required to determine the direction of groundwater flow. Once the groundwater analytical data was evaluated, the second phase of the investigation involved the installation of soil borings and micro-wells, using DPT, to investigate the active Gas Hill Fuel Farm. Soil analytical data was collected during this phase because work inside the Gas Hill Fuel Farm had not been performed previously. DPT offered an opportunity to investigate the Gas Hill Fuel Farm with minimal disturbance to the tanks and piping. DPT was also used to place micro-wells downgradient of the first phase wells, as necessary.

## 1.2 SITE DESCRIPTION

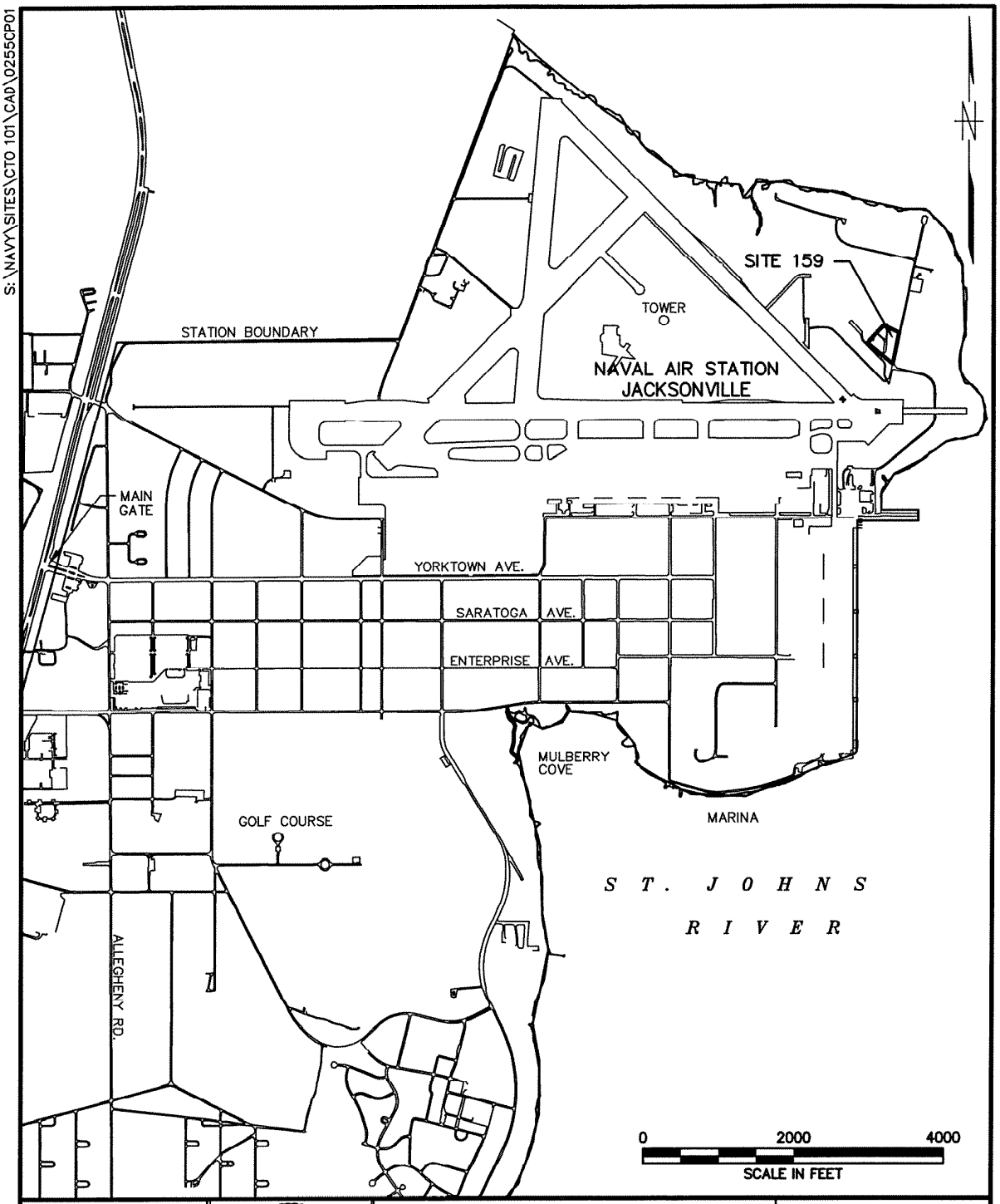
### 1.2.1 Location

Gas Hill Fuel Farm is located near the northeast corner of NASJAX, which is in northeast Florida's Duval County west of the St. Johns River. The Tank Farm is contained within the bounds of NASJAX. Except for the St. Johns River about 2,000 feet north and east of the site, the Tank Farm is more than 0.5 mile from the closest landward boundary of the naval base. NASJAX is located near the tip of a peninsula between the Ortega and St. Johns Rivers, approximately 8 miles southwest of downtown Jacksonville, Florida. NASJAX lies within Township 3 South, Range 26 East, and Gas Hill Fuel Farm lies within Section 39. **Figure 1-1** depicts part of NASJAX with Gas Hill Fuel Farm shown as Site 159 near the upper right corner of the figure.

### 1.2.2 Topography and Drainage

The physiography, particular to the region and NASJAX was discussed in Section 3 and Appendix A of the CAR (USACE, 1992). The CAR stated that Site elevations "range from approximately 6 to 9 feet above msl (mean sea level)". **Table 1-1** provides the coordinates and elevation data for the newly installed monitoring wells, and it indicates a range of ground elevation from about 4.2 to 5.7 feet above msl for those wells offsite. This difference is due to an actual change in topography. The CAR was probably also referring to elevations around the Site and not on the hill because the elevations on Gas Hill Fuel Farm, as measured next to wells installed during this investigation, range from 19.2 to 22.8 feet above msl.

**Figure 1-2** shows a drainage ditch on the north/northeast side of the Gas Hill Fuel Farm, which drains from the north side of the Site eastward to an outlet near monitoring well JAX-159-GH-7. Hereafter, the JAX-159 prefix on the assessment wells will be dropped and well numbers will only be preceded by the GH- nomenclature. Not shown on the map is a minor ditch that begins near GH-14 on the southeast side of the Site and tracks east for a short distance near GH-27 before changing direction toward the northeast. This minor ditch passes just to the west of wells GH-29 and GH-32. Both of these ditches appear to drain eastward to the St. Johns River.

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|---|---|---|---|
| DRAWN BY LLK DATE 11/10/99 | DEPARTMENT OF THE NAVY · SOUTHERN DIV FACILITIES ENGINEERING CMD | SITE LOCATION MAP<br>GAS HILL FUEL FARM (FACILITY 159)<br>NAS JACKSONVILLE<br>JACKSONVILLE, FLORIDA | CONTRACT NO. 0255 |
| CHECKED BY DATE | | | APPROVED BY DATE |
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**Table 1-1**
**Monitoring Well Coordinate and Elevation Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| WELL ID | NORTHING (Y) | EASTING (X) | DESCRIPTION | ELEVATION |
|---|---|---|---|---|
| GH-26 | 2145145.77 | 446182.17 | TOP PVC | 4.39 |
| | | | TOP OF CONCRETE | 4.59 |
| | | | N. GRND | 4.50 |
| GH-27 | 2145141.48 | 446187.58 | TOP PVC | 4.74 |
| | | | TOP OF CONCRETE | 4.92 |
| | | | N. GRND | 4.80 |
| GH-28 | 2145094.39 | 446225.58 | TOP PVC | 5.07 |
| | | | TOP OF CONCRETE | 5.50 |
| | | | N. GRND | 5.30 |
| GH-29 | 2145123.92 | 446276.23 | TOP PVC | 5.16 |
| | | | TOP OF CONCRETE | 5.34 |
| | | | N. GRND | 5.10 |
| GH-30 | 2145096.68 | 446171.88 | TOP PVC | 4.97 |
| | | | TOP OF CONCRETE | 5.13 |
| | | | N. GRND | 5.00 |
| GH-31 | 2145087.88 | 446224.52 | TOP PVC | 5.47 |
| | | | TOP OF CONCRETE | 5.64 |
| | | | N. GRND | 5.40 |
| GH-32 | 2145118.08 | 446375.40 | TOP PVC | 4.05 |
| | | | TOP OF CONCRETE | 4.23 |
| | | | N. GRND | 4.20 |
| GH-33 | 2145362.06 | 445848.22 | TOP PVC | 4.62 |
| | | | TOP OF CONCRETE | 4.87 |
| | | | N. GRND | 4.70 |

See notes at end of table.

**Table 1-1 (cont'd)**
**Monitoring Well Coordinate and Elevation Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| WELL ID | NORTHING (Y) | EASTING (X) | DESCRIPTION | ELEVATION |
|---|---|---|---|---|
| GH-34 | 2145480.49 | 445751.69 | TOP PVC | 5.59 |
| | | | TOP OF CONCRETE | 5.87 |
| | | | N. GRND | 5.70 |
| GH-35 | 2146004.323 | 445707.11 | TOP PVC | 22.19 |
| | | | TOP OF CONCRETE | 22.17 |
| | | | N. GRND | 21.84 |
| GH-36 | 2145883.69 | 445860.53 | TOP PVC | 22.70 |
| | | | TOP OF CONCRETE | 22.91 |
| | | | N. GRND | 22.80 |
| GH-37 | 2145762.54 | 445942.46 | TOP PVC | 19.72 |
| | | | TOP OF CONCRETE | 19.99 |
| | | | N. GRND | 19.90 |
| GH-38 | 2145630.61 | 446077.36 | TOP PVC | 21.03 |
| | | | TOP OF CONCRETE | 21.35 |
| | | | N. GRND | 21.30 |
| GH-39 | 2145812.14 | 446158.12 | TOP PVC | 18.97 |
| | | | TOP OF CONCRETE | 19.29 |
| | | | N. GRND | 19.20 |

Notes: PVC = poly vinyl chloride.
N.GRND = measurement of ground elevation on north side of pad.

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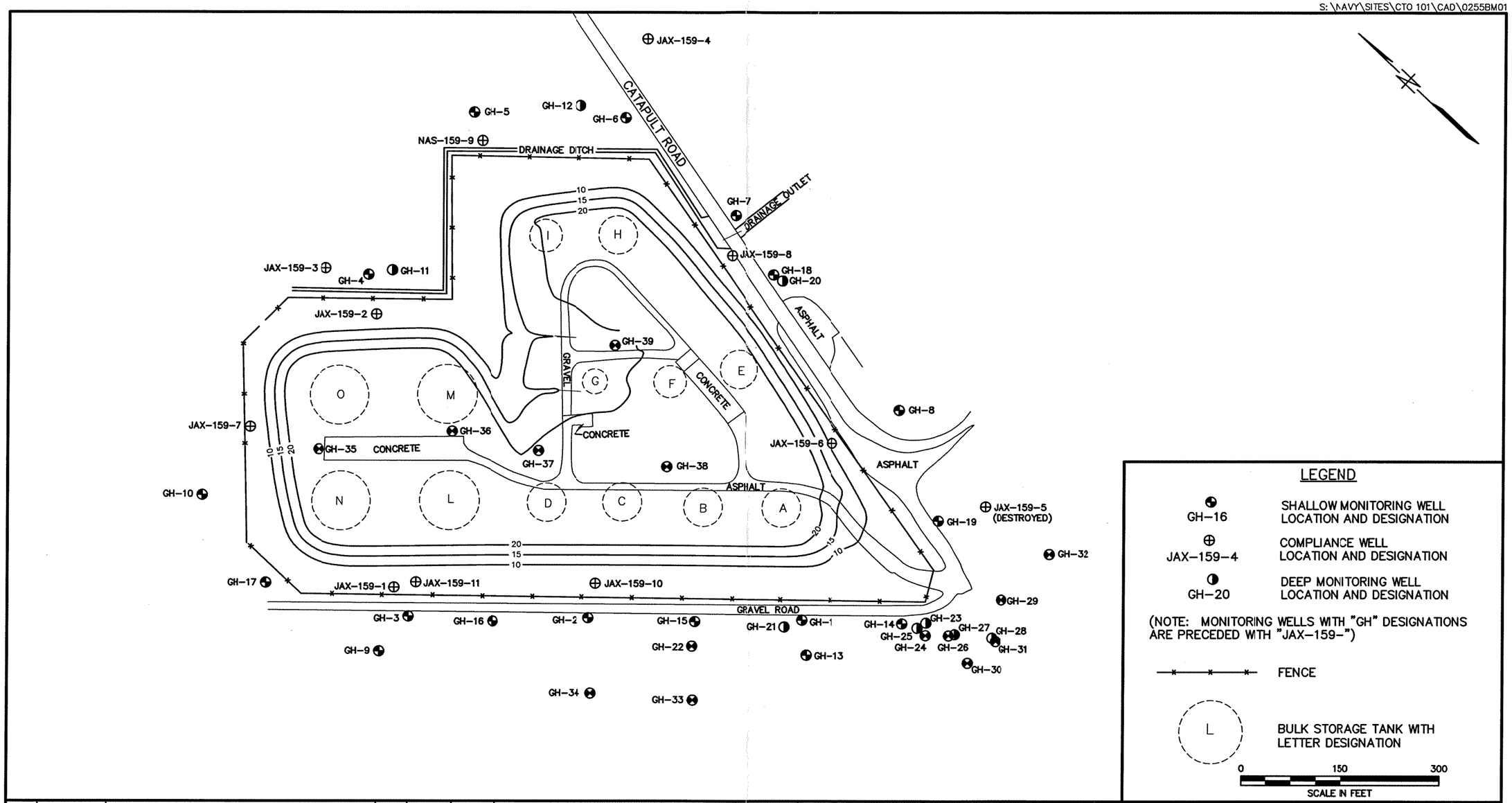


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SCALE AS NOTED

SITE PLAN
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
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REV. 0

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### 1.2.3 Regional Geology and Hydrogeology

The CAR (USACE, 1992) provides an adequate discussion of the regional hydrogeology, as such, this information will not be repeated here.

### 1.2.4 Land Use

Gas Hill Fuel Farm is located northeast of the runways at NASJAX. The Site is depicted on **Figure 1-2**. Currently the Site has 15 active underground storage tanks (UST) (**Table 1-2**), which were installed as a bulk fuel storage and distribution facility. The tanks have a total capacity of approximately 4 million gallons, and they stored various petroleum-based fuels. Three of these USTs are still active. Currently, the Navy has plans to deactivate Gas Hill Fuel Farm in the near future.

Access to Gas Hill Fuel Farm is limited because of its proximity to the runways and the single road that leads to the Site. Other facilities north of the Gas Hill Fuel Farm include jet engine test cells, an antenna site, and a fuel pier. Security personnel, who control access to the flight line, also control access to Gas Hill Fuel Farm. A chain link fence encompasses the perimeter of the Site and the Navy's security personnel patrol the area regularly.

### 1.2.5 Site Description

Gas Hill Fuel Farm is a man-made mound containing 15 UST. Only a small portion of each tank exists above land surface along with some associated piping. Except for a gravel/asphalt/concrete road that encircles the Site to allow access to the tanks, the Site is covered in grass. On the edge of the Gas Hill Fuel Farm, the land quickly slopes from an artificial grade of about 20 feet above msl to about 10 feet above msl. Then a narrow grassy corridor surrounds the Site before a fence is reached that encompasses the Site. The road mentioned earlier slopes down to the south corner of the Site where the only entrance to the Site exists. The entrance is gated and Navy personnel keep it locked when they are not onsite. The Site's road connects to Catapult Road (**Figure 1-2**).

### 1.2.6 Potable Water Well Survey

The water supply information presented in this report was obtained from the CAR (USACE, 1992) which includes potable well supply data and large-diameter non-potable well supply data. The Navy's point of contact for water well data at NASJAX, Mr. David Ford, was also contacted to update the data (TtNUS, 1999b). The data for Wells 1 through 6, 9, 12 and 13 (**Table 1-3**) remain unchanged; however, wells 7, 8,

**Table 1-2**
**Storage Tank Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| TANK NO. | DATE INSTALLED | CAPACITY (gal) | CONSTRUCTION INFORMATION | CONTENTS | STATUS |
|---|---|---|---|---|---|
| 159-A | 1943 | 250,000 | Concrete, interior lined | JP-5 | O |
| 159-B | 1943 | 250,000 | Concrete, interior lined | JP-5 | O |
| 159-C | 1943 | 250,000 | Concrete, interior lined | JP-5 | O |
| 159-D | 1943 | 250,000 | Concrete, interior lined | JP-5 | O |
| 159-E | 1943 | 250,000 | Concrete, interior lined | Avgas | O |
| 159-F | 1943 | 100,000 | Concrete, interior lined | Avgas | O |
| 159-G | 1943 | 50,000 | Concrete, interior lined | JP-5 | O |
| 159-H | 1943 | 250,000 | Concrete, interior lined | JP-5 | O |
| 159-I | 1943 | 100,000 | Concrete, interior lined | JP-5 | O |
| 159-J | 1944 | 1,550 | Steel, interior lined | Diesel | R |
| 159-K | 1944 | 1,550 | Steel, interior lined | Diesel | R |
| 159-L | 1953 | 567,000 | Steel, interior lined, cathodic protection | JP-5 | O |
| 159-M | 1953 | 567,000 | Steel, interior lined, cathodic protection | JP-5 | I |
| 159-N | 1953 | 567,000 | Steel, interior lined, cathodic protection | JP-5 | I |
| 159-O | 1953 | 567,000 | Steel, interior lined, cathodic protection | JP-5 | I |

Reference: TtNUS, 1999c.
Notes: I = in service.
R = removed.
O = out of service.

10 and 11 have been properly abandoned according to Mr. Ford. Since there have been no additions to the wells surveyed from 1992, it appears that the nearest documented water supply wells are situated (greater than 0.5-mile upgradient from the Site) in such a way as to "preclude any effects from the shallow contaminants" at Gas Hill Fuel Farm (USACE, 1992).

## 1.3 SITE HISTORY AND OPERATIONS

### 1.3.1 Site History

A history of Gas Hill Fuel Farm is explained in Section 2.2 of the CAR (USACE, 1992), which briefly tells about the Site until the beginning of the CAR. During the CAR investigation, the USACE drilled 12 4-foot borings (159-1 through 159-12) and executed 53 soil gas probes. The USACE concluded in the CAR that soil contamination is confined to spill areas on Gas Hill Fuel Farm. They also installed 13 permanent monitoring wells (GH-1 through GH-13). **Figure 1-2** indicates the location of those wells. Nine of the wells were set between 10 and 12.5 feet below land surface (bls) to intercept the water table while GH-11 and GH-12 were set to approximately 33 feet bls. According to the groundwater flow map (USACE, 1992), the water table flows radially from the center of the Site and follows the area's southeasterly groundwater flow direction after moving away from the Gas Hill Fuel Farm. The analytical results from the CAR indicated that groundwater contamination was present in 5 of the 13 wells (GH-1, 2, 3, 8, and 13). Except for GH-8, which is about 300 feet north of the southern tip of Gas Hill Fuel Farm, the other wells are located along the southwestern perimeter of Gas Hill Fuel Farm. The CAR indicated that horizontal groundwater contamination "beyond the Site boundaries appears to be coincident with embankment seepage and historic spills", and that the vertical extent of contamination does not exceed 25 feet bls.

Following a review by the FDEP (Nuzie, 1992), the USACE did a supplemental investigation that involved additional soil and groundwater assessment (1993). The soil investigation indicated that an area of excessively contaminated soil exists along a 40-foot wide strip beginning from the western-most corner of the facility for about 250 feet south along the fence line. Other soil data for the remainder of the Site indicated a smaller area (less than 2,500 square feet) just outside the fence line on the eastern side of the Site between the Site and Catapult Road (USACE, 1993). They also installed seven water table wells (GH-14 through 19 and 22) and two deep wells (GH-20 and 21). The analytical results from a complete round of samples for wells GH-1 through 22 indicated that "shallow groundwater contamination exists outside the boundary fence, along the southwestern edge of the fuel farm" and that vertical contamination

**Table 1-3**
**Water Well Survey**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Well No. | Usage | Casing Diameter (inches) | Total Depth (feet) | Casing Depth (feet) | Notes |
|---|---|---|---|---|---|
| 1 | Potable | 12 | 1215 | 380 | Water Plant No. 1 |
| 2 | Potable | 18 | 1200 | 400 | Water Plant No. 1 |
| 3 | Potable | 18 | 1200 | 400 | Water Plant No. 1 |
| 4 | Potable | 12 | 1015 | 312 | Water Plant No. 2 |
| 5 | Potable | 12 | 988 | 400 | Water Plant No. 3 |
| 6 | Potable | 12 | 646 | 271 | Water Plant No. 4 |
| 7 | Non-potable | 4 | ? | ? | Properly Abandoned, 1990 |
| 8 | Non-potable | 8 | 400 | 288 | Properly Abandoned, 1999 |
| 9 | Non-potable | 12 | 800 | ? | Black Point-Kemen Test Cell |
| 10 | Non-potable | 10 | 1096 | 316 | Properly Abandoned, 1999 |
| 11 | Non-potable | 4 | 407 | 251 | Properly Abandoned, 1999 |
| 12 | Non-potable | 6 | 120 | 120 | |
| 13 | Non-potable | 4 | 650 | 120 | |

References: USACE, 1992 and TtNUS, 1999b.
Notes:
? - data unknown or unavailable.

in the area does not extend "to the 30 to 35-foot level." A meeting between the FDEP, Navy, and the USACE resulted in an agreement to monitor the groundwater quarterly.

The last round of groundwater monitoring completed at the Site was conducted on September 29 and 30, 1998 on monitoring wells GH-6 through 9, 13 through 17, 19, 20, and 22 through 27. Wells GH-23, 25 and 27 were installed (circa 1997) as deep wells while GH-24 and 26 were drilled (also, circa 1997) as water table wells. The monitoring report (TtNUS, 1998b) indicated contamination that exceeded FDEP GCTL in samples from monitoring wells GH-14, 15, 23, 26 and 27. At that time, the concentrations in the water table wells indicated that petroleum contaminants were present above GCTL in downgradient wells, which left the plume undefined to the southeast. Although no contaminants were detected in the zone from 35 to 40 feet bls (GH-25), well GH-27 screened from 30 to 35 feet bls was reported to have increasing levels of benzene above the GCTL which left that zone undefined to the southeast. The monitoring report recommended that the monitoring program be discontinued until completion of the SAR Addendum II and approval of the resulting report.

# 2.0 SUBSURFACE INVESTIGATION METHODS

## 2.1 QUALITY ASSURANCE

The Site investigation was conducted in general accordance with the Standard Operating Procedures (SOP) prescribed by the FDEP Quality Assurance Section Document DER-001/92, and adopted by the TtNUS Comprehensive Quality Assurance Plan (CompQAP) Number 980038 (1998a).

## 2.2 SOIL BORING AND SAMPLING PROCEDURES

### 2.2.1 Monitoring Well Soil Borings-Offsite

On July 26 and 27, 1999, four proposed sites were post-holed by Precision Drilling, Inc., under the supervision of TtNUS personnel in preparation for installing 2-inch diameter monitoring wells (GH-28, GH-29, GH-30 and GH-31) to track the progress of the groundwater contaminant plume. Each proposed well site was post-holed to 4 feet bls for the purpose of utility location and to characterize lithology. As indicated in Section 1.1, soil delineation was not considered necessary offsite. The locations of the monitoring wells are shown on **Figure 1-2.** Soil boring logs are included in **Appendix A.**

Soil cuttings generated during the soil boring activities and subsequent well installations were placed in 55-gallon steel drums and labeled as investigative-derived waste (IDW). Soil samples were collected on July 30, 1999, from the drums generated during this phase of drilling. The samples were labeled NASJ-159-GH-IDW-01. A grab sample was collected from one of the drums generated during the installation of GH-28, and it was sent for analysis of VOA using United States Environmental Protection Agency (EPA) Method 8021B. Soils from several drums were collected and homogenized in a pre-cleaned stainless steel bowl to provide a composite soil sample for analyses of PAH using EPA Method 8310; TRPH using Florida – Petroleum Residual Organics (FL-PRO); and, the eight RCRA metals using EPA Method 6010B. IDW soil analytical data sheets are in **Appendix B** and the disposal manifest is in **Appendix C.**

### 2.2.2 Direct-Push Soil Borings-Offsite

On August 30, 1999, three proposed sites outside the Gas Hill Fuel Farm were post-holed by Precision Drilling, Inc., under the supervision of TtNUS personnel in preparation for installing 0.5-inch diameter micro-wells (GH-32, GH-33, and GH-34). Each proposed well site was post-holed to 4 feet bls for the purpose of utility location, to characterize lithology, and to measure soil vapor concentrations for health and safety. The locations of the monitoring wells are shown on **Figure 1-2**. Soil boring logs are included in **Appendix A.**

Soil cuttings generated during the post-holing activities were placed in a 55-gallon steel drum. That drum was also used to store the soils generated during the DPT work inside the Gas Hill Fuel Farm.

### 2.2.3 Direct-Push Soil Borings-Onsite

On August 31 and September 1, 1999, five proposed sites inside the Gas Hill Fuel Farm were post-holed to 4 feet bls in preparation of DPT activities. DPT was specifically used to minimize the potential for damaging subsurface utilities. These drilling methods were also used to characterize lithology and to provide samples for collection of soil vapor concentration data. The work was done by Precision Drilling, Inc., under the supervision of TtNUS personnel in preparation for installing 0.5-inch diameter micro-wells (GH-35, GH-36, GH-37, GH-38 and GH-39). After post-holing, DPT soil samples were collected using two-foot long stainless steel split barrel samplers lined with plastic sleeves. Soil samples were collected continuously from the ground surface to the water table (between 13 and 17.5 feet bls). Soil boring locations, which are coincident with the well locations, are depicted on **Figure 1-2**. Soil boring logs are included in **Appendix A.**

Soil samples were visually inspected for evidence of staining. Samples were collected during post-holing and DPT soil sampling and screened with an OVA-FID. Soil vapor analysis was performed in accordance with the headspace screening method prescribed by Chapter 62-770 FAC.

The driller installed a second DPT borehole within 1 foot of each original borehole. The second borehole at each location was advanced to the depth of the high vapor reading for the purpose of obtaining a fresh, discreet sample for submittal to a laboratory. If no petroleum hydrocarbon vapors were detected in the first borehole using the OVA, an arbitrary depth of four feet bls was chosen to collect a sample for confirmation of the clean soil. So, one soil sample was collected from each of the five borings drilled

inside the Gas Hill Fuel Farm. The samples were sent to a laboratory for analyses explained in Section 2.5.

Soil cuttings generated during the DPT soil boring activities were placed in a 55-gallon steel drum. Since, soil samples were collected from each boring and analyzed for compounds similar to pre-burn requirements, those results were used to characterize the IDW for pre-burn disposal. Soil analytical data sheets are in **Appendix D** and the disposal manifest is in **Appendix C.**

## 2.3 WELL CONSTRUCTION

### 2.3.1 Two-inch Monitoring Well Construction and Development

On July 26 and 27, 1999, monitoring wells were installed in conjunction with the soil boring procedures discussed above in Section 2.2.1. The monitoring wells were placed to provide spatial coverage downgradient of wells which contained previously reported elevated hydrocarbon levels near the southeast corner of the Site.

Shallow monitoring wells GH-29, GH-30, and GH-31 were advanced using 8.25-inch outside diameter (OD) hollow-stem augers. Each well was constructed of 2-inch inside diameter (ID) threaded, Schedule 40 poly vinyl chloride (PVC) solid riser and 0.010-inch slot well screen with a silt trap and well bottom cap. These wells were installed to approximately 13 feet bls with a 10-foot screened interval. Each annulus was filled to approximately 1 foot above the well screen with US Standard Sieve size, 20/30-grade silica sand. The 20/30 sand was capped to about 1.2 or 1.5 feet bls with bentonite chips. The remainder of the annulus was grouted to the surface with Portland cement. Each well is secured with a locking, watertight cap within a steel, 8-inch diameter bolt-down manhole. The manhole was set within a 24-inch square concrete pad, which was finished slightly above grade. A well construction diagram is included as **Figure 2-1.** Well completion logs are provided in **Appendix E.**

The deep monitoring well (GH-28) was double-cased to minimize the downward migration of contaminants in the water table to the intended screen interval for this well. Twelve-inch OD hollow-stem augers were used to set a 6-inch ID threaded, Schedule 40 PVC solid riser with a bottom cap to a depth of approximately 15 feet bls. The annulus was filled to approximately 1 foot bls with Portland cement, and this secondary casing was allowed to set for approximately 24 hours. Then it was drilled out with a 6-inch OD tri-cone bit using mud rotary techniques. The primary casing for the well was constructed of 2-inch ID threaded, Schedule 40 PVC solid riser and 0.010-inch slot well screen with a silt trap and well bottom cap. This well was installed to approximately 35 feet bls with a 5-foot screened interval. The annulus was filled

to approximately 2 feet above the well screen with US Standard Sieve size, 20/30-grade silica sand. The 20/30 sand was capped to about 2 feet bls with bentonite chips. The remainder of the annulus was grouted to the surface with Portland cement. The well is secured with a locking, watertight cap within a steel, 8-inch diameter bolt-down manhole. The manhole was set within a 24-inch square concrete pad, which was finished slightly above grade. A well construction diagram is included as **Figure 2-1.** The well completion logs are provided in **Appendix E.**

Each well was developed using a submersible pump. During well development, field measurements of pH, temperature and specific conductance were monitored from the purge water generated. The wells were developed under supervision of a geologist up to a maximum of one hour or until the field measurements became stable and the purge water clear. Water quality stabilization was determined using the following criteria: temperature plus or minus (+/-) 0.5 degrees Celsius (°C), pH +/- 0.1 standard unit, and specific conductance +/- 10 millisiemens per centimeter (mS/cm).

### 2.3.2 DPT Micro-Well Construction and Development

On August 30, 1999, three DPT micro-wells (GH-32, GH-33, and GH-34) were installed outside the Gas Hill Fuel Farm under the supervision of TtNUS personnel in conjunction with the soil boring procedures discussed above in Section 2.2.2. The wells were installed to a depth of 11.5 or 12.5 feet bls. The monitoring wells were placed to provide coverage downgradient of elevated hydrocarbon levels detected in samples from upgradient monitoring wells sampled between July 29 and August 3, 1999.

On August 31 and September 1, 1999, five DPT micro-wells (GH-35, GH-36, GH-37, GH-38 and GH-39) were installed inside the Gas Hill Fuel Farm for reasons discussed in Section 2.2.3 and in conjunction with soil boring activities. The well depths varied between 21 and 25.5 feet bls in order to intercept the water table with approximately 1 foot of screen above it. These micro-wells were placed to provide water level information and to screen the water table inside the Gas Hill Fuel Farm for contaminants.

The installation of the DPT micro-wells began with 2.125-inch OD probe rods advanced to a field-determined depth using a Geoprobe percussion-probing machine. The permanent monitoring well was assembled and installed through the 1.5-inch ID of the probe rods. The wells were constructed with pre-packed screens and 0.5-inch Schedule 80 PVC well riser. The pre-packed screens came in 3-foot sections, which were threaded together to provide 9-foot screens for each well. These screens have an outside diameter of 1.5 inches and an inside diameter of 0.5 inches. The inner component of the pre-packed screens consists of 0.5-inch Schedule 80 PVC with 0.01-inch slots. The outer component of the

screen is stainless steel wire mesh with a pore size of 0.011 inches. The screens are pre-packed with 20/40-grade silica sand. Once the rods were set at depth, the pre-packed screens were lowered through the probe rods as additional PVC riser was added to the well assembly. The pre-packed screens were attached to an expendable stainless steel anchor on the end of the probe rods by a locking connector threaded to the bottom of the pre-packed screen. When the pre-packed screens were locked into the anchor point the probe rods were retracted. As the rods were retracted above the screens, 20/30-grade silica sand was installed through the rod annulus to a thickness of 1 to 3 feet above the top of the screen. The remainder of the annulus was grouted to the surface with Portland cement.

The well is secured with a locking, watertight cap within a steel, 8-inch diameter bolt-down manhole. The manhole was set within a 24-inch square concrete pad, which was finished slightly above grade. A well construction diagram for the micro-wells is included as **Figure 2-2.** The well completion logs are provided in **Appendix E.**

## 2.4 LITHOLOGIC SAMPLING

Soil samples were collected during the soil vapor assessment\DPT micro-well installation to assess the shallow subsurface geologic conditions inside the Gas Hill Fuel Farm. Grab samples from soil cuttings generated during monitoring well installations were used for lithologic description. Soil samples from the Gas Hill Fuel Farm that were used for lithologic description were collected from a stainless steel split spoon sampler lined with plastic sleeves. Soil boring logs are included as **Appendix A.**

## 2.5 SOIL ANALYSIS

As previously explained, the CAR (USACE, 1992) adequately (as agreed upon by regulators previously) determined the extent of soil contamination related to Gas Hill Fuel Farm. Since soil data had not previously been collected inside the Gas Hill Fuel Farm, soil samples were collected as explained in Section 2.2.3. The samples were placed in the appropriate bottleware, packed and transported for the following analyses: VOA by EPA Method 8021B; PAH by EPA Method 8310; TRPH by FL-PRO; and, the eight RCRA metals by EPA Method 6010B. The laboratory data reports are included in **Appendix D.**

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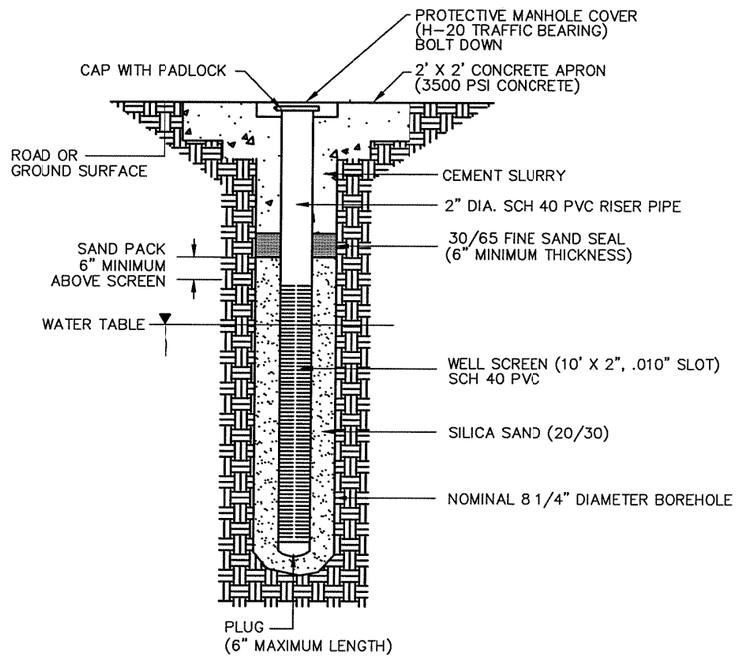
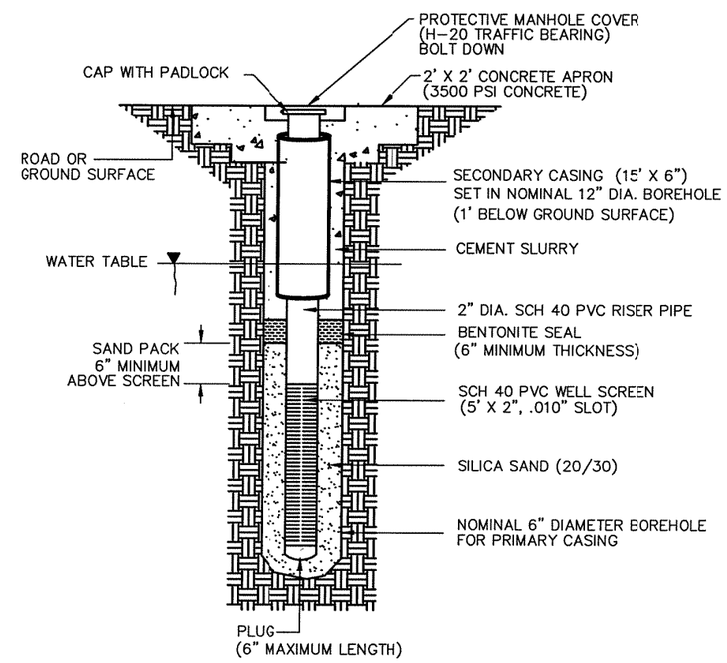



TYPICAL FLUSHMOUNT CONSTRUCTION
SHALLOW MONITORING WELL
NOT TO SCALE




TYPICAL FLUSHMOUNT CONSTRUCTION
VERTICAL EXTENT MONITORING WELL
NOT TO SCALE

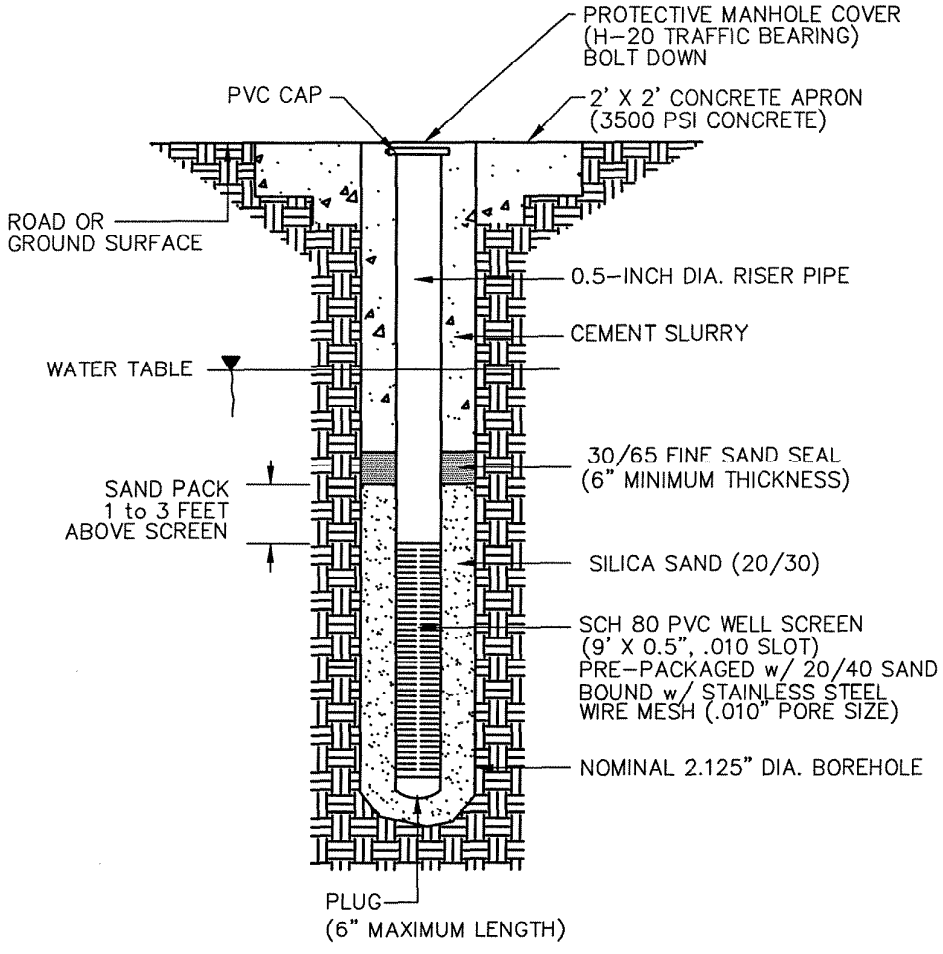
| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY LLK DATE 10/23/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE NONE

MONITORING WELL CONSTRUCTION DETAILS
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 2-1
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98




TYPICAL FLUSHMOUNT CONSTRUCTION
DPT MICRO-WELL
NOT TO SCALE

| | | | |
|---|---|---|---|
| DRAWN BY LLK DATE 10/23/99 | DPT MICRO-WELL CONSTRUCTION DETAIL GAS HILL FUEL FARM (FACILITY 159) SAR ADDENDUM II NAS JACKSONVILLE JACKSONVILLE, FLORIDA | CONTRACT NO. 0255 | |
| CHECKED BY DATE | | APPROVED BY DATE | |
| COST/SCHED-AREA | | APPROVED BY DATE | |
| SCALE AS NOTED | | DRAWING NO. FIGURE 2-2 | REV. 0 |

FORM CADD NO. SDIV_AV.DWG – REV 0 – 1/20/98

## 2.6 HYDROGEOLOGIC INVESTIGATION

### 2.6.1 Water Level Measurements

Water level measurements were collected to determine the depth to water in the surficial aquifer and to determine the relative groundwater flow direction. The depth to water in the existing monitoring wells (GH-1 through GH-27) and the new monitoring wells (GH-28 through GH-31) was measured on July 28, 1999. The depth-to-water data for well GH-18 was not collected because this well could not be located. Measurements were collected from the north rim of the top of the well casings using an electronic oil and water level indicator. No free product was detected in these monitoring wells. Water level measurements were also collected from shallow micro-wells GH-32 through GH-39 on September 2, 1999 using a small-diameter water level indicator. The elevation of the north rim for each top of well casing (GH-28 through GH-39) was surveyed by ARC Surveying (**Table 1-1**). They also surveyed GH-26 and GH-27 to allow for ease of plotting the new monitoring wells on the site plan (**Figure 1-2**), and the elevation data was compared to previous data to determine any differences between previous and present survey data. The newly surveyed top-of-casing data for GH-26 and GH-27 turned out to be exactly 1.2 feet lower than that previously reported (1998b). Therefore, the top-of-casing data for wells GH-1 through GH-27 were lowered by 1.2 feet assuming that the difference was uniform. Elevations are based on North American Vertical Datum (NAVD) 1988 and they were transferred from benchmark "Tidal BM No. 2-14". The published elevation for that benchmark is 15.57 feet. The groundwater elevation was calculated by subtracting the depth to water from the top of casing elevation.

### 2.6.2 Aquifer Characteristics

The CAR (USACE, 1992) presented groundwater hydraulic conductivity testing data and tidal influence monitoring data on wells GH-6 and GH-12. Therefore, these tasks were not repeated during this investigation.

## 2.7 GROUNDWATER SAMPLING

### 2.7.1 Free Product Recovery and Sampling

Free product was not discovered in groundwater monitoring wells GH-1 through GH-31 during this investigation. Due to the size limitations of the well pipe (0.5-inch ID) in micro-wells GH-32 through GH-39, fluid measurements could only be conducted with a water level indicator. However, laboratory data

(discussed in Section 3.4) indicate that hydrocarbon concentrations were low in samples from those wells. The data implies that free product was not present in micro-wells GH-32 through GH-39.

### 2.7.2 Groundwater Sampling of Monitoring Wells and Micro-Wells

Groundwater sampling of monitoring wells and micro-wells was performed to determine the presence or absence of dissolved petroleum hydrocarbons in groundwater in the vicinity of Gas Hill Fuel Farm. Groundwater samples were collected by TtNUS personnel wells as follows: GH-23, GH-25 through GH-31 on July 29, 1999; GH-1, GH-12, GH-14, GH-15, GH-21, GH-22, and GH-24 on July 30, 1999; GH-2, GH-3, GH-9, GH-10, GH-13, GH-16, GH-17, and GH-19 on August 2, 1999; GH-4 through GH-8 and GH-20 on August 3, 1999; GH-32 through GH-37 on September 2, 1999; and, GH-38 and GH-39 on September 3, 1999. As previously indicated, a sample was not collected from GH-18 because that well could not be located. Additionally, GH-11 was not sampled because on two occasions when TtNUS field crews plumbed that well, they encountered an obstruction at about 8 to 9 feet below the top-of-casing. The groundwater samples were analyzed for constituents outlined in the CAP (TtNUS, 1999a) as follows: EPA Method 8021B for VOA, EPA Method 8310 for PAH, EPA Method 239.2 for lead (unfiltered). Prior to sampling, approximately three to five well volumes of groundwater were purged from each well using low flow quiescent sampling methods. Temperature, pH, specific conductance and turbidity measurements and well purge volumes were recorded at the time of sample collection. Groundwater sample log sheets are in **Appendix F**. Groundwater samples were placed on ice and shipped to Accutest Laboratories, Inc., Orlando, Florida.

Sampling activities were performed in general accordance with the procedures prescribed in the FDEP Quality Assurance Sections: Standard Operating Procedures for Laboratory Operations and Sample Collection Activities, (DEP-001/92), adopted by TtNUS' CompQAP. In accordance with DEP-001/92 section 4.4.2, sample preservation was accomplished using pre-preserved containers from a laboratory with an FDEP-approved CompQAP (Accutest Laboratories, Inc.). During the sampling events, quality control samples (e.g. trip blanks and duplicates) were prepared and submitted to the laboratory as required by the CompQAP. Sampling activities were documented in a site-specific field logbook, and samples were transmitted under chain-of-custody protocols to the laboratory. Groundwater laboratory data are included in **Appendix G.**

# 3.0 RESULTS OF INVESTIGATION

## 3.1 SITE HYDROGEOLOGY

### 3.1.1 Lithology

The soil data collected offsite appeared similar to that reported in the CAR's Figure 4-C (USACE, 1992), which indicated mostly silty sands with a thin lens (less than 2 feet thick) of clayey sand on the eastern end of the cross-section at a depth less than 10 feet bls. The soil data from onsite was considered fill dirt and consisted mostly of fine-grained silty sands with the exception being the soils from the boring for well GH-38. Since adequate cross-sections exist from a previous report (USACE, 1993) and our data does not contradict this info, no lithologic cross-section was constructed for this addendum. Soil boring logs are included as **Appendix A.**

### 3.1.2 Aquifer Characteristics and Classification

The surficial aquifer underlying the Site was classified in the CAR (USACE, 1992) as a G-II aquifer. They also performed aquifer characterization studies to determine hydraulic conductivity, hydraulic gradient, groundwater seepage velocity and transmissivity. During the current investigation, the elevation of the shallow aquifer ranged from 0.37 to 7.36 feet msl. The depth-to-groundwater measurements are presented in **Table 3-1.** The groundwater flow direction for the water table is depicted in **Figure 3-1.** The drastic change in topography from the top of Gas Hill Fuel Farm to the perimeter support the conclusion that the groundwater flows radially off Gas Hill Fuel Farm. The CAR (USACE, 1992) indicated that groundwater flow in the surficial aquifer was generally toward the east, which is toward the St. Johns River.

**Table 3-1**
**Groundwater Elevation and Monitoring Well Construction Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Well Number JAX-159-GH- | Screened Interval Depth (feet, bls) | Top-of Casing Elevation (feet) | June 29 and 30, 1998 | | September 29 and 30, 1998 | |
|---|---|---|---|---|---|---|
| | | | Depth to Water Below Top of Casing (feet) | Water Elevation (feet) | Depth to Water Below Top of Casing (feet) | Water Elevation (feet) |
| 6 | 2.0 to 11.0 | 6.79 | 5.40 | 1.39 | 2.64 | 4.15 |
| 7 | 1.0 to 10.0 | 5.94 | 4.39 | 1.55 | 2.69 | 3.25 |
| 8 | 3.5 to 12.5 | 11.34 | 8.29 | 3.05 | 5.92 | 5.42 |
| 9 | 1.0 to 10.0 | 9.25 | 8.35 | 0.90 | 4.20 | 5.05 |
| 13 | 1.0 to 10.0 | 10.44 | 7.54 | 2.90 | 4.89 | 5.55 |
| 14 | 0.6 to 10.6 | 9.55 | 6.73 | 2.82 | 4.30 | 5.25 |
| 15 | 0.7 to 10.7 | 9.36 | 6.28 | 3.08 | 3.46 | 5.90 |
| 16 | 0.6 to 10.1 | 9.32 | 5.93 | 3.39 | 3.33 | 5.99 |
| 17 | 1.6 to 11.6 | 8.59 | 7.43 | 1.16 | 4.41 | 4.18 |
| 19 | 0.8 to 10.8 | 6.38 | 3.51 | 2.87 | 1.12 | 5.26 |
| 20 | 30.9 to 36.0 | 5.89 | 2.85 | 3.04 | 2.72 | 3.17 |
| 22 | 3.9 to 13.9 | 10.04 | 7.72 | 2.32 | 4.06 | 5.98 |
| 23 | 25.0 to 30.0 | 8.60 | 5.69 | 2.91 | 3.60 | 5.00 |
| 24 | 2.6 to 12.0 | 8.73 | 6.09 | 2.64 | 3.43 | 5.30 |
| 25 | 35.0 to 40.0 | 5.77 | 2.50 | 3.27 | 1.77 | 4.00 |
| 26 | 2.0 to 12.0 | 5.59 | 3.25 | 2.34 | 0.30 | 5.29 |
| 27 | 30.0 to 35.0 | 5.93 | 2.25 | 3.68 | 1.25 | 4.68 |

Notes: bls= below land surface.

**Table 3-1 (Cont'd)**
**Groundwater Elevation and Monitoring Well Construction Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Well Number JAX-159-GH- | Screened Interval Depth (feet,bls) | Top-of Casing Elevation (feet) | July 28, 1999 | | September 2, 1999 | |
|---|---|---|---|---|---|---|
| | | | Depth to Water Below Top of Casing (feet) | Water Elevation (feet) | Depth to Water Below Top of Casing (feet) | Water Elevation (feet) |
| 1 | 1.0 to 10.0 | 9.02 | 6.93 | 2.09 | NM | NM |
| 2 | 1.0 to 10.0 | 9.29 | 6.79 | 2.50 | NM | NM |
| 3 | 1.0 to 10.0 | 8.38 | 6.36 | 2.02 | NM | NM |
| 4 | 1.0 to 10.0 | 5.36 | 3.58 | 1.78 | NM | NM |
| 5 | 1.0 to 10.0 | 5.67 | 5.03 | 0.64 | NM | NM |
| 6 | 2.0 to 11.0 | 5.59 | 4.91 | 0.68 | NM | NM |
| 7 | 1.0 to 10.0 | 4.74 | 2.74 | 2.00 | NM | NM |
| 8 | 3.5 to 12.5 | 10.14 | 8.01 | 2.13 | NM | NM |
| 9 | 1.0 to 10.0 | 8.05 | 6.41 | 1.64 | NM | NM |
| 10 | 1.0 to 10.0 | 6.97 | 6.60 | 0.37 | NM | NM |
| 11 | 29.5 to 33.5 | 6.09 | 4.00 | 2.09 | NM | NM |
| 12 | 29.0 to 33.0 | 5.92 | 4.10 | 1.82 | NM | NM |
| 13 | 1.0 to 10.0 | 9.24 | 6.43 | 2.81 | NM | NM |
| 14 | 0.6 to 10.6 | 8.35 | 6.24 | 2.11 | NM | NM |
| 15 | 0.7 to 10.7 | 8.16 | 5.98 | 2.18 | NM | NM |
| 16 | 0.6 to 10.1 | 8.12 | 5.72 | 2.40 | NM | NM |
| 17 | 1.6 to 11.6 | 7.39 | 6.34 | 1.05 | NM | NM |
| 18 | 1.7 to 10.7 | n/a | n/a | n/a | NM | NM |
| 19 | 0.8 to 10.8 | 5.18 | 3.06 | 2.12 | NM | NM |
| 20 | 30.9 to 36.0 | 4.69 | 3.05 | 1.64 | NM | NM |
| 21 | 31.5 to 36.0 | 8.81 | 6.60 | 2.21 | NM | NM |
| 22 | 3.9 to 13.9 | 8.84 | 7.13 | 1.71 | NM | NM |
| 23 | 25.0 to 30.0 | 7.40 | 5.29 | 2.11 | NM | NM |
| 24 | 2.6 to 12.0 | 7.53 | 5.70 | 1.83 | NM | NM |
| 25 | 35.0 to 40.0 | 4.57 | 2.40 | 2.17 | NM | NM |
| 26 | 2.0 to 12.0 | 4.39 | 2.53 | 1.86 | NM | NM |
| 27 | 30.0 to 35.0 | 4.73 | 2.58 | 2.15 | NM | NM |
| 28 | 30.0 to 35.0 | 5.07 | 2.60 | 2.47 | NM | NM |
| 29 | 3.0 to 13.0 | 5.16 | 3.12 | 2.04 | NM | NM |
| 30 | 3.0 to 13.0 | 4.97 | 2.50 | 2.47 | NM | NM |
| 31 | 3.0 to 13.0 | 5.47 | 2.84 | 2.63 | NM | NM |
| 32 | 2.5 to 11.5 | 4.05 | NM | NM | 1.82 | 2.23 |
| 33 | 2.5 to 11.5 | 4.62 | NM | NM | 2.50 | 2.12 |
| 34 | 3.5 to 12.5 | 5.59 | NM | NM | 3.20 | 2.39 |
| 35 | 15.5 to 24.5 | | NM | NM | 0.00 | |
| 36 | 16.5 to 25.5 | 22.70 | NM | NM | 15.34 | 7.36 |
| 37 | 12.0 to 21.0 | 19.72 | NM | NM | 12.59 | 7.13 |
| 38 | 13.0 to 22.0 | 21.03 | NM | NM | 15.10 | 5.93 |
| 39 | 14.0 to 23.0 | 18.97 | NM | NM | 13.70 | 5.27 |

Notes: bls=below land surface.
NM=not measured.

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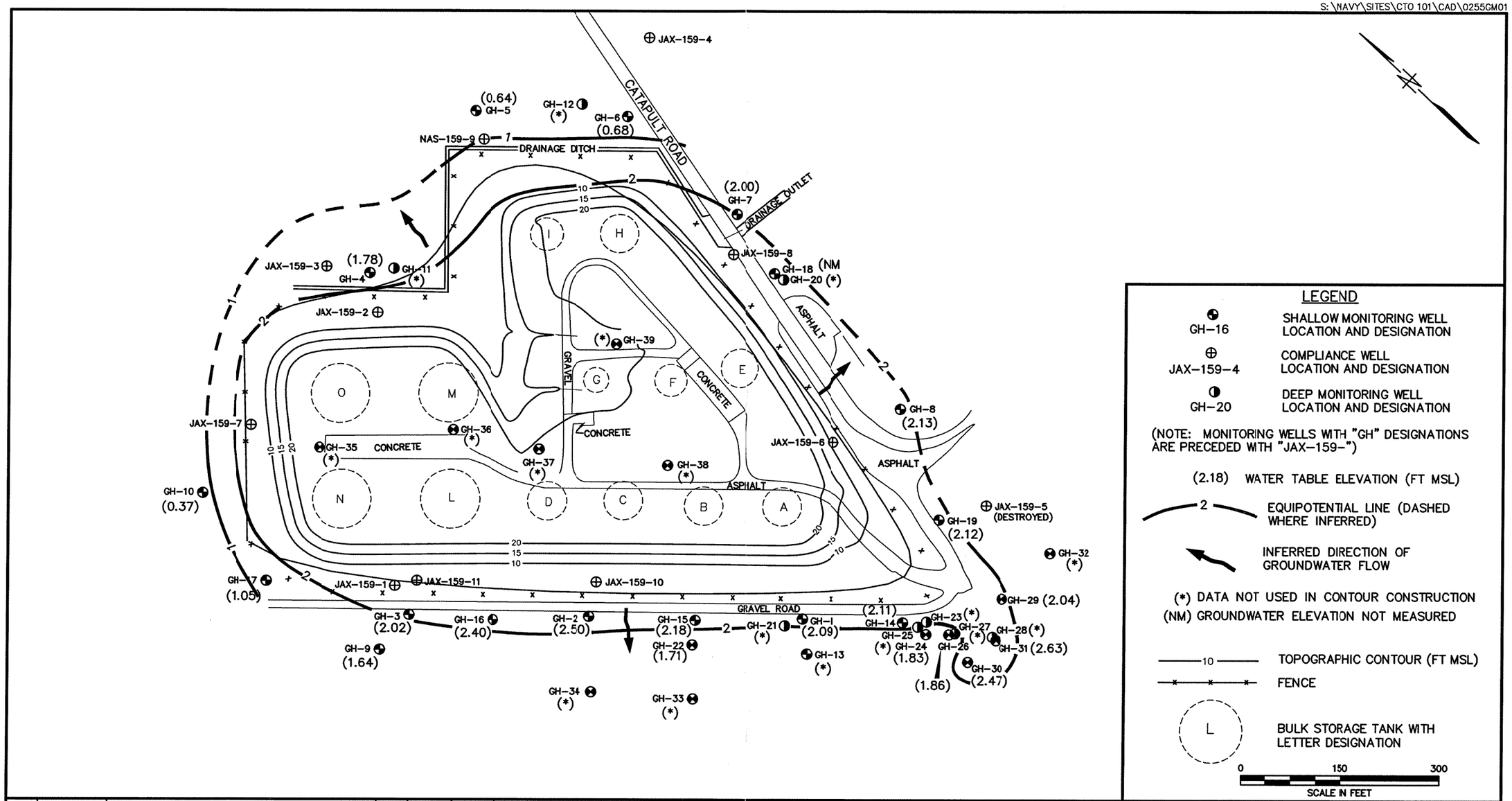



## LEGEND

| | |
|---|---|
| GH-16 | SHALLOW MONITORING WELL LOCATION AND DESIGNATION |
| JAX-159-4 | COMPLIANCE WELL LOCATION AND DESIGNATION |
| GH-20 | DEEP MONITORING WELL LOCATION AND DESIGNATION |

(NOTE: MONITORING WELLS WITH "GH" DESIGNATIONS ARE PRECEDED WITH "JAX-159-")

(2.18) WATER TABLE ELEVATION (FT MSL)

2 EQUIPOTENTIAL LINE (DASHED WHERE INFERRED)

INFERRED DIRECTION OF GROUNDWATER FLOW

(*) DATA NOT USED IN CONTOUR CONSTRUCTION

(NM) GROUNDWATER ELEVATION NOT MEASURED

10 TOPOGRAPHIC CONTOUR (FT MSL)

FENCE

L BULK STORAGE TANK WITH LETTER DESIGNATION

0 150 300
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY LLK DATE 10/21/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

DEPARTMENT OF THE NAVY SOUTHERN DIV NAVAL FACILITIES ENGINEERING COMMAND

GROUNDWATER ELEVATION CONTOUR MAP
JULY 28, 1999
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-1
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

## 3.2 SOIL QUALITY

As discussed previously, the soil impacts to the Site have been delineated by the CAR (USACE, 1992). During this investigation, TtNUS personnel collected soil vapor concentration data from inside the Gas Hill Fuel Farm, there were vapor concentrations in soils from borings associated with GH-35, GH-38 and GH-39 that indicated the presence of petroleum hydrocarbons in the range of 0 to 800 parts per million (ppm). **Table 3-2** contains the soil OVA-FID data.

As discussed in Section 2.2 and 2.5, soil samples were collected from the zone of highest soil vapor concentration. These soil samples were collected from the boreholes associated with wells GH-35 through GH-39. The depths at which the sampling took place were 16, 4, 4, 14, and 14 feet bls, respectively. The soil samples were collected on August 31 and September 1, 1999, and they were labeled as follows: NASJ-159-GH-35-16, NASJ-159-GH-36-4, NASJ-159-GH-37-4, NASJ-159-GH-38-14, and NASJ-159-GH-39-14.

Soil analytical data were reviewed and compared to Soil Cleanup Target Levels (SCTL) based on leachability of compounds to groundwater from Chapter 62-777. VOA (specifically, ethylbenzene and xylenes below 10 parts per billion) were detected only in the sample from GH-39-14, and those compounds detected were well below the SCTL. There were no detections of TRPH in the soil samples. Though various metals were detected in each of these soil samples, they were below the respective SCTL. With regard to PAH, the only compounds detected were in samples from GH-35-16, GH-37-4, and GH-39-14. When compared to the appropriate SCTL, the soil analytical data indicate that none of the samples exceeded those goals. The laboratory results have been included in **Appendix D**. The results are summarized for PAH data on **Table 3-3**.

## 3.3 MASS OF CONTAMINANT IN SOIL

The existing area of impacted soil was graphically represented in the CAR Addendum (USACE, 1993). Since the soil analytical data collected for the Gas Hill Fuel Farm during this investigation doesn't indicate additional areas of contamination, this report and will not re-report this information.

**Table 3-2**
**Soil OVA-FID Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Monitoring Well I.D. | Date of Measurement | Sample Depth (feet bls) | Headspace Readings (ppm) | | |
|---|---|---|---|---|---|
| | | | Total Organic Reading | Carbon Filtered Reading | Net Reading |
| GH-35 | 8/31/99 | 2 | 0 | NA | 0 |
| | 8/31/99 | 4 | 0 | NA | 0 |
| | 8/31/99 | 6 | 0 | NA | 0 |
| | 8/31/99 | 8 | 0 | NA | 0 |
| | 8/31/99 | 10 | 0 | NA | 0 |
| | 8/31/99 | 12 | 0 | NA | 0 |
| | 8/31/99 | 14 | 0 | NA | 0 |
| | 8/31/99 | 16 | 190 | 85 | 105 |
| | 8/31/99 | 18[2] | 350 | 300 | 50 |
| | 8/31/99 | 20[2] | 990 | 425 | 565 |
| GH-36 | 8/31/99 | 2 | 0 | NA | 0 |
| | 8/31/99 | 4 | 0 | NA | 0 |
| | 8/31/99 | 6 | 0 | NA | 0 |
| | 8/31/99 | 8 | 0 | NA | 0 |
| | 8/31/99 | 10 | 0 | NA | 0 |
| | 8/31/99 | 12 | 0 | NA | 0 |
| | 8/31/99 | 14 | 0 | NA | 0 |
| | 8/31/99 | 16 | 0 | NA | 0 |
| | 8/31/99 | 18[1] | 0 | NA | 0 |
| GH-37 | 8/31/99 | 2 | 0 | NA | 0 |
| | 8/31/99 | 4 | 0 | NA | 0 |
| | 8/31/99 | 6 | 0 | NA | 0 |
| | 8/31/99 | 8 | 0 | NA | 0 |
| | 8/31/99 | 10 | 0 | NA | 0 |
| | 8/31/99 | 12 | 0 | NA | 0 |
| | 8/31/99 | 13 | 0 | NA | 0 |
| | 8/31/99 | 14[1] | 10 | 9 | 1 |

**Table 3-2 (cont'd)**
**Soil OVA-FID Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Monitoring Well I.D. | Date of Measurement | Sample Depth (feet bls) | Headspace Readings (ppm) | | |
|---|---|---|---|---|---|
| | | | Total Organic Reading | Carbon Filtered Reading | Net Reading |
| GH-38 | 9/1/99 | 2 | 0 | NA | 0 |
| | 9/1/99 | 4 | 0 | NA | 0 |
| | 9/1/99 | 6 | 0 | NA | 0 |
| | 9/1/99 | 8 | 20 | 19 | 1 |
| | 9/1/99 | 10 | 88 | 25 | 63 |
| | 9/1/99 | 12 | 300 | 251 | 49 |
| | 9/1/99 | 14 | 995 | 600 | 395 |
| GH-39 | 9/1/99 | 2 | 0 | NA | 0 |
| | 9/1/99 | 4 | 0 | NA | 0 |
| | 9/1/99 | 6 | 0 | NA | 0 |
| | 9/1/99 | 8 | 50 | 0 | 50 |
| | 9/1/99 | 10 | 500 | 100 | 400 |
| | 9/1/99 | 12 | 500 | 0 | 500 |
| | 9/1/99 | 14 | 1000 | 200 | 800 |

Notes: NA=not analyzed.
bls=below land surface.
ppm=part per million equivalent methane.
ND=not determined.
I.D.=inside diameter.
[1] Sample depth below the water table.

**Table 3-3**
**Soil Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP SCTL[1] | NASJ-159-GH-35-16 | NASJ-159-GH-36-4 | NASJ-159-GH-37-4 |
|---|---|---|---|---|
| | | 8/31/99 | 8/31/99 | 8/31/99 |
| Depth (feet) | | 16 | 4 | 4 |
| **Volatile Organic Hydrocarbons (EPA Method 8021) mg/kg** | | | | |
| Ethylbenzene | 0.6 | 0.0011 U | 0.0012 U | 0.0010 U |
| m-Xylene & p-Xylene | 0.2 | 0.0020 U | 0.0020 U | 0.0020 U |
| **Metals (EPA Method 6010) mg/kg** | | | | |
| Arsenic | 29 | 0.60 U | 0.60 U | 0.60 U |
| Barium | 1600 | 24 U | 22 U | 25 U |
| Chromium | 38[2] | 2.0 | 1.6 | 1.0 U |
| Lead | *** | 1.0 U | 2.9 | 1.5 |
| Selenium | 5 | 2.0 U | 2.0 U | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (EPA Method 8310) mg/kg** | | | | |
| Fluorene | 160 | 0.0040 U | 0.0037 U | 0.0042 U |
| Fluoranthene | 1200 | 0.0040 U | 0.0037 U | 0.0050 I |
| Pyrene | 880 | 0.0020 U | 0.0019 U | 0.0054 I |
| Benzo (a) anthracene | 3.2 | 0.0020 U | 0.0019 U | 0.0021 U |
| Chrysene | 77 | 0.0020 U | 0.0019 U | 0.0042 |
| Benzo (b) flouranthene | 9.8 | 0.0040 U | 0.0030 U | 0.0060 I |
| Benzo (k) fluoranthene | 25 | 0.0020 U | 0.0020 U | 0.0020 I |
| Benzo (a) pyrene | 7.8 | 0.0020 U | 0.0020 U | 0.0080 |
| Dibenzo (a,h) anthracene | 14 | 0.0040 U | 0.0037 U | 0.012 |
| Benzo (g,h,I) perylene | 32000 | 0.0040 U | 0.0037 U | 0.012 |
| Indeno (1,2,3-cd) pyrene | 28 | 0.0020 U | 0.0019 U | 0.0054 |
| 1-methylnaphthalene | 2.2 | 0.041 | 0.037 U | 0.042 U |
| 2-methylnaphthalene | 6.1 | 0.044 | 0.037 U | 0.042 U |

See Notes at end of table.

## Table 3-3 (cont'd)
## Soil Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP SCTL[1] | NASJ-159-GH-38-14 | NASJ-159-GH-39-14 |
|---|---|---|---|
| | | 9/1/99 | 9/1/99 |
| Depth (feet) | | 14 | 14 |
| **Volatile Organic Hydrocarbons (EPA Method 8021) mg/kg** | | | |
| Ethylbenzene | 0.6 | 0.0015 U | 0.0042 I |
| m-Xylene & p-Xylene | 0.2 | 0.0020 U | 0.010 I |
| **Metals (EPA Method 6010) mg/kg** | | | |
| Arsenic | 29 | 0.60 U | 1.8 I |
| Barium | 1600 | 25 U | 32 |
| Chromium | 38[2] | 1.4 | 7.0 |
| Lead | *** | 1.9 | 28 |
| Selenium | 5 | 2.0 U | 2.0 |
| **Polynuclear Aromatic Hydrocarbons (EPA Method 8310) mg/kg** | | | |
| Fluorene | 160 | 0.0042 U | 0.0080 |
| Fluoranthene | 1200 | 0.0042 U | 0.0080 |
| Pyrene | 880 | 0.0021 U | 0.0022 U |
| Benzo (a) anthracene | 3.2 | 0.0021 U | 0.0020 I |
| Chrysene | 77 | 0.0021 U | 0.018 |
| Benzo (b) flouranthene | 9.8 | 0.0040 U | 0.0040 U |
| Benzo (k) fluoranthene | 25 | 0.0020 U | 0.0020 U |
| Benzo (a) pyrene | 7.8 | 0.0020 U | 0.0020 U |
| Dibenzo (a,h) anthracene | 14 | 0.0042 U | 0.022 |
| Benzo (g,h,I) perylene | 32000 | 0.0042 U | 0.0043 U |
| Indeno (1,2,3-cd) pyrene | 28 | 0.0021 U | 0.0020 I |
| 1-methylnaphthalene | 2.2 | 0.042 U | 0.210 |
| 2-methylnaphthalene | 6.1 | 0.042 U | 0.180 |

[1]Chapter 62-777, FAC (August 5, 1999). SCTL based on leachability as it affects Groundwater Criteria on Table II.
[2] Value is for hexavalent chromium.
*** Values must be derived.
Notes: EPA = Environmental Protection Agency.
FDEP = Florida Department of Environmental Protection.
SCTL = Soil Cleanup Target Level.
mg/kg = milligrams per kilogram.
U = Compound was analyzed but not detected to the level shown.
I = analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## 3.4 WATER QUALITY

### 3.4.1 Water Table Monitoring Wells

The analytical data for the groundwater samples from the water table monitoring wells were compared to FDEP GCTL. The analytical results from the early August sampling event indicated the GCTL were exceeded in the following water table monitoring wells: GH-1, GH-2, GH-14, GH-15, GH-22, GH-26, and GH-29. With the exception of GH-2, the only GCTL exceeded in the groundwater samples from these monitoring wells was for benzene. The benzene concentrations ranged from 1.2 to 270 micrograms per liter (µg/L). The concentrations reported for the sample from GH-2 for ethylbenzene (38 µg/L) and total xylenes (758 µg/L) exceeded their respective GCTL.

A similar comparison of GCTL values with the results from the sampling (early September) event for the DPT micro-wells indicated that 1- and 2-methylnaphthalene were detected at 99 and 62 µg/L, respectively, in the sample from GH-35, and the sample from GH-39 contained benzene at 3.2 µg/L. These second round results exceeded the respective GCTL. Lead levels for the water table samples from both sampling events were below the method detection level of 0.0060 milligrams per liter (mg/L), which is below the GCTL of 0.015 mg/L. The results for both sampling events are summarized in **Table 3-4**. The benzene concentration data is presented on **Figure 3-2**. The total VOA (TVOA [defined by Chapter 62-770.200(27) as the sum of the concentrations of benzene, toluene, total xylenes and ethylbenzene]) map, as required by Chapter 62-770.600(7)(a)26, is presented on **Figure 3-3**. Since the only remaining concentrations of significance belong to the naphthalene group (naphthalene, 1-methylnaphthalene, and 2-methylnaphthalene), that concentration data is presented on **Figure 3-4.** Groundwater laboratory analytical results are provided as **Appendix G**.

### 3.4.2 Deep Monitoring Wells

The analytical data for the deep monitoring wells (GH-12, GH-20, GH-21, GH-23, GH-25, GH-27, and GH-28) was reviewed and compared to GCTL data. Only samples from deep monitoring wells GH-23 and GH-27 exceeded GCTL. The sample from GH-23 contained benzene (100 µg/L), ethylbenzene (44 µg/L), and total xylenes (113 µg/L), which exceeded the respective GCTL. The sample from GH-27 contained benzene at 31 µg/L, which exceeds the GCTL for that compound. Lead levels for the deep zone groundwater samples were below the method detection level of 0.0060 milligrams per liter (mg/L), which is below the GCTL of 0.015 mg/L. The benzene concentration data is presented on **Figure 3-2**, the TVOA

concentration data is presented on **Figure 3-3**, and the naphthalenes concentration data is presented on **Figure 3-4**. Groundwater laboratory analytical results are provided as **Appendix G.**

**Table 3-4**
**Groundwater Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-1 | | | | | | | JAX-159-GH-2 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/30/98 | 7/30/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | 300 | 230 | NA | NA | NA | NA | 130 | BDL | 1.1 | NA | NA | NA | NA | 6.0 |
| Toluene | 40 | 400 | 13 | 6.5 | NA | NA | NA | NA | 10 U | BDL | 1.9 | NA | NA | NA | NA | 8.0 |
| Ethylbenzene | 30 | 300 | 61 | 30 | NA | NA | NA | NA | 10 U | 7.4 | 16 | NA | NA | NA | NA | 38 |
| Total Xylenes | 20 | 200 | 88 | BDL | NA | NA | NA | NA | 10 U | 14 | 85 | NA | NA | NA | NA | 758 |
| MTBE | 35 | 350 | 39 | BDL | NA | NA | NA | NA | 20 U | BDL | BDL | NA | NA | NA | NA | 10 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | BDL | NA | NA | NA | NA | NA | 1.0 U | BDL | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | BDL | NA | NA | NA | NA | NA | 1.0 U | BDL | NA | NA | NA | NA | NA | 3.3 |
| Naphthalene | 20 | 200 | BDL | BDL | NA | NA | NA | NA | 0.70 I | BDL | BDL | NA | NA | NA | NA | 2.0 |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-3 | | | | | | | JAX-159-GH-4 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/30/98 | 8/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/3/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Ethylbenzene | 30 | 300 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | BDL | BDL | NA | NA | NA | NA | 2.0 U | BDL | BDL | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | 80 | 80 | NA | NA | NA | NA | 3.7 | BDL | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | BDL | NA | NA | NA | NA | NA | 1.0 U | BDL | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | 19 | 19 | NA | NA | NA | NA | 0.50 U | BDL | BDL | NA | NA | NA | NA | 0.50 U |

See Notes at end of table.

## Table 3-4 (cont'd)
## Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Staton Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-5 | | | | | | | JAX-159-GH-6 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/30/98 | 8/3/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/30/98 | 8/3/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | ND | ND | ND | ND | 1.0 U |
| Toluene | 40 | 400 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | ND | ND | ND | ND | 1.0 U |
| Ethylbenzene | 30 | 300 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | ND | ND | ND | ND | 1.0 U |
| Total Xylenes | 20 | 200 | BDL | BDL | NA | NA | NA | NA | 1.0 U | BDL | BDL | ND | ND | ND | ND | 1.0 U |
| MTBE | 35 | 350 | BDL | BDL | NA | NA | NA | NA | 2.0 U | BDL | BDL | ND | ND | ND | ND | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | BDL | NA | NA | NA | NA | NA | 1.0 U | BDL | NA | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | BDL | NA | NA | NA | NA | NA | 1.0 U | BDL | NA | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | BDL | BDL | NA | NA | NA | NA | 0.50 U | BDL | BDL | ND | ND | ND | ND | 0.50 U |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-7 | | | | | | | JAX-159-GH-8 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/3/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 8/3/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | BDL | BDL | ND | ND | ND | ND | 1.0 U | 4.9 | BDL | ND | ND | ND | ND | 1.0 U |
| Toluene | 40 | 400 | BDL | BDL | ND | ND | ND | ND | 1.0 U | BDL | 1.2 | ND | ND | ND | ND | 1.0 U |
| Ethylbenzene | 30 | 300 | BDL | BDL | ND | ND | ND | ND | 1.0 U | BDL | BDL | ND | ND | ND | ND | 1.0 U |
| Total Xylenes | 20 | 200 | BDL | BDL | ND | ND | ND | ND | 1.0 U | BDL | BDL | ND | ND | ND | ND | 1.0 U |
| MTBE | 35 | 350 | BDL | BDL | ND | ND | ND | ND | 2.0 U | BDL | BDL | ND | ND | ND | ND | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | BDL | NA | ND | ND | ND | ND | 1.0 U | BDL | NA | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | BDL | NA | ND | ND | ND | ND | 1.0 U | BDL | NA | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | BDL | BDL | ND | ND | ND | ND | 0.50 U | BDL | BDL | ND | ND | ND | ND | 0.50 U |

See Notes at end of table.

**Table 3-4 (cont'd)**
**Groundwater Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-9 | | | | | | | JAX-159-GH-10 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | BDL | BDL | ND | ND | ND | ND | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | BDL | 1.4 | ND | ND | ND | ND | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Ethylbenzene | 30 | 300 | BDL | BDL | ND | ND | ND | ND | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | BDL | BDL | ND | ND | ND | ND | 1.0 U | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | BDL | BDL | ND | ND | ND | ND | 2.0 U | BDL | BDL | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | BDL | NA | ND | ND | ND | ND | 1.0 U | BDL | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | BDL | NA | ND | ND | ND | ND | 1.0 U | BDL | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | BDL | BDL | ND | ND | ND | ND | 0.50 U | BDL | BDL | NA | NA | NA | NA | 0.50 U |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-11 | | | | | | | JAX-159-GH-12 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/30/98 | 7/30/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 7/30/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | BDL | BDL | NA | NA | NA | NA | NA | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | BDL | BDL | NA | NA | NA | NA | NA | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Ethylbenzene | 30 | 300 | BDL | BDL | NA | NA | NA | NA | NA | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | BDL | BDL | NA | NA | NA | NA | NA | BDL | BDL | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | BDL | BDL | NA | NA | NA | NA | NA | BDL | BDL | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | BDL | NA | NA | NA | NA | NA | NA | BDL | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | BDL | NA | NA | NA | NA | NA | NA | BDL | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | BDL | 150 | NA | NA | NA | NA | NA | BDL | BDL | NA | NA | NA | NA | 0.50 U |

See Notes at end of table.

**Table 3-4 (cont'd)**
**Groundwater Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-13 | | | | | | | JAX-159-GH-14 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/30/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | 2.0 | BDL | ND | ND | ND | ND | 1.0 U | NA | 58.0 | 830 | 13 | 1160 | 19.0 | 270 |
| Toluene | 40 | 400 | BDL | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | 31 | ND | 83.4 | ND | 20 U |
| Ethylbenzene | 30 | 300 | BDL | BDL | ND | ND | ND | ND | 1.4 | NA | BDL | 52 | ND | 186 | ND | 20 U |
| Total Xylenes | 20 | 200 | BDL | BDL | ND | ND | ND | ND | 14.5 | NA | BDL | 139 | ND | 693 | ND | 20 U |
| MTBE | 35 | 350 | BDL | BDL | ND | ND | ND | ND | 2.0 U | NA | BDL | ND | ND | ND | ND | 40 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | BDL | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | BDL | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | BDL | BDL | ND | ND | ND | ND | 0.50 U | NA | BDL | ND | ND | ND | ND | 0.90 |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-15 | | | | | | | JAX-159-GH-16 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 7/30/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | 850 | 94 | 280 | 287 | 308 | 260 | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Toluene | 40 | 400 | NA | 200 | 10 | ND | 6.2 | 2.7 | 20 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | 54 | 11 | 15 | 14.9 | 8.9 | 20 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Total Xylenes | 20 | 200 | NA | 190 | 26 | ND | 13.5 | 3.3 | 20 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| MTBE | 35 | 350 | NA | BDL | ND | ND | ND | ND | 40 U | NA | BDL | ND | ND | ND | ND | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | NA | BDL | ND | ND | ND | ND | 1.7 | NA | BDL | ND | ND | ND | ND | 0.50 U |

See Notes at end of table.

## Table 3-4 (cont'd)
## Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-17 | | | | | | | JAX-159-GH-18 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | NA | NA | NA | NA | NA |
| Toluene | 40 | 400 | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | 2.3 | NA | NA | NA | NA | NA |
| Ethylbenzene | 30 | 300 | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | NA | NA | NA | NA | NA |
| Total Xylenes | 20 | 200 | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | NA | NA | NA | NA | NA |
| MTBE | 35 | 350 | NA | BDL | ND | ND | ND | ND | 2.0 U | NA | BDL | NA | NA | NA | NA | NA |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | NA | NA | NA | NA | NA |
| 2-Methylnaphthalene | 20 | NL | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | NA | NA | NA | NA | NA |
| Naphthalene | 20 | 200 | NA | BDL | ND | ND | ND | ND | 0.50 U | NA | BDL | NA | NA | NA | NA | NA |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-19 | | | | | | | JAX-159-GH-20 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 8/3/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | BDL | 22 | ND | 20.4 | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Toluene | 40 | 400 | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Total Xylenes | 20 | 200 | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| MTBE | 35 | 350 | NA | BDL | ND | ND | ND | ND | 2.0 U | NA | BDL | ND | ND | ND | ND | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | BDL | ND | ND | ND | ND | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | NA | BDL | ND | ND | ND | ND | 0.50 U | NA | BDL | ND | ND | ND | ND | 0.50 U |

See Notes at end of table.

**Table 3-4 (cont'd)**
**Groundwater Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-21 | | | | | | | JAX-159-GH-22 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 7/30/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/30/98 | 9/29/98 | 7/30/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | BDL | NA | NA | NA | NA | 1.0 U | NA | BDL | ND | ND | 1.5 | ND | 1.2 |
| Toluene | 40 | 400 | NA | BDL | NA | NA | NA | NA | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | BDL | NA | NA | NA | NA | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Total Xylenes | 20 | 200 | NA | BDL | NA | NA | NA | NA | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| MTBE | 35 | 350 | NA | BDL | NA | NA | NA | NA | 2.0 U | NA | BDL | ND | ND | ND | ND | 2 |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | BDL | NA | NA | NA | NA | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | BDL | NA | NA | NA | NA | 1.0 U | NA | BDL | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | NA | BDL | NA | NA | NA | NA | 0.50 U | NA | BDL | ND | ND | ND | ND | 0.50 U |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-23 | | | | | | | JAX-159-GH-24 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/5/97 | 6/29/98 | 9/29/98 | 7/29/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/5/97 | 6/29/98 | 9/29/98 | 7/30/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | 630 | 620 | 202 | 296 | 100 | NA | NA | 650 | 260 | 823 | ND | 1.0 U |
| Toluene | 40 | 400 | NA | NA | 36 | 70 | 6.4 | 27.7 | 12 | NA | NA | 34 | 10 | 44.4 | ND | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | NA | 230 | 280 | 46.1 | 143 | 44 | NA | NA | 50 | 24 | 83.8 | ND | 3.2 |
| Total Xylenes | 20 | 200 | NA | NA | 590 | 830 | 45.0 | 436 | 113 | NA | NA | 122 | 38 | 209 | ND | 2.1 |
| MTBE | 35 | 350 | NA | NA | 14 | ND | ND | ND | 10 U | NA | NA | ND | ND | ND | ND | 3.5 |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | ND | ND | ND | ND | 4.3 | NA | NA | ND | ND | ND | ND | 0.90 |

See Notes at end of table.

**Table 3-4 (cont'd)**
**Groundwater Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Staton Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-25 | | | | | | | JAX-159-GH-26 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/29/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/29/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | ND | ND | 1.2 | ND | 1.0 U | NA | NA | ND | ND | 897 | 32 | 9.9 |
| Toluene | 40 | 400 | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | 60.1 | ND | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | 119 | 5.6 | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | 303 | ND | 1.0 U |
| MTBE | 35 | 350 | NA | NA | ND | ND | ND | ND | 2.0 U | NA | NA | ND | ND | ND | ND | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | ND | ND | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | ND | ND | ND | ND | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | ND | ND | ND | ND | 0.50 U | NA | NA | ND | ND | ND | ND | 0.50 U |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-27 | | | | | | | JAX-159-GH-28 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/29/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/29/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | ND | ND | 3.4 | 122 | 31 | NA | NA | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | NA | NA | ND | ND | ND | 3.8 | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | NA | ND | ND | ND | 17.2 | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | ND | ND | ND | 12.1 | 1.0 U | NA | NA | NA | NA | NA | NA | 4.7 |
| MTBE | 35 | 350 | NA | NA | ND | ND | ND | ND | 2.0 U | NA | NA | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | ND | ND | ND | ND | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | ND | ND | ND | ND | 0.50 U | NA | NA | NA | NA | NA | NA | 0.50 U |

See Notes at end of table.

**Table 3-4 (cont'd)**
**Groundwater Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Staton Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-29 | | | | | | | JAX-159-GH-30 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/29/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/29/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | NA | NA | NA | NA | 47 | NA | NA | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | NA | NA | NA | NA | NA | NA | 2.0 U | NA | NA | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 2.3 |
| 2-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | NA | NA | NA | NA | 0.50 U | NA | NA | NA | NA | NA | NA | 0.50 U |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-31 | | | | | | | JAX-159-GH-32 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 7/29/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/2/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | NA | NA | NA | NA | NA | NA | 5.6 | NA | NA | NA | NA | NA | NA | 1.2 I |
| Ethylbenzene | 30 | 300 | NA | NA | NA | NA | NA | NA | 1.8 | NA | NA | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | NA | NA | NA | NA | 11.7 | NA | NA | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | NA | NA | NA | NA | NA | NA | 2.0 U | NA | NA | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | NA | NA | NA | NA | 0.50 U | NA | NA | NA | NA | NA | NA | 0.50 U |

See Notes at end of table.

## Table 3-4 (cont'd)
## Groundwater Analytical Data

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Staton Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-33 | | | | | | | JAX-159-GH-34 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/2/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Ethylbenzene | 30 | 300 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | NA | NA | NA | NA | NA | NA | 2.0 U | NA | NA | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | NA | NA | NA | NA | 0.50 U | NA | NA | NA | NA | NA | NA | 0.50 U |

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-35 | | | | | | | JAX-159-GH-36 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/2/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | NA | NA | NA | NA | NA | NA | 4.0 | NA | NA | NA | NA | NA | NA | 2 |
| Ethylbenzene | 30 | 300 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | NA | NA | NA | NA | NA | NA | 2.0 U | NA | NA | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 99 | NA | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 62 | NA | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | NA | NA | NA | NA | 5.0 U | NA | NA | NA | NA | NA | NA | 0.50 U |

See Notes at end of table.

**Table 3-4 (cont'd)**
**Groundwater Analytical Data**

SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-37 | | | | | | | JAX-159-GH-38 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/2/99 | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/3/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Toluene | 40 | 400 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.1 I |
| Ethylbenzene | 30 | 300 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | NA | NA | NA | NA | NA | NA | 2.0 U | NA | NA | NA | NA | NA | NA | 2.0 U |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U | NA | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | NA | NA | NA | NA | 0.50 U | NA | NA | NA | NA | NA | NA | 0.50 U |

See Notes at end of table.

**Table 3-4 (cont'd)**
**Groundwater Analytical Data**

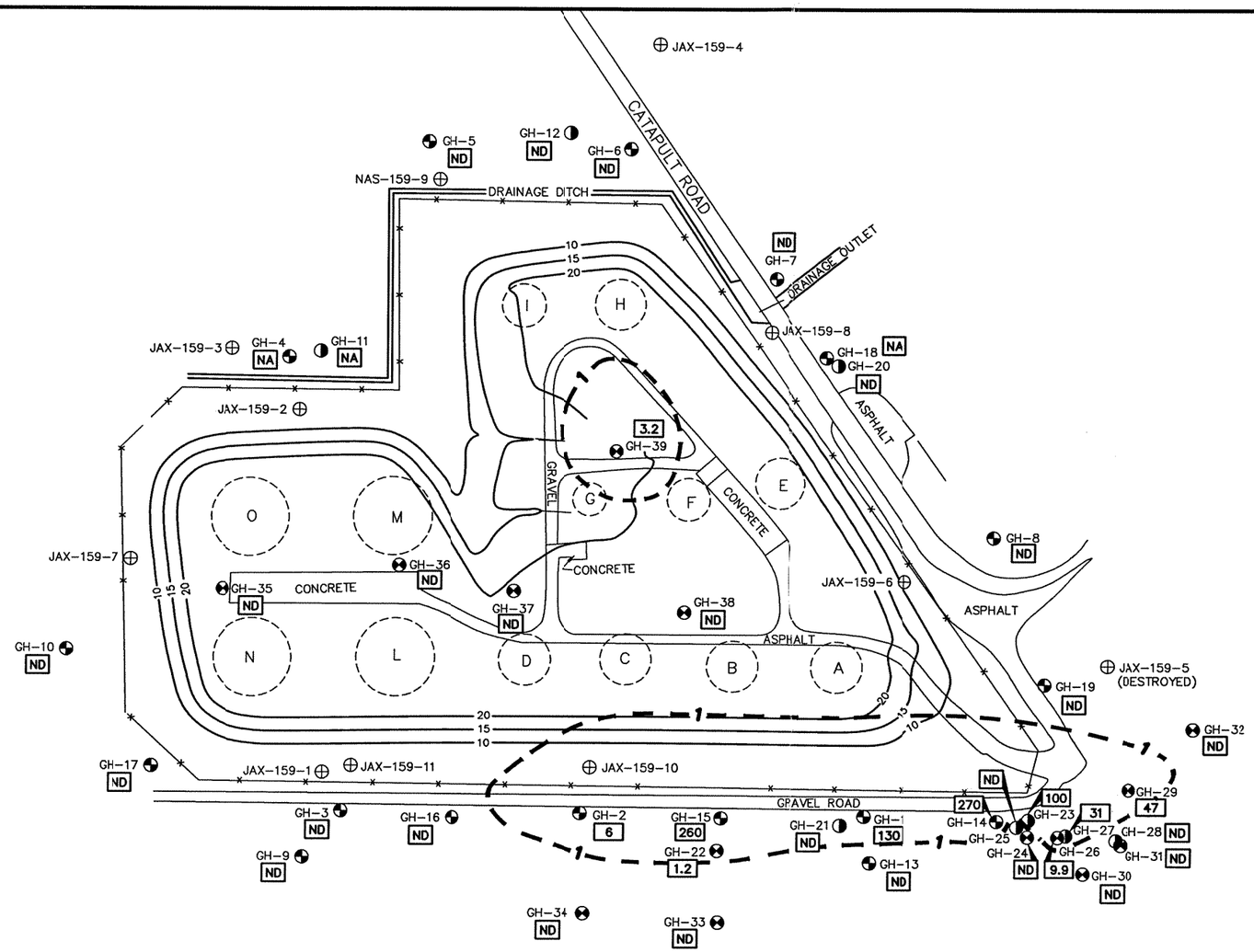
SAR Addendum II
Facility 159 (Gas Hill Fuel Farm)
Naval Air Station Jacksonville
Jacksonville, Florida

| Compound | FDEP GCTL[1] | FDEP NADSC[1] | JAX-159-GH-39 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1/10/92 | 2/9/93 | 9/4/97 | 12/4/97 | 6/29/98 | 9/29/98 | 9/3/99 |
| **Volatile Organic Compounds (USEPA Method 8021B)(µg/L)** | | | | | | | | | |
| Benzene | 1 | 100 | NA | NA | NA | NA | NA | NA | 3.2 |
| Toluene | 40 | 400 | NA | NA | NA | NA | NA | NA | 1.8 |
| Ethylbenzene | 30 | 300 | NA | NA | NA | NA | NA | NA | 1.0 U |
| Total Xylenes | 20 | 200 | NA | NA | NA | NA | NA | NA | 1.0 U |
| MTBE | 35 | 350 | NA | NA | NA | NA | NA | NA | 3.5 |
| **Polynuclear Aromatic Hydrocarbons (USEPA Method 8310)(µg/L)** | | | | | | | | | |
| 1-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U |
| 2-Methylnaphthalene | 20 | NL | NA | NA | NA | NA | NA | NA | 1.0 U |
| Naphthalene | 20 | 200 | NA | NA | NA | NA | NA | NA | 0.50 U |

[1]Chapter 62-777, Florida Administrative Code (FAC) (August 5, 1999).

Notes: USEPA = U.S. Environmental Protection Agency.
FDEP = Florida Department of Environmental Protection.
GCTL = Groundwater Cleanup Target Level.
NADSC = Natural Attentuation Default Source Concentrations.
NL = not listed in Chapter 62-770, FAC.
µg/L = microgram per liter.
ND = none detected.
MTBE = methyl tert butyl ether.
NA = not analyzed.
BDL = below detection limit.
U = compound was not detected above the level shown
I = analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL)

S:\NAVY\SITES\CTO 101\CAD\0255KM01




## LEGEND

| | |
|---|---|
| GH-16 | SHALLOW MONITORING WELL LOCATION AND DESIGNATION |
| JAX-159-4 | COMPLIANCE WELL LOCATION AND DESIGNATION |
| GH-20 | DEEP MONITORING WELL LOCATION AND DESIGNATION |

(NOTE: MONITORING WELLS WITH "GH" DESIGNATIONS ARE PRECEDED WITH "JAX-159-")

260 REPORTED BENZENE CONCENTRATION (MICROGRAMS PER LITER [µg/L])

ND = BENZENE NOT IDENTIFIED BY LAB (i.e., < 1 µg/L)

NA = NOT ANALYZED

1 APPROXIMATE AREA IN WHICH BENZENE CONCENTRATIONS EXCEED 1 µg/L

10 TOPOGRAPHIC CONTOUR (FT MSL)

FENCE

L BULK STORAGE TANK WITH LETTER DESIGNATION

0 150 300
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY LLK DATE 10/21/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

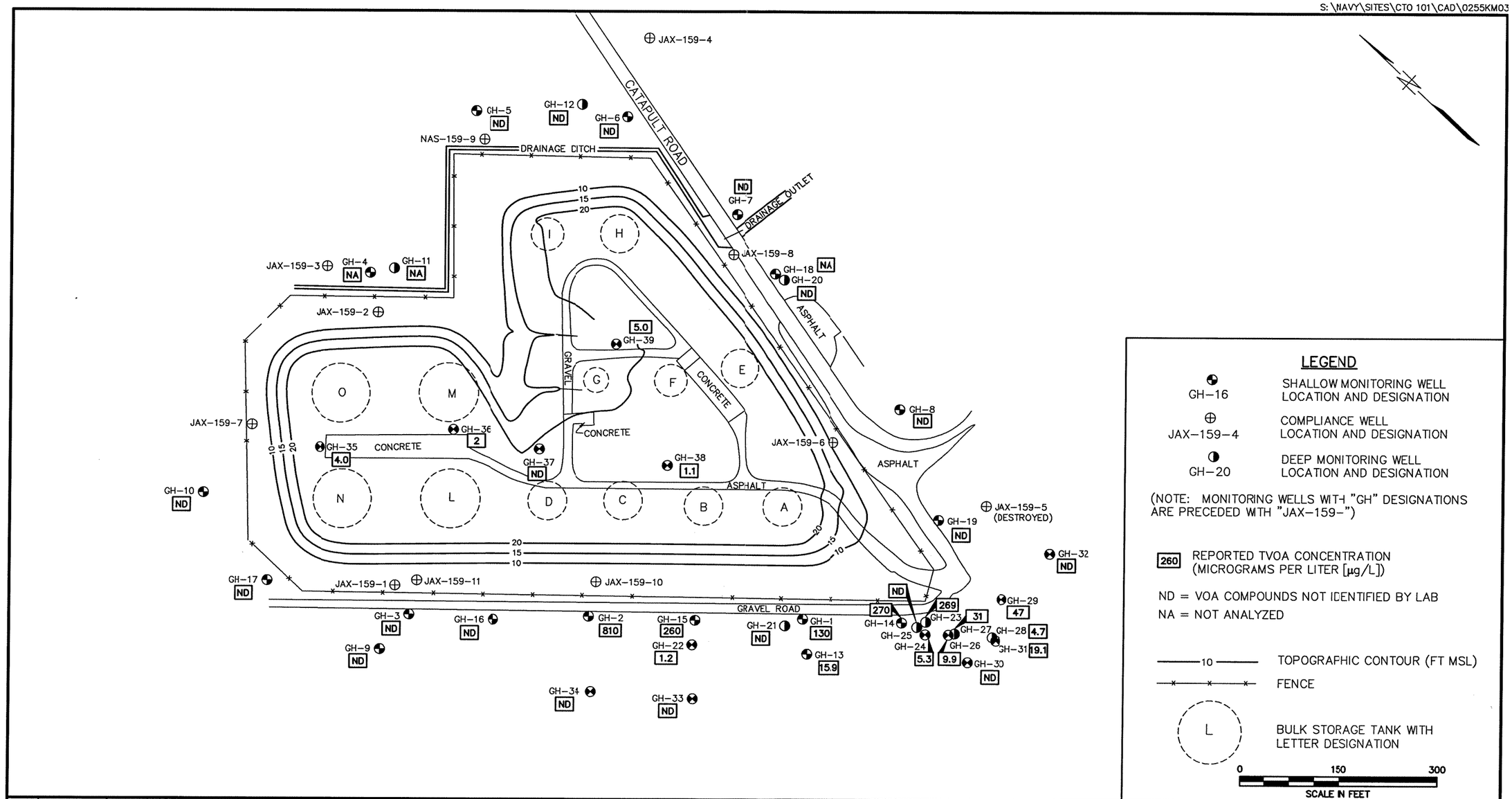
DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMD

GROUNDWATER BENZENE CONCENTRATIONS
JULY-SEPTEMBER 1999
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-2
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

S:\NAVY\SITES\CTO 101\CAD\0255KM03




## LEGEND

| | |
|---|---|
| GH-16 | SHALLOW MONITORING WELL LOCATION AND DESIGNATION |
| JAX-159-4 | COMPLIANCE WELL LOCATION AND DESIGNATION |
| GH-20 | DEEP MONITORING WELL LOCATION AND DESIGNATION |

(NOTE: MONITORING WELLS WITH "GH" DESIGNATIONS ARE PRECEDED WITH "JAX-159-")

260 REPORTED TVOA CONCENTRATION (MICROGRAMS PER LITER [µg/L])

ND = VOA COMPOUNDS NOT IDENTIFIED BY LAB

NA = NOT ANALYZED

10 TOPOGRAPHIC CONTOUR (FT MSL)

FENCE

L BULK STORAGE TANK WITH LETTER DESIGNATION

0 150 300
SCALE IN FEET

| NO. | DATE | REVISIONS | BY | CHKD | APPD | REFERENCES |
|---|---|---|---|---|---|---|
| | | | | | | |

DRAWN BY LLK DATE 11/10/99
CHECKED BY DATE
COST/SCHED-AREA
SCALE AS NOTED

DEPARTMENT OF THE NAVY SOUTHERN DIV FACILITIES ENGINEERING COMD

GROUNDWATER TVOA CONCENTRATIONS
JULY-SEPTEMBER 1999
GAS HILL FUEL FARM (FACILITY 159)
SAR ADDENDUM II
NAS JACKSONVILLE
JACKSONVILLE, FLORIDA

CONTRACT NO. 0255
APPROVED BY DATE
APPROVED BY DATE
DRAWING NO. FIGURE 3-3
REV. 0

FORM CADD NO. SDIV_BH.DWG – REV 0 – 1/20/98

# 4.0 DISCUSSION

## 4.1 HISTORICAL SUMMARIES

The CAR (USACE, 1992) and the CAR Addendum (USACE, 1993) summarized the particular environmental conditions for Gas Hill Fuel Farm within the limits set by each investigation's scope of work. The CAR summarized Site conditions as follows:

1. Three aquifers exist under Gas Hill Fuel Farm – the surficial, shallow rock, and the Floridan.
2. Unconsolidated, brown, fine-grained sands and silty sands exist under the Site to about 18 feet and are underlain by locally prevalent fat clay appeared to be several feet thick.
3. Groundwater was encountered at about 2 feet bls in the off site wells and the flow direction of the surficial aquifer appeared to be east toward the St. Johns River.
4. Free-floating product was found in a previously installed monitoring well (JAX-159-2) with a thickness of 0.3 feet.
5. VOA, PAH, and lead were detected in groundwater at the Site.
6. The vertical extent of contamination did not exceed 25 feet bls.
7. Potable wells identified during the investigation were more than 0.5 mile from the Site and upgradient.
8. Analyses of groundwater samples collected from monitoring wells downgradient of the Site only detected benzene at 4.9 µg/L in GH-8.

The addendum to the CAR summarized its data as follows:

1. Soil contamination exists outside the fenced area of Gas Hill Fuel Farm in two areas, both of which were considered extensions of contaminated areas inside the fence.
2. Groundwater contamination was encountered offsite near the southwestern corner of the fuel farm.
3. A ditch on the northeast side of Gas Hill Fuel Farm occasionally received free product seeping from the Site especially during times of high rainfall, and sediment samples from that ditch indicated the presence of PAH.

The addendum to the CAR found that the lithology as described was incomplete and several cross-sections in the addendum showed that the clay layer was not as continuous as previously thought on the southeast side of Gas Hill Fuel Farm. Several preventive measures were adopted to address contamination at the Site. At a meeting held in May 1993 between the FDEP, the Navy, and the USACE, the initial recommendation from the CAR (1992) to prepare a RAP was changed to an interim Monitoring Only Plan (MOP) which would last about two years.

Eventually, the MOP was granted; however, monitoring well GH-14 (**Figure 1-2**) continued to show elevated levels of VOA. Since this well was furthest downgradient on the southeast side of the Site, two shallow wells (GH-24 and GH-26) and three deep wells (GH-23, GH-25 and GH-27) were installed in 1997 downgradient of GH-14 to track the plume both horizontally and vertically. Following installation and sampling of wells (GH-6 through GH-10, GH-13 through GH-17, GH-19, GH-20, and GH-22 through GH-27) at the Site, the horizontal extent of the plume was delineated. Samples from the following downgradient wells were reported free of petroleum hydrocarbons: GH-13, GH-22 and GH-26. As for the vertical extent wells, no hydrocarbons were detected in monitoring wells GH-25 and GH-27, which covered screened depth intervals of 35 to 40 feet bls and 30 to 35 feet bls, respectively. During sampling events in 1998, the benzene levels in GH-26 exceeded the GCTL (**Table 3-4**). The plume appeared to be moving downgradient (TtNUS, 1998b) in the vertical extent monitoring well GH-27, which began to show increases in the concentrations of benzene and other VOA. Although samples from GH-25 collected in June 1998 contained 1.2 µg/L of benzene, subsequent sampling events have indicated the interval from 35 to 40 feet bls is free of hydrocarbons.

## 4.2 SOIL DISCUSSION

Since the soil was delineated in the CAR and CAR Addendum (USACE, 1992 and 1993), the only soil assessment approached by this investigation involved screening the soils inside the Gas Hill Fuel Farm. Although the OVA-FID data for soils (**Table 2-1**) from borings associated with GH-35, GH-38 and GH-39 indicated excessively contaminated soils (corrected readings greater than 50 ppm for the Kerosene Analytical Group), the resultant laboratory analytical data show this data is not relevant (**Table 3-3**) in accordance with Chapter 62-770.200(12). The various concentrations of petroleum hydrocarbons and metals that were detected were less than the appropriate SCTL based on leachability to groundwater.

## 4.3 GROUNDWATER DISCUSSION

### 4.3.1 Water Table

Based on the last round of groundwater analytical data from July 1998, the first phase of this groundwater investigation included the installation of three water table wells (GH-29 through GH-31) to delineate the water table contaminant plume around the southeast corner of the Site. The analytical results (**Table 3-4**) for the first round of groundwater sampling (from early August 1999) indicated that additional wells would be necessary downgradient of GH-2, GH-22, and GH-29 to delineate the water table contaminant plume. **Figures 3-2 through 3-4** show the various chemical concentrations of concern for these three wells, and

the DPT micro-wells installed approximately 100 feet downgradient of them (GH-34, GH-33, and GH-32, respectively). **Table 3-4** indicates that the second round of analytical collected in early September 1999 reported no detectable hydrocarbons in samples from GH-32 through GH-34. So the water table plume appears to be delineated for the present.

Also, two of the micro-wells inside the Gas Hill Fuel Farm, GH-35 and GH-39 yielded contaminated samples, which exceeded GCTLs, as mentioned in Section 3.4.1. Although the semi-volatile compounds encountered in micro-well GH-35 may disperse below the water table, their concentrations in the shallow zone (near the source) are not significantly higher than GCTLs. Therefore, we do not anticipate concentrations exceeding GCTLs to be present at lower depths. Additionally, the geologic cross-section A to A' (USACE, 1993) indicates that a continuous clay layer exists across the northern part of the site, which would be coincident with the area of micro-well GH-35. The clay layer is drawn on the cross-section from approximately 5 to 20 feet bls, which would prevent deeper vertical migration. Thus contaminant migration associated with the plume around micro-well GH-35 would be confined mostly to the water table, which is currently delineated. Since only light non-aqueous phase liquids (LNAPL) were encountered in micro-well GH-39 and sufficient monitoring well coverage exists around the well, the LNAPL plume associated with it is considered delineated.

### 4.3.2 Deep Wells

The Quarterly Groundwater Monitoring Report (TtNUS, 1998b) recommended further delineation southeast of the Site in part because of the groundwater contamination encountered in samples from deep monitoring well GH-27. Based on the 1998 groundwater analytical data, monitoring well GH-28 was installed at the same depth interval (30 to 35 feet bls) and approximately 50 feet downgradient of deep monitoring well GH-27. Though the July 1999 groundwater sample from GH-27 contained 31 µg/L of benzene, the groundwater sample collected on the same day from GH-28 was reported to contain only 4.7 µg/L of total xylenes, which is below the GCTL of 20 µg/L for that compound (**Table 3-4**). This data indicate that the contamination at this 30 to 35-foot interval is delineated for the present, but the leading edge of the deep-zone contamination plume appears to have reached monitoring well GH-28 as evidenced by the 4.7 µg/L of total xylenes detected in its groundwater sample.

The deepest monitoring well in the same area as GH-27 is GH-25, and it covers a depth interval of 35 to 40 feet bls. The analytical data (**Table 3-4**) indicates that none of the chemicals of concern were detected in samples from GH-25. So, the vertical extent of contamination appears to be confined to the interval from the water table to no greater than 35 feet bls.

### 4.3.3 Natural Attenuation

The groundwater analytical data (**Table 3-4**) was compared to the FDEP's Natural Attenuation Default Source Concentration (NADSC) values from Chapter 62-777's Table V (FAC). The NADSC for benzene (100 µg/L) was exceeded in the groundwater samples from water table monitoring wells GH-1 (130 µg/L), GH-14 (270 µg/L), and GH-15 (260 µg/L). Also, the NADSC for total xylenes (200 µg/L) was exceeded in the groundwater sample from water table monitoring well GH-2 (758 µg/L). It appears that no other groundwater samples exceeded the NADSC values. **Figure 1-2** shows that monitoring wells GH-1, GH-2, GH-14 and GH-15 are situated consecutively in a line paralleling the gravel road on the southwest side of Gas Hill Fuel Farm. These wells are located within the delineated bounds of the benzene contaminant plume shown by **Figure 3-2**.

# 5.0 CONCLUSIONS AND RECOMMENDATION

The results of this investigation at Gas Hill Fuel Farm concluded that:

1. No potable wells were identified within a 0.5-mile radius of the Site, and the potable wells identified in the area appear to be upgradient of the Site.
2. The St. Johns River is about 2,000 feet downgradient of the Site.
3. Excessive soil contamination areas outside of the tank farm were delineated in previous reports.
4. The groundwater flows radially outward from Gas Hill Fuel Farm.
5. As a result of the drastic change in topography of the tank farm, the groundwater flow is radially outward off the site. Based on the CAR, the assumed regional groundwater flow near the site is easterly toward the St. Johns River, which is approximately 2,000 feet east of the site.
6. The area outside and southeast of Gas Hill Fuel Farm has an LNAPL contaminant plume that is presently delineated in the horizontal extent as shown by **Figure 3-2** and **3-3.** And, as indicated by Section 4.3.2, the vertical extent of the LNAPL plume has been delineated in that area. Additionally, the semi-volatile contamination in that same area (**Figure 3-4**) indicates concentrations below respective GCTL. In consideration of these items and the maximum depth of contamination in that area (35 feet bls), no further horizontal and vertical groundwater investigation is recommended in that area for the present.
7. The groundwater analytical from inside the Gas Hill Fuel Farm indicate that the semi-volatile contamination detected in micro-well GH-35 is delineated by the following: a combination of low PAH concentrations in relation to GCTLs, which should not impact the lower depths as the plume disperses; a shallow continuous clay layer in that area to prevent vertical migration; and, monitoring wells around it which have not shown similar chemicals of concern.
8. The LNAPL contamination at micro-well GH-39 is defined within the Tank Farm.
9. The review of FDEP NADSC guidelines indicate that the combination of soil impacts identified in the CAR Addendum (USACE, 1993) and the groundwater impacts which exceed guidelines along the southwest perimeter of the Site preclude consideration of a monitoring only program for Gas Hill Fuel Farm at this time.

In conclusion, TtNUS recommends preparation of a RAP to address the soil and groundwater impacts at Gas Hill Fuel Farm.

# REFERENCES

Nuzie, E.S., 1992. Florida Department of Environmental Protection Letter Regarding Technical Review of the Contamination Assessment Report for Facility 159-Gas Hill Fuel Farm, December.

State of Florida, 1997. Florida Administrative Code Chapter 62-770: Petroleum Contamination Site Cleanup Criteria, September.

Tetra Tech NUS, Inc., 1998a. Comprehensive Quality Assurance Plan, FDEP COMPQAP PLAN # 980038 Rev. No. 1.

Tetra Tech NUS, Inc., 1998b. Groundwater Monitoring Report for Gas Hill Fuel Farm, Hawkin's 103rd and Tank 119, Naval Air Station Jacksonville, Jacksonville, Florida. Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, December.

Tetra Tech NUS, Inc., 1999a. Contamination Assessment Plan for Gas Hill Fuel Farm, Naval Air Station Jacksonville, Jacksonville, Florida. Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, May.

Tetra Tech NUS, Inc., 1999b. Facsimile between M. Dale (TtNUS) and D. Ford (Navy) regarding potable water well data update for Gas Hill Fuel Farm, Jacksonville, Florida, October.

Tetra Tech NUS, Inc., 1999c. Phone conversation between M. Dale (TtNUS) and B. Bunker (Navy) regarding storage tank status at Gas Hill Fuel Farm, Jacksonville, Florida, October.

U.S. Army Corps of Engineers, 1992. Contamination Assessment Report for Naval Air Station Jacksonville, Facility 159-Gas Hill Fuel Farm, Jacksonville, Florida (Draft). Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, September.

U.S. Army Corps of Engineers, 1993. Addendum I to Contamination Assessment Report for Naval Air Station Jacksonville, Facility 159-Gas Hill Fuel Farm, Jacksonville, Florida. Prepared for the Southern Division, Naval Facilities Engineering Command, North Charleston, South Carolina, November.

# APPENDIX A

# SOIL BORING LOGS

# OVA-FID LOG

Project Number: N0255.FB0.050.225 Well I.D. NASJ-159-GH-35 Boring No. 4 Date 8/31/89

Project Location: NAS Jax / Gss Hill

Prepared by: E. Parker Sample Container Glass Jars

| Soil Boring or Monitor Well ID No. | Sampling Depth (ft bls) | Brief Lithologic Description | Hydrocarbon Odor | | | | OVA-FID Measurement | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | NONE | SLIGHT | MOD | STRONG | Unfiltered | Filtered | Net |
| ~~NAS~~ see above | 0-2 | Silty sand, brown, dry, FG | ✓ | | | | 0 | | 0 |
| | 2-4 | FG silty sand, mix light brown & brown, dry | ✓ | | | | 0 | | 0 |
| | 4-6 | FG silty sand, light brn, dry | ✓ | | | | 0 | | 0 |
| | 6-8 | FG silty sand, white, damp | ✓ | | | | 0 | | 0 |
| | 8-10 | FG s silty | ✓ | | | | 0 | | 0 |
| | 10-12 | | ✓ | | | | 0 | | 0 |
| | 12-14 | | ✓ | | | | 0 | | 0 |
| | 14-16 | | | ✓ | | | 190 | 85 | 105 |
| | 16-18 | | | | | ✓ | 350 | 300 | 50 |
| | 18-20 | wet @ 17.5 ft. bls. above water | | | | ✓ | 990 | 425 | 565 |
| | | Note: OVA samples taken at bottom of interval indicated. | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | Drilling Area Background = 0ppm | | |
| | | Note: For lithologic description, see field book. | | | | | | | |

# OVA-FID LOG

Project Number: N0255.FBO.050.225 Well ID NASS-159-GH-36 Boring No. 5 Date 8/31/89

Project Location: NAS Sax / Gas Hill

Prepared by: E. Parker Sample Container Glass Jars

| Soil Boring or Monitor Well ID No. | Sampling Depth (ft bls) | Brief Lithologic Description | Hydrocarbon Odor | | | | OVA-FID Measurement | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | NONE | SLIGHT | MOD | STRONG | Unfiltered | Filtered | Net |
| see above | 0-2 | See Fieldbook | ✓ | | | | 0 | | 0 |
| | 2-4 | | ✓ | | | | 0 | | 0 |
| | 4-6 | | ✓ | | | | 0 | | 0 |
| | 6-8 | | ✓ | | | | 0 | | 0 |
| | 8-10 | | ✓ | | | | 0 | | 0 |
| | 10-12 | | ✓ | | | | 0 | | 0 |
| | 12-14 | | ✓ | | | | 0 | | 0 |
| | 14-16 | | ✓ | | | | 0 | | 0 |
| | 16-18 | water Table WET @ 17.5 FT. | ✓ | | | | 0 | | 0 |
| | | Note: OVA samples taken at bottom of interval indicated. | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | Drilling Area Background = 0 ppm | | |
| | | Note: for lithologic description, see field book. | | | | | | | |

# OVA-FID LOG

Project Number: N0255.FB0.050.22S

Well ID: NAS-159-GH-37 Boring No. 6 Date 8/31/99

Project Location: NAS JAX/GAS Hill

Prepared by: E. Parker Sample Container Glass Jar

| Soil Boring or Monitor Well ID No. | Sampling Depth (ft bls) | Brief Lithologic Description | Hydrocarbon Odor | | | | OVA-FID Measurement | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | NONE | SLIGHT | MOD | STRONG | Unfiltered | Filtered | Net |
| see above | 0-2 | See Field book | ✓ | | | | 0 | | 0 |
| | 2-4 | | ✓ | | | | 0 | | 0 |
| | 4-6 | | ✓ | | | | 0 | | 0 |
| | 6-8 | | ✓ | | | | 0 | | 0 |
| | 8-10 | | ✓ | | | | 0 | | 0 |
| | 10-12 | | ✓ | | | | 0 | | 0 |
| | 12-13 | | ✓ | | | | 0 | | 0 |
| | 13-14 | | ✓ | | | | 10 | 9 | 1 |
| | | Note: OVA Samples taken at bottom of interval indicated. | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | Drilling Area Background = 0ppm | | |
| | | Note: For lithologic description, see field book. | | | | | | | |

# OVA-FID LOG

Project Number: NO 255. FBO. 050. 225 — Well I.D. → NASJ-159-GH-38 Boring No. 7 8

Date 9/1/99

Project Location: NAS Jax / Gas Hill

Prepared by: E. Parker

Sample Container Glass Mason Jars

| Soil Boring or Monitor Well ID No. | Sampling Depth (ft bls) | Brief Lithologic Description | Hydrocarbon Odor | | | | OVA-FID Measurement | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | NONE | SLIGHT | MOD | STRONG | Unfiltered | Filtered | Net |
| see Above | 0-2 | See Fieldbook | ✓ | | | | 0 | — | 0 |
| | 2-4 | | ✓ | | | | 0 | — | 0 |
| | 4-6 | | ✓ | | | | 0 | — | 0 |
| | 6-8 | | ✓ | | | | 20 | 19 | 1 |
| | 8-10 | | ✓ | | | | 88 | 25 | 63 |
| | 10-12 | | ✓ | | | | 300 | 251 | 49 |
| | 12-14 | water table wet | ✓ | | | | 995 | 600 | 395 |
| | | | | | | | | | |
| | Note: OVA samples taken at bottom of interval indicated. | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | Drilling Area Background = 0 ppm | | |

# BORING LOG



PROJECT NAME: GAS HILL, NAS JACKSONVILLE
PROJECT NUMBER: N0255. FBO. 050-225
DRILLING COMPANY: GROUNDWATER PROTECTION
DRILLING RIG: Geoprobe DT-66
BORING NUMBER: 8
DATE: 09/01/99
GEOLOGIST: MELVINDALE
DRILLER: Charles Bucher

| Sample No. and Type or RQD | Depth (Ft.) or Run No. | Blows / 6" or RQD (%) | Sample Recovery / Sample Length | Lithology Change (Depth/Ft.) or Screened Interval | ~~MATERIAL DESCRIPTION~~ Soil Density/ Consistency or Rock Hardness | Color | FID reading unFiltered ~~Material Classification~~ | USCS * | ~~filtered~~ Remarks | PID/FID Reading (ppm) Sample | Sampler BZ | Borehole** | Driller BZ** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | N/A | | | | | | | | | | | |
| | 0-2 | | | For litho descrip see log book for CTO 101 | | | 0 | | — | 0 | | | 0 |
| | 2-4 | | | | | | 0 | | — | 0 | | | |
| | 4-6 | | | | | | 0 | | — | 0 | | | |
| | 6-8 | | | | | | 50 | | 0 | 50 | | | |
| | 8-10 | | | | | | 500 | | 100 | 400 | | | |
| | — | | | | | | ~~50~~ | | ~~0~~ | ~~50~~ | | | |
| | 10-12 | | | | | | 500 | | 0 | 500 | | | |
| | 12-14 | | | | | | 1000 | | 200 | 800 | | | |
| | 15 | | | | | | water Table | | | | | | |

* When rock coring, enter rock brokeness.
** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0

Remarks:

Converted to Well: Yes X No ____ Well I.D. #: NAST-159-GH-39

# APPENDIX B

# IDW ANALYTICAL DATA

**Environmental Conservation Laboratories, Inc.**
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

**CLIENT** : Tetra Tech NUS, Inc.
**ADDRESS**: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR7909
**DATE SUBMITTED**: July 31, 1999
**DATE REPORTED** : August 19, 1999



**ATTENTION**: Ms. Lee Leck

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

07/30/99

#1 - NASJ-159-GH-IDW-01 @ 12:19

**PROJECT MANAGER** _____
Scott D. Martin

## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | NASJ-159-GH-IDW-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U D1 | µg/Kg |
| Benzene | 1.0 U D1 | µg/Kg |
| Toluene | 1.0 U D1 | µg/Kg |
| Chlorobenzene | 1.0 U D1 | µg/Kg |
| Ethylbenzene | 1.0 U D1 | µg/Kg |
| m-Xylene & p-Xylene | 2.0 U D1 | µg/Kg |
| o-Xylene | 1.0 U D1 | µg/Kg |
| 1,3-Dichlorobenzene | 1.0 U D1 | µg/Kg |
| 1,4-Dichlorobenzene | 1.0 U D1 | µg/Kg |
| 1,2-Dichlorobenzene | 1.0 U D1 | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/Kg |
| Surrogate Reported Value | 45 | µg/Kg |
| Surrogate Percent Recovery | 90 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 08/03/99 | |

| MISCELLANEOUS | METHOD | NASJ-159-GH-IDW-01 | Units |
|---|---|---|---|
| Percent Solids | SM2540G | 79 | % |
| Date Analyzed | | 08/01/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:1.02 dilution.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | NASJ-159-GH-IDW-01 | Units |
|---|---|---|
| Naphthalene | 21 U | µg/Kg |
| Acenaphthylene | 42 U | µg/Kg |
| 1-Methylnaphthalene | 42 U | µg/Kg |
| 2-Methylnaphthalene | 42 U | µg/Kg |
| Acenaphthene | 21 U | µg/Kg |
| Fluorene | **6.7** | µg/Kg |
| Phenanthrene | 42 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | 4.2 U | µg/Kg |
| Pyrene | 2.1 U | µg/Kg |
| Benzo(a)anthracene | 2.1 U | µg/Kg |
| Chrysene | 2.1 U | µg/Kg |
| Benzo(b)fluoranthene | 4.0 U | µg/Kg |
| Benzo(k)fluoranthene | 2.0 U | µg/Kg |
| Benzo(a)pyrene | 2.0 U | µg/Kg |
| Dibenzo(a,h)anthracene | 4.2 U | µg/Kg |
| Benzo(g,h,i)perylene | 4.2 U | µg/Kg |
| Indeno(1,2,3-cd)pyrene | 2.1 U | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 333 | µg/Kg |
| Surrogate Percent Recovery | 101 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

**ENCO LABORATORIES**
**REPORT #** : JR7909
**DATE REPORTED**: August 19, 1999
**REFERENCE** : NO255/CTO101
**PROJECT NAME** : NAS JAX Gas Hill



**RESULTS OF ANALYSIS**

| TOTAL METALS | METHOD | NASJ-159-GH-IDW-01 | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | **0.60** I | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Barium | 3050/6010 | 25 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Chromium | 3050/6010 | **6.7** | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Lead | 3050/6010 | **4.3** | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Mercury | 7471 | **0.023** V | mg/Kg |
| Date Analyzed | | 08/06/99 | |
| Selenium | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |

V = Analyte detected in associated preparatory blank.
U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3550/FLPRO - PETROL. RESIDUAL ORG. | NASJ-159-GH-IDW-01 | Units |
|---|---|---|
| Hydrocarbons (C8-C40) | 8.4 U | mg/Kg |
| **Surrogate (-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | µg/Kg |
| Surrogate Reported Value | 1.44 | µg/Kg |
| Surrogate Percent Recovery | 87 | % |
| Surrogate Control Limit | 51-148 | % |
| Date Extracted | 08/02/99 | |
| Date Analyzed | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/Kg |
| Benzene | 1.0 U | µg/Kg |
| Toluene | 1.0 U | µg/Kg |
| Chlorobenzene | 1.0 U | µg/Kg |
| Ethylbenzene | 1.0 U | µg/Kg |
| m-Xylene & p-Xylene | 2.0 U | µg/Kg |
| o-Xylene | 1.0 U | µg/Kg |
| 1,3-Dichlorobenzene | 1.0 U | µg/Kg |
| 1,4-Dichlorobenzene | 1.0 U | µg/Kg |
| 1,2-Dichlorobenzene | 1.0 U | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | mg/Kg |
| Surrogate Reported Value | 47 | mg/Kg |
| Surrogate Percent Recovery | 94 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7909
DATE REPORTED: August 19, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | LAB BLANK | Units |
|---|---|---|
| Naphthalene | 17 U | µg/Kg |
| Acenaphthylene | 33 U | µg/Kg |
| 1-Methylnaphthalene | 33 U | µg/Kg |
| 2-Methylnaphthalene | 33 U | µg/Kg |
| Acenaphthene | 17 U | µg/Kg |
| Fluorene | 3.3 U | µg/Kg |
| Phenanthrene | 33 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | 3.3 U | µg/Kg |
| Pyrene | 1.7 U | µg/Kg |
| Benzo(a)anthracene | 1.7 U | µg/Kg |
| Chrysene | 1.7 U | µg/Kg |
| Benzo(b)fluoranthene | 3.0 U | µg/Kg |
| Benzo(k)fluoranthene | 2.0 U | µg/Kg |
| Benzo(a)pyrene | 2.0 U | µg/Kg |
| Dibenzo(a,h)anthracene | 3.3 U | µg/Kg |
| Benzo(g,h,i)perylene | 3.3 U | µg/Kg |
| Indeno(1,2,3-cd)pyrene | 1.7 U | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 300 | µg/Kg |
| Surrogate Percent Recovery | 91 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.

**ENCO LABORATORIES**
**REPORT #** : JR7909
**DATE REPORTED**: August 19, 1999
**REFERENCE** : NO255/CTO101
**PROJECT NAME** : NAS JAX Gas Hill



**RESULTS OF ANALYSIS**

| TOTAL METALS | METHOD | LAB BLANK | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | 0.50 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Barium | 3050/6010 | 20 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Chromium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Lead | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Mercury | 7471 | **0.012** I | mg/Kg |
| Date Analyzed | | 08/06/99 | |
| Selenium | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

**ENCO LABORATORIES**
**REPORT #** : JR7909
**DATE REPORTED**: August 19, 1999
**REFERENCE** : NO255/CTO101
**PROJECT NAME** : NAS JAX Gas Hill



**RESULTS OF ANALYSIS**

| **EPA METHOD 3550/FLPRO - PETROL. RESIDUAL ORG.** | **LAB BLANK** | **Units** |
|---|---|---|
| Hydrocarbons (C8-C40) | 6.6 U | mg/Kg |
| **Surrogate (o-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | mg/Kg |
| Surrogate Reported Value | 1.02 | mg/Kg |
| Surrogate Percent Recovery | 62 | % |
| Surrogate Control Limit | 51-148 | % |
| Date Extracted | 08/02/99 | |
| Date Analyzed | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

**ENCO LABORATORIES**
**REPORT #** : JR7909
**DATE REPORTED**: August 19, 1999
**REFERENCE** : NO255/CTO101
**PROJECT NAME** : NAS JAX Gas Hill



## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | LCS TARGET µg/kg | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|---|
| EPA Method 5035/8021 | | | | | |
| Benzene | 79/ 81/ 74 | 20 | 59-144 | 2 | 25 |
| Toluene | #62/ 61/ 68 | 20 | 67-132 | 2 | 58 |
| Ethylbenzene | 69/ 72/ 79 | 20 | 60-169 | 4 | 28 |
| o-Xylene | 76/ 79/ 90 | 20 | 62-183 | 4 | 24 |
| EPA Method 3550/8310 | | | | | |
| Naphthalene | 95/ 85/ 65 | 330 | 26-125 | 11 | 45 |
| Acenaphthene | 96/ 89/ 77 | 330 | 20-143 | 8 | 35 |
| Benzo(a)pyrene | 95/ 97/ 95 | 33 | 42-138 | 2 | 38 |
| Benzo(g,h,i)perylene | 94/ 95/ 95 | 66 | 51-142 | 1 | 26 |
| Total Metals | | | | | |
| Arsenic, 3050/6010 | 88/ 87/100 | 50 | 53-153 | 1 | 22 |
| Barium, 3050/6010 | 90/ 91/ 99 | 50 | 70-120 | 1 | 16 |
| Cadmium, 3050/6010 | 90/ 90/ 99 | 25 | 59-130 | <1 | 24 |
| Chromium, 3050/6010 | 90/ 91/ 98 | 50 | 57-135 | 1 | 24 |
| Lead, 3050/6010 | 91/ 91/100 | 50 | 63-128 | <1 | 26 |
| Mercury, 7471 | 74/ 77/ 89 | 0.25 | 71-138 | 4 | 13 |
| Selenium, 3050/6010 | 87/ 86/ 96 | 50 | 60-121 | 1 | 14 |
| Silver, 3050/6010 | 70/ 70/ 76 | 5 | 69-118 | <1 | 10 |
| PETROL. RESIDUAL ORG. (3550/FLPRO) | | | | | |
| Hydrocarbons (C8-C40) | 85/ 80/110 | 56.1 | 62-204 | 6 | 25 |

NOTE: RCRA8 Metals and LCS FLPRO target units are mg/kg
Environmental Conservation Laboratories Comprehensive QA Plan #960038

# = The associated value failed to meet laboratory established criteria for precision.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

| sample_no | run_number | parameter | method | units | idl | mdl | crdl_crql | dil_factor | pct_moist |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-IDW-01 | 1 | Silver | 3050/6010 | mg/Kg | 0.05 | | 2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Arsenic | 3050/6010 | mg/Kg | 0.4 | | 0.6 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Barium | 3050/6010 | mg/Kg | 0.1 | | 25 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Cadmium | 3050/6010 | mg/Kg | 0.05 | | 1 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Chromium | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Lead | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Selenium | 3050/6010 | mg/Kg | 0.2 | | 2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Mercury | 7471 | mg/Kg | 0.004 | | 0.01 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Naphthalene | 3550/8310 | ug/Kg | | 8.5 | 21 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Acenaphthylene | 3550/8310 | ug/Kg | | 4.2 | 42 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | 1-Methylnaphthalene | 3550/8310 | ug/Kg | | 4.2 | 42 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | 2-Methylnaphthalene | 3550/8310 | ug/Kg | | 8.5 | 42 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Acenaphthene | 3550/8310 | ug/Kg | | 8.5 | 21 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Fluorene | 3550/8310 | ug/Kg | | 1.7 | 4.2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Phenanthrene | 3550/8310 | ug/Kg | | 1.7 | 42 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Anthracene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Fluoranthene | 3550/8310 | ug/Kg | | 1.7 | 4.2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Pyrene | 3550/8310 | ug/Kg | | 1.7 | 2.1 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Benzo(a)anthracene | 3550/8310 | ug/Kg | | 0.85 | 2.1 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Chrysene | 3550/8310 | ug/Kg | | 0.85 | 2.1 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Benzo(b)fluoranthene | 3550/8310 | ug/Kg | | 2 | 4 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Benzo(k)fluoranthene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Benzo(a)pyrene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Dibenzo(a,h)anthracene | 3550/8310 | ug/Kg | | 3 | 4.2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Benzo(g,h,i)perylene | 3550/8310 | ug/Kg | | 3 | 4.2 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Indeno(1,2,3-cd)pyrene | 3550/8310 | ug/Kg | | 0.85 | 2.1 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | P-Terphenyl | 3550/8310 | % | | | | 1 | |
| NASJ-159-GH-IDW-01 | 1 | Hydrocarbons (C8-C40) | 3550/FLPRO | mg/Kg | | 8.4 | 8.4 | 1 | 21 |
| NASJ-159-GH-IDW-01 | 1 | o-Terphenyl | 3550/FLPRO | % | | | | 1 | |
| NASJ-159-GH-IDW-01 | 1 | Methyl tert-butyl ether | 5035/8021 | ug/Kg | | 2 | 2 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Benzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Toluene | 5035/8021 | ug/Kg | | 1.1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Chlorobenzene | 5035/8021 | ug/Kg | | 1.1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Ethylbenzene | 5035/8021 | ug/Kg | | 1.1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | m-Xylene & p-Xylene | 5035/8021 | ug/Kg | | 2 | 2 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | o-Xylene | 5035/8021 | ug/Kg | | 1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | 1,3-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | 1,4-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | 1,2-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.02 | 21 |
| NASJ-159-GH-IDW-01 | 1 | Bromofluorobenzene | 5035/8021 | % | | | | 1.02 | |

QSARF #_____

# ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
Orlando, Florida 32824
Ph. (407) 826-5314 • Fax (407) 850-6945

ENCO CompQAP No.: 960038G/0

## CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: NASJAX, GAS HILL CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PAGE 1 OF 1

PROJECT LOC. (State): FL
SAMPLER(s) NAME: M. DALE
PHONE: 904 281-0400
FAX: 904-281-0070

CLIENT NAME: TetraTech NUS, Inc.
CLIENT PROJECT MANAGER: MERVIN DALE

CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due: _____

| STATION | DATE | TIME | GRAB | COMP | SAMPLE IDENTIFICATION | SURFACE WATER | GROUND WATER | WASTEWATER | DRINKING WATER | SOIL/SOLID/SEDIMENT | NONAQUEOUS LIQUID (oil, solvent, etc.) | AIR | SLUDGE | OTHER | 8021B | 8 RCRA 6010B metals | FL-PRO | 8310 | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | NO | NO | NO | NO | SEPARATE | | | | | |
| | | | | | | | | | | | | | | | NUMBER OF CONTAINERS SUBMITTED | | | | | | | | | |
| 1 | 073099 | 1219 | | X | NASJ-159-GH-IDW-01 | | | | | ✓ | | | | | 3 | 1 | | 1 | | | | | | COC # 03945 |
| 2 | | | | | | | | | | | | | | | | | | | | | | | | 8021B = VOA's, BTEX |
| 3 | | | | | | | | | | | | | | | | | | | | | | | | PLUS MTBE. |
| 4 | | | | | | | | | | | | | | | | | | | | | | | | 6010B (trace) |
| 5 | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| SAMPLE KIT PREPARED BY: ☒ JACKSONVILLE ☐ ORLANDO | DATE 7/29/99 | TIME 1:30 | RELINQUISHED BY: (SIGNATURE) [signature] | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |
| RELINQUISHED BY: (SIGNATURE) [signature] | DATE 7/30/99 | TIME 1811 | RECEIVED BY: (SIGNATURE) [signature] | DATE 7/30/99 | TIME 1811 | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
| RECEIVED BY (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | ENCO LOG NO. | REMARKS |
|---|---|---|---|---|---|
| ☒ Jacksonville ☐ Orlando [signature] | 7/31/99 | 930 | ☒ YES ☐ NO | JR 7909 | |

**Environmental Conservation Laboratories, Inc.**
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

# CASE NARRATIVE

**Date:** August 19, 1999

**Client:** Tetra Tech NUS, Inc.

**Project #:** N0255 / CTO101

**Lab ID:** JR7909

## Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

One solid sample was received on July 31, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

## Quality Control Remarks

In the 8021 analyses, the MS and MSD recoveries for toluene were low, outside of established limits. Per the analytical method, the data was validated as acceptable based on the LCS recoveries. Additionally, the RPD between the MS and MSD was within acceptance limits.

In the mercury analysis, a positive result was obtained in the preparatory blank. All associated samples were far below Florida regulatory levels. As such, the data was "V" flagged per the Florida Department of Environmental Protection requirements and released without further qualification.

**Other Comments**

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

# APPENDIX C

# DISPOSAL MANIFEST

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

# NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. FL6170024419
Manifest Document No.
2. Page 1 of 1

3. Generator's Name and Mailing Address
U.S. Navy
6500 Roosevelt Blvd., NAS Jacksonville
Jacksonville, FL 32212-5000

4. Generator's Phone (904) 542-2717 (Attn: Mr Frank Sigona)

5. Transporter 1 Company Name: Freehold Cartage
6. US EPA ID Number: NJD054126164
800-458-5229

7. Transporter 2 Company Name
8. US EPA ID Number

9. Designated Facility Name and Site Address
Solid Waste Technologies, Inc.
300 Swett Avenue
Americas, GA 31709
10. US EPA ID Number: GAD001040120

A. Transporter's Phone
B. Transporter's Phone
C. Facility's Phone 912-928-5148

| 11. Waste Shipping Name and Description | 12. Containers No. | Type | 13. Total Quantity | 14. Unit Wt/Vol |
|---|---|---|---|---|
| a. Non-Regulated Material (Soil, Drill Cuttings, Plastic) RCRA & D.O.T. Non-Hazardous Profile No. 910026 | 009 | DM | 00495 | G |
| b. Non-Regulated Material (Water/Drilling Mud) RCRA & D.O.T. Non-Hazardous Profile No. 910025 | 004 | DM | 00220 | G |
| c. | | | | |
| d. | | | | |

D. Additional Descriptions for Materials Listed Above
a) Drum # 1-6 + 11-13
b) Drum # 7-10

E. Handling Codes for Wastes Listed Above
S01/M141

15. Special Handling Instructions and Additional Information
Site: NAS JAX Fuel Farm/Gas Hill, NAS Jacksonville, Florida
TECHNICAL CONTACT: Florida Environmental Compliance Corp./800-771-1050
2418 Silver Star Road, Orlando, Florida 32804-3312
Project No. 991006
Site Contact: Frank Sigona

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

| Printed/Typed Name | Signature | Month | Day | Year |
|---|---|---|---|---|
| Timothy Curtin | Timothy Curtin | 10 | 22 | 99 |

17. Transporter 1 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Month | Day | Year |
|---|---|---|---|---|
| Scott Fay | Scott Fay | 10 | 22 | 99 |

18. Transporter 2 Acknowledgement of Receipt of Materials

| Printed/Typed Name | Signature | Month | Day | Year |
|---|---|---|---|---|
| | | | | |

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

| Printed/Typed Name | Signature | Month | Day | Year |
|---|---|---|---|---|
| | | | | |

GENERATOR
TRANSPORTER
FACILITY

12-BLS-C6 Rev. 4/94

**GENERATOR'S COPY**

# APPENDIX D

# SOIL ANALYTICAL DATA

**Environmental Conservation Laboratories, Inc.**
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

**CLIENT** : Tetra Tech NUS, Inc.
**ADDRESS**: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR8358
**DATE SUBMITTED**: September 1, 1999
**DATE REPORTED** : September 28, 1999



**ATTENTION**: Ms. Lee Leck

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: NO255.F30.050.225

Gas Hill

#1 - NASJ-159-GH-35-16 @ 12:15 (08/31/99)
#2 - NASJ-159-GH-36-4 @ 14:20 (08/31/99)
#3 - NASJ-159-GH-37-4 @ 15:10 (08/31/99)
#4 - NASJ-159-GH-38-14 @ 08:10 (09/01/99)
#5 - NASJ-159-GH-39-14 @ 09:20 (09/01/99)

**PROJECT MANAGER** _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | NASJ-159-GH-35-16 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/Kg |
| Benzene | 1.1 U | µg/Kg |
| Toluene | 1.1 U | µg/Kg |
| Chlorobenzene | 1.1 U | µg/Kg |
| Ethylbenzene | 1.1 U | µg/Kg |
| m-Xylene & p-Xylene | 2.0 U | µg/Kg |
| o-Xylene | 1.1 U | µg/Kg |
| 1,3-Dichlorobenzene | 1.1 U | µg/Kg |
| 1,4-Dichlorobenzene | 1.1 U | µg/Kg |
| 1,2-Dichlorobenzene | 1.1 U | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/Kg |
| Surrogate Reported Value | 57 | µg/Kg |
| Surrogate Percent Recovery | 114 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 09/06/99 | |

| MISCELLANEOUS | METHOD | NASJ-159-GH-35-16 | Units |
|---|---|---|---|
| Percent Solids | SM2540G | 83 | % |
| Date Analyzed | | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

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## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | NASJ-159-GH-35-16 | Units |
|---|---|---|
| Naphthalene | 20 U | µg/Kg |
| Acenaphthylene | 40 U | µg/Kg |
| 1-Methylnaphthalene | **41** | µg/Kg |
| 2-Methylnaphthalene | **44** | µg/Kg |
| Acenaphthene | 20 U | µg/Kg |
| Fluorene | 4.0 U | µg/Kg |
| Phenanthrene | 40 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | 4.0 U | µg/Kg |
| Pyrene | 2.0 U | µg/Kg |
| Benzo(a)anthracene | 2.0 U | µg/Kg |
| Chrysene | 2.0 U | µg/Kg |
| Benzo(b)fluoranthene | 4.0 U | µg/Kg |
| Benzo(k)fluoranthene | 2.0 U | µg/Kg |
| Benzo(a)pyrene | 2.0 U | µg/Kg |
| Dibenzo(a,h)anthracene | 4.0 U | µg/Kg |
| Benzo(g,h,i)perylene | 4.0 U | µg/Kg |
| Indeno(1,2,3-cd)pyrene | 2.0 U | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 337 | µg/Kg |
| Surrogate Percent Recovery | 102 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 09/04/99 | |
| Date Analyzed | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
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## RESULTS OF ANALYSIS

| TOTAL METALS | METHOD | NASJ-159-GH-35-16 | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | 0.60 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Barium | 3050/6010 | 24 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Chromium | 3050/6010 | **2.0** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Lead | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Mercury | 7471 | 0.010 U | mg/Kg |
| Date Analyzed | | 09/04/99 | |
| Selenium | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
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## RESULTS OF ANALYSIS

| EPA METHOD FLPRO - PETROL. RESIDUAL ORG. | NASJ-159-GH-35-16 | Units |
|---|---|---|
| Hydrocarbons (C8-C40) | 8.0 U | mg/Kg |
| **Surrogate (o-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | mg/Kg |
| Surrogate Reported Value | 1.25 | mg/Kg |
| Surrogate Percent Recovery | 76 | % |
| Surrogate Control Limit | 51-145 | % |
| Date Extracted | 09/02/99 | |
| Date Analyzed | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | NASJ-159-GH-36-4 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U D1 | µg/Kg |
| Benzene | 1.2 U D1 | µg/Kg |
| Toluene | 1.2 U D1 | µg/Kg |
| Chlorobenzene | 1.2 U D1 | µg/Kg |
| Ethylbenzene | 1.2 U D1 | µg/Kg |
| m-Xylene & p-Xylene | 2.0 U D1 | µg/Kg |
| o-Xylene | 1.0 U D1 | µg/Kg |
| 1,3-Dichlorobenzene | 1.0 U D1 | µg/Kg |
| 1,4-Dichlorobenzene | 1.0 U D1 | µg/Kg |
| 1,2-Dichlorobenzene | 1.0 U D1 | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/Kg |
| Surrogate Reported Value | 45 | µg/Kg |
| Surrogate Percent Recovery | 90 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 09/06/99 | |

| MISCELLANEOUS | METHOD | NASJ-159-GH-36-4 | Units |
|---|---|---|---|
| Percent Solids | SM2540G | 90 | % |
| Date Analyzed | | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D1 = Analyte value determined from a 1:1.14 dilution.

## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | NASJ-159-GH-36-4 | Units |
|---|---|---|
| Naphthalene | 19 U | µg/Kg |
| Acenaphthylene | 37 U | µg/Kg |
| 1-Methylnaphthalene | 37 U | µg/Kg |
| 2-Methylnaphthalene | 37 U | µg/Kg |
| Acenaphthene | 19 U | µg/Kg |
| Fluorene | 3.7 U | µg/Kg |
| Phenanthrene | 37 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | 3.7 U | µg/Kg |
| Pyrene | 1.9 U | µg/Kg |
| Benzo(a)anthracene | 1.9 U | µg/Kg |
| Chrysene | 1.9 U | µg/Kg |
| Benzo(b)fluoranthene | 3.0 U | µg/Kg |
| Benzo(k)fluoranthene | 2.0 U | µg/Kg |
| Benzo(a)pyrene | 2.0 U | µg/Kg |
| Dibenzo(a,h)anthracene | 3.7 U | µg/Kg |
| Benzo(g,h,i)perylene | 3.7 U | µg/Kg |
| Indeno(1,2,3-cd)pyrene | 1.9 U | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 323 | µg/Kg |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 09/04/99 | |
| Date Analyzed | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| TOTAL METALS | METHOD | NASJ-159-GH-36-4 | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | 0.60 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Barium | 3050/6010 | 22 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Chromium | 3050/6010 | **1.6** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Lead | 3050/6010 | **2.9** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Mercury | 7471 | 0.010 U | mg/Kg |
| Date Analyzed | | 09/04/99 | |
| Selenium | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
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## RESULTS OF ANALYSIS

| EPA METHOD FLPRO - PETROL. RESIDUAL ORG. | NASJ-159-GH-36-4 | Units |
|---|---|---|
| Hydrocarbons (C8-C40) | 7.3 U | mg/Kg |
| **Surrogate (o-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | mg/Kg |
| Surrogate Reported Value | 1.04 | mg/Kg |
| Surrogate Percent Recovery | 63 | % |
| Surrogate Control Limit | 51-145 | % |
| Date Extracted | 09/02/99 | |
| Date Analyzed | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | NASJ-159-GH-37-4 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U D2 | µg/Kg |
| Benzene | 1.0 U D2 | µg/Kg |
| Toluene | 1.0 U D2 | µg/Kg |
| Chlorobenzene | 1.0 U D2 | µg/Kg |
| Ethylbenzene | 1.0 U D2 | µg/Kg |
| m-Xylene & p-Xylene | 2.0 U D2 | µg/Kg |
| o-Xylene | 1.0 U D2 | µg/Kg |
| 1,3-Dichlorobenzene | 1.0 U D2 | µg/Kg |
| 1,4-Dichlorobenzene | 1.0 U D2 | µg/Kg |
| 1,2-Dichlorobenzene | 1.0 U D2 | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/Kg |
| Surrogate Reported Value | 46 | µg/Kg |
| Surrogate Percent Recovery | 92 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 09/06/99 | |

| MISCELLANEOUS | METHOD | NASJ-159-GH-37-4 | Units |
|---|---|---|---|
| Percent Solids | SM2540G | 79 | % |
| Date Analyzed | | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D2 = Analyte value determined from a 1:1.05 dilution.

## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | NASJ-159-GH-37-4 | Units |
|---|---|---|
| Naphthalene | 21 U | µg/Kg |
| Acenaphthylene | 42 U | µg/Kg |
| 1-Methylnaphthalene | 42 U | µg/Kg |
| 2-Methylnaphthalene | 42 U | µg/Kg |
| Acenaphthene | 21 U | µg/Kg |
| Fluorene | 4.2 U | µg/Kg |
| Phenanthrene | 42 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | **5.0** I | µg/Kg |
| Pyrene | **5.4** I | µg/Kg |
| Benzo(a)anthracene | 2.1 U | µg/Kg |
| Chrysene | **4.2** | µg/Kg |
| Benzo(b)fluoranthene | **6.0** I | µg/Kg |
| Benzo(k)fluoranthene | **2.0** I | µg/Kg |
| Benzo(a)pyrene | **8.0** | µg/Kg |
| Dibenzo(a,h)anthracene | **12** | µg/Kg |
| Benzo(g,h,i)perylene | **12** | µg/Kg |
| Indeno(1,2,3-cd)pyrene | **5.4** | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 307 | µg/Kg |
| Surrogate Percent Recovery | 93 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 09/04/99 | |
| Date Analyzed | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
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## RESULTS OF ANALYSIS

| TOTAL METALS | METHOD | NASJ-159-GH-37-4 | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | 0.60 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Barium | 3050/6010 | 25 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Chromium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Lead | 3050/6010 | **1.5** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Mercury | 7471 | 0.010 U | mg/Kg |
| Date Analyzed | | 09/04/99 | |
| Selenium | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| EPA METHOD FLPRO - PETROL. RESIDUAL ORG. | NASJ-159-GH-37-4 | Units |
|---|---|---|
| Hydrocarbons (C8-C40) | 8.4 U | mg/Kg |
| **Surrogate (o-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | mg/Kg |
| Surrogate Reported Value | 1.14 | mg/Kg |
| Surrogate Percent Recovery | 69 | % |
| Surrogate Control Limit | 51-145 | % |
| Date Extracted | 09/02/99 | |
| Date Analyzed | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | NASJ-159-GH-38-14 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U D3 | µg/Kg |
| Benzene | 1.5 U D3 | µg/Kg |
| Toluene | 1.5 U D3 | µg/Kg |
| Chlorobenzene | 1.5 U D3 | µg/Kg |
| Ethylbenzene | 1.5 U D3 | µg/Kg |
| m-Xylene & p-Xylene | 2.0 U D3 | µg/Kg |
| o-Xylene | 1.0 U D3 | µg/Kg |
| 1,3-Dichlorobenzene | 1.0 U D3 | µg/Kg |
| 1,4-Dichlorobenzene | 1.0 U D3 | µg/Kg |
| 1,2-Dichlorobenzene | 1.0 U D3 | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/Kg |
| Surrogate Reported Value | 46.5 | µg/Kg |
| Surrogate Percent Recovery | 93 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 09/06/99 | |

| MISCELLANEOUS | METHOD | NASJ-159-GH-38-14 | Units |
|---|---|---|---|
| Percent Solids | SM2540G | 80 | % |
| Date Analyzed | | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.
D3 = Analyte value determined from a 1:1.16 dilution.

## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | NASJ-159-GH-38-14 | Units |
|---|---|---|
| Naphthalene | 21 U | µg/Kg |
| Acenaphthylene | 42 U | µg/Kg |
| 1-Methylnaphthalene | 42 U | µg/Kg |
| 2-Methylnaphthalene | 42 U | µg/Kg |
| Acenaphthene | 21 U | µg/Kg |
| Fluorene | 4.2 U | µg/Kg |
| Phenanthrene | 42 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | 4.2 U | µg/Kg |
| Pyrene | 2.1 U | µg/Kg |
| Benzo(a)anthracene | 2.1 U | µg/Kg |
| Chrysene | 2.1 U | µg/Kg |
| Benzo(b)fluoranthene | 4.0 U | µg/Kg |
| Benzo(k)fluoranthene | 2.0 U | µg/Kg |
| Benzo(a)pyrene | 2.0 U | µg/Kg |
| Dibenzo(a,h)anthracene | 4.2 U | µg/Kg |
| Benzo(g,h,i)perylene | 4.2 U | µg/Kg |
| Indeno(1,2,3-cd)pyrene | 2.1 U | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 363 | µg/Kg |
| Surrogate Percent Recovery | 110 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 09/04/99 | |
| Date Analyzed | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
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PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| TOTAL METALS | METHOD | NASJ-159-GH-38-14 | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | 0.60 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Barium | 3050/6010 | 25 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Chromium | 3050/6010 | **1.4** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Lead | 3050/6010 | **1.9** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Mercury | 7471 | 0.010 U | mg/Kg |
| Date Analyzed | | 09/04/99 | |
| Selenium | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

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## RESULTS OF ANALYSIS

| EPA METHOD FLPRO - PETROL. RESIDUAL ORG. | NASJ-159-GH-38-14 | Units |
|---|---|---|
| Hydrocarbons (C8-C40) | 8.2 U | mg/Kg |
| **Surrogate (o-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | mg/Kg |
| Surrogate Reported Value | 1.12 | mg/Kg |
| Surrogate Percent Recovery | 68 | % |
| Surrogate Control Limit | 51-145 | % |
| Date Extracted | 09/02/99 | |
| Date Analyzed | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | NASJ-159-GH-39-14 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U D4 | µg/Kg |
| Benzene | 1.6 U D4 | µg/Kg |
| Toluene | 1.6 U D4 | µg/Kg |
| Chlorobenzene | 1.6 U D4 | µg/Kg |
| Ethylbenzene | **4.2** I D4 | µg/Kg |
| m-Xylene & p-Xylene | **10** I D4 | µg/Kg |
| o-Xylene | 1.0 U D4 | µg/Kg |
| 1,3-Dichlorobenzene | 1.0 U D4 | µg/Kg |
| 1,4-Dichlorobenzene | 1.0 U D4 | µg/Kg |
| 1,2-Dichlorobenzene | 1.0 U D4 | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/Kg |
| Surrogate Reported Value | 45 | µg/Kg |
| Surrogate Percent Recovery | 90 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 09/06/99 | |

| MISCELLANEOUS | METHOD | NASJ-159-GH-39-14 | Units |
|---|---|---|---|
| Percent Solids | SM2540G | **77** | % |
| Date Analyzed | | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.
D4 = Analyte value determined from a 1:1.19 dilution.

## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | NASJ-159-GH-39-14 | Units |
|---|---|---|
| Naphthalene | 22 U | µg/Kg |
| Acenaphthylene | 43 U | µg/Kg |
| 1-Methylnaphthalene | **210** | µg/Kg |
| 2-Methylnaphthalene | **180** | µg/Kg |
| Acenaphthene | 22 U | µg/Kg |
| Fluorene | **8.0** | µg/Kg |
| Phenanthrene | 43 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | **8.0** | µg/Kg |
| Pyrene | 2.2 U | µg/Kg |
| Benzo(a)anthracene | **2.0** I | µg/Kg |
| Chrysene | **18** | µg/Kg |
| Benzo(b)fluoranthene | 4.0 U | µg/Kg |
| Benzo(k)fluoranthene | 2.0 U | µg/Kg |
| Benzo(a)pyrene | 2.0 U | µg/Kg |
| Dibenzo(a,h)anthracene | **22** | µg/Kg |
| Benzo(g,h,i)perylene | 4.3 U | µg/Kg |
| Indeno(1,2,3-cd)pyrene | **2.0** I | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 363 | µg/Kg |
| Surrogate Percent Recovery | 110 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 09/04/99 | |
| Date Analyzed | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| TOTAL METALS | METHOD | NASJ-159-GH-39-14 | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | **1.8** I | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Barium | 3050/6010 | **32** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Chromium | 3050/6010 | **7.0** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Lead | 3050/6010 | **28** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Mercury | 7471 | 0.010 U | mg/Kg |
| Date Analyzed | | 09/04/99 | |
| Selenium | 3050/6010 | **2.0** | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
DW = Analysis is reported on a "dry weight" basis.

## RESULTS OF ANALYSIS

| EPA METHOD FLPRO - PETROL. RESIDUAL ORG. | NASJ-159-GH-39-14 | Units |
|---|---|---|
| Hydrocarbons (C8-C40) | 8.6 U | mg/Kg |
| **Surrogate (o-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | mg/Kg |
| Surrogate Reported Value | 1.25 | mg/Kg |
| Surrogate Percent Recovery | 67 | % |
| Surrogate Control Limit | 51-145 | % |
| Date Extracted | 09/02/99 | |
| Date Analyzed | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
DW = Analysis is reported on a "dry weight" basis.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5035/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/Kg |
| Benzene | 1.0 U | µg/Kg |
| Toluene | 1.0 U | µg/Kg |
| Chlorobenzene | 1.0 U | µg/Kg |
| Ethylbenzene | 1.0 U | µg/Kg |
| m-Xylene & p-Xylene | 2.0 U | µg/Kg |
| o-Xylene | 1.0 U | µg/Kg |
| 1,3-Dichlorobenzene | 1.0 U | µg/Kg |
| 1,4-Dichlorobenzene | 1.0 U | µg/Kg |
| 1,2-Dichlorobenzene | 1.0 U | µg/Kg |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/Kg |
| Surrogate Reported Value | 44 | µg/Kg |
| Surrogate Percent Recovery | 88 | % |
| Surrogate Control Limits | 28-165 | % |
| Date Analyzed | 09/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8358
DATE REPORTED: September 28, 1999
REFERENCE : NO255.F30.050.225
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3550/8310 - PAH BY HPLC | LAB BLANK | Units |
|---|---|---|
| Naphthalene | 17 U | µg/Kg |
| Acenaphthylene | 33 U | µg/Kg |
| 1-Methylnaphthalene | 33 U | µg/Kg |
| 2-Methylnaphthalene | 33 U | µg/Kg |
| Acenaphthene | 17 U | µg/Kg |
| Fluorene | 3.3 U | µg/Kg |
| Phenanthrene | 33 U | µg/Kg |
| Anthracene | 2.0 U | µg/Kg |
| Fluoranthene | 3.3 U | µg/Kg |
| Pyrene | 1.7 U | µg/Kg |
| Benzo(a)anthracene | 1.7 U | µg/Kg |
| Chrysene | 1.7 U | µg/Kg |
| Benzo(b)fluoranthene | 3.0 U | µg/Kg |
| Benzo(k)fluoranthene | 2.0 U | µg/Kg |
| Benzo(a)pyrene | 2.0 U | µg/Kg |
| Dibenzo(a,h)anthracene | 3.3 U | µg/Kg |
| Benzo(g,h,i)perylene | 3.3 U | µg/Kg |
| Indeno(1,2,3-cd)pyrene | 1.7 U | µg/Kg |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 330 | µg/Kg |
| Surrogate Reported Value | 310 | µg/Kg |
| Surrogate Percent Recovery | 94 | % |
| Surrogate Control Limit | 50-146 | % |
| Date Extracted | 09/04/99 | |
| Date Analyzed | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| TOTAL METALS | METHOD | LAB BLANK | Units |
|---|---|---|---|
| Arsenic | 3050/6010 | 0.50 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Barium | 3050/6010 | 20 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Cadmium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Chromium | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Lead | 3050/6010 | 1.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Mercury | 7471 | 0.010 U | mg/Kg |
| Date Analyzed | | 09/04/99 | |
| Selenium | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |
| Silver | 3050/6010 | 2.0 U | mg/Kg |
| Date Analyzed | | 09/03/99 | |

U = Compound was analyzed for but not detected to the level shown.

## QUALITY CONTROL DATA

| **EPA METHOD FLPRO - PETROL. RESIDUAL ORG.** | **LAB BLANK** | **Units** |
|---|---|---|
| Hydrocarbons (C8-C40) | 6.6 U | mg/Kg |
| **Surrogate (o-Terphenyl)** | | |
| Surrogate Expected Value | 1.65 | mg/Kg |
| Surrogate Reported Value | 1.11 | mg/Kg |
| Surrogate Percent Recovery | 67 | % |
| Surrogate Control Limit | 51-145 | % |
| Date Extracted | 09/02/99 | |
| Date Analyzed | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.

## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | LCS TARGET µg/Kg | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|---|
| EPA Method 8020/8021 | | | | | |
| Benzene | #52/ 54/ 97 | 20 | 59-144 | 4 | 25 |
| Toluene | #48/ 50/ 97 | 20 | 67-132 | 4 | 58 |
| Ethylbenzene | #40/ 41/ 96 | 20 | 60-169 | 2 | 28 |
| o-Xylene | #39/ 41/ 96 | 20 | 62-183 | 5 | 24 |
| EPA Method 8310 | | | | | |
| Naphthalene | 108/110/112 | 330 | 26-125 | 2 | 45 |
| Acenaphthene | 111/ 91/126 | 330 | 20-143 | 20 | 35 |
| Benzo(a)pyrene | 87/ 85/ 85 | 33 | 42-138 | 2 | 38 |
| Benzo(g,h,i)perylene | 100/104/103 | 66 | 51-142 | 4 | 26 |
| Total Metals | | | | | |
| Arsenic, 3050/6010 | 98/ 96/101 | 50 | 53-153 | 2 | 22 |
| Barium, 3050/6010 | 97/ 95/101 | 50 | 70-120 | 2 | 16 |
| Cadmium, 3050/6010 | 97/ 94/100 | 25 | 59-130 | 3 | 24 |
| Chromium, 3050/6010 | 95/ 94/100 | 50 | 57-135 | 1 | 24 |
| Lead, 3050/6010 | 98/ 96/102 | 50 | 63-128 | 2 | 26 |
| Mercury, 7471 | 92/ 96/112 | 0.25 | 71-138 | 4 | 13 |
| Selenium, 3050/6010 | 97/ 94/101 | 50 | 60-121 | 3 | 14 |
| Silver, 3050/6010 | 99/ 96/103 | 5 | 69-118 | 3 | 10 |
| PETROL. RESIDUAL ORG. | | | | | |
| Hydrocarbons (C8-C40) | 73/ 77/ 66 | 56.1 | 62-204 | 5 | 25 |

NOTE: RCRA8 Metals and LCS FLPRO target units are mg/Kg
Environmental Conservation Laboratories Comprehensive QA Plan #960038

# - One or more of the associated value failed to meet laboratory established criteria for accuracy.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

TETRA TECH NUS, INC.

CHAIN OF CUSTODY | NUMBER 159-1 | PAGE 1 OF 1

PROJECT NO: N0255.F00.050.2225
SITE NAME: GAS HILL
PROJECT MANAGER AND PHONE NUMBER: Greg Root 904 281-0400
LABORATORY NAME AND CONTACT: ENCO SCOTT MARTIN
SAMPLERS (SIGNATURE): Mervin W. Dale
FIELD OPERATIONS LEADER AND PHONE NUMBER: MERVIN DALE 904 281-0400
ADDRESS:
CARRIER/WAYBILL NUMBER: N/A
CITY, STATE: JACKSONVILLE, FL

STANDARD TAT ☐ 21 DAY X
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

| DATE YEAR 1999 | TIME | SAMPLE ID | MATRIX | GRAB (G) COMP (C) | No. OF CONTAINERS | FL-PRO | RCRA 8 metals (6010B) | 8310 (PAHs) | 8021B (BTEX & MTBE) | | | | | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONTAINER TYPE PLASTIC (P) or GLASS (G) | | | | | | G | G | G | P | | | | | |
| PRESERVATIVE USED | | | | | | None | none | none | none | | | | | |
| 8/31 | 1215 | NASJ-159-GH-35-16 | SO | G | 6 | ✓ | ✓ | ✓ | ✓ | | | | | Cool to 4°C |
| 8/31 | 1420 | NASJ-159-GH-36-4 | SO | G | 6 | ✓ | ✓ | ✓ | ✓ | | | | | |
| 8/31 | 1510 | NASJ-159-GH-37-4 | SO | G | 6 | ✓ | ✓ | ✓ | ✓ | | | | | |
| 9/1 | 0810 | NASJ-159-GH-38-14 | SO | G | 6 | ✓ | ✓ | ✓ | ✓ | | | | | |
| 9/1 | 0920 | NASJ-159-GH-39-14 | SO | G | 6 | ✓ | ✓ | ✓ | ✓ | | | | | |

| | DATE | TIME | | DATE | TIME |
|---|---|---|---|---|---|
| 1. RELINQUISHED BY: Mervin W. Dale | 09/01/99 | 1439 | 1. RECEIVED BY: J Cutessau | 09/01/99 | 14:39 |
| 2. RELINQUISHED BY | | | 2. RECEIVED BY | | |
| 3. RELINQUISHED BY | | | 3. RECEIVED BY | | |

COMMENTS: JR 8358

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FORM NO. TtNUS-001

| sample_no | run_number | parameter | method | units | idl | mdl | crdl_crql | dil_factor | pct_moist |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-35-16 | 1 | Mercury | 7471 | mg/Kg | 0.004 | | 0.01 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Silver | 3050/6010 | mg/Kg | 0.05 | | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Arsenic | 3050/6010 | mg/Kg | 0.4 | | 0.6 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Barium | 3050/6010 | mg/Kg | 0.1 | | 24 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Cadmium | 3050/6010 | mg/Kg | 0.05 | | 1 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Chromium | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Lead | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Selenium | 3050/6010 | mg/Kg | 0.2 | | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Naphthalene | 3550/8310 | ug/Kg | | 8.1 | 20 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Acenaphthylene | 3550/8310 | ug/Kg | | 4 | 40 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | 1-Methylnaphthalene | 3550/8310 | ug/Kg | | 4 | 40 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | 2-Methylnaphthalene | 3550/8310 | ug/Kg | | 8.1 | 40 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Acenaphthene | 3550/8310 | ug/Kg | | 8.1 | 20 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Fluorene | 3550/8310 | ug/Kg | | 1.6 | 4 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Phenanthrene | 3550/8310 | ug/Kg | | 1.6 | 40 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Anthracene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Fluoranthene | 3550/8310 | ug/Kg | | 1.6 | 4 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Pyrene | 3550/8310 | ug/Kg | | 1.6 | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Benzo(a)anthracene | 3550/8310 | ug/Kg | | 0.81 | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Chrysene | 3550/8310 | ug/Kg | | 0.81 | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Benzo(b)fluoranthene | 3550/8310 | ug/Kg | | 2 | 4 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Benzo(k)fluoranthene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Benzo(a)pyrene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Dibenzo(a,h)anthracene | 3550/8310 | ug/Kg | | 2.8 | 4 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Benzo(g,h,i)perylene | 3550/8310 | ug/Kg | | 2.8 | 4 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | Indeno(1,2,3-cd)pyrene | 3550/8310 | ug/Kg | | 0.81 | 2 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | P-Terphenyl | 3550/8310 | % | | | | 1 | |
| NASJ-159-GH-35-16 | 1 | Methyl tert-butyl ether | 5035/8021 | ug/Kg | | 2 | 2 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | Benzene | 5035/8021 | ug/Kg | | 0.8 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | Toluene | 5035/8021 | ug/Kg | | 1 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | Chlorobenzene | 5035/8021 | ug/Kg | | 1 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | Ethylbenzene | 5035/8021 | ug/Kg | | 1 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | m-Xylene & p-Xylene | 5035/8021 | ug/Kg | | 2 | 2 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | o-Xylene | 5035/8021 | ug/Kg | | 1.1 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | 1,3-Dichlorobenzene | 5035/8021 | ug/Kg | | 1.1 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | 1,4-Dichlorobenzene | 5035/8021 | ug/Kg | | 1.1 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | 1,2-Dichlorobenzene | 5035/8021 | ug/Kg | | 1.1 | 1.1 | 0.91 | 17 |
| NASJ-159-GH-35-16 | 1 | Bromofluorobenzene | 5035/8021 | % | | | | 0.91 | |
| NASJ-159-GH-35-16 | 1 | Hydrocarbons (C8-C40) | FLPRO | mg/Kg | | 8 | 8 | 1 | 17 |
| NASJ-159-GH-35-16 | 1 | o-Terphenyl | FLPRO | % | | | | 1 | |
| NASJ-159-GH-35-16 | 1 | Nonatriacontane | FLPRO | % | | | | 1 | |
| NASJ-159-GH-35-16 | 1 | Percent Solids | SM2540G | % | | 0.01 | 0.01 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-36-4 | 1 | Mercury | 7471 | mg/Kg | 0.004 | | 0.01 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Silver | 3050/6010 | mg/Kg | 0.05 | | 2 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Arsenic | 3050/6010 | mg/Kg | 0.4 | | 0.6 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Barium | 3050/6010 | mg/Kg | 0.1 | | 22 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Cadmium | 3050/6010 | mg/Kg | 0.05 | | 1 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Chromium | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Lead | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Selenium | 3050/6010 | mg/Kg | 0.2 | | 2 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Naphthalene | 3550/8310 | ug/Kg | | 7.4 | 19 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Acenaphthylene | 3550/8310 | ug/Kg | | 3.7 | 37 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | 1-Methylnaphthalene | 3550/8310 | ug/Kg | | 3.7 | 37 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | 2-Methylnaphthalene | 3550/8310 | ug/Kg | | 7.4 | 37 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Acenaphthene | 3550/8310 | ug/Kg | | 7.4 | 19 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Fluorene | 3550/8310 | ug/Kg | | 1.5 | 3.7 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Phenanthrene | 3550/8310 | ug/Kg | | 1.5 | 37 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Anthracene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Fluoranthene | 3550/8310 | ug/Kg | | 1.5 | 3.7 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Pyrene | 3550/8310 | ug/Kg | | 1.5 | 1.9 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Benzo(a)anthracene | 3550/8310 | ug/Kg | | 0.74 | 1.9 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Chrysene | 3550/8310 | ug/Kg | | 0.74 | 1.9 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Benzo(b)fluoranthene | 3550/8310 | ug/Kg | | 2 | 3 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Benzo(k)fluoranthene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Benzo(a)pyrene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Dibenzo(a,h)anthracene | 3550/8310 | ug/Kg | | 2.6 | 3.7 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Benzo(g,h,i)perylene | 3550/8310 | ug/Kg | | 2.6 | 3.7 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | Indeno(1,2,3-cd)pyrene | 3550/8310 | ug/Kg | | 0.74 | 1.9 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | P-Terphenyl | 3550/8310 | % | | | | 1 | |
| NASJ-159-GH-36-4 | 1 | Methyl tert-butyl ether | 5035/8021 | ug/Kg | | 2 | 2 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | Benzene | 5035/8021 | ug/Kg | | 1 | 1.2 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | Toluene | 5035/8021 | ug/Kg | | 1 | 1.2 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | Chlorobenzene | 5035/8021 | ug/Kg | | 1 | 1.2 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | Ethylbenzene | 5035/8021 | ug/Kg | | 1 | 1.2 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | m-Xylene & p-Xylene | 5035/8021 | ug/Kg | | 2 | 2 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | o-Xylene | 5035/8021 | ug/Kg | | 1 | 1 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | 1,3-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | 1,4-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | 1,2-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.14 | 10 |
| NASJ-159-GH-36-4 | 1 | Bromofluorobenzene | 5035/8021 | % | | | | 1.14 | |
| NASJ-159-GH-36-4 | 1 | Hydrocarbons (C8-C40) | FLPRO | mg/Kg | | 7.3 | 7.3 | 1 | 10 |
| NASJ-159-GH-36-4 | 1 | o-Terphenyl | FLPRO | % | | | | 1 | |
| NASJ-159-GH-36-4 | 1 | Nonatriacontane | FLPRO | % | | | | 1 | |
| NASJ-159-GH-36-4 | 1 | Percent Solids | SM2540G | % | | 0.01 | 0.01 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-37-4 | 1 | Mercury | 7471 | mg/Kg | 0.004 | | 0.01 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Silver | 3050/6010 | mg/Kg | 0.05 | | 2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Arsenic | 3050/6010 | mg/Kg | 0.4 | | 0.6 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Barium | 3050/6010 | mg/Kg | 0.1 | | 25 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Cadmium | 3050/6010 | mg/Kg | 0.05 | | 1 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Chromium | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Lead | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Selenium | 3050/6010 | mg/Kg | 0.2 | | 2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Naphthalene | 3550/8310 | ug/Kg | | 8.5 | 21 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Acenaphthylene | 3550/8310 | ug/Kg | | 4.2 | 42 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | 1-Methylnaphthalene | 3550/8310 | ug/Kg | | 4.2 | 42 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | 2-Methylnaphthalene | 3550/8310 | ug/Kg | | 8.5 | 42 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Acenaphthene | 3550/8310 | ug/Kg | | 8.5 | 21 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Fluorene | 3550/8310 | ug/Kg | | 1.7 | 4.2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Phenanthrene | 3550/8310 | ug/Kg | | 1.7 | 42 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Anthracene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Fluoranthene | 3550/8310 | ug/Kg | | 1.7 | 4.2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Pyrene | 3550/8310 | ug/Kg | | 1.7 | 2.1 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Benzo(a)anthracene | 3550/8310 | ug/Kg | | 0.85 | 2.1 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Chrysene | 3550/8310 | ug/Kg | | 0.85 | 2.1 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Benzo(b)fluoranthene | 3550/8310 | ug/Kg | | 2 | 4 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Benzo(k)fluoranthene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Benzo(a)pyrene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Dibenzo(a,h)anthracene | 3550/8310 | ug/Kg | | 3 | 4.2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Benzo(g,h,i)perylene | 3550/8310 | ug/Kg | | 3 | 4.2 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | Indeno(1,2,3-cd)pyrene | 3550/8310 | ug/Kg | | 0.85 | 2.1 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | P-Terphenyl | 3550/8310 | % | | | | 1 | |
| NASJ-159-GH-37-4 | 1 | Methyl tert-butyl ether | 5035/8021 | ug/Kg | | 2 | 2 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | Benzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | Toluene | 5035/8021 | ug/Kg | | 1.1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | Chlorobenzene | 5035/8021 | ug/Kg | | 1.1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | Ethylbenzene | 5035/8021 | ug/Kg | | 1.1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | m-Xylene & p-Xylene | 5035/8021 | ug/Kg | | 2 | 2 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | o-Xylene | 5035/8021 | ug/Kg | | 1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | 1,3-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | 1,4-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | 1,2-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.05 | 21 |
| NASJ-159-GH-37-4 | 1 | Bromofluorobenzene | 5035/8021 | % | | | | 1.05 | |
| NASJ-159-GH-37-4 | 1 | Hydrocarbons (C8-C40) | FLPRO | mg/Kg | | 8.4 | 8.4 | 1 | 21 |
| NASJ-159-GH-37-4 | 1 | o-Terphenyl | FLPRO | % | | | | 1 | |
| NASJ-159-GH-37-4 | 1 | Nonatriacontane | FLPRO | % | | | | 1 | |
| NASJ-159-GH-37-4 | 1 | Percent Solids | SM2540G | % | | 0.01 | 0.01 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-38-14 | 1 | Mercury | 7471 | mg/Kg | 0.004 | | 0.01 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Silver | 3050/6010 | mg/Kg | 0.05 | | 2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Arsenic | 3050/6010 | mg/Kg | 0.4 | | 0.6 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Barium | 3050/6010 | mg/Kg | 0.1 | | 25 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Cadmium | 3050/6010 | mg/Kg | 0.05 | | 1 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Chromium | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Lead | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Selenium | 3050/6010 | mg/Kg | 0.2 | | 2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Naphthalene | 3550/8310 | ug/Kg | | 8.4 | 21 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Acenaphthylene | 3550/8310 | ug/Kg | | 4.1 | 42 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | 1-Methylnaphthalene | 3550/8310 | ug/Kg | | 4.1 | 42 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | 2-Methylnaphthalene | 3550/8310 | ug/Kg | | 8.4 | 42 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Acenaphthene | 3550/8310 | ug/Kg | | 8.4 | 21 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Fluorene | 3550/8310 | ug/Kg | | 1.7 | 4.2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Phenanthrene | 3550/8310 | ug/Kg | | 1.7 | 42 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Anthracene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Fluoranthene | 3550/8310 | ug/Kg | | 1.7 | 4.2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Pyrene | 3550/8310 | ug/Kg | | 1.7 | 2.1 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Benzo(a)anthracene | 3550/8310 | ug/Kg | | 0.84 | 2.1 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Chrysene | 3550/8310 | ug/Kg | | 0.84 | 2.1 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Benzo(b)fluoranthene | 3550/8310 | ug/Kg | | 2 | 4 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Benzo(k)fluoranthene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Benzo(a)pyrene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Dibenzo(a,h)anthracene | 3550/8310 | ug/Kg | | 2.9 | 4.2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Benzo(g,h,i)perylene | 3550/8310 | ug/Kg | | 2.9 | 4.2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | Indeno(1,2,3-cd)pyrene | 3550/8310 | ug/Kg | | 0.84 | 2.1 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | P-Terphenyl | 3550/8310 | % | | | | 1 | |
| NASJ-159-GH-38-14 | 1 | Methyl tert-butyl ether | 5035/8021 | ug/Kg | | 2 | 2 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | Benzene | 5035/8021 | ug/Kg | | 1.1 | 1.5 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | Toluene | 5035/8021 | ug/Kg | | 1 | 1.5 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | Chlorobenzene | 5035/8021 | ug/Kg | | 1 | 1.5 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | Ethylbenzene | 5035/8021 | ug/Kg | | 1 | 1.5 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | m-Xylene & p-Xylene | 5035/8021 | ug/Kg | | 2 | 2 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | o-Xylene | 5035/8021 | ug/Kg | | 1 | 1 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | 1,3-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | 1,4-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | 1,2-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.16 | 20 |
| NASJ-159-GH-38-14 | 1 | Bromofluorobenzene | 5035/8021 | % | | | | 1.16 | |
| NASJ-159-GH-38-14 | 1 | Hydrocarbons (C8-C40) | FLPRO | mg/Kg | | 8.2 | 8.2 | 1 | 20 |
| NASJ-159-GH-38-14 | 1 | o-Terphenyl | FLPRO | % | | | | 1 | |
| NASJ-159-GH-38-14 | 1 | Nonatriacontane | FLPRO | % | | | | 1 | |
| NASJ-159-GH-38-14 | 1 | Percent Solids | SM2540G | % | | 0.01 | 0.01 | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-39-14 | 1 | Mercury | 7471 | mg/Kg | 0.004 | | 0.01 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Silver | 3050/6010 | mg/Kg | 0.05 | | 2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Arsenic | 3050/6010 | mg/Kg | 0.4 | | 0.6 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Barium | 3050/6010 | mg/Kg | 0.1 | | 26 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Cadmium | 3050/6010 | mg/Kg | 0.05 | | 1 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Chromium | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Lead | 3050/6010 | mg/Kg | 0.15 | | 1 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Selenium | 3050/6010 | mg/Kg | 0.2 | | 2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Naphthalene | 3550/8310 | ug/Kg | | 8.7 | 22 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Acenaphthylene | 3550/8310 | ug/Kg | | 4.3 | 43 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | 1-Methylnaphthalene | 3550/8310 | ug/Kg | | 4.3 | 43 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | 2-Methylnaphthalene | 3550/8310 | ug/Kg | | 8.7 | 43 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Acenaphthene | 3550/8310 | ug/Kg | | 8.7 | 22 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Fluorene | 3550/8310 | ug/Kg | | 1.7 | 4.3 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Phenanthrene | 3550/8310 | ug/Kg | | 1.7 | 43 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Anthracene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Fluoranthene | 3550/8310 | ug/Kg | | 1.7 | 4.3 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Pyrene | 3550/8310 | ug/Kg | | 1.7 | 2.2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Benzo(a)anthracene | 3550/8310 | ug/Kg | | 0.87 | 2.2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Chrysene | 3550/8310 | ug/Kg | | 0.87 | 2.2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Benzo(b)fluoranthene | 3550/8310 | ug/Kg | | 2 | 4 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Benzo(k)fluoranthene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Benzo(a)pyrene | 3550/8310 | ug/Kg | | 1 | 2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Dibenzo(a,h)anthracene | 3550/8310 | ug/Kg | | 3 | 4.3 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Benzo(g,h,i)perylene | 3550/8310 | ug/Kg | | 3 | 4.3 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | Indeno(1,2,3-cd)pyrene | 3550/8310 | ug/Kg | | 0.87 | 2.2 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | P-Terphenyl | 3550/8310 | % | | | | 1 | |
| NASJ-159-GH-39-14 | 1 | Methyl tert-butyl ether | 5035/8021 | ug/Kg | | 2 | 2 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | Benzene | 5035/8021 | ug/Kg | | 1 | 1.6 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | Toluene | 5035/8021 | ug/Kg | | 1.4 | 1.6 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | Chlorobenzene | 5035/8021 | ug/Kg | | 1.4 | 1.6 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | Ethylbenzene | 5035/8021 | ug/Kg | | 1.4 | 1.6 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | m-Xylene & p-Xylene | 5035/8021 | ug/Kg | | 2 | 2 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | o-Xylene | 5035/8021 | ug/Kg | | 1 | 1 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | 1,3-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | 1,4-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | 1,2-Dichlorobenzene | 5035/8021 | ug/Kg | | 1 | 1 | 1.19 | 23 |
| NASJ-159-GH-39-14 | 1 | Bromofluorobenzene | 5035/8021 | % | | | | 1.19 | |
| NASJ-159-GH-39-14 | 1 | Hydrocarbons (C8-C40) | FLPRO | mg/Kg | | 8.6 | 8.6 | 1 | 23 |
| NASJ-159-GH-39-14 | 1 | o-Terphenyl | FLPRO | % | | | | 1 | |
| NASJ-159-GH-39-14 | 1 | Nonatriacontane | FLPRO | % | | | | 1 | |
| NASJ-159-GH-39-14 | 1 | Percent Solids | SM2540G | % | | 0.01 | 0.01 | | |

# APPENDIX E

# WELL COMPLETION LOGS

Tetra Tech NUS, Inc.

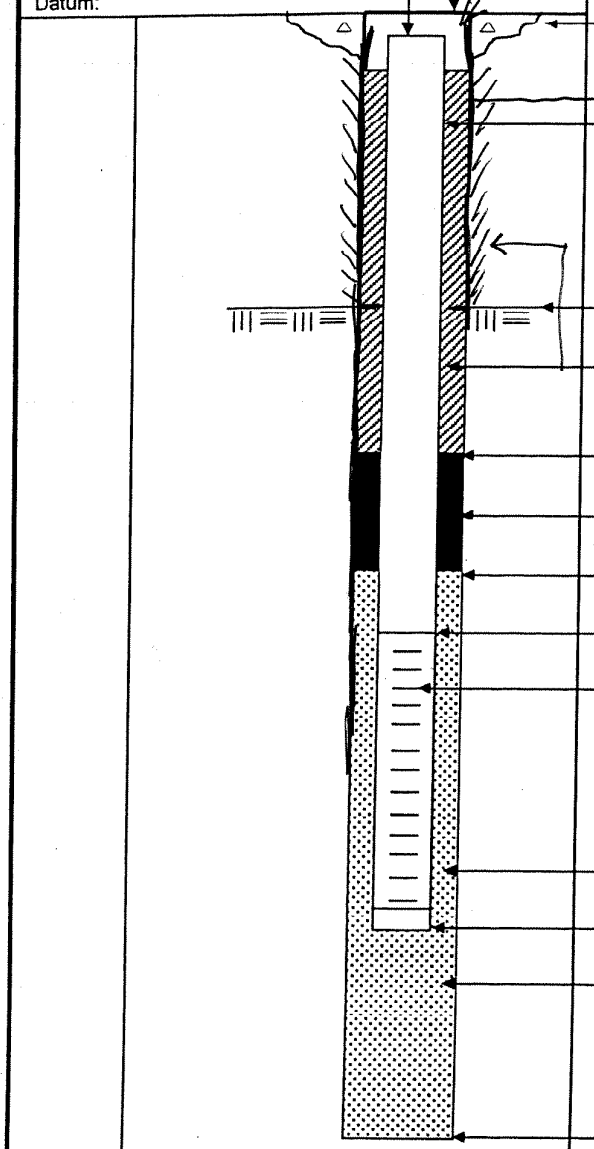
WELL No.: JAX-159-GH-28

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JACKSONVILLE | DRILLING Co.: | PRECISION | BORING No.: | 001 |
| PROJECT No.: | ~~0039~~ 0255 | DRILLER: | G. PIJAK | DATE COMPLETED: | 07/27/99 |
| SITE: | GAS HILL | DRILLING METHOD: | Hollow Stem/Mud Rotary | NORTHING: | |
| GEOLOGIST: | M. DALE | DEV. METHOD: | Submersible | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: 1 4 IN.

Elevation / Height of Top of Surface Casing: 1 0 FT.

HEIGHT OF TOP OF SECONDARY CASING MD 1 0 FT

I.D. of Surface Casing: 8 ~~2~~ INCH

~~TO OF MD~~

Type of Surface Casing: Steel Cover

Type of Surface Seal: SAKRETE Concrete

I.D. OF SECONDARY CASING 6 INCH

I.D. of Riser: 2 INCH

Type of Secondary ~~Riser~~ CASING: PVC, SCH. 40

Type of Riser: PVC, SCH. 40

OUTER BOREhole DIAM.: 12 INCH

INNER Borehole Diameter: 6 INCH

Elevation / Depth Top of Rock: N/A

Type of Backfill: PORTLAND CEMENT Type I (used some bentonite powder on inner backfill)

Elevation / Depth of Seal: 1 26 FT.

Type of Seal: BENTONITE CHIPS

Elevation / Depth of Top of Filter Pack: 1 28 FT.

Elevation / Depth of Top of Screen: 130 FT.

Type of Screen: PVC, SCH. 40

Slot Size x Length: 0.010 IN X 5 FT.

I.D. of Screen: 2 INCH

Type of Filter Pack: 20/30 GRADE SAND

Elevation / Depth of Bottom of Screen: 135 FT.

Elevation / Depth of Bottom of Filter Pack: 135 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 135 FT.

Tetra Tech NUS, Inc.

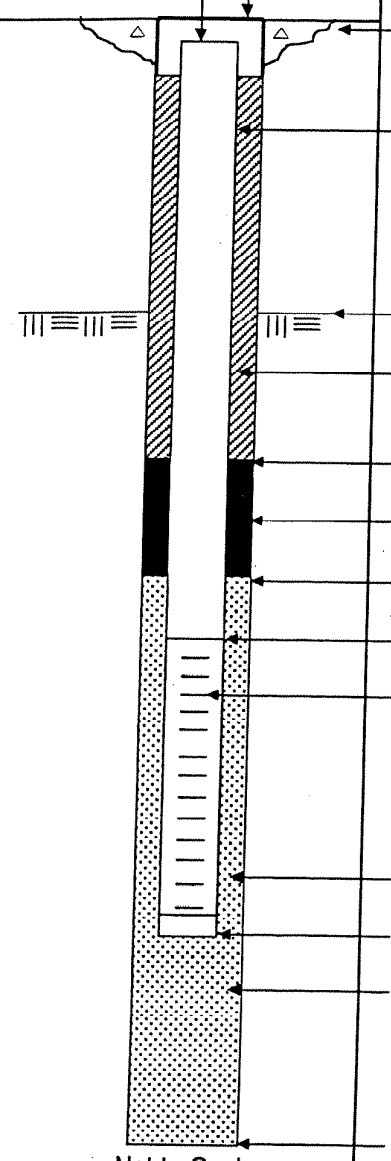
WELL No.: JAX-159-GH-29

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | DPrecision | BORING No.: | 002 |
| PROJECT No.: | ~~0039~~ 0255 | DRILLER: | G. PiJAK | DATE COMPLETED: | 07/27/99 |
| SITE: | GAS HILL | DRILLING METHOD: | Hollow Stem | NORTHING: | |
| GEOLOGIST: | M. DALE | DEV. METHOD: | Submersible | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: 1 3 IN.

Elevation / Height of Top of Surface Casing: 1 0

I.D. of Surface Casing: 8 IN.

Type of Surface Casing: Steel Cover

Type of Surface Seal: SAKRETE CONCRETE

I.D. of Riser: 2 INCH

Type of Riser: PVC, Sch. 40

Borehole Diameter: 8 INCH

Elevation / Depth Top of Rock: 1 N/A

Type of Backfill: PORTLAND Cement Type I

Elevation / Depth of Seal: 1 14 IN.

Type of Seal: ENVIROPLUG BENTONITE CHIPS

Elevation / Depth of Top of Filter Pack: 1 2 FT.

Elevation / Depth of Top of Screen: 1 3 FT.

Type of Screen: PVC, SCH. 40

Slot Size x Length: 0.010 IN. / 10 FT.

I.D. of Screen: 2 INCH

Type of Filter Pack: 20/30 GRADE SAND

Elevation / Depth of Bottom of Screen: 1 13 FT.

Elevation / Depth of Bottom of Filter Pack: 1 13 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 1 13 FT.

Tetra Tech NUS, Inc.

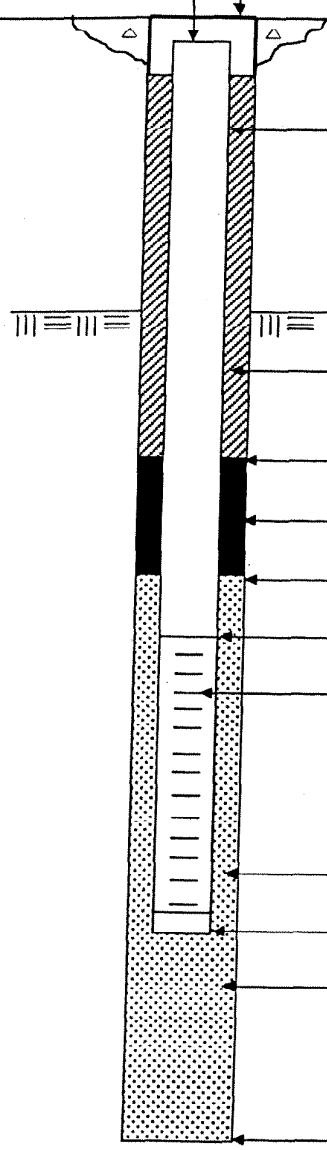
WELL No.: JAX-159-GH-30

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS CECIL FIELD | DRILLING Co.: | PRECISION | BORING No.: | 003 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | G. PITAK | DATE COMPLETED: | 07/27/99 |
| SITE: | GAS HILL | DRILLING METHOD: | Hollow Stem | NORTHING: | |
| GEOLOGIST: | M. DALE | DEV. METHOD: | Submersible | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: 1 3 IN.

Elevation / Height of Top of Surface Casing: 1 0 FT.

I.D. of Surface Casing: 8 IN.

Type of Surface Casing: Steel Cover

Type of Surface Seal: SAKRETE Concrete

I.D. of Riser: 2 INCH

Type of Riser: PVC, Sch. 40

Borehole Diameter: 8 INCH

Elevation / Depth Top of Rock: N/A

Type of Backfill: PORTLAND Cement Type I

Elevation / Depth of Seal: 1 14 IN.

Type of Seal: BENTONITE CHIPS

Elevation / Depth of Top of Filter Pack: 1 2 FT.

Elevation / Depth of Top of Screen: 1 3 FT.

Type of Screen: PVC, SCH. 40

Slot Size x Length: 0.010 IN. / 10 FT.

I.D. of Screen: 2 INCH

Type of Filter Pack: 20/30 GRADE SAND

Elevation / Depth of Bottom of Screen: 1 13 FT.

Elevation / Depth of Bottom of Filter Pack: 1 13 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 1 13 FT.

Tetra Tech NUS, Inc.

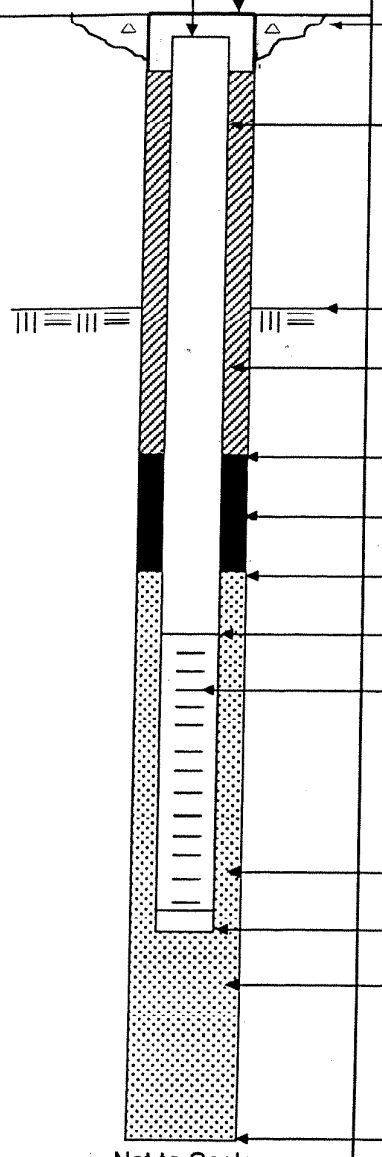
WELL No.: JAX-159-GH-31

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS CECIL FIELD | DRILLING Co.: | PRECISION | BORING No.: | 004 |
| PROJECT No.: | ~~0030~~ 0253 | DRILLER: | G. PITAK | DATE COMPLETED: | 07/27/99 |
| SITE: | GAS HILL | DRILLING METHOD: | Hollow Stem | NORTHING: | |
| GEOLOGIST: | M. DALE | DEV. METHOD: | Submersible | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: 1 3 IN.

Elevation / Height of Top of Surface Casing: 1 8 FT.

I.D. of Surface Casing: 8 IN.

Type of Surface Casing: Steel Cover

Type of Surface Seal: SAKRETE Concrete

I.D. of Riser: 2 INCH

Type of Riser: PVC, Sch. 40

Borehole Diameter: 8 INCH

Elevation / Depth Top of Rock: N/A

Type of Backfill: PORTLAND Cement Type I

Elevation / Depth of Seal: 1 18 IN.

Type of Seal: BENTONITE CHIPS

Elevation / Depth of Top of Filter Pack: 1 2 FT.

Elevation / Depth of Top of Screen: 1 3 FT.

Type of Screen: PVC, SCH. 40

Slot Size x Length: 0.010 IN. / 10 FT.

I.D. of Screen: 2 INCH

Type of Filter Pack: 20/30 GRADE SAND

Elevation / Depth of Bottom of Screen: 1 13 FT.

Elevation / Depth of Bottom of Filter Pack: 1 13 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 1 13 FT.

Tetra Tech NUS, Inc.

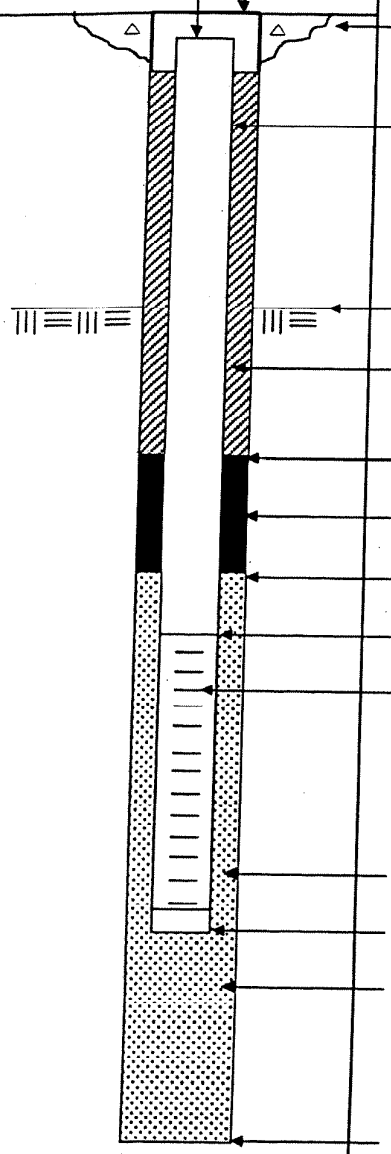
WELL No.: NASJ-159-GH-32

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | GROUND WATER PROTECTION | BORING No.: | 1 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | C. Bucher | DATE COMPLETED: | 08/30/99 |
| SITE: | GAS HILL | DRILLING METHOD: | DPT | NORTHING: | |
| GEOLOGIST: | M. DAVE | DEV. METHOD: | Peristaltic pump | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2 in.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (Locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type 1

Elevation / Depth of Seal: / 1 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 1.5 FT.

Elevation / Depth of Top of Screen: / 2.5 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 in. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 11.5 FT.

Elevation / Depth of Bottom of Filter Pack: / 11.5 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 11.5 FT.

Tetra Tech NUS, Inc.

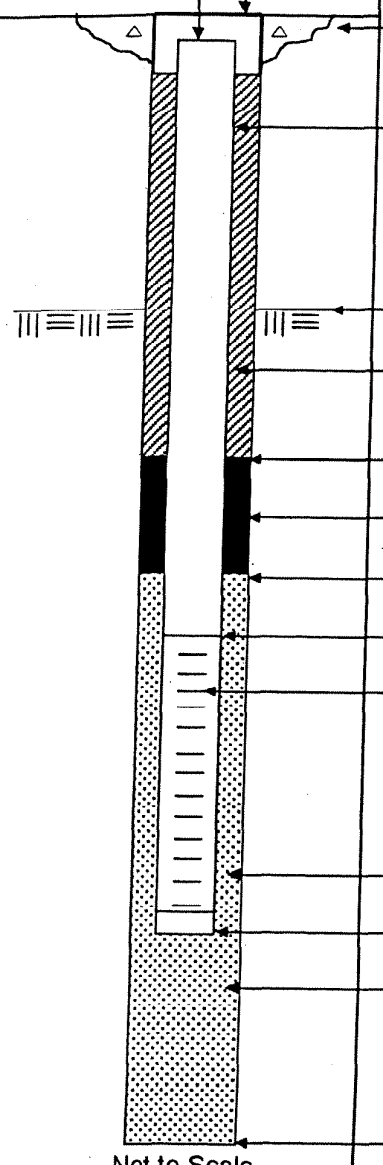
WELL No.: NASJ-159-GH-33

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | GROUND WATER PROTECTION | BORING No.: | 2 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | C. Bucher | DATE COMPLETED: | 08/30/99 |
| SITE: | GAS HILL | DRILLING METHOD: | DPT | NORTHING: | |
| GEOLOGIST: | M. DALE | DEV. METHOD: | Peristaltic | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

| | |
|---|---|
| Elevation / Depth of Top of Riser: | / 2IN. |
| Elevation / Height of Top of Surface Casing: | / 0 FT. |
| I.D. of Surface Casing: | 8 inch |
| Type of Surface Casing: | Steel Flush MT. (Locking) |
| Type of Surface Seal: | Concrete pad 2'x 2' x 6" |
| I.D. of Riser: | 0.5 inch |
| Type of Riser: | Sch. 80 PVC |
| Borehole Diameter: | 2.125 inches |
| Elevation / Depth Top of Rock: | N/A |
| Type of Backfill: | Portland Cement Type I |
| Elevation / Depth of Seal: | / 1 FT. |
| Type of Seal: | 30/65 Silica Sand |
| Elevation / Depth of Top of Filter Pack: | / 1.5 FT. |
| Elevation / Depth of Top of Screen: | / 2.5 FT. |
| Type of Screen: | Sch. 80 PVC |
| Slot Size x Length: | 0.010 in. x 9 FT. |
| I.D. of Screen: | 0.5 inch |
| Type of Filter Pack: | 20/30 Silica Sand |
| Elevation / Depth of Bottom of Screen: | / 11.5 FT. |
| Elevation / Depth of Bottom of Filter Pack: | / 11.5 FT. |
| Type of Backfill Below Well: | NATIVE SOIL |
| Elevation / Total Depth of Borehole: | / 11.5 FT. |

Tetra Tech NUS, Inc.

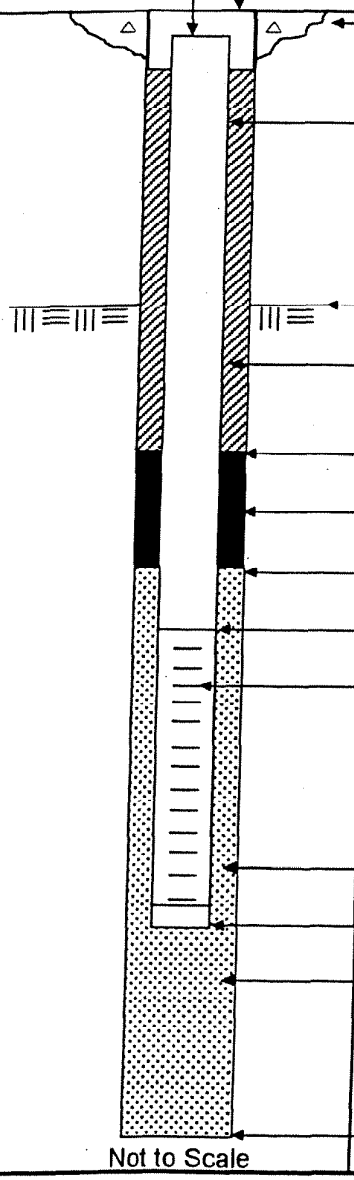
WELL No.: NASJ-159-GH-34

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | GROUNDWATER PROTECTION | BORING No.: | 3 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | C. Bucher | DATE COMPLETED: | 08/30/99 |
| SITE: | GAS HILL | DRILLING METHOD: | DPT | NORTHING: | |
| GEOLOGIST: | M. DALE | DEV. METHOD: | Peristaltic | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: 1 2 IN.

Elevation / Height of Top of Surface Casing: 1 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inch

Elevation / Depth Top of Rock: N/A

Type of Backfill: PORTLAND Cement Type I

Elevation / Depth of Seal: 1 1 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: 1 2 FT.

Elevation / Depth of Top of Screen: 1 3.5 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: 1 12.5 FT.

Elevation / Depth of Bottom of Filter Pack: 1 12.5 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 1 12.5 FT.

Tetra Tech NUS, Inc.

WELL No.: NASJ-159-GH-35

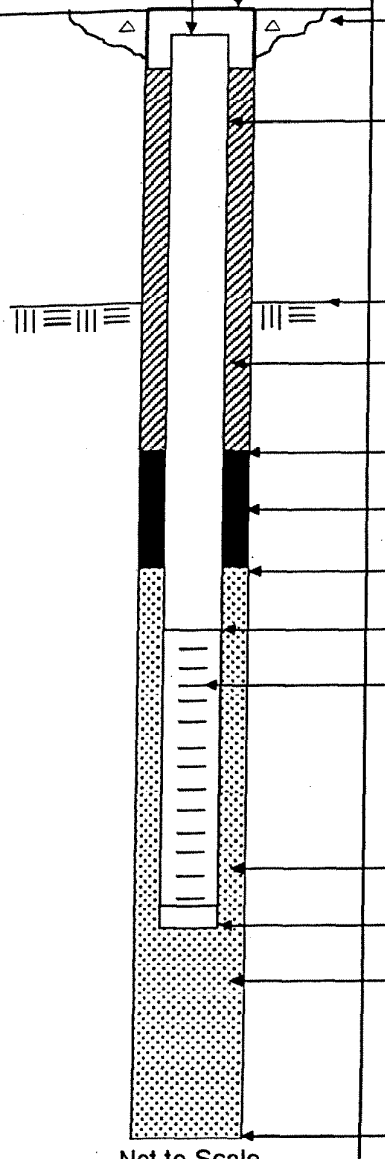
## MONITORING WELL SHEET

PROJECT: NAS ~~CECIL FIELD~~ JAX
PROJECT No.: ~~0030~~ 0255
SITE: GAS HILL
GEOLOGIST: M. DAVE

DRILLING Co.: GROUNDWATER PROTECTION
DRILLER: C. Bucher
DRILLING METHOD: DPT
DEV. METHOD: Peristaltic Pump

BORING No.: 41 MW
DATE COMPLETED: 08/31/99
NORTHING:
EASTING:

Ground Elevation =
Datum:



Not to Scale

Elevation / Depth of Top of Riser: 12 IN.

Elevation / Height of Top of Surface Casing: 1 Ø FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (Locking)

Type of Surface Seal: Concrete PAD 2'x2'x6"

I.D. of Riser: 0.5 IN.

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2 1/8 inch

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: 1 10.5 FT

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: 1 12.5 FT

Elevation / Depth of Top of Screen: 1 15.5 FT

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 IN.

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: 1 24.5 FT

Elevation / Depth of Bottom of Filter Pack: 1 24.5 FT

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 1 24.5 FT

Tetra Tech NUS, Inc.

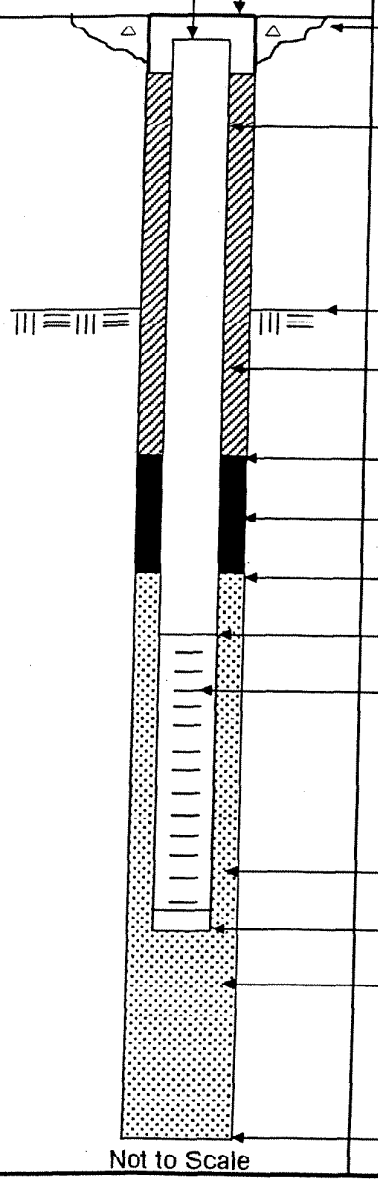
WELL No.: NAST-159-GH-36

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | GROUNDWATER PROTECTION | BORING No.: | 5 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | C. BUCHER | DATE COMPLETED: | 08/31/99 |
| SITE: | GAS HILL | DRILLING METHOD: | DPT | NORTHING: | |
| GEOLOGIST: | M. DALE | DEV. METHOD: | Peristaltic Pump | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

| | |
|---|---|
| Elevation / Depth of Top of Riser: | 1 2 IN. |
| Elevation / Height of Top of Surface Casing: | 1 0 FT. |
| I.D. of Surface Casing: | 8 inch |
| Type of Surface Casing: | Steel flush MT. (Locking) |
| Type of Surface Seal: | concrete pad 2'x2'x6" |
| I.D. of Riser: | 0.5 inch |
| Type of Riser: | Sch 80 PVC |
| Borehole Diameter: | 2.125 IN. |
| Elevation / Depth Top of Rock: | N/A |
| Type of Backfill: | Portland Cement Type I |
| Elevation / Depth of Seal: | 1 10.5 FT |
| Type of Seal: | 30/65 Silica Sand |
| Elevation / Depth of Top of Filter Pack: | 1 13.5 FT |
| Elevation / Depth of Top of Screen: | 1 16.5 FT |
| Type of Screen: | Sch. 80 PVC |
| Slot Size x Length: | 0.010 IN. X 9 FT. |
| I.D. of Screen: | 0.5 inch |
| Type of Filter Pack: | 20/30 Silica Sand |
| Elevation / Depth of Bottom of Screen: | 1 25.5 FT |
| Elevation / Depth of Bottom of Filter Pack: | 1 25.5 FT |
| Type of Backfill Below Well: | NATIVE SOIL |
| Elevation / Total Depth of Borehole: | 1 25.5 FT |

Tetra Tech NUS, Inc.

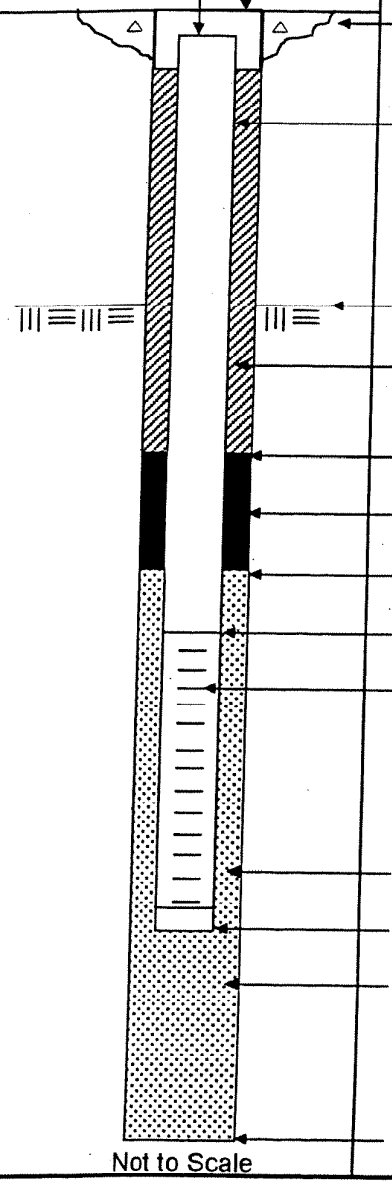
WELL No.: NAS J-159-GA-37

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | GROUNDWATER PROTECTION | BORING No.: | 6 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | C. Bucher | DATE COMPLETED: | 08/31/99 |
| SITE: | GAS HILL | DRILLING METHOD: | DPT | NORTHING: | |
| GEOLOGIST: | M. DAVE | DEV. METHOD: | Peristaltic | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: 1 2 IN.

Elevation / Height of Top of Surface Casing: 1 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (locking)

Type of Surface Seal: concrete pad 2'x2'x6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: 1 7 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: 1 10 FT.

Elevation / Depth of Top of Screen: 1 12 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 IN.

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: 1 21 FT.

Elevation / Depth of Bottom of Filter Pack: 1 21 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: 1 21 FT.

Tetra Tech NUS, Inc.

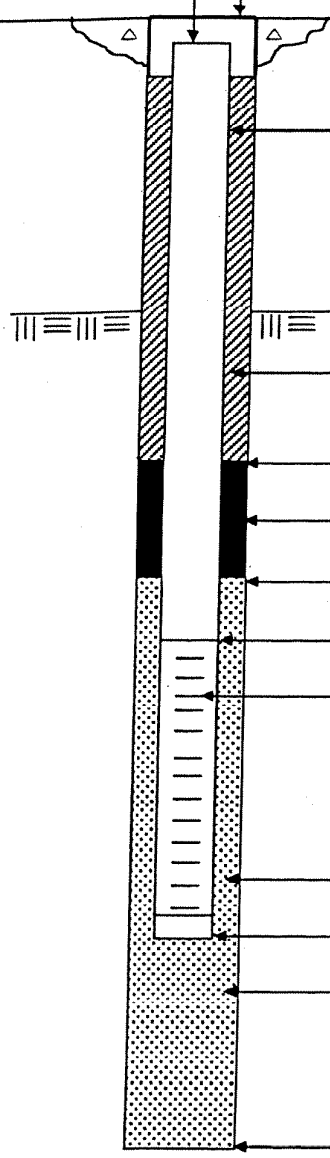
WELL No.: NASJ-159-GH-38

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | GROUNDWATER PROTECTION | BORING No.: | 7 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | C. Bucher | DATE COMPLETED: | 09/01/99 |
| SITE: | GAS HILL | DRILLING METHOD: | DPT | NORTHING: | |
| GEOLOGIST: | M. DAVE | DEV. METHOD: | Peristaltic Pump | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2IN.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT. (Locking)

Type of Surface Seal: concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: / 9 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 11 FT.

Elevation / Depth of Top of Screen: / 13 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 22 FT.

Elevation / Depth of Bottom of Filter Pack: / 22 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 22 FT.

Tetra Tech NUS, Inc.

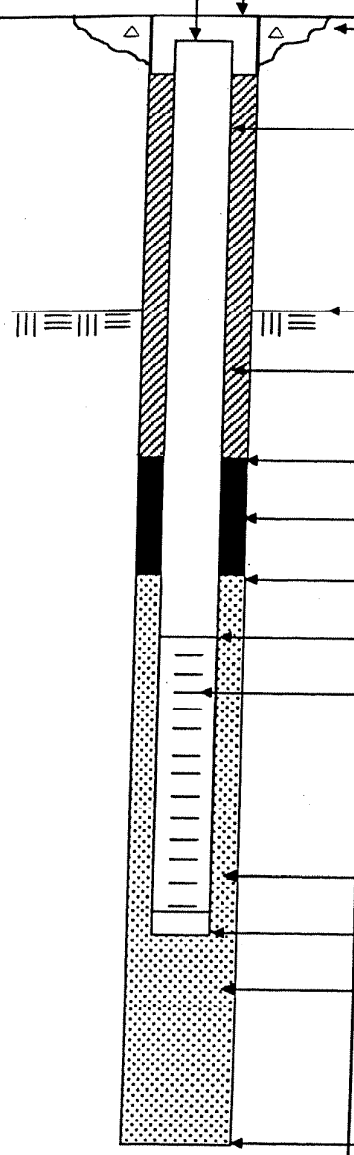
WELL No.: NAST-159-GH-39

## MONITORING WELL SHEET

| | | | | | |
|---|---|---|---|---|---|
| PROJECT: | NAS ~~CECIL FIELD~~ JAX | DRILLING Co.: | GROUND WATER PROTECTION | BORING No.: | 8 |
| PROJECT No.: | ~~0030~~ 0255 | DRILLER: | C. Bucher | DATE COMPLETED: | 09/01/99 |
| SITE: | GAS HILL | DRILLING METHOD: | DPT | NORTHING: | |
| GEOLOGIST: | M. DAVE | DEV. METHOD: | Peristaltic | EASTING: | |

Ground Elevation =

Datum:



Not to Scale

Elevation / Depth of Top of Riser: / 2IN.

Elevation / Height of Top of Surface Casing: / 0 FT.

I.D. of Surface Casing: 8 inch

Type of Surface Casing: Steel Flush MT (locking)

Type of Surface Seal: Concrete pad 2' x 2' x 6"

I.D. of Riser: 0.5 inch

Type of Riser: Sch. 80 PVC

Borehole Diameter: 2.125 inches

Elevation / Depth Top of Rock: N/A

Type of Backfill: Portland Cement Type I

Elevation / Depth of Seal: / 10 FT.

Type of Seal: 30/65 Silica Sand

Elevation / Depth of Top of Filter Pack: / 12 FT.

Elevation / Depth of Top of Screen: / 14 FT.

Type of Screen: Sch. 80 PVC

Slot Size x Length: 0.010 IN. x 9 FT.

I.D. of Screen: 0.5 inch

Type of Filter Pack: 20/30 Silica Sand

Elevation / Depth of Bottom of Screen: / 23 FT.

Elevation / Depth of Bottom of Filter Pack: / 23 FT.

Type of Backfill Below Well: NATIVE SOIL

Elevation / Total Depth of Borehole: / 23 FT.

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# CERTIFICATE OF CONFORMANCE

Well Designation: JAX-159-GH-28
Site Name: GAS HILL, NAS JAX
Date Installed: 07/27/99 AND 07/~~28~~ 26/99 MD
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN W. DALE
Drilling Company: PRECISION DRILLING
Driller: GREG PIJAK
Project Number: N0255

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing PRIMARY | PVC, Schedule 40, 2 IN. DIAM. (30 FT) | Atlantic Drilling, Palm Bch., FL | NO |
| Well Screen | PVC, Schedule 40, 2 IN DIAM., 10 FT., 0.010 IN SLOTS, | same supplier | NO |
| End Cap | PVC, Sch. 40, well point, 1.5 IN. | same supplier | NO |
| Drilling Fluid | ~~High yield~~ WATER | NAS JAX | NO |
| Drilling Fluid Additives | High yield bentonite powder | WYO-BEN, INC, BILLINGS, MT | NO |
| Backfill Material | none | — | — |
| Annular Filter Pack | 20/30 Standard sand | Standard Sand & Silica Co, JAX, FL | NO |
| Bentonite Seal | ENVIROPLUG MEDIUM CHIPS | WYO-BEN, INC. BILLINGS, MT. | NO |
| Annular Grout | PORTLAND CEMENT TYPE I / HIGH YIELD BENTONITE | TARMAC, MEDLEY, FL / WYO-BEN, INC. | NO |
| Surface Cement | SAKRETE CONCRETE | W.R. BONSAL, CINN., OH. | NO |
| Protective Casing | Steel Cover 8 IN. I.D. | PEMCO | NO |
| Paint | none | — | — |
| Rod Lubricant | none | — | — |
| Compressor Oil | none | — | — |
| Secondary Casing | PVC, Sch. 40, 6 IN. DIAM., 15 FT. | Atlantic Drilling, Palm Bch., FL. | NO |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

Rev. 0
March 27, 1997

# CERTIFICATE OF CONFORMANCE

Well Designation: JAX-GH-29 (159)
Site Name: GAS HILL, NAS JAX
Date Installed: 07/27/99
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN DALE
Drilling Company: PRECISION Drilling
Driller: Greg PIJAK
Project Number: N0255,

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | PVC Schedule 40, 3 FT. 2 IN. DIAM. | Atlantic Drilling Palm Bch, FL | No |
| Well Screen | PVC Sch.40, slot size 0.010" 10 FT. 2 IN. DIAM. | SAME AS above. | No |
| End Cap BOTTOM | PVC sch.40, well pt. 1.5" | SAME | NO |
| Drilling Fluid | ~~[illegible]~~ water to charge well | NASJAX | NO |
| Drilling Fluid Additives | None | — | — |
| Backfill Material | None | — | — |
| Annular Filter Pack | 20/30 grade SAND | Standard Sand + Silica, JAX, FL | NO |
| Bentonite Seal | ENVIROPLUG MEDIUM (chips) | WYO BEN, INC. BILLINGS, MT | NO |
| Annular Grout | PORTLAND Cement Type I | TARMAC MEDLEY, FL | NO |
| Surface Cement | SAKRETE CONCRETE | W.R. BONSAL, CINN., OH. | NO |
| Protective Casing | Steel Cover 8 IN. I.D. | PEMCO | NO |
| Paint | None | — | — |
| Rod Lubricant | None | — | — |
| Compressor Oil | None | — | — |
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To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

Rev. 0
March 27, 1997

# CERTIFICATE OF CONFORMANCE

Well Designation: JAX-GH-30
Site Name: GAS HILL, NAS JAX
Date Installed: 07/27/99
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN DALE
Drilling Company: PRECISION DRILLING
Driller: Greg Pijax
Project Number: N0255

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | PVC Schedule 40, 3FT., 2 IN. DIAM. | Atlantic Drilling, Palm Bch, FL | NO |
| Well Screen | PVC Sch. 40, slot size 0.010 in. 2 IN. DIAM. (40 FT.) | ↓ | NO |
| End Cap | PVC Sch. 40 well point 1.5 in. | ↓ | NO |
| Drilling Fluid | water to charge well | NASJAX | |
| Drilling Fluid Additives | none | — | — |
| Backfill Material | none | — | — |
| Annular Filter Pack | 20/30 grade SAND | Standard Sand & Silica Co, Jax, FL | NO |
| Bentonite Seal | ENVIROPLUG MEDIUM (chips) | WYO-BEN, INC. Billings, MT | NO |
| Annular Grout | PORTLAND Cement Type I | TARMAC MEDLEY, FL | NO |
| Surface Cement | SAKRete concrete | W.R. BONSAL, CINN., OH. | NO |
| Protective Casing | Steel Cover 8 IN. I.D. | PEMCO | NO |
| Paint | none | — | |
| Rod Lubricant | none | — | |
| Compressor Oil | NONE | — | |
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To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin D Dale

Rev. 0
March 27, 1997

# CERTIFICATE OF CONFORMANCE

Well Designation: JAX-159-GH-31
Site Name: GAS HILL, NAS JAX
Date Installed: 07/27/99
Project Name: GAS HILL SITE ASSESSMENT

Site Geologist: MERVIN DALE
Drilling Company: PRECISION DRILLING
Driller: Greg PIJAK
Project Number: N0255

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | PVC Sch. 40, 3 FT., 2 IN. DIAM. | Atlantic Drilling, Palm Bch., FL | NO |
| Well Screen | PVC Sch. 40, slotsize 0.010 IN., 2 IN. DIAM., 10 FT. | SAME | NO |
| End Cap | PVC Sch. 40, well pt., 1.5 IN. | SAME | NO |
| Drilling Fluid | water to charge well | NASJAX | NO |
| Drilling Fluid Additives | None | — | — |
| Backfill Material | none | — | — |
| Annular Filter Pack | 20/30 grade SAND | Std. Sand & Silica Co., JAX, FL | no |
| Bentonite Seal | ENVIROPLUG Medium (chips) | WYO-BEN, INC., Billings, MT | NO |
| Annular Grout | PORTLAND Cement Type I | TARMAC, MELROSE, FL | NO |
| Surface Cement | SAKRETE CONCRETE | W.R. BONSAL CO., CINN., OH. | NO |
| Protective Casing | Steel COVER 8 IN. I.D. | PEMCO | NO |
| Paint | None | — | |
| Rod Lubricant | none | — | |
| Compressor Oil | none | — | |
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To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

# CERTIFICATE OF CONFORMANCE

Well Designation: NAST-159-GH-32
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/30/99
Project Name: SAR ADDENDUM

Site Geologist: MERVIN DALE / JASON McCANN
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: N8255. FBO. 050. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St., SALINA, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | None | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | none | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite~~ Sand Seal | 30/65 Silica Sand | Standard Sand JACKSONVILLE, FL | NO |
| Annular Grout | PORTLAND Cement Type I (94LB. BAGS) | HOLNAM TAMPA, FL | NO |
| Surface Cement | QUIKRETE (80 LB BAGS) | Quikrete companies, Atlanta, GA | NO |
| Protective Casing | PEMCO 8 IN. DIAM LOCKING WELL COVER (FLUSH MT.) | PEMCO, HOLLYWOOD, FL | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | none | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin L. Dale  Jason A. McCann

# CERTIFICATE OF CONFORMANCE

Well Designation: NAST-159-GH-33
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/30/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE / JASON McCANN
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: NA255. FBO. 050. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St., Salina, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand, Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | none | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | none | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite~~ Seal, Sand | 30/65 Silica Sand | Standard Sand, Jacksonville, FL | NO |
| Annular Grout | Portland Cement Type I (94LB Bags) | Holnam, Tampa, FL | NO |
| Surface Cement | Quikrete (80LB. Bags) | Quikrete Cos., Atlanta, GA | NO |
| Protective Casing | 8 in. Diam. locking Well Cover (Flush mt.) | PENCO Hollywood, FL | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | none | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin A. Dale Jason Q. McCann

Rev. 0
March 27, 1997

# CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-34
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/30/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE / JASON McCANN
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: N0255. FB0. 050. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St. Salina, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | None | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | None | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite Seal~~, Sand | 30/65 Silica Sand | Standard Sand, Jacksonville, FL | NO |
| Annular Grout | Portland Cement Type I (94 LB. Bags) | Holnam Tampa, FL | NO |
| Surface Cement | Quikrete (80 LB. Bags) | Quikrete Companies, Atlanta, GA | NO |
| Protective Casing | 8 in. Diam Locking Cover (Flush mt.) | Pemco Hollywood, FL | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | none | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin A. Dale  Jason J. McCann

# CERTIFICATE OF CONFORMANCE

Well Designation: NAST-159-GH-35
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/31/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: N0255. FBD. 050. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St. Salina, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | None | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | None | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite~~ Seal, Sand | 30/65 Silica Sand | Standard Sand Jacksonville, FL | NO |
| Annular Grout | Portland Cement Type I (94LB. Bags) | Holnam Tampa, FL | NO |
| Surface Cement | QuikKrete, (80 LB. Bags) | QuikKrete Comp's. Atlanta, GA | NO |
| Protective Casing | 8 in Diam Steel Locking Cover (Flush) | PEHCO Hollywood, FL. | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | None | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin L. Dale

# CERTIFICATE OF CONFORMANCE

Well Designation: NAST-159-GH-36
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/31/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: N0255. FB0. 050. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St. Salina, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | none | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | none | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50 LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite~~ Seal, Sand | 30/65 Silica Sand | Standard Sand, Jacksonville, FL | NO |
| Annular Grout | Portland Cement Type I (94 LB. Bag) | Holnam, Tampa, FL | NO |
| Surface Cement | Quikrete (80 LB. Bags) | Quikrete Companies Atlanta, GA | NO |
| Protective Casing | 8 in. Diam. Steel Flush Mt. Locking Cover | PEMCO Hollywood, FL | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | none | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin L. Dale

# CERTIFICATE OF CONFORMANCE

Well Designation: NAST-159-GH-37
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 08/31/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: N0255. FBD. 050. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St. Salina, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | None | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | None | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50 LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite~~ Seal, Sand | 30/65 Silica Sand | Standard Sand, Jacksonville, FL | NO |
| Annular Grout | Portland Cement Type I (94 LB. Bags) | HOLNAM Tampa, FL | NO |
| Surface Cement | Quikrete (80 LB. Bags) | Quikrete Companies, Atlanta, GA | NO |
| Protective Casing | 8 in. Diam Steel Flush MT. Locking Cover | PEMCO Hollywood, FL | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | none | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin L. Dale

# CERTIFICATE OF CONFORMANCE

Well Designation: NASJ-159-GH-38
Site Name: GAS HILL, NAS JACKSONVILLE
Date Installed: 09/01/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: N0255. FB0. 050. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St. Salina, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | none | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | none | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50 LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite~~ Seal, Sand | 30/65 Silica Sand | Standard Sand, Jacksonville, FL | NO |
| Annular Grout | Portland Cement Type I (94 LB. Bags) | Holnam Tampa, FL | NO |
| Surface Cement | Quikrete (80 LB. Bags) | Quikrete Companies (Atlanta, GA | NO |
| Protective Casing | 8 in. Diam. Steel Flush Mt. Locking Cover | PEMCO Hollywood, FL | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | none | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin W. Dale

# CERTIFICATE OF CONFORMANCE

Well Designation: NAST-159-GH-39
Site Name: GAS HILL NAS JACKSONVILLE
Date Installed: 09/01/99
Project Name: SAR Addendum

Site Geologist: MERVIN DALE
Drilling Company: Groundwater Protection
Driller: Charles Bucher
Project Number: N0255. FB0. 250. 225

| Material | Brand/Description | Source/Supplier | Sample Collected ? |
|---|---|---|---|
| Well Casing | Sch. 80 PVC | Geoprobe Systems, 607 Barney St. Salina, KS 67401 | NO |
| Well Screen | Pre-Pack w/20/30 Sand Sch. 80 PVC inner, Stainless Steel outer | Geoprobe Systems | NO |
| End Cap | Sch. 80 PVC (~2 in. long) | Geoprobe Systems | NO |
| Drilling Fluid | none | | |
| Drilling Fluid Additives | none | | |
| Backfill Material | none | | |
| Annular Filter Pack | 20/30 Silica Sand (pre-pack & 50LB. Bags) | Geoprobe Sys. & Standard Sand | NO |
| ~~Bentonite~~ Seal, Sand | 30/65 Silica Sand | Standard Sand Jacksonville, FL | NO |
| Annular Grout | Portland Cement Type I (94LB. Bags) | Holnam Tampa, FL | NO |
| Surface Cement | Quikrete (80 LB. Bags) | Quikrete companies Atlanta, GA | NO |
| Protective Casing | 8 in. Diam. Steel Flush MT. Locking Lock | Pemco Hollywood, FL | NO |
| Paint | None | | |
| Rod Lubricant | none | | |
| Compressor Oil | none | | |
| | | | |
| | | | |

To the best of my knowledge, I certify that the above described materials were used during installation of this monitoring well.

Signature of Site Geologist: Mervin L. Dale

# APPENDIX F

# GROUNDWATER SAMPLE LOG SHEETS

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-01-01
Sample Location: JAX-159-GH-01

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

**SAMPLING DATA**

| Date: 073099 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Time: 1220 | | | | | | | | |
| Method: Peristaltic | clay | 5.81 | 0.243 | 27.0 | 289 | 2.09 | | |

**PURGE DATA**

Date: 073099
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 14.22
Static Water Level (ft): 6.93
One Casing Volume(gal/L): 4.5
Start Purge (hrs): ~~1055~~ 1110
End Purge (hrs): 1215
Total Purge Time (min): 65
Total Vol. Purged (gal/L): 14.3L

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

Put tubing to 9 FT. BTOC

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH-02-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH-2 |
| [X] Monitoring Well | | Sampler: | M. DALE |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| Date: 080299 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Time: 1235 | | | | | | | | |
| Method: Peristaltic | clear | 5.30 | 0.227 | 25.9 | 2 | 0.81 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 080299 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 14.02 | |
| Static Water Level (ft): 6.97 ~~6.79~~ | |
| One Casing Volume(gal/L): 4.3 | |
| Start Purge (hrs): 1052 | |
| End Purge (hrs): 1233 | |
| Total Purge Time (min): 101 | |
| Total Vol. Purged (gal/L): 12.9 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 12 FT. BTOC

14.02
-6.97
7.05

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

**Check if Collected:**

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Marvin W. Dale

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-03-01
Sample Location: JAX-159-GH-3

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

**SAMPLING DATA**

| Date: 8/2/99 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Time: 1020 | | | | | | | | |
| Method: Peristaltic | clear | 6.52 | 0.643 | 26.8 | 0 | 1.17 | | |

**PURGE DATA**

Date: 08/02/99
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 14.27
Static Water Level (ft): 6.77 ~~6.36~~
One Casing Volume(gal/L): 4.9
Start Purge (hrs): 0905
End Purge (hrs): 1015
Total Purge Time (min): 70
Total Vol. Purged (gal/L): 15.5

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | Yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 12 FT. BTOC

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Park

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH- Q4 - Q1
Sample Location: JAX-159-GH- 4

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

## SAMPLING DATA

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 8/3 | | | | | | | | |
| Time: 1340 | | | | | | | | |
| Method: Peristaltic | clear | 6.23 | 0.405 | 26.8 | 10 | 1.81 | | |

## PURGE DATA

| | |
|---|---|
| Date: 8/3 | |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 10.67 | |
| Static Water Level (ft): 3.00 | ~~3.58~~ |
| One Casing Volume(gal/L): 4.6 | |
| Start Purge (hrs): 1225 | |
| End Purge (hrs): ~~1390~~ | 1330 |
| Total Purge Time (min): ~~75~~ | 65 |
| Total Vol. Purged (gal/L): 14.02 | |

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | yes |
| Lead | HNO3 | 1-250ml plastic | ENCO | yes |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## OBSERVATIONS / NOTES

SET TUBING TO 10 FT. BTOC

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409

LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH-05-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH-5 |
| [X] Monitoring Well | | Sampler: | M. Dale |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080399 | | | | | | | | |
| Time: 1047 | | | | | | | | |
| Method: Peristaltic | cldy | 5.81 | 2.41 | 25.3 | 6 | 0.93 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 080399 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 10.25 | |
| Static Water Level (ft): 5.03 | |
| One Casing Volume(gal/L): 3.1 | |
| Start Purge (hrs): 0940 | |
| End Purge (hrs): 1045 | |
| Total Purge Time (min): 65 | |
| Total Vol. Purged (gal/L): 10.8 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

**Check if Collected:**

☐ MS / MSD ☑ DUPLICATE / ID No.: NASJ-159-GH-DUP3-01

Signature(s): Marvin W. Dale

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH- Q6-Q1
Sample Location: JAX-159-GH- 6

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. Dale

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080399 | | | | | | | | |
| Time: 1455 | | | | | | | | |
| Method: Peristaltic | clear | | | | | | | |

**PURGE DATA**

| | |
|---|---|
| Date: 080399 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 11.74 | |
| Static Water Level (ft): 4.74 ~~4.91~~ | |
| One Casing Volume(gal/L): 4.3 | |
| Start Purge (hrs): 1242 | |
| End Purge (hrs): 1459 | |
| Total Purge Time (min): 131 | |
| Total Vol. Purged (gal/L): 13.1 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ✓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 11 FT. BTOC

**LAB INFO**

LAB. ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Marvin W. Dale

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH- 07-01
Sample Location: JAX-159-GH- 7

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080399 | | | | | | | | |
| Time: 1035 | | | | | | | | |
| Method: Peristaltic | clear | 6.71 | 0.776 | 25.1 | 10 | 0.67 | | |

**PURGE DATA**

Date: 080399
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 10
Static Water Level (ft): 2.74
One Casing Volume(gal/L): 4.4
Start Purge (hrs): 0920
End Purge (hrs): 1025
Total Purge Time (min): 65
Total Vol. Purged (gal/L): 14.0L

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | yes |
| Lead | HNO3 | 1-250ml plastic | ENCO | yes |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

set tubing to 8-9 FT. BTOC.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-08-01
Sample Location: JAX-159-GH-8

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080399 | | | | | | | | |
| Time: 1605 | | | | | | | | |
| Method: Peristaltic | clear | 6.40 | 0.558 | 26.1 | 8 | 2.89 | | |

**PURGE DATA**

Date: 080399
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 16.92
Static Water Level (ft): 7.75 ~~8.01~~ WD
One Casing Volume(gal/L): 5.5
Start Purge (hrs): 1435
End Purge (hrs): 1555
Total Purge Time (min): 80
Total Vol. Purged (gal/L): 17.0L

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | Yes |
| Lead | HNO3 | 1-250ml plastic | ENCO | YES |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 14 FT. BTOC

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~03947~~ 3409
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH-09-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH-9 |

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Mervin Dale

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080299 | | | | | | | | |
| Time: 0958 | | | | | | | | |
| Method: Peristaltic | clear | 6.37 | 0.570 | 25.0 | -10 | 1.82 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 080299 | |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | See Attached Low Flow Purge Data Sheet for Purge Data |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 14.28 | |
| Static Water Level (ft): 6.81 | ~~6.44~~ MD |
| One Casing Volume(gal/L): 4.6 | |
| Start Purge (hrs): 0905 | |
| End Purge (hrs): 0955 | |
| Total Purge Time (min): 50 | |
| Total Vol. Purged (gal/L): 14.5 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 12 FT. BTOC

14.28
-6.81
7.47

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

**Check if Collected:**

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Mervin W. Dale

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH-10-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH-10 |

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. DALE

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080299 | | | | | | | | |
| Time: 1728 | | | | | | | | |
| Method: Peristaltic | clear | 6.20 | 0.795 | 25.5 | -10 | 2.27 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 080299 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 14.36 | |
| Static Water Level (ft): 7.34 | 7.34 MP |
| One Casing Volume(gal/L): | |
| Start Purge (hrs): 1626 | |
| End Purge (hrs): 1725 | |
| Total Purge Time (min): 59 | |
| Total Vol. Purged (gal/L): 13 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ✓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ✓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 12 FT. BTOC
Well now dry during sample of dups. Tossed them. Keep samples. Let recover for Lead & SVOA's.

14.36
7.34
7.02

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 003946
LAB:
COC #:

**Check if Collected:**

☐ MS / MSD ☒ DUPLICATE ~~ID No.: NASJ-159-GH-DUP2-01~~ NO ID Given C.P. or well GH-17.

Signature(s): Melvin W. Dale

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH-12-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH-12 |
| [X] Monitoring Well | | Sampler: | E. PARKER |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| Date: 073099 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Time: 1712 | | | | | | | | |
| Method: Peristaltic | clear | 6.83 | 0.494 | 24.5 | 10 | 1.98 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 073099 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 33.70 | |
| Static Water Level (ft): 4.10 | |
| One ~~Casing~~ Screen Volume(gal/L): 3.1 | |
| Start Purge (hrs): 1625 | |
| End Purge (hrs): 1705 | |
| Total Purge Time (min): 40 | |
| Total Vol. Purged (gal/L): 10.5 L | |

5 FT. screen

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ✓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ✓ |
| | | | | |
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| | | | | |

**OBSERVATIONS / NOTES**

put tubing to 28 FT. BTOC

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~0399~~ 03944

LAB:
COC #:

**Check if Collected:**

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Eric Parker

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-13-01
Sample Location: JAX-159-GH-13

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 8/2 | | | | | | | | |
| Time: 1555 | | | | | | | | |
| Method: Peristaltic | clear | 6.30 | 0.595 | 25.8 | 31 | 1.48 | | |

**PURGE DATA**

Date: 8/2
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 15.30
Static Water Level (ft): 6.75 ~~6.43~~
One Casing Volume(gal/L): 5.6
Start Purge (hrs): 1425
End Purge (hrs): 1545
Total Purge Time (min): 80
Total Vol. Purged (gal/L): 17.0L

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | yes |
| Lead | HNO3 | 1-250ml plastic | ENCO | yes |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 13 FT. BTOC

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH- 14-01
Sample Location: JAX-159-GH- 14

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. DALE

## SAMPLING DATA

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 073099 | | | | | | | | |
| Time: 1024 | | | | | | | | |
| Method: Peristaltic | clear | 6.08 | 0.309 | 26.4 | 6 | 1.43 | | |

## PURGE DATA

Date: 073099
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 14.91
Static Water Level (ft): 6.16
One Casing Volume(gal/L): 5.3
Start Purge (hrs): 0855
End Purge (hrs): 1021
Total Purge Time (min): 86
Total Vol. Purged (gal/L): 17.9

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ✓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ✓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## OBSERVATIONS / NOTES

set tubing to 9 FT. BTOC.

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Merrin W. Dale

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH- 15-01
Sample Location: JAX-159-GH- 15

[ X ] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

## SAMPLING DATA

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 073099 | | | | | | | | |
| Time: 1505 | | | | | | | | |
| Method: Peristaltic | clear | 5.53 | 0.189 | 25.5 | 6 | 0.93 | | |

## PURGE DATA

Date: 073099
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 14.50
Static Water Level (ft): 5.98
One Casing Volume(gal/L): 5.2
Start Purge (hrs): 1340
End Purge (hrs): 1500
Total Purge Time (min): 80
Total Vol. Purged (gal/L): 15.6L

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
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| | | | | |

## OBSERVATIONS / NOTES

Tubing is 9.5ft down well

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:
☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s):

Tetra Tech NUS, Inc.

# GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-16-01
Sample Location: JAX-159-GH-16

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

## SAMPLING DATA

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 8/2/99 | | | | | | | | |
| Time: 1205 | | | | | | | | |
| Method: Peristaltic | clear | 6.26 | 0.777 | 25.4 | 0 | 1.19 | | |

## PURGE DATA

Date: 8/2
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 14.60
Static Water Level (ft): 5.78 ~~5.72~~
One Casing Volume(gal/L): 5.6
Start Purge (hrs): 1045
End Purge (hrs): 1155
Total Purge Time (min): 70
Total Vol. Purged (gal/L): 17.0L

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
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| | | | | |

## OBSERVATIONS / NOTES

SET TUBING TO 12 FT. BTOC

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH- 17-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH- 17 |
| [X] Monitoring Well | | Sampler: | Eric Pa[illegible] |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| Date: 8/2 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Time: 1740 | | | | | | | | |
| Method: Peristaltic | clear | 6.99 | 0.570 | 27.5 | 0 | 1.53 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 8/2 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 14.86 | |
| Static Water Level (ft): 6.74 6.34 | |
| One Casing Volume(gal/L): 5.1 | |
| Start Purge (hrs): 1615 | |
| End Purge (hrs): 1730 | |
| Total Purge Time (min): 75 | |
| Total Vol. Purged (gal/L): 16.04 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | YES |
| SVOCs | None | 1-1Liter glass ambers | ENCO | YES |
| Lead | HNO3 | 1-250ml plastic | ENCO | YES |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 12 FT. BTOC

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [✓] DUPLICATE / ID No.: NASJ-159-GH-DUP2-01

Signature(s): Eric Pa[illegible]

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-19-01
Sample Location: JAX-159-GH-19

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. DALE

## SAMPLING DATA

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080299 | | | | | | | | |
| Time: 1540 | | | | | | | | |
| Method: Peristaltic | Lt. Yellow | 5.66 | 0.297 | 26.3 | -10 | 1.24 | | |

## PURGE DATA

Date: 080299
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 10.91
Static Water Level (ft): 3.23 ~~3.06~~
One Casing Volume(gal/L): 4.6
Start Purge (hrs): 1438
End Purge (hrs): 1537
Total Purge Time (min): 59
Total Vol. Purged (gal/L): 13.8

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## OBSERVATIONS / NOTES

SET TUBING TO 10 FT. BTOC

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03946
LAB:
COC #:

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Melvin W. Dale

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH-20-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH-20 |
| [X] Monitoring Well | | Sampler: | M. DALE |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 080399 | | | | | | | | |
| Time: 1603 | | | | | | | | |
| Method: Peristaltic | clear | 6.01 | 0.437 | 24.0 | -1 | 2.00 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 080399 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 35.95 | |
| Static Water Level (ft): 2.91 | 3.05 |
| 5 FT. screen — One ~~Casing~~ screen Volume(gal): 3.1 | |
| Start Purge (hrs): 1527 | |
| End Purge (hrs): 1602 | |
| Total Purge Time (min): 35 | |
| Total Vol. Purged (gal): 9.6 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

SET TUBING TO 30 FT. BTOC.
Purge on 5 FT. Screen volume.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: ~~83947~~ 3409 NA

LAB:

COC #:

**Check if Collected:**

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Marvin L. Dale

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH-21-01
Sample Location: JAX-159-GH-21

[ X ] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. Dale

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 073099 | | | | | | | | |
| Time: 1148 | | | | | | | | |
| Method: Peristaltic | clear | 6.85 | 0.776 | 25.9 | 25 | 1.11 | | |

**PURGE DATA**

Date: 073099
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 39.18
Static Water Level (ft): 6.60
5 FT. ~~One Casing~~ Screen Volume(gal/L): 3.1
Start Purge (hrs): 1051
End Purge (hrs): 1145
Total Purge Time (min): 54
Total Vol. Purged (gal/L): 9.7

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ✓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ✓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

Put tubing to 36.5 FT. BTOC.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

**Check if Collected:**

☐ MS / MSD ☐ DUPLICATE / ID No.:

Signature(s): Marvin C. Dale

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - Gas Hill | Sample ID No.: | NASJ-159-GH-22-01 |
| Project No.: | N0255 | Sample Location: | JAX-159-GH-22 |
| [X] Monitoring Well | | Sampler: | M. Dale |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 073099 | | | | | | | | |
| Time: 1543 | | | | | | | | |
| Method: Peristaltic | clear | 6.17 | 0.632 | 25.8 | 14 | 0.89 | | |

**PURGE DATA**

| | |
|---|---|
| Date: 073099 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 2 inch | |
| Well Casing Material: PVC | |
| Total Well Depth (ft): 19.10 | |
| Static Water Level (ft): 7.13 | |
| One Casing Volume(gal/L): 7.4 | |
| Start Purge (hrs): 1344 | |
| End Purge (hrs): 1535 | |
| Total Purge Time (min): 111 | |
| Total Vol. Purged (gal/L): 22.2 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

**OBSERVATIONS / NOTES**

set tubing to ~~15~~ 14 ft. btoc.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Melvin W. Dale

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: N0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NAST-159-GH-23-01
Sample Location: JAX-159-GH-23
Sampled By: E. PARKER
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Date: 07/29/99 | | | | | | | | | | |
| Time: 1750 | | | | | | | | | | |
| Method: Peristaltic | Clear | 6.17 | 0.474 | 24.7 | -10 | 1.45 | N/A | — | — | — |

**PURGE DATA**

| | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity |
|---|---|---|---|---|---|---|---|
| Date: 07/29/99 | | | | | | | |
| Method: Peristaltic | Initial | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | |
| Well Casing Diameter: 2 in. | 2 | | | | | | |
| Well Casing Material: PVC | 3 | | | | | | |
| Total Well Depth (TD): 32.45 | | | | | | | |
| Static Water Level (WL): 5.29 | | | | | | | |
| One ~~Casing~~ Screen Volume(gal/L): ~~6.2~~ 3.1 | | | | | | | |
| Start Purge (hrs): 1655 | | | | | | | |
| End Purge (hrs): 1740 | | | | | | | |
| Total Purge Time (min): 75 | | | | | | | |
| Total Vol. Purged (gal/L): 10L | | | | | | | |

see Low Flow Purge Sheet

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| 8021B | HCl | 2 - 40 ML VIALS | yes |
| 8310 | none | 1 - 1 Liter Amber | yes |
| Pb 6010B | $HNO_3$ | 1 - 250 ML HDPE | yes |

**OBSERVATIONS / NOTES**

set tubing to 30 FT. BTOC

**Circle if Applicable:**

MS/MSD

Duplicate ID No.: None

Signature(s): Eric Parker

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - Gas Hill
Project No.: N0255

Sample ID No.: NASJ-159-GH- 24-01
Sample Location: JAX-159-GH- 24

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

## SAMPLING DATA

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | | |
|---|---|---|---|---|---|---|---|---|
| Date: 073099 | | | | | | | | |
| Time: ~~1110~~ 1010 | | | | | | | | |
| Method: Peristaltic | clear | 5.79 | 0.456 | 25.5 | 15 | 1.29 | | |

## PURGE DATA

Date: 073099
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 2 inch
Well Casing Material: PVC
Total Well Depth (ft): 15.03
Static Water Level (ft): ~~5.70~~ 5.65 MD
One Casing Volume(gal): 5.6
Start Purge (hrs): 0850
End Purge (hrs): ~~1105~~ ~~1005~~ 1005
Total Purge Time (min): 75
Total Vol. Purged (gal): 12

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|
| VOCs | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | None | 1-1Liter glass ambers | ENCO | ↓ |
| Lead | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

## OBSERVATIONS / NOTES

SET TUBING TO 8 FT. BTOC

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jax, FL 32216-6069
COC #: 03944
LAB:
COC #:

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.:

Signature(s): Eric Parker

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: N0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NAST-159-GH-25-01
Sample Location: JAX-159-GH-25
Sampled By: M. D Ale
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

**SAMPLING DATA**

| Date: 072999 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time: 1804 | | | | | | | | | | |
| Method: Peristaltic | clear | 6.51 | 0.650 | 28.1 | -10 | 1.65 | N/A | — | — | — |

**PURGE DATA**

| Date: 072999 | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | Initial | | | | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | | | | |
| Well Casing Diameter: 2 IN. | 2 | | | | | | | | | |
| Well Casing Material: PVC | 3 | | | | | | | | | |
| Total Well Depth (TD): 39.98 | | | See Low Flow Purge Sheet | | | | | | | |
| Static Water Level (WL): 2.40 | | | | | | | | | | |
| One ~~Casing~~ Screen Volume(gal/L): 3.1 | | | | | | | | | | |
| Start Purge (hrs): 1704 | | | | | | | | | | |
| End Purge (hrs): 1800 | | | | | | | | | | |
| Total Purge Time (min): 56 | | | | | | | | | | |
| Total Vol. Purged (gal/L): 11.7 | | | | | | | | | | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| 8021B | HCl | 2- 40 ML VIALS | yes |
| 8310 | none | 1- 1 Liter Amber | yes |
| Pb, 6010 B | $HNO_3$ | 1- 250 ML HDPE | yes |

**OBSERVATIONS / NOTES**

Set tubing to ≈ 37.5 FT. BTOC

**Circle if Applicable:**

MS/MSD: /

Duplicate ID No.: None

Signature(s): Melvin W. Dale

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL NASJAX
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-26-01
Sample Location: JAX-159-GH-26
Sampled By: M. DALE
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

**SAMPLING DATA**

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Date: 072999 | | | | | | | | | | |
| Time: 1615 | | | | | | | | | | |
| Method: Peristaltic | Lt. Yellow | 6.17 | 0.629 | 26.5 | -10 | 1.45 | N/A | — | — | — |

**PURGE DATA**

| | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity |
|---|---|---|---|---|---|---|---|
| Date: 072999 | | | | | | | |
| Method: Peristaltic | Initial | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | |
| Well Casing Diameter: 2 IN | 2 | | | | | | |
| Well Casing Material: PVC | 3 | | | | | | |
| Total Well Depth (TD): 11.81 | | | See Low Flow Purge Sheet | | | | |
| Static Water Level (WL): 2.53 | | | | | | | |
| One Casing Volume(gal/L): 5.7 | | | | | | | |
| Start Purge (hrs): 1519 | | | | | | | |
| End Purge (hrs): 1613 | | | | | | | |
| Total Purge Time (min): 53 | | | | | | | |
| Total Vol. Purged (gal/L): 18.6 | | | | | | | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| 8021B | HCl | 2-40ML VIALS | yes |
| 8310 | none | 1-1 Liter Amber | yes |
| Pb 6010B | ~~Ab~~ $HNO_3$ | 1-250ML HDPE | yes |

**OBSERVATIONS / NOTES**

set tubing to 8 FT. BTOC

**Circle if Applicable:**

| MS/MSD | Duplicate ID No.: |
|---|---|
| N/A | NASJ-159-GH-DUP1-01 |

Signature(s): Melvin J. Dale

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL NASJAX
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-27-01
Sample Location: JAX-159-GH-27
Sampled By: E. PARKER
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

## SAMPLING DATA

| Date: 07/29/99 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time: | | | | | | | | | | |
| Method: Peristaltic | clear | 6.39 | 0.647 | 24.5 | -10 | 1.56 | N/A | — | — | — |

## PURGE DATA

| Date: 07/29/99 | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Method: peristaltic | Initial | | | | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | | | | |
| Well Casing Diameter: 2 IN. | 2 | | | | | | | | | |
| Well Casing Material: PVC | 3 | | See Low Flow Purge Sheet | | | | | | | |
| Total Well Depth (TD): 34.88 | | | | | | | | | | |
| Static Water Level (WL): 2.58 | | | | | | | | | | |
| One ~~Casing~~ screen Volume(gal/L): 3.1 | | | | | | | | | | |
| Start Purge (hrs): 1515 | | | | | | | | | | |
| End Purge (hrs): 1600 | | | | | | | | | | |
| Total Purge Time (min): 45 min | | | | | | | | | | |
| Total Vol. Purged (gal/L): 10 | | | | | | | | | | |

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| 8021B | HCl | 2 - 40 ML VIALS | yes |
| 8310 | none | 1 - 1 Liter Amber | yes |
| Pb, 6010B | $HNO_3$ | 1 - 250 ML HDPE | yes |

## OBSERVATIONS / NOTES

Set tubing at 32 FT. BTOC.

Circle if Applicable:

MS/MSD

Duplicate ID No.: None

Signature(s): Eric Parker

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-28-01
Sample Location: JAX-159-GH-28
Sampled By: M. DALE
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

## SAMPLING DATA

| | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Date: 07/29/99 Time: 1108 | | | | | | | | | | |
| Method: Peristaltic | clear | 6.74 | 0.519 | 25.8 | -10 | 1.96 | N/A | — | — | — |

## PURGE DATA

| | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Date: 07/29/99 | | | | | | | | | | |
| Method: Peristaltic | Initial | | | | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | | | | |
| Well Casing Diameter: 2 IN. | 2 | | | | | | | | | |
| Well Casing Material: PVC | 3 | | | | | | | | | |
| Total Well Depth (TD): 34.20 | | | See low flow purge sheet | | | | | | | |
| Static Water Level (WL): 2.60 | | | | | | | | | | |
| One ~~Casing~~ Screen Volume(gal/L): 3.1 | | | | | | | | | | |
| Start Purge (hrs): 1016 | | | | | | | | | | |
| End Purge (hrs): 1103 | | | | | | | | | | |
| Total Purge Time (min): 47 | | | | | | | | | | |
| Total Vol. Purged (gal/L): 11.2 | | | | | | | | | | |

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| 8021B | HCl | 2 - 40 ML VIALS | yes |
| 8310 | None | 1 - 1 Liter Amber | yes |
| Lead 6010B | $HNO_3$ | 1 - 250 ML HDPE | yes |

## OBSERVATIONS / NOTES

Screen = 5 foot; 1" tubing at 33 FT. BTOC.

Circle if Applicable:

MS/MSD: ✓

Duplicate ID No.: None

Signature(s): Marvin W. Dale

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NAST-159-GH-29-01
Sample Location: JAX-159-GH-29
Sampled By:
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

**SAMPLING DATA**

| Date: 07/29/99 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time: 1429 | | | | | | | | | | |
| Method: Peristaltic | clear | 6.03 | 0.413 | 25.8 | 272 | 1.29 | N/A | — | — | — |

**PURGE DATA**

| Date: 07/29/99 | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | Initial | | | | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | | | | |
| Well Casing Diameter: 2 IN. | 2 | | | | | | | | | |
| Well Casing Material: PVC | 3 | | | | | | | | | |
| Total Well Depth (TD): 13.10 | | | SEE LOW FLOW Purge sheet | | | | | | | |
| Static Water Level (WL): 3.12 | | | | | | | | | | |
| One Casing Volume(gal/L): 6.2 | | | | | | | | | | |
| Start Purge (hrs): 1322 | | | | | | | | | | |
| End Purge (hrs): 1425 | | | | | | | | | | |
| Total Purge Time (min): 63 | | | | | | | | | | |
| Total Vol. Purged (gal/L): 26.25 | | | | | | | | | | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| 8021B | HCl | 2- 40 ML VIALS | yes |
| 8310 | None | 1- 1 Liter Amber | yes |
| Pb 6010B | $HNO_3$ | 1- 250 ML HDPE | yes |

**OBSERVATIONS / NOTES**

Set tubing at 8 FT. BTOC.

Circle if Applicable:

MS/MSD ✓

Duplicate ID No.: None

Signature(s): Marnie Dale

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL
Project No.: 0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-30-01
Sample Location: JAX-159-GH-30
Sampled By: E. PARKER
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

**SAMPLING DATA**

| Date: 07/29/99 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time: 1425 | | | | | | | | | | |
| Method: Peristaltic | clear | 6.01 | 0.440 | 26.4 | -10 | 2.72 | N/A | — | — | — |

**PURGE DATA**

| Date: 07/29/99 | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | Initial | | | | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | | | | |
| Well Casing Diameter: 2 IN. | 2 | | | | | | | | | |
| Well Casing Material: PVC | 3 | | | | | | | | | |
| Total Well Depth (TD): 13.55 | | | See Low Flow Purge Sheet | | | | | | | |
| Static Water Level (WL): 2.50 | | | | | | | | | | |
| One Casing Volume(gal/L): 6.8 | | | | | | | | | | |
| Start Purge (hrs): 1315 | | | | | | | | | | |
| End Purge (hrs): 1420 | | | | | | | | | | |
| Total Purge Time (min): 1hr 5min | | | | | | | | | | |
| Total Vol. Purged (gal/L): 23 L | | | | | | | | | | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| 8021B | HCl | 2- 40 ML Vials | yes |
| 8310 | none | 1- 1 Liter amber | yes |
| Pb, 6010B | $HNO_3$ | 1- 250 ML HDPE | yes |

**OBSERVATIONS / NOTES**

set tubing to 8 FT. BTOC

**Circle if Applicable:**

MS/MSD

Duplicate ID No.: None

Signature(s): Eric Parker

# GROUNDWATER SAMPLE LOG SHEET

Project Site Name: GAS HILL NASJAX
Project No.: N0255

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: NASJ-159-GH-31-01
Sample Location: JAX-159-GH-31
Sampled By: E. PARKER
C.O.C. No.: 03943
Type of Sample:
[X] Low Concentration
[ ] High Concentration

## SAMPLING DATA

| Date: 07/29/99 | Color | pH | S.C. mS/cm | Temp. °C | Turbidity NTU | DO (mg/L) Meter | DO (mg/L) Titration | $CO_2$ | $H_2S$ | Fe +2 |
|---|---|---|---|---|---|---|---|---|---|---|
| Time: ~~1015~~ 1137 | MD | | | | | | | | | |
| Method: Peristaltic | Clear | 6.46 | .435 | 27.6 | -10 | 3.14 | N/A | — | — | — |

## PURGE DATA

| Date: 07/29/99 | Volume | pH | S.C. | Temp (°C) | Turbidity | DO | Salinity | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Method: Peristaltic | Initial | | | | | | | | | |
| Monitor Reading (ppm): N/A | 1 | | | | | | | | | |
| Well Casing Diameter: 2 IN. | 2 | | | | | | | | | |
| Well Casing Material: PVC | 3 | | | | | | | | | |
| Total Well Depth (TD): 12.45 | | | See Low Flow purge sheet | | | | | | | |
| Static Water Level (WL): 2.84 MD | | | | | | | | | | |
| One Casing Volume(gal/L): 5.9 | | | | | | | | | | |
| Start Purge (hrs): 1015 | | | | | | | | | | |
| End Purge (hrs): 1135 | | | | | | | | | | |
| Total Purge Time (min): 1hr 20min = 80 MIN | | | | | | | | | | |
| Total Vol. Purged (gal/L): 18000 mL = 18 L | | | | | | | | | | |

## SAMPLE COLLECTION INFORMATION

| Analysis | Preservative | Container Requirements | Collected |
|---|---|---|---|
| (VOAs) 8021B | HCL | 2 - 40mL VIALS | yes |
| (SVOAs) 8310 | None | 1 - 1 Liter Amber | yes |
| (Lead) 6010B | $HNO_3$ | 1 - 250 mL plastic | yes |

## OBSERVATIONS / NOTES

Set tubing at 8 FT. BTOC.

Circle if Applicable:
MS/MSD
Duplicate ID No.: None

Signature(s): Eric Parker

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - GAS HILL
Project No.: N0255.FB0.050.230

Sample ID No.: NASJ-159-GH-32-02
Sample Location: GH-32

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

**SAMPLING DATA**

| | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Date: 9/2/1999 | | | | | | | | |
| Time: 1755 | | | | | | | | |
| Method: Peristaltic | Cloudy | 6.31 | .375 | 26.0 | 280 | 0.35 | — | |

**PURGE DATA**

Date: 9/2/1999
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 0.5 in.
Well Casing Material: PVC
Total Well Depth (TD): 11.5 FT.
Static Water Level (WL): 1.82
One Casing Volume(gal/L): 0.37
Start Purge (hrs): 1725
End Purge (hrs): 1731
Total Purge Time (min): 6
Total Vol. Purged (gal/L): 2.1 Liters

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | yes |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | yes |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**OBSERVATIONS / NOTES**

Well cap = 0.01 gal/ft.
1 VOL = 0.37 5 VOL = 1.8
set tubing at 7 ft.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.: No

Signature(s): Eric Parker

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - GAS HILL
Project No.: N0255.FB0.050.230

Sample ID No.: NASJ-159-GH-33-02
Sample Location: GH-33

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: E. PARKER

## SAMPLING DATA

| | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Date: 9/2/1999 | | | | | | | | |
| Time: 1622 | | | | | | | | |
| Method: Peristaltic | cloudy | 5.46 | .244 | 27.8 | 166 | 1.22 | | |

## PURGE DATA

Date: 9/2/1999
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 0.5 in.
Well Casing Material: PVC
Total Well Depth (TD): 11.54
Static Water Level (WL): 2.50 ft.
One Casing Volume(gal/L): 0.34
Start Purge (hrs): 1605
End Purge (hrs): 1614
Total Purge Time (min): 9
Total Vol. Purged (gal/L): 1.8 Liters

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## OBSERVATIONS / NOTES

1 vol = 0.34 L ∴ 5 vol = 1.7 Liters
set tubing to 7 FT. BTOC.

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.: NO

Signature(s): Eric Parker

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - GAS HILL | Sample ID No.: | NASJ-159-GH-34-02 |
| Project No.: | N0255.FB0.050.230 | Sample Location: | GH-34 |
| [X] Monitoring Well | | Sampler: | M. Dale |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Date: 9/2/1999 | | | | | | | | |
| Time: 1716 | | | | | | | | |
| Method: Peristaltic | clear | 6.18 | 0.325 | 28.0 | 645 | 3.99 | — | |

**PURGE DATA**

| | |
|---|---|
| Date: 9/2/1999 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 0.5 in. Well Casing Material: PVC | |
| Total Well Depth (TD): 12.5 FT. | |
| Static Water Level (WL): 3.20 FT. | |
| One Casing Volume(gal/L): 0.35 | |
| Start Purge (hrs): 1620 | |
| End Purge (hrs): 1709 | |
| Total Purge Time (min): 49 | |
| Total Vol. Purged (gal/L): 2.55 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | yes |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | yes |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**OBSERVATIONS / NOTES**

1 VOL = 0.35 L 5 VOL = 1.8 L
SET TUBING TO ~8 FT. BTOC.
AT 1711, Shut off pump for 5 min. to recover then collect SVOA.
AT 1716-1717 collected 300 ml in 1 L amber before sucking air.
Plan to stop and start in this manner until SVOA and metals are full.
CORRECTED VOA'S BY STRAW method with full column of $H_2O$ in tubing!
1747 W.L. = 4.62 FT.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [ ] DUPLICATE / ID No.: NO

Signature(s):

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - GAS HILL
Project No.: N0255.FB0.050.230

Sample ID No.: NASJ-159-GH-35-02
Sample Location: GH-35

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: Eric Parker

## SAMPLING DATA

| | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Date: 9/2/1999 | | | | | | | | |
| Time: 1435 | | | | | | | | |
| Method: Peristaltic | clear | 6.02 | 0.570 | 26.4 | 2 | 0.49 | — | |

## PURGE DATA

Date: 9/2/1999
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 0.5 in.
Well Casing Material: PVC
Total Well Depth (TD): 24.5 ft
Static Water Level (WL): 16.43 ft
One Casing Volume(gal/L): 0.3
Start Purge (hrs): 1420
End Purge (hrs): 1426
Total Purge Time (min): 6
Total Vol. Purged (gal/L): 1.8 Liters

See Attached Low Flow Purge Data Sheet for Purge Data

## SAMPLE COLLECTION INFORMATION

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | ↓ |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

## OBSERVATIONS / NOTES

set tubing about 20 to 21 ft btoc.
well cap = 0.01 gal/ft.
5 well vol = 1.5 Liters

## LAB INFO

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

Check if Collected:
[ ] MS / MSD [ ] DUPLICATE / ID No.: No

Signature(s): Eric Parker

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - GAS HILL | Sample ID No.: | NASJ-159-GH- 36 -02 |
| Project No.: | N0255.FB0.050.230 | Sample Location: | GH- 36 |

[ X ] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. DALE

**SAMPLING DATA**

| | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Date: 9/2/1999 | | | | | | | | |
| Time: 1442 | | | | | | | | |
| Method: Peristaltic | cldy/clear | 5.51 | 0.125 | 26.7 | 97 | 1.29 | — | |

**PURGE DATA**

| | |
|---|---|
| Date: | 9/2/1999 |
| Method: | Peristaltic |
| Monitor Reading (ppm): | N/A |
| Well Casing Diameter: | 0.5 in. |
| Well Casing Material: | PVC |
| Total Well Depth (TD): | 25.5 FT. |
| Static Water Level (WL): | 15.34 FT. |
| One Casing Volume (gal/L): | 0.1 |
| Start Purge (hrs): | 1428 |
| End Purge (hrs): | 1436 |
| Total Purge Time (min): | 8 |
| Total Vol. Purged (gal/L): | 2.4 |

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | yes |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | yes |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**OBSERVATIONS / NOTES**

one vol = 0.1 gal or 0.38 Liters
5 vols = 0.5 gal or 1.9 L.
set tubing to about 20 ft. bgs.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159- 2
LAB:
COC #:

**Check if Collected:**

☐ MS / MSD ☐ DUPLICATE / ID No.: NO

Signature(s): Merwin W. Dale

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

Project / Site: NAS Jacksonville - GAS HILL
Project No.: N0255.FB0.050.230

Sample ID No.: NASJ-159-GH-37-02
Sample Location: GH-37

[X] Monitoring Well
[ ] Domestic Well
[ ] Other:

Sampler: M. Dale

**SAMPLING DATA**

| | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Date: 9/2/1999 | | | | | | | | |
| Time: 1529 | | | | | | | | |
| Method: Peristaltic | Cloudy | 5.94 | 0.293 | 25.9 | 215 | 0.90 | — | |

**PURGE DATA**

Date: 9/2/1999
Method: Peristaltic
Monitor Reading (ppm): N/A
Well Casing Diameter: 0.5 in.
Well Casing Material: PVC
Total Well Depth (TD): 17.21 FT.
Static Water Level (WL): 12.59 FT.
One Casing Volume(gal/L): 0.32
Start Purge (hrs): 1515
End Purge (hrs): 1520
Total Purge Time (min): 5
Total Vol. Purged (gal/L): 7.8

See Attached Low Flow Purge Data Sheet for Purge Data

**SAMPLE COLLECTION INFORMATION**

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | yes |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | yes |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**OBSERVATIONS / NOTES**

1 vol = 0.32 5vol = 1.6 L
set tubing to 17 ft btoc.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

**Check if Collected:**

[ ] MS / MSD [✓] DUPLICATE / ID No.: NASJ-159-GH-DUP1-02

Signature(s): Melvin W. Dale

**Tetra Tech NUS, Inc.** **GROUNDWATER SAMPLE LOG SHEET**

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - GAS HILL | Sample ID No.: | NASJ-159-GH-38 -02 |
| Project No.: | N0255.FB0.050.230 | Sample Location: | GH-38 |
| [X] Monitoring Well | | Sampler: | E. PARKER |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| Date: 9/2/1999 | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Time: 1030 | | | | | | | | |
| Method: Peristaltic | BRN | 5.90 | .187 | 24.6 | 213 | 1.06 | — | |

**PURGE DATA**

| | |
|---|---|
| Date: 9/2/1999 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 0.5 in. | |
| Well Casing Material: PVC | |
| Total Well Depth (TD): 22 FT. | |
| Static Water Level (WL): 15.10 FT. | |
| One Casing Volume(gal/L): 0.26 | |
| Start Purge (hrs): 1015 | |
| End Purge (hrs): 1020 | |
| Total Purge Time (min): 5 | |
| Total Vol. Purged (gal/L): 1.5 Liters | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | ↓ |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**OBSERVATIONS / NOTES**

1 vol = 0.26 Liters 5 vol = 1.3 Liters
set tubing to 18.5 FT. BTOC.

MS MSD Label = NASJ-159-GH-MSMSD1-02

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216
COC #: 159-2
LAB:
COC #:

**Check if Collected:**

[✓] MS / MSD [ ] DUPLICATE / ID No.: None

Signature(s): Eric Parker

# Tetra Tech NUS, Inc. GROUNDWATER SAMPLE LOG SHEET

| | | | |
|---|---|---|---|
| Project / Site: | NAS Jacksonville - GAS HILL | Sample ID No.: | NASJ-159-GH-39-02 |
| Project No.: | N0255.FB0.050.230 | Sample Location: | GH-39 |
| [X] Monitoring Well | | Sampler: | M. DALE |
| [ ] Domestic Well | | | |
| [ ] Other: | | | |

**SAMPLING DATA**

| Date: 9/2/1999 | Color | pH S.U. | S.C. mS/cm | Temp. °C | Turbidity NTU | DO mg/L | Salinity ppt | |
|---|---|---|---|---|---|---|---|---|
| Time: 1036 | | | | | | | | |
| Method: Peristaltic | Clear | 5.94 | 0.226 | 26.0 | -10 | 0.63 | 0.00 | |

**PURGE DATA**

| | |
|---|---|
| Date: 9/2/1999 | See Attached Low Flow Purge Data Sheet for Purge Data |
| Method: Peristaltic | |
| Monitor Reading (ppm): N/A | |
| Well Casing Diameter: 0.5 in. Well Casing Material: PVC | |
| Total Well Depth (TD): 23 FT. | |
| Static Water Level (WL): 13.70 FT | |
| One Casing Volume(gal/L): 0.35 | |
| Start Purge (hrs): 1028 | |
| End Purge (hrs): 1034 | |
| Total Purge Time (min): 6 | |
| Total Vol. Purged (gal/L): 2.1 | |

**SAMPLE COLLECTION INFORMATION**

| Analysis | | Preservative | Container Requirements | Laboratory | Collected |
|---|---|---|---|---|---|
| VOCs | 8021B | HCl | 2-40ml vials | ENCO | yes |
| SVOCs | 8310 | None | 1-1Liter glass ambers | ENCO | ↓ |
| Pb | 6010B | HNO3 | 1-250ml plastic | ENCO | ↓ |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |

**OBSERVATIONS / NOTES**

1 VOL = 0.35 Liters 5 VOLS = 1.8 Liters

SET TUBING TO 18.5 FT. BTOC.

**LAB INFO**

LAB: ENCO
4810 Executive Park Ct.
Jacksonville, FL 32216

COC #: 159-2

LAB:

COC #:

**Check if Collected:**

☐ MS / MSD ☐ DUPLICATE / ID No.: NO

Signature(s): Marvin W. Dale

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

13500

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-01
**DATE:** 073099

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) mL | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1110 | 6.93 | 400 | 5.84 | .234 | 999 | 2.66 | 27.9 | | Start |
| 1120 | 8.41 | 400 | 5.80 | .234 | -10 | 2.55 | 27.1 | 4000 | cloudy, no odor |
| 1130 | 8.35 | 200 | 5.89 | .272 | 451 | 2.07 | 27.1 | 6000 | cloudy, no odor |
| 1140 | 8.47 | 200 | 5.85 | .272 | 359 | 1.89 | 27.0 | 8000 | cloudy, no odor |
| 1145 | stop pump to change hose | | | | | | | | |
| 1150 | 9.10 | 180 | 5.83 | .241 | 492 | 1.46 | 27.0 | 9800 | cloudy, no odor |
| 1200 | 9.10 | 180 | 5.81 | .245 | 383 | 2.64 | 27.1 | 11600 | cloudy, no odor |
| 1210 | 9.12 | 180 | 5.80 | .242 | 268 | 0.79 | 26.9 | 13400 | cloudy, no odor |
| 1215 | 9.13 | 180 | 5.81 | .243 | 289 | 2.09 | 27.0 | 14300 | cloudy, no odor |

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-2
**DATE:** 080299

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1052 | 6.97 | 250 | 5.40 | 0.242 | 51 | 1.74 | 28.3 | 0 | Start |
| 1103 | 7.80 | 250 | 5.31 | 0.232 | 12 | 1.91 | 27.3 | 2.8 | clear petro-like odor |
| 1105 | — | 200 | — | — | — | — | — | 3.3 MD | slowed flow rate. |
| 1110 | 7.98 | 200 | 5.03 | 0.233 | 5 | 1.18 | 27.1 | 4.3 | |
| 1120 | 7.94 | 200 | 4.96 | 0.232 | 0 | 0.62 | 26.6 | 5.3 | clear |
| 1130 | 7.97 | 200 | 5.01 | 0.230 | 6 | 1.18 | 26.4 | 6.3 | clear |
| 1140 | 7.98 | 200 | 5.09 | 0.230 | 11 | 1.37 | 26.2 | 7.3 | clear |
| 1150 | 8.00 | 200 | 5.12 | 0.229 | 11 | 0.93 | 26.1 | 8.3 | clear |
| 1200 | 8.00 | 200 | 5.16 | 0.230 | 13 | 1.03 | 26.2 | 9.3 | clear |
| 1210 | 8.01 | 200 | 5.18 | 0.229 | 11 | 1.09 | 26.1 | 10.3 | clear |
| 1220 | 8.01 | 200 | 5.23 | 0.228 | 7 | 1.07 | 26.1 | 11.3 | clear |
| 1230 | 8.01 | 200 | 5.25 | 0.228 | 1 | 1.07 | 26.0 | 12.3 | clear |
| 1233 | — | 200 | 5.30 | 0.227 | 2 | 0.81 | 25.9 | 12.9 | clear |

**SIGNATURE(S):** Marvin W. Lade

1 VOL: 4.3L 3 VOLS = 12.9L

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

14700

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-3
**DATE:** 080299

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. ~~(Liters)~~ mL | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 0905 | 6.77 | 500 | 6.25 | .524 | 20 | 0.89 | 28.1 | Ø | Start |
| 0910 | 8.10 | 500 | 6.54 | .518 | 0 | 1.33 | 27.8 | 2500 | clear |
| 0920 | 8.54 | 200 | 6.63 | .608 | 0 | 1.33 | 27.3 | 4500 | clear |
| 0930 | 8.94 | 200 | 6.49 | .634 | 0 | 1.24 | 26.8 | 6500 | clear |
| 0940 | 8.941 | 200 | 6.50 | .640 | 1 | 0.84 | 26.8 | 8500 | clear |
| 0950 | 8.96 | 200 | 6.51 | .642 | 0 | 1.08 | 26.7 | 10500 | clear |
| 1000 | 8.96 | 200 | 6.50 | .645 | 0 | 1.03 | 26.8 | 12500 | clear |
| 1010 | 8.95 | 200 | 6.52 | .646 | 1 | 1.80 | 26.8 | 14500 | clear |
| 1015 | 8.96 | 200 | 6.52 | .643 | 0 | 1.17 | 26.8 | 15500 | clear |

**SIGNATURE(S):** Eric Parker

**PAGE_1__OF_1__**

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-4
**DATE:** 080399

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1225 | 3.00 | 300 | 6.29 | .395 | 324 | 1.29 | 27.9 | Ø | Start |
| 1235 | ~~3.00~~ 4.30 | 300 | 6.28 | .395 | 301 | 0.98 | 27.7 | 3000 | |
| 1245 | 4.35 | 200 | 6.26 | .393 | 288 | 1.50 | 27.4 | 5000 | |
| 1255 | 4.21 | 200 | 6.26 | .403 | 115 | 1.81 | 27.2 | 7000 | |
| 1305 | 4.20 | 200 | 6.26 | .405 | 69 | 1.86 | 27.1 | 9000 | |
| 1315 | 4.15 | 200 | 6.24 | .407 | 23 | 1.58 | 26.9 | 11000 | clear |
| 1325 | 4.15 | 200 | 6.23 | .406 | 7 | 1.77 | 26.8 | 1300 | clear |
| 1330 | 4.10 | 200 | 6.23 | .405 | 10 | 1.81 | 26.8 | 1400 | Finish |

1 VOL = 4.6 3 VOLS = 13.8L

**SIGNATURE(S):** _____

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-5
**DATE:** 080399

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 0940 | 5.03 | 100 | 5.82 | 2.41 | 93 | 1.13 | 25.3 | 0 | Start |
| 0953 | 5.13 | 100 | — | — | — | — | — | 1.3 | |
| 0955 | — | 175 | — | — | — | — | — | 1.4 | increase flow rate |
| 0957 | 5.15 | 175 | 5.95 | 2.41 | 150 | 2.50 | 25.0 | 1.9 | |
| 1001 | 5.15 | 175 | 5.90 | 2.41 | 86 | 2.13 | 24.9 | 2.6 | |
| 1003 | — | 225 | — | — | — | — | — | 3.0 | increase flow rate |
| 1008 | 6.00 | 225 | 5.86 | 2.41 | 60 | 1.66 | 24.8 | 4.1 | |
| 1010 | — | 180 | — | — | — | — | — | 4.5 | slowed pump |
| 1015 | 6.25 | 180 | 5.90 | 2.42 | 30 | 2.53 | 25.0 | 5.4 | cldy |
| 1025 | 6.50 | 180 | 5.93 | 2.42 | 2 | 2.27 | 25.2 | 7.2 | cldy |
| 1035 | 6.77 | 180 | 5.81 | 2.42 | 9 | 0.51 | 25.2 | 9 | |
| 1045 | 6.95 | 180 | 5.81 | 2.41 | 6 | 0.93 | 25.3 | 10.8 | stable, stop @ 1045 |

SIGNATURE(S): Maurice D. Dale

1 VOL = 3.1L 3 VOLS = 9.3L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-6
**DATE:** 08/02/99

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1242 | 4.74 | 100 | 6.38 | 1.43 | 223 | 2.47 | 28.7 | 0 | Start |
| 1254 | 5.38 | 100 | 6.35 | 1.41 | 24 | 1.45 | 27.4 | 1.2 | clear |
| 1303 | 5.66 | 100 | 6.24 | 1.39 | 5 | 1.42 | 27.6 | 2.1 | clear |
| 1311 | 5.98 | 100 | 6.28 | 1.38 | 6 | 2.07 | 27.5 | 2.9 | clear |
| 1322 | 6.27 | 100 | 6.36 | 1.38 | -5 | 2.41 | 27.5 | 4 | clear |
| 1334 | 6.62 | 100 | 6.39 | 1.38 | 3 | 2.63 | 27.3 | 5.2 | clear |
| 1350 | 6.99 | 100 | 6.43 | 1.38 | 7 | 2.39 | 27.7 | 6.8 | clear |
| 1400 | 7.28 | 100 | 6.46 | 1.38 | 7 | 2.43 | 27.6 | 7.8 | clear |
| 1410 | 7.46 | 100 | 6.39 | 1.39 | 7 | 1.72 | 27.5 | 8.8 | clear |
| 1423 | 7.75 | 100 | 6.41 | 1.39 | 9 | 1.63 | 27.3 | 10.1 | clear |
| 1439 | 8.10 | 100 | 6.43 | 1.39 | 25 | 1.85 | 27.8 | 11.7 | clear |
| 1445 | 8.23 | 100 | 6.44 | 1.38 | 3 | 1.87 | 27.0 | 12.3 | clear |
| 1453 | 8.36 | 100 | 6.45 | 1.39 | 7 | 2.12 | 27.3 | 13.1 | clear |
| | | | | | | | | | stable, stop @ 1453. |

SIGNATURE(S): [signature]

1 VOL = 4.3L  3 VOLS = 12.9 L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-Gas Hill
PROJECT NUMBER: 0255

WELL ID.: JAX-159-GH-7
DATE: 080399
13200

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 0920 | 2.74 | 300 | 6.24 | .792 | 42 | 1.05 | 25.1 | ø | Start |
| 0930 | 4.21 | 300 | 6.53 | .772 | 8 | 2.83 | 25.5 | 3000 | clear |
| 0940 | 3.98 | 200 | 6.70 | .781 | 11 | 0.65 | 25.4 | 5000 | clear |
| 0950 | 4.00 | 200 | 6.68 | .779 | 7 | 0.80 | 25.1 | 7000 | clear |
| 1000 | 4.22 | 200 | 6.71 | .775 | 2 | 1.04 | 24.9 | 9000 | clear |
| 1010 | 4.25 | 200 | 6.69 | .773 | 8 | 0.89 | 25.0 | 11000 | clear |
| 1020 | 4.41 | 200 | 6.70 | .776 | 9 | 0.69 | 25.0 | 13000 | clear |
| 1025 | 4.40 | 200 | 6.71 | .776 | 10 | 0.67 | 25.1 | 14000 | clear |

SIGNATURE(S): Eric Parker

1 VOL = 4.4 L  3 VOLS = 13.2 L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-8
**DATE:** 080399

16500

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1435 | 7.75 | 300 | 6.39 | .557 | 337 | 0.77 | 27.3 | 0 | Start |
| 1445 | 9.80 | 300 | 6.47 | .554 | 374 | 1.79 | 27.1 | 3000 | |
| 1455 | 8.75 | 200 | 6.49 | .564 | 302 | 1.75 | 27.4 | 5000 | |
| 1505 | 9.75 | 200 | 6.49 | .568 | 142 | 1.70 | 27.2 | 7000 | |
| 1515 | 8.75 | 200 | 6.45 | .570 | 89 | 1.12 | 26.9 | 9000 | |
| 1525 | 8.75 | 200 | 6.40 | .567 | 77 | 1.81 | 26.5 | 11000 | |
| 1535 | 9.01 | 200 | 6.39 | .560 | 53 | 1.64 | 26.2 | 13000 | |
| 1545 | 9.00 | 200 | 6.40 | .559 | 41 | 1.60 | 26.0 | 15000 | |
| 1555 | 9.10 | 200 | 6.40 | .558 | 8 | 2.89 | 26.1 | 17000 | |

**SIGNATURE(S):** Eric Peterson

1 VOL = 5.5L 3 VOLS = 16.5L

PAGE_1_OF_1_

Tetra Tech NUS, Inc

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-9
**DATE:** 080299

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/l) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 0905 | 6.81 | 275 | 6.22 | 0.577 | -10 | 1.53 | 26.5 | 0 | Start |
| 0910 | 7.13 | 275 | 6.40 | 0.568 | -10 | 1.57 | 25.8 | 1.4 | clear |
| 0920 | 7.33 | 250 | 6.45 | 0.569 | -10 | 1.79 | 25.4 | 4.2 | @ 0920 - slowed pump / clear |
| 0932 | 7.33 | 250 | 6.46 | 0.570 | -10 | 1.37 | 25.6 | 7.2 | clear |
| 0939 | 7.34 | 250 | 6.50 | 0.577 | -10 | 1.96 | 25.6 | 10.4 | clear |
| 0945 | 7.34 | 250 | 6.36 | 0.567 | -10 | 1.96 | 25.1 | 11.9 | clear |
| 0950 | 7.37 | 250 | 6.48 | 0.570 | -10 | 1.81 | 25.1 | 13.2 | clear |
| 0955 ~~1000~~ | 7.37 | 250 | 6.37 | 0.570 | -10 | 1.82 | 25.0 | 14.5 | clear |
| | | | | | | | | | stable, stop @ 0955 |

**SIGNATURE(S):** Marina U. Dade

1 VOL = 4.6 L  3 VOL = 13.8 L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-10
**DATE:** 080299

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1626 | 7.34 | ~225 | — | — | — | — | — | 0 | Start |
| 1631 | 7.80 | 225 | 6.26 | 0.759 | 9 | 2.57 | 27.2 | 1.1 | clear |
| 1637 | 8.57 | 200 | — | — | — | — | — | 2.4 | slowed purge rate |
| 1647 | 9.20 | 200 | 6.27 | 0.698 | -10 | 2.06 | 26.7 | 3.4 | clear |
| 1657 | 9.92 | 200 | 6.16 | 0.707 | -10 | 2.17 | 26.3 | 7.4 | clear |
| 1707 | 10.57 | 200 | 6.33 | 0.737 | -10 | 2.21 | 26.3 | 9.4 | clear |
| ~~1717~~ | | | | | | | | ~~5.4~~ | |
| ~~1727~~ | | | | | | | | ~~6.4~~ | |
| ~~1737~~ | | | | | | | | ~~7.4~~ | |
| ~~1747~~ | | | | | | | | ~~8.4~~ | |
| ~~1757~~ | | | | | | | | ~~9.4~~ | |
| ~~1807~~ | | | | | | | | ~~10.4~~ | |
| ~~1817~~ | | | | | | | | ~~11.4~~ | |
| | | | | | | | | ~~12.4~~ | |
| 1715 | 11.02 | 200 | 6.19 | 0.777 | -10 | 2.22 | 25.8 | 11 | clear |
| 1720 | 11.36 | 200 | 6.24 | 0.778 | -10 | 2.23 | 25.5 | 12 | clear |
| 1725 | 11.67 | 200 | 6.20 | 0.795 | -10 | 2.27 | 25.5 | 13 | clear |
| | | | | | | | | | stable, stop @ 1725 |

Well purged dry in middle of sampling VOA's. Decided to give duplicate collection to ERIC on GH-17.

1 VOL = 4.3L 3 VOLS = 12.9L

**SIGNATURE(S):** Marvin W. Wade

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Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

93004

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-12
**DATE:** 073099

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) -7mL | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1625 | 4.10 | 300 | 6.84 | .498 | 271 | 1.52 | 25.6 | Ø | Start |
| 1635 | 4.25 | 300 | 6.90 | .504 | 89 | 1.49 | 24.8 | 3000 | clear |
| 1640 | 4.22 | 300 | 6.82 | .505 | 28 | 1.20 | 24.5 | 4500 | clear |
| 1645 | 4.25 | 300 | 6.84 | .495 | 20 | 1.96 | 24.5 | 6000 | clear |
| 1655 | 4.25 | 300 | 6.83 | .495 | 13 | 1.70 | 24.4 | 7500 | Clear |
| 1700 | 4.26 | 300 | 6.83 | .493 | 9 | 1.93 | 24.5 | 9000 | Clear |
| 1705 | 4.26 | 300 | 6.83 | .494 | 10 | 1.98 | 24.5 | 10500 | Clear |

SIGNATURE(S): Eric Pahr

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-13
**DATE:** 8/2/95

16800

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (~~Liters~~ mL) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1425 | 6.75 | 300 | 6.30 | .610 | 353 | 0.59 | 27.3 | 0 | Start |
| 1435 | 8.31 | 300 | 6.31 | .582 | 181 | 1.35 | 26.6 | 3000 | cloudy |
| 1445 | 8.40 | 200 | 6.30 | .582 | 88 | 1.75 | 26.3 | 5000 | cloudy |
| 1455 | 8.45 | 200 | 6.30 | .585 | 68 | 1.38 | 26.2 | 7000 | cloudy |
| 1505 | 8.45 | 200 | 6.29 | .588 | 53 | 1.43 | 25.9 | 9000 | cloudy |
| 1515 | 8.45 | 200 | 6.28 | .591 | 49 | 1.46 | 26.0 | 11000 | cloudy |
| 1525 | 8.49 | 200 | 6.27 | .593 | 47 | 1.50 | 25.9 | 13000 | cloudy |
| 1535 | 8.46 | 200 | 6.29 | .594 | 47 | 1.36 | 25.8 | 15000 | clear |
| 1545 | 8.49 | 200 | 6.30 | .595 | 31 | 1.48 | 25.8 | 17000 | clear |

SIGNATURE(S): Eric Pike

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-14
**DATE:** 073099

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 0855 | 6.16 | 300 | — | — | — | — | — | — | Start |
| 0859 | — | 275 mL | 6.10 | 0.332 | 5 | 1.60 | 27.2 | 1.2L | slowed rate to 275 mL |
| 0904 | 7.01 | 225 | — | — | — | — | — | 2.6L | slowed rate |
| 0909 | — | 225 | 5.99 | 0.327 | 2 | 1.69 | 26.1 | 3.7 | |
| 0914 | 7.17 | — | | | | | | | |
| 0918 | — | — | 5.85 | 0.327 | 10 | 1.64 | 25.7 | | |
| 0920 | 7.01 | 225 | — | — | — | — | — | 6.1L | |
| 0922 | — | 200 | — | | | | | — | slowed rate |
| 0928 | 7.13 | 200 | 5.72 | 0.325 | 2 | 1.20 | 25.6 | 7.7L | |
| 0933 | 7.11 | 200 | 5.76 | 0.321 | 2 | 1.63 | 25.7 | 8.7L | clear |
| 0947 | — | 200 | 5.74 | 0.313 | 7 | 1.22 | 26.1 | 11.5 | clear |
| 0950 | 7.10 | 200 | — | — | — | — | — | 12.1 | |
| 0958 | — | 200 | 5.79 | 0.315 | 9 | 0.96 | 26.1 | 13.7 | clear |
| 1007 | 7.10 | 200 | 5.98 | 0.313 | 11 | 1.33 | 26.2 | 15.5 | clear |
| 1018 | 7.10 | 200 | 6.01 | 0.310 | 10 | 1.18 | 26.9 | 17.3 | clear |
| 1021 | 7.10 | 200 | 6.08 | 0.309 | 6 | 1.43 | 26.4 | 17.9 | stable, stop |

**SIGNATURE(S):** Melvin W. Dale

1 VOL = 5.3L  3 VOL = 15.9 L

15600

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-15
**DATE:** 073099

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1340 | 5.98 | 200 | 5.76 | .200 | 421 | 0.78 | 27.0 | 0 | Start clear |
| 1350 | 6.31 | 200 | 5.68 | .192 | 98 | 1.56 | 26.9 | 2000 | clear |
| 1400 | 6.43 | 200 | 5.70 | .192 | 88 | 1.72 | 26.1 | 4000 | clear |
| 1410 | 6.58 | 200 | 5.65 | .190 | 48 | 0.78 | 25.9 | 6000 | clear |
| 1420 | 6.61 | 200 | 5.62 | .192 | 2 | 0.70 | 25.8 | 8000 | clear |
| 1430 | 6.60 | 200 | 5.55 | .195 | 3 | 0.78 | 25.5 | 10000 | clear |
| 1440 | 6.68 | 200 | 5.52 | .190 | 4 | 1.04 | 25.4 | 12000 | clear |
| 1450 | 6.65 | 200 | 5.54 | .189 | 4 | 1.48 | 25.5 | 14000 | clear |
| 1500 | 6.68 | 200 | 5.53 | .189 | 6 | 0.93 | 25.5 | 16000 | clear |

SIGNATURE(S): Eric Palm

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

16800

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-16
**DATE:** 8/2/99

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. ~~(Liters)~~ mL | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1045 | 5.78 | 300 | 6.39 | .771 | 3 | 1.21 | 26.5 | 0 | Start clear |
| 1055 | 6.38 | 300 | 6.31 | .782 | 6 | 0.92 | 26.2 | 3000 | clear |
| 1105 | 6.28 | 200 | 6.29 | .784 | 4 | 1.02 | 25.7 | 5000 | clear |
| 1115 | 6.35 | 200 | 6.29 | .778 | 0 | 1.42 | 25.7 | 700 | clear |
| 1125 | 6.38 | 200 | 6.27 | .776 | 5 | 1.38 | 25.6 | 900 | clear |
| 1125 | 6.38 | 200 | 6.26 | .775 | 1 | 1.44 | 25.5 | 11000 | clear |
| 1135 | 6.41 | 200 | 6.26 | .775 | 2 | 1.41 | 25.4 | 13000 | clear |
| 1145 | 6.43 | 200 | 6.26 | .775 | 2 | 1.72 | 25.4 | 15000 | clear |
| 1155 | 6.43 | 200 | 6.26 | .777 | 0 | 1.19 | 25.4 | 17000 | clear |

SIGNATURE(S): Eric Parker

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-17
**DATE:** 8/2

15300

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (~~Liters~~) mL | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1615 | 6.79 | 300 | 6.82 | .595 | 181 | 1.06 | 28.0 | Ø | Start Cloudy |
| 1625 | 7.84 | 300 | 6.88 | .586 | 12 | 1.66 | 27.8 | 3000 | clear |
| 1635 | 7.81 | 200 | 6.96 | .581 | 4 | 1.92 | 28.0 | 5000 | clear |
| 1645 | 7.80 | 200 | 6.94 | .580 | 3 | 1.72 | 27.9 | 7000 | clear |
| 1655 | 7.34 | 200 | 7.00 | .575 | 0 | 1.95 | 27.8 | 9000 | clear |
| 1705 | 7.41 | 200 | 6.99 | .574 | -2 | 1.90 | 27.6 | 11000 | clear |
| 1715 | 7.38 | 200 | 7.00 | .572 | 1 | 1.68 | 27.6 | 13000 | clear |
| 1725 | 7.38 | 200 | 7.01 | .570 | 0 | 1.88 | 27.4 | 15000 | clear |
| 1730 | 7.38 | 200 | 6.99 | .570 | 0 | 1.53 | 27.5 | 16000 | clear |

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-19
**DATE:** 080299

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1438 | 3.23 | 275 ~~200~~ | 5.72 | 0.287 | 58 | 0.84 | 28.2 | 0 | Start |
| 1451 | 3.77 | 225 | — | — | — | — | — | 3.6 | slowed purge rate |
| 1453 | 3.76 | 225 | 5.55 | 0.300 | -4 | 1.33 | 26.7 | 4 | Lt. yellow |
| 1500 | 3.73 | 225 | 5.52 | 0.296 | -10 | 1.39 | 26.7 | 5.6 | same |
| 1511 | 3.73 | 225 | 5.49 | 0.297 | -10 | 0.51 | 26.7 | 8.1 | SAME |
| 1520 | 3.74 | 225 | 5.67 | 0.297 | -10 | 1.46 | 26.7 | 10.1 | SAME |
| 1530 | 3.74 | 225 | 5.68 | 0.298 | -10 | 1.17 | 26.7 | 12.3 | SAME |
| 1537 | 3.74 | 225 | 5.66 | 0.297 | -10 | 1.24 | 26.3 | 13.8 | SAME |

**SIGNATURE(S):** Melvin W. Dale

1 VOL = 4.6 L 3 VOLS = 13.8 L

PAGE_1_OF_1_

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-20
**DATE:** 080399

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1527 | 2.91 | 250 | 6.11 | 0.437 | 6 | 3.02 | 25.5 | 0 | Start |
| 1532 | 3.23 | 250 | — | — | — | — | — | 1.3 | clear |
| 1534 | 3.27 | 250 | 6.12 | 0.430 | 0 | 2.77 | 24.4 | 1.8 | clear |
| 1539 | 3.29 | 250 | 6.03 | 0.426 | -1 | 2.43 | 25.0 | 3.1 | clear |
| 1545 | 3.30 | 250 | 5.96 | 0.429 | 1 | 2.55 | 24.0 | 4.6 | clear |
| 1550 | 3.30 | 250 | 5.96 | 0.430 | -1 | 2.93 | 24.0 | 6.1 | clear |
| 1555 | 3.30 | 250 | 5.99 | 0.434 | 1 | 2.30 | 24.1 | 7.6 | clear |
| 1600 | 3.30 | 250 | 6.06 | 0.437 | -2 | 2.35 | 23.9 | 9.1 | clear |
| 1602 | 3.30 | 250 | 6.01 | 0.437 | -1 | 2.00 | 24.0 | 9.6 | clear |
| | | | | | | | | | stable, stop 1602 |

**SIGNATURE(S):** Melvin W. Dale

1 VOL = 3.1 L  3 VOLS = 9.3 L

**PAGE** 1 **OF** 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-21
**DATE:** 073099

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1051 | 6.60 | — | — | — | — | — | — | 0 | Start |
| 1056 | 7.10 | 180 | 6.80 | 0.780 | 206 | 1.59 | 27.7 | 0.9 | |
| 1103 | 7.68 | 180 | 6.98 | 0.775 | 123 | 1.38 | 26.0 | 2.2 | clear |
| 1113 | 7.75 | 180 | 6.81 | 0.771 | 68 | 1.35 | 26.1 | 4 | clear |
| 1125 | 7.75 | 180 | 6.91 | 0.773 | 67 | 1.50 | 25.7 | 6.1 | — |
| 1131 | 7.75 | 180 | 6.89 | 0.773 | 51 | 1.42 | 25.6 | 7.2 | clear |
| 1145 | 7.75 | 180 | 6.85 | 0.776 | 25 | 1.11 | 25.9 | 9.7 | clear stable, stop |

1 VOL = 3.1 L  3 VOL = 9.3 L

**SIGNATURE(S):** Melvin W Dale

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-22
**DATE:** 073099

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1344 | 7.13 | ~~200~~ MD | — | — | — | — | — | 0 | Start |
| 1346 | 7.72 | 200 | 6.54 | 0.627 | 388 | 1.88 | 28.4 | 0.4 | clear |
| 1354 | 8.00 | 200 | 6.50 | 0.626 | 277 | 1.85 | 26.7 | 2 | clear |
| 1403 | ~~8.35~~ MD | 200 | 6.42 | 0.623 | 88 | 1.02 | 25.9 | 3.8 | clear |
| 1412 | 8.35 | 200 | 6.45 | 0.625 | 40 | 1.50 | 26.1 | 5.6 | clear |
| 1422 | 8.51 | 200 | 6.37 | 0.625 | 12 | 1.29 | 25.8 | 7.6 | clear |
| 1432 | 8.62 | 200 | 6.22 | 0.628 | 13 | 1.07 | 25.8 | 9.6 | clear |
| 1442 | 8.71 | 200 | 6.18 | 0.629 | 15 | 0.99 | 25.7 | 11.6 | clear |
| 1452 | 8.75 MD | 200 | 6.25 | 0.622 | 8 | 1.20 | 25.6 | 13.6 | clear |
| 1502 | 8.78 | ~~180~~ 200 | 6.21 | 0.622 | 11 | 1.34 | 25.7 | ~~7~~ 15.6 MD | clear |
| | | | | | | | | | |
| 1512 | 8.82 | 200 | 6.22 | 0.633 | 11 | 1.28 | 25.0 | 17.6 | clear |
| 1522 | 8.84 | 200 | 6.23 | 0.632 | 11 | 1.15 | 25.3 | 19.6 | clear |
| 1532 | 8.84 | 200 | 6.23 | 0.633 | 10 | 1.08 | 25.3 | 21.6 | clear |
| 1535 | 8.84 | 200 | 6.17 | 0.632 | 14 | 0.89 | 25.8 | 22.2 | clear |
| | | | | | | | | | stable, stop @ 1535 |

**SIGNATURE(S):** Marion W. Dale

1 VOL = 7.4  3 VOL = 22.2

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-~~OUT~~ GAS HILL
**PROJECT NUMBER:** ~~0018~~ 0255

**WELL ID.:** ~~A~~ JAX-159-GA-23
**DATE:** 07/29/99

9300

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | ORP (mV) | Volume ~~Comments~~ mL |
|---|---|---|---|---|---|---|---|---|---|
| 1655 | 5.29 | 400 | 6.21 | .469 | -10 | 0.76 | 26.0 | — | 0 |
| 1700 | 5.99 | 400 | 6.23 | .464 | -10 | 0.84 | 25.9 | — | 2000 |
| 1705 | 5.61 | 200 | 6.22 | .475 | -10 | 1.43 | 25.4 | — | 3000 |
| 1715 | 5.45 | 200 | 6.20 | .473 | -10 | 1.01 | 24.5 | — | 5000 |
| 1720 | 5.45 | 200 | 6.19 | .475 | -10 | 1.15 | 24.7 | — | 6000 |
| 1725 | 5.45 | 200 | 6.18 | .476 | -10 | 0.96 | 24.7 | — | 7000 |
| 1730 | 5.45 | 200 | 6.17 | .475 | -10 | 0.70 | 24.7 | — | 8000 |
| 1735 | 5.44 | 200 | 6.16 | .474 | -10 | 1.68 | 24.7 | — | 9000 |
| 1740 | 5.45 | 200 | 6.17 | .474 | -10 | 1.45 | 24.7 | — | 10 000 |

SIGNATURE(S): Eric Parker

16800

Tetra Tech NUS, Inc

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-Gas Hill
**PROJECT NUMBER:** 0255

**WELL ID.:** JAX-159-GH-24
**DATE:** 073099

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (Liters) | ~~Volume~~ ~~Comments~~ ~~mL~~ mL Comments |
|---|---|---|---|---|---|---|---|---|---|
| 850 | 5.65 | 600 | 6.06 | .479 | 11 | 0.76 | 27.0 | 0 | Start |
| 855 | 7.30 | 600 | 6.08 | .476 | 9 | 0.83 | 26.9 | 3000 | ~~3000~~ clear |
| 9 1005 | 6.16 | 200 | 6.08 | .461 | 6 | 0.89 | 25.7 | 5000 | clear |
| 9 1015 | 6.20 | 200 | 6.00 | .460 | 37 | 0.53 | 25.6 | 7000 | no odor, clear |
| 9 1025 | 6.25 | 200 | 5.88 | .460 | 28 | 0.96 | 25.1 | 9000 | clear |
| 9 1035 | 6.20 | 200 | 5.75 | .457 | 27 | 1.28 | 25.3 | 11000 | Clear |
| 9 1045 | 6.22 | 200 | 5.79 | .456 | 15 | 0.72 | 25.4 | 1300 | clear |
| 9 1055 | 6.23 | 200 | 5.80 | .456 | 16 | 1.66 | 25.5 | 1500 | clear |
| 1005 | 6.23 | 200 | 5.79 | .456 | 15 | 1.29 | 25.5 | 1700 | Clear |

SIGNATURE(S): Eric Pak

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL
PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: JAX-159-GH-25
DATE: 072999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/l) | Temp. (Celsius) | ORP (mV) | Comments | Cum. Vol. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1704 | 2.40 | — | — | — | — | — | — | — | start | |
| 1711 | 4.53 | 250 | 6.81 | 0.644 | -10 | 1.72 | 25.8 | — | | 1.8L |
| 1713 | ~~200~~ MD | 200 | — | — | — | — | — | — | | 2.3L |
| 1720 | 4.73 * | 200 | 6.76 | 0.638 | -10 | 1.39 | 25.0 | — | slow down pump | 3.7L |
| 1726 | ~~6.12~~ MD | 200 | 6.76 | 0.637 | -10 | 1.39 | 24.9 | — | | 4.9L |
| 1732 | 6.12 | 200 | — | — | — | — | — | — | | 6.1L |
| 1736 | — | 200 | 6.69 | 0.638 | -10 | 1.17 | 24.2 | — | | 6.9L |
| 1739 | 6.24 | — | — | — | — | — | — | — | | 7.5L |
| 1742 | — | 200 | 6.61 | 0.640 | -10 | 1.16 | 24.1 | | | 8.1L |
| 1745 | 6.31 | — | — | — | — | — | — | — | | 8.7L |
| 1749 | — | 200 | 6.49 | 0.637 | -10 | 1.51 | 24.3 | — | | 9.5L |
| 1755 | — | 200 | 6.48 | 0.649 | -10 | 1.50 | 24.1 | — | | 10.7L |
| 1800 | — | 200 | 6.51 | 0.650 | -10 | 1.65 | 24.1 | — | stable/stop | 11.7L |

MWA de

*use minimum flow rate of 200 ml/min despite drop in water level or we'd never get this done.

SIGNATURE(S): Melvin W. Ade

3.1 x 3 = 9.3L

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-~~OUT~~ GAS HILL
**PROJECT NUMBER:** ~~0018~~ 0255
**WELL ID.:** JAX-159-GH-26
**DATE:** 072999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | ORP (mV) | Comments | cum. vol. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1519 | ~~2.55~~ 2.53 | ~450 | 6.20 | 0.636 | -10 | 0.97 | 26.6 | — | start lt. orange | |
| 1526 | 2.83 | ~450 | 6.22 | 0.637 | -10 | 1.16 | 26.8 | — | | 2.2L |
| 1532 | 3.00 | ~360 | 6.25 | 0.645 | -10 | 1.11 | 26.9 | — | slowed pump down | 4.9L |
| 1538 | 2.96 | ~360 | 6.24 | 0.643 | -10 | 1.08 | 26.7 | — | lt. yellow | 7.1L |
| 1545 | 2.96 | ~360 | 6.25 | 0.645 | -10 | 1.45 | 26.6 | — | | 9.6L |
| 1546 | 2.96 | 350 | — | — | — | — | — | — | slow it down | 9.9L |
| 1552 | 2.94 | 350 | 6.21 | 0.643 | -10 | 1.40 | 26.8 | — | lt. yellow | 12.1L |
| 1556 | 2.94 | 300 | — | — | — | — | — | — | slow it down | 13.5L |
| 1604 | 2.89 | 300 | 6.18 | 0.643 | -10 | 1.34 | 26.8 | — | lt. yellow | 15.9L |
| 1613 | 2.89 | 300 | 6.17 | 0.629 | -10 | 1.45 | 26.5 | — | stop/stable | 18.6L |

1 Casing Vol = 5.7L x 3 = 17.1L

SIGNATURE(S): Melvin W. Dade

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-~~OU1~~ GAS HILL
**PROJECT NUMBER:** ~~0018~~ 0255

**WELL ID.:** JAX-159-GH-27
**DATE:** 07/29/99

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | ORP (mV) | Volume ~~Comments~~ mL |
|---|---|---|---|---|---|---|---|---|---|
| 1515 | 2.58 | 400 | 6.54 | .581 | -10 | 1.90 | 25.1 | - | Ø |
| 1520 | 3.21 | 400 | 6.54 | .583 | -10 | 1.54 | 24.8 | - | 2000 |
| 1525 | 4.~~04~~10 | 200 | 6.46 | .633 | -10 | 2.50 | 25.0 | - | 3000 |
| 1530 | 4.~~03~~30 | 200 | 6.46 | .638 | -10 | 1.80 | 24.8 | - | 4000 |
| 1535 | 4.30 | 200 | 6.44 | .640 | -10 | 1.56 | 24.6 | - | 5000 |
| 1540 | 4.31 | 200 | 6.38 | .644 | -10 | 1.50 | 24.5 | - | 6000 |
| 1545 | 4.31 | 200 | 6.40 | .645 | -10 | 1.76 | 24.5 | - | 7000 |
| 1550 | 4.30 | 200 | 6.39 | .646 | -10 | 2.05 | 24.5 | - | 8000 |
| 1555 | 4.31 | 200 | 6.39 | .647 | -10 | 1.65 | 24.4 | - | 9000 |
| 1600 | 4.30 | 200 | 6.39 | .647 | -10 | 1.56 | 24.5 | - | 10000 |

9300

SIGNATURE(S): Eric Park

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-~~OU1~~ Gas Hill
**PROJECT NUMBER:** ~~0018~~ 0255

**WELL ID.:** JAX-159-GH-28
**DATE:** 07/29/99

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | ORP (mV) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1016 | 2.60 | — | 6.62 | 0.539 | -10 | 2.53 | 25.4 | — | start |
| | | | | | | | | | slowing flow rate |
| | | | | | | | | | to est. water level. |
| | | | | | | | | | @ 1023 @ 200 mL/min |
| 1026 | — | — | — | — | — | — | — | — | cum. vol = 3.8 L |
| 1032 | 5.1 | 200 | 6.80 | 0.527 | -10 | 1.71 | 26.3 | — | cum. vol = 5 L |
| 1043 | 4.93 | 200 | 6.76 | 0.529 | -10 | 1.81 | 26.3 | — | cum. vol = 7.2 L |
| 1052 | 4.92 | 200 | 6.80 | 0.523 | -10 | 2.30 | 25.9 | — | cum. vol = 9 L |
| 1103 | 4.92 | 200 | 6.74 | 0.519 | -10 | 1.96 | 25.8 | — | cum. vol = 11.2 L |
| | | | | | | | | | stop @ 1103 |

3 vols = 9.3 Liters

**SIGNATURE(S):** Merrin W. Dale

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-~~OU1~~ GAS HILL
**PROJECT NUMBER:** ~~0018~~ 0255

**WELL ID.:** JAX-159-GH-29
**DATE:** 07/29/99

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | ORP (mV) | Comments | Cum Vol (L) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1322 | MD ~~3.12~~ 2.95 | ~325 | 6.68 | 0.548 | -10 | 1.41 | 27.1 | | start | 0 |
| 1332 | MD ~~3.12~~ 3.07 | ~400 | — | — | — | — | — | | change flow rate | 3.2 L |
| 1338 | 3.07 | ~400 | 6.63 | 0.544 | -10 | 0.77 | 26.4 | | change flow rate | 5.6 L |
| 1346 | 3.11 | ~450 | 6.44 | 0.506 | -10 | 0.56 | 25.9 | | | 8.8 L |
| 1355 | 3.11 | ~450 | 6.46 | 0.480 | -10 | 1.52 | 25.6 | | clear | 12.8 L |
| 1406 | 3.13 | ~450 | 6.22 | 0.452 | -10 | 1.04 | 25.9 | | clear | 17.75 L |
| 1415 | 3.13 | ~450 | 6.13 | 0.425 | 700 | 1.07 | 25.7 | | clear | 21.75 L |
| 1420 | 3.13 | ~450 | 6.10 | 0.431 | 410 | 0.86 | 25.5 | | clear | 24 L |
| 1425 | 3.13 | ~450 | 6.03 | 0.413 | 272 | 1.29 | 25.8 | | clear | 26.25 L |
| | | | | | | | | | stop @ 1425 | |

MWD

6.2 x 3 = 18.6 L

**SIGNATURE(S):** Marion W. Dale

**PAGE** 1 **OF** 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL

PROJECT NUMBER: ~~0018~~ 0255

WELL ID.: JAX-159-GH-20

DATE: 07/29/99

20400

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | ORP (mV) | Volume ~~Comments~~ mL |
|---|---|---|---|---|---|---|---|---|---|
| 1315 | 2.50 | 250 | 6.25 | .457 | -10 | 3.68 | 27.7 | — | 0 |
| 1325 | 2.69 | 250 | 6.19 | .446 | -10 | 3.59 | 27.0 | — | 2500 |
| 1335 | 2.70 | 300 | 6.14 | .444 | -10 | 2.62 | 26.9 | — | 5500 |
| 1345 | 2.71 | 350 | 6.12 | .441 | -10 | 2.65 | 26.5 | | ~~8500~~ 9000 |
| 1355 | 2.72 | 400 | 6.09 | .440 | -10 | 3.15 | 26.4 | — | 13000 |
| 1405 | 2.72 | 400 | 6.00 | .439 | -10 | 2.77 | 26.6 | — | 17000 |
| 1415 | 2.72 | 400 | 6.02 | .439 | -10 | 2.69 | 26.5 | — | 21000 |
| 1420 | 2.72 | 400 | 6.01 | .440 | -10 | 2.72 | 26.4 | — | 23000 |

SIGNATURE(S): Eric Parker

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-~~OU1~~ GAS HILL 17700 mL
PROJECT NUMBER: ~~0018~~ 0255 4.6 gal

WELL ID.: JAX-159-GH-31
DATE: 07/29/99

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | ORP (mV) | Volume mL ~~Comments~~ |
|---|---|---|---|---|---|---|---|---|---|
| 1015 | 2.84 | 250 | 6.53 | .428 | 392 | 3.28 | 27.7 | — | 0 |
| 1025 | 3.18 | 250 | 6.51 | .436 | 422 | 2.83 | 28.1 | — | 2500 |
| 1035 | 3.12 | 200 | 6.58 | .427 | −10 | 3.03 | 27.7 | — | 4500 |
| 1045 | 3.11 | 225 | 6.46 | .435 | −10 | 2.63 | 27.8 | — | 6750 |
| 1055 | 3.12 | 225 | 6.45 | .432 | −10 | 2.91 | 27.6 | — | 9000 |
| 1105 | 3.12 | 225 | 6.44 | .429 | −10 | 3.21 | 27.6 | — | 11250 |
| 1115 | 3.12 | 225 | 6.45 | .432 | −10 | 3.36 | 27.6 | — | 13500 |
| 1125 | 3.12 | 225 | 6.46 | .435 | −10 | 2.86 | 27.6 | — | 15750 |
| 1135 | 3.12 | 225 | 6.46 | .435 | −10 | 3.14 | 27.6 | — | 18000 |

SIGNATURE(S): Eric Parks

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-GAS HILL
**PROJECT NUMBER:** N0255.FB0.050.230

**WELL ID.:** NASJ-159-GH-32 -02
**DATE:** 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Volume | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1725 | 1.82 | 350 | 6.33 | .387 | 999 | 0.65 | 26.4 | Ø | Start |
| 1731 | * | 350 | 6.31 | .325 | 280 | 0.35 | 26.0 | 2.1 Liter | End |
| 1806 | 1.85 | | | | | | | | |

* couldn't take W.L. AT same time as purging due to constricted space

SIGNATURE(S): Eric Peter

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH-33 -02
DATE: 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Volume Liters | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1605 | 2.50 | 200 | 5.76 | .264 | 999 | 1.48 | 27.9 | Ø | start |
| 1614 | 2.55 | 200 | 5.46 | .244 | 661 | 1.22 | 27.8 | 1.8 | End |

SIGNATURE(S): Eric Pa[illegible]

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-GAS HILL
**PROJECT NUMBER:** N0255.FB0.050.230

**WELL ID.:** NASJ-159-GH-34 -02
**DATE:** 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | cum. vol. (L) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1620 | 3.20 | — | — | — | — | — | — | 0 | start |
| 1622 | * | slowed pumprate | | | | | | 1L | taking air - still sluggish $H_2O$. |
| 1625 | * | — | 5.99 | 0.324 | 999 | 2.21 | 28.5 | | |
| 1637 | * | 50 | 6.18 | 0.325 | 645 | 3.99 | 28.0 | ~~0.85~~ 1.6 L | stop |
| 1650 | — | 180 | — | — | — | — | — | — | restart w/tubing set to 11 feet stop. note: steady flow now and no air entrained. |
| 1653 | * | ~50 | 5.84 | 0.318 | 999 | 3.97 | 27.0 | 1.75 | sucking air! |
| 1709 | * | ~50 | — | — | — | — | — | 2.55 | " " |

* constricted by diameter of riser pipe from putting anything but tubing in well. only taking before & after water levels.

SIGNATURE(S): Melvin W. Dale

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-GAS HILL
**PROJECT NUMBER:** N0255.FB0.050.230

**WELL ID.:** NASJ-159-GH-35 -02
**DATE:** 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | | Comments Volume |
|---|---|---|---|---|---|---|---|---|---|
| 1420 | 16.43 | 300 | 6.19 | .575 | 112 | 0.40 | 26.8 | | 0 |
| 1426 | 16.44 | ~~8~~300 | 6.02 | .570 | 2 | 0.49 | 26.4 | | 1.8 L |

SIGNATURE(S): Eric Pa

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-GAS HILL
**PROJECT NUMBER:** N0255.FB0.050.230

**WELL ID.:** NASJ-159-GH- 36 -02
**DATE:** 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Cum. Vol. (L) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| ~~1431~~ | | | ~~5.60~~ | ~~0.131~~ | ~~519~~ | ~~1.46~~ | ~~27.7~~ | | |
| 1428 | 15.34 | 300 | | | | | | 0 | start |
| 1431 | * | 300 | 5.60 | 0.131 | 519 | 1.46 | 27.7 | 0.9 | cloudy moderate |
| 1436 | * | 300 | 5.51 | 0.125 | 97 | 1.29 | 26.7 | 2.4 | stop purge - |
| 1451 | 15.40 | | | | | | | | |

note: 5 well vols = 1.9L
* can't take water level while pumping due to small diameter of casing the probe won't fit at same time.

SIGNATURE(S): MWLale

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-GAS HILL
**PROJECT NUMBER:** N0255.FB0.050.230

**WELL ID.:** NASJ-159-GH- 37 -02
**DATE:** 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Volume Liter | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1515 | 12.59 | 300 | 6.01 | .294 | 649 | 1.0 | 26.5 | 0 | |
| 1520 | * | 300 | 5.94 | .293 | 215 | .90 | 25.9 | 1.85 | end purge = 5 vols |
| 1521 | * | 300 | | | | | | 1.8 | cloudy |
| 1543 | 12.60 | | | | | | | | |

* confined casing too narrow for both tubing and probe.

SIGNATURE(S): Marvin Dale

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

PROJECT SITE NAME: NAS Jacksonville-GAS HILL
PROJECT NUMBER: N0255.FB0.050.230

WELL ID.: NASJ-159-GH-38 -02
DATE: 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | Volume | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1015 | 15.10 | 300 | 5.90 | .170 | 610 | 1.92 | 25.1 | Ø | Start |
| 1020 | 15.14 | 300 | 5.90 | .187 | 213 | 1.06 | 24.6 | 1.5L | End |

SIGNATURE(S): Eric Peter

PAGE 1 OF 1

Tetra Tech NUS, Inc.

# LOW FLOW PURGE DATA SHEET

**PROJECT SITE NAME:** NAS Jacksonville-GAS HILL
**PROJECT NUMBER:** N0255.FB0.050.230

**WELL ID.:** NASJ-159-GH- 39 -02
**DATE:** 9/2/1999

| Time (Hrs.) | Water Level (Ft. below TOC) | Flow (mL/Min.) | pH (S.U.) | Cond. (mS/cm) | Turb. (NTU) | DO (mg/L) | Temp. (Celsius) | CUM. VOL (L) | Comments |
|---|---|---|---|---|---|---|---|---|---|
| 1028 | 13.70 | 350 | 5.93 | 0.270 | 257 | 1.03 | 26.6 | 0 | start, sl. cldy |
| | * | | | | | | | | |
| 1034 | * | 350 | 5.94 | 0.226 | -10 | 0.63 | 26.0 | 2.1 | clear |
| | | | | | | | | | already past 5 volumes. |
| | | | | | | | | | ready to sample. |

* constricted 0.5in diam casing so can't get probe down hole while purging.

L = liters

Note: water level after sampling @ time 1055 was 13.80.

SIGNATURE(S): Marvin W. Dale

PAGE 1 OF 1

# APPENDIX G

# GROUNDWATER ANALYTICAL DATA

**Environmental Conservation Laboratories, Inc.**
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E62277

**CLIENT** : Tetra Tech NUS, Inc.
**ADDRESS**: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR7876
**DATE SUBMITTED**: July 30, 1999
**DATE REPORTED** : August 18, 1999



**ATTENTION**: Ms. Lee Leck

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

| | | | |
|---|---|---|---|
| #1 | - NASJ-159-GH-28-01 | @ 11:08 | (07/29/99) |
| #2 | - NASJ-159-GH-31-01 | @ 11:37 | (07/29/99) |
| #3 | - NASJ-159-GH-30-01 | @ 14:25 | (07/29/99) |
| #4 | - NASJ-159-GH-29-01 | @ 14:29 | (07/29/99) |
| #5 | - NASJ-159-GH-27-01 | @ 16:05 | (07/29/99) |
| #6 | - NASJ-159-GH-26-01 | @ 16:15 | (07/29/99) |
| #7 | - NASJ-159-GH-23-01 | @ 17:50 | (07/29/99) |
| #8 | - NASJ-159-GH-25-01 | @ 18:04 | (07/29/99) |
| #9 | - NASJ-159-GH-DUP1-01 | | (07/29/99) |
| #10 | - TRIPBLK | | (07/28/99) |

**PROJECT MANAGER** _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-28-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | **2.9** | µg/L |
| o-Xylene | **1.8** | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 42 | µg/L |
| Surrogate Percent Recovery | 84 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-28-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-28-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | **0.050** IV | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.0 | µg/L |
| Surrogate Percent Recovery | 90 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

V - Analyte detected in associated laboratory blank.
U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-31-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | **5.6** | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | **1.8** | µg/L |
| m-Xylene & p-Xylene | **7.9** | µg/L |
| o-Xylene | **3.8** | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49.5 | µg/L |
| Surrogate Percent Recovery | 99 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-31-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-31-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | **2.6** | µg/L |
| Fluorene | **0.56** | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.8 | µg/L |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-30-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 46.5 | µg/L |
| Surrogate Percent Recovery | 93 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-30-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-30-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | **2.3** | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | **3.3** | µg/L |
| Fluorene | **0.10** I | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | **0.14** IV | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.6 | µg/L |
| Surrogate Percent Recovery | 76 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

V = Analyte detected in associated laboratory blank.
U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-29-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | **47** | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-29-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CT0101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-29-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | **4.4** | µg/L |
| Fluorene | **2.1** | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | **0.11** I | µg/L |
| Fluoranthene | **0.12** I | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.3 | µg/L |
| Surrogate Percent Recovery | 93 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-27-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 31 | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-27-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-27-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 6.3 | µg/L |
| Surrogate Percent Recovery | 63 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-26-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | **9.9** | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 51 | µg/L |
| Surrogate Percent Recovery | 102 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-26-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-26-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.5 | µg/L |
| Surrogate Percent Recovery | 75 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-23-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 10 U D1 | µg/L |
| Benzene | **100** D1 | µg/L |
| Toluene | **12** D1 | µg/L |
| Chlorobenzene | 5.0 U D1 | µg/L |
| Ethylbenzene | **44** D1 | µg/L |
| m-Xylene & p-Xylene | **76** D1 | µg/L |
| o-Xylene | **37** D1 | µg/L |
| 1,3-Dichlorobenzene | 5.0 U D1 | µg/L |
| 1,4-Dichlorobenzene | 5.0 U D1 | µg/L |
| 1,2-Dichlorobenzene | 5.0 U D1 | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | * | µg/L |
| Surrogate Percent Recovery | * | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-23-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

* = Surrogate recovery unavailable due to matrix interference.
U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-23-01 | Units |
|---|---|---|
| Naphthalene | 4.3 | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.6 | µg/L |
| Surrogate Percent Recovery | 76 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-25-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48.5 | µg/L |
| Surrogate Percent Recovery | 97 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-25-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-25-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.6 | µg/L |
| Surrogate Percent Recovery | 86 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-DUP1-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | **7.0** | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 45 | µg/L |
| Surrogate Percent Recovery | 90 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/04/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-DUP1-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-DUP1-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 6.3 | µg/L |
| Surrogate Percent Recovery | 63 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | TRIPBLK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48 | µg/L |
| Surrogate Percent Recovery | 96 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 47.5 | µg/L |
| Surrogate Percent Recovery | 95 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/30/99 | |

| TOTAL METALS | METHOD | LAB BLANK | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | LAB BLANK | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | **0.13** I | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.5 | µg/L |
| Surrogate Percent Recovery | 75 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/05/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48 | µg/L |
| Surrogate Percent Recovery | 96 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 07/31/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7876
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 46.5 | µg/L |
| Surrogate Percent Recovery | 93 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.

## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | LCS TARGET µg/L | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|---|
| EPA Method 5030/8021 | | | | | |
| Benzene | 95/ 86/ 97 | 20 | 60-138 | 10 | 17 |
| Toluene | 103/ 91/106 | 20 | 57-138 | 12 | 16 |
| Ethylbenzene | 101/ 91/104 | 20 | 49-144 | 10 | 17 |
| o-Xylene | 100/ 91/104 | 20 | 50-151 | 9 | 17 |
| EPA Method 3510/8310 | | | | | |
| Naphthalene | 117/108/ 86 | 10 | 22-130 | 8 | 20 |
| Acenaphthene | 94/ 88/ 87 | 10 | 14-163 | 6 | 19 |
| Benzo(a)pyrene | 62/ 60/ 97 | 1 | 33-137 | 3 | 36 |
| Benzo(g,h,i)perylene | 50/ 48/ 91 | 2 | 36-135 | 4 | 34 |
| Total Metals | | | | | |
| Lead, 3010/6010b | 102/103/104 | 1 | 68-126 | <1 | 19 |

NOTE: Pb LCS target units are mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

| sample_no | run_number | parameter | method | units | idl | mdl | crdl_crql | dil_factor | pct_moist |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-23-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-23-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-23-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-23-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-23-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-23-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-23-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-23-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-23-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-23-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-23-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-23-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-23-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-23-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-23-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-23-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-23-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-23-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-23-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-23-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-23-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 1.5 | 10 | 5 | |
| NASJ-159-GH-23-01 | 1 | Benzene | 5030/8021 | ug/L | | 1 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | Toluene | 5030/8021 | ug/L | | 2 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 2 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 1 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 1.5 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 1 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 3 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 2 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 3 | 5 | 5 | |
| NASJ-159-GH-23-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 5 | |
| NASJ-159-GH-25-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-25-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-25-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-25-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-25-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-25-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-25-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-25-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-25-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-25-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-25-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-25-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 | |
| NASJ-159-GH-25-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-25-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-26-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-26-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-26-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-26-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-26-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-26-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-26-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-26-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-26-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-26-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-26-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-26-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-26-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-26-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-26-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-26-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-26-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-26-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-26-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-27-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-27-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-27-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-27-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-27-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-27-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-27-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-27-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-27-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-27-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-27-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-27-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-27-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-27-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-27-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-27-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-27-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-27-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-27-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-28-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-28-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-28-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-28-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-28-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-28-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-28-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-28-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-28-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-28-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-28-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-28-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-28-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-28-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-28-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-28-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-28-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-28-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-28-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-29-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-29-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-29-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-29-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-29-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-29-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-29-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-29-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-29-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-29-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-29-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-29-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-29-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-29-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-29-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-29-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-29-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-29-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-29-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-30-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-30-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-30-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-30-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-30-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-30-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-30-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-30-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-30-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-30-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-30-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-30-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-30-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-30-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-30-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-30-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-30-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-30-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-30-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-31-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-31-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-31-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-31-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-31-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-31-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-31-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-31-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-31-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-31-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-31-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-31-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-31-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-31-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-31-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-31-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-31-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-31-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-31-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-DUP1-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DUP1-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| TRIPBLK | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| TRIPBLK | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLK | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLK | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLK | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLK | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| TRIPBLK | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLK | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIPBLK | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLK | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIPBLK | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

QSARF # 9394
BR 46

# ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
Orlando, Florida 32824
Ph. (407) 826-5314 • Fax (407) 850-6945

ENCO CompQAP No.: 960038G/0

## CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: NASJAX, GAS HILL CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PROJECT LOC. (State): FL
SAMPLER(s) NAME: MERVIN DALE / ERIC PARKER
PHONE: 904 281 0400
FAX: 904 281 0070
CLIENT NAME: TetraTech NUS
CLIENT PROJECT MANAGER: SAM PRATT
CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

PAGE 1 OF 1

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

MATRIX TYPE / REQUIRED ANALYSIS / PRESERVATIVE / NUMBER OF CONTAINERS SUBMITTED

| STATION | DATE | TIME | GRAB | COMP | SAMPLE IDENTIFICATION | SURFACE WATER | GROUND WATER | WASTEWATER | DRINKING WATER | SOIL/SOLID/SEDIMENT | NONAQUEOUS LIQUID (oil, solvent, etc.) | AIR | SLUDGE | OTHER | 8021B HCl | 8310 None | Pb, 6010B HNO3 | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 07/29/99 | 1108 | ✓ | | NASJ-159-GH-28-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | COC# 03943 |
| 2 | 07/29/99 | 1137 | ✓ | | NASJ-159-GH-31-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 3 | 07/29/99 | 1425 | ✓ | | NASJ-159-GH-30-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 4 | 07/29/99 | 1429 | ✓ | | NASJ-159-GH-29-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 5 | 07/29/99 | 1605 | ✓ | | NASJ-159-GH-27-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 6 | 07/29/99 | 1615 | ✓ | | NASJ-159-GH-26-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 7 | 07/29/99 | 1750 | ✓ | | NASJ-159-GH-23-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 8 | 07/29/99 | 1804 | ✓ | | NASJ-159-GH-25-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 9 | 07/29/99 | 0000 | ✓ | | NASJ-159-GH- | | | | | | | | | | — | — | — | | | | | | | |
| 10 | — | — | — | | DUP1-01 | | ✓ | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 11 | 07/28/99 | — | ✓ | | TRIP BLANK | | | | | | | | | J | 2 | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | |

| SAMPLE KIT PREPARED BY: ☒ JACKSONVILLE ☐ ORLANDO | DATE | TIME | RELINQUISHED BY: (SIGNATURE) Mervin V. Dale | DATE 07/30/99 | TIME 0739 | RECEIVED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
| RECEIVED BY (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |

| RECEIVED FOR LABORATORY BY: (SIGNATURE) ☒ Jacksonville ☐ Orlando | DATE | TIME | CUSTODY INTACT ☒ YES ☐ NO | ENCO LOG NO. | REMARKS |
|---|---|---|---|---|---|
| | 7/30/99 | 740 | X | JR7876 | MERV'S PAGER 1800 471 6451 |

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www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

# CASE NARRATIVE

**Date:** August 19, 1999

**Client:** Tetra Tech NUS, Inc.

**Project #:** N0255 / CTO101

**Lab ID:** JR7876

## Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Nine aqueous samples and one trip blank were received on July 30, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

## Quality Control Remarks

In the 8021 analysis of sample NASJ-159-GH-23-01, the surrogate recovery was unavailable due to matrix interference. As a result of these interferences, the sample was analyzed at a 1:5 dilution.

A positive result of 0.13 ug/L was obtained for pyrene in the 8310 preparatory blank. All samples associated with this blank were significantly below the Florida action level of 210 ug/L. Any positive result for this constituent in this batch of samples was flagged with a "V", the Florida Department of Environmental Protection's blank qualifier.

**Other Comments**

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

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ENCO Laboratories

DHRS Certification No. E82277

**CLIENT** : Tetra Tech NUS, Inc.
**ADDRESS**: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR7908
**DATE SUBMITTED**: July 31, 1999
**DATE REPORTED** : August 18, 1999



**ATTENTION**: Ms. Lee Leck

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

07/30/99

#1 - NASJ-159-GH-24-01 @ 10:10
#2 - NASJ-159-GH-14-01 @ 10:24
#3 - NASJ-159-GH-21-01 @ 11:48
#4 - NASJ-159-GH-01-01 @ 12:20
#5 - NASJ-159-GH-15-01 @ 15:05
#6 - NASJ-159-GH-22-01 @ 15:43
#7 - NASJ-159-GH-12-01 @ 17:12

**PROJECT MANAGER** _____
**Scott D. Martin**

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-24-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | **3.5** | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | **3.2** | µg/L |
| m-Xylene & p-Xylene | **2.1** | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48 | µg/L |
| Surrogate Percent Recovery | 96 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/01/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-24-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CT0101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-24-01 | Units |
|---|---|---|
| Naphthalene | 0.90 | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.8 | µg/L |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-14-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 40 U D1 | µg/L |
| Benzene | **270** D1 | µg/L |
| Toluene | 20 U D1 | µg/L |
| Chlorobenzene | 20 U D1 | µg/L |
| Ethylbenzene | 20 U D1 | µg/L |
| m-Xylene & p-Xylene | 20 U D1 | µg/L |
| o-Xylene | 20 U D1 | µg/L |
| 1,3-Dichlorobenzene | 20 U D1 | µg/L |
| 1,4-Dichlorobenzene | 20 U D1 | µg/L |
| 1,2-Dichlorobenzene | 20 U D1 | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 46 | µg/L |
| Surrogate Percent Recovery | 92 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/02/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-14-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-14-01 | Units |
|---|---|---|
| Naphthalene | **0.90** | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | **0.17** | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.7 | µg/L |
| Surrogate Percent Recovery | 87 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-21-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 47 | µg/L |
| Surrogate Percent Recovery | 94 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/02/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-21-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-21-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.7 | µg/L |
| Surrogate Percent Recovery | 99 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : N0255/CT0101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-01-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 20 U D2 | µg/L |
| Benzene | **130** D2 | µg/L |
| Toluene | 10 U D2 | µg/L |
| Chlorobenzene | 10 U D2 | µg/L |
| Ethylbenzene | 10 U D2 | µg/L |
| m-Xylene & p-Xylene | 10 U D2 | µg/L |
| o-Xylene | 10 U D2 | µg/L |
| 1,3-Dichlorobenzene | 10 U D2 | µg/L |
| 1,4-Dichlorobenzene | 10 U D2 | µg/L |
| 1,2-Dichlorobenzene | 10 U D2 | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 47.5 | µg/L |
| Surrogate Percent Recovery | 95 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/02/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-01-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
D2 = Analyte value determined from a 1:10 dilution.

ENCO LABORATORIES
REPORT # : JR7908
DATE REPORTED: August 18, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-01-01 | Units |
|---|---|---|
| Naphthalene | **0.70** I | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.9 | µg/L |
| Surrogate Percent Recovery | 89 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-15-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 40 U D1 | µg/L |
| Benzene | **260** D1 | µg/L |
| Toluene | 20 U D1 | µg/L |
| Chlorobenzene | 20 U D1 | µg/L |
| Ethylbenzene | 20 U D1 | µg/L |
| m-Xylene & p-Xylene | 20 U D1 | µg/L |
| o-Xylene | 20 U D1 | µg/L |
| 1,3-Dichlorobenzene | 20 U D1 | µg/L |
| 1,4-Dichlorobenzene | 20 U D1 | µg/L |
| 1,2-Dichlorobenzene | 20 U D1 | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 45.5 | µg/L |
| Surrogate Percent Recovery | 91 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/02/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-15-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:20 dilution.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-15-01 | Units |
|---|---|---|
| Naphthalene | **1.7** | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.3 | µg/L |
| Surrogate Percent Recovery | 83 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-22-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | **2.0** | µg/L |
| Benzene | **1.2** | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 47 | µg/L |
| Surrogate Percent Recovery | 94 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/02/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-22-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-22-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | **0.11** I | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.6 | µg/L |
| Surrogate Percent Recovery | 86 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-12-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48.5 | µg/L |
| Surrogate Percent Recovery | 97 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/01/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-12-01 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/03/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-12-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.0 | µg/L |
| Surrogate Percent Recovery | 90 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 46.5 | µg/L |
| Surrogate Percent Recovery | 93 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/01/99 | |

| TOTAL METALS | METHOD | LAB BLANK | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | LAB BLANK | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.8 | µg/L |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/04/99 | |
| Date Analyzed | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 43 | µg/L |
| Surrogate Percent Recovery | 86 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/02/99 | |

U = Compound was analyzed for but not detected to the level shown.

## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | LCS TARGET mg/L | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|---|
| EPA Method 602/6230D/8020/8021 | | | | | |
| Benzene | */ */102 | 20 | 60-138 | * | 17 |
| Toluene | 112/111/104 | 20 | 57-138 | <1 | 16 |
| Ethylbenzene | 114/116/110 | 20 | 49-144 | 2 | 17 |
| o-Xylene | 102/102/103 | 20 | 50-151 | <1 | 17 |
| EPA Method 8310 | | | | | |
| Naphthalene | 100/ 84/ 79 | 10 | 22-130 | 17 | 20 |
| Acenaphthene | 74/ 69/ 78 | 10 | 14-163 | 7 | 19 |
| Benzo(a)pyrene | 100/100/ 86 | 1 | 33-137 | <1 | 36 |
| Benzo(g,h,i)perylene | 72/ 67/ 93 | 2 | 36-135 | 7 | 34 |
| Total Metals | | | | | |
| Lead, 3010/6010b | 100/ 99/100 | 1 | 68-126 | 1 | 19 |

NOTE: LCS target units for Pb LCS are mg/L.

Environmental Conservation Laboratories Comprehensive QA Plan #960038

* = MS/MSD/RPD unavailable due to high original sample concentration.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

| sample_no | run_number | parameter | method | units | idl | mdl | crdl_crql | dil_factor | pct_moist |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-01-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-01-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-01-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-01-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-01-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-01-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-01-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-01-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-01-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-01-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-01-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-01-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-01-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-01-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-01-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-01-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-01-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-01-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-01-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-01-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-01-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 3 | 20 | 10 | |
| NASJ-159-GH-01-01 | 1 | Benzene | 5030/8021 | ug/L | | 2 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | Toluene | 5030/8021 | ug/L | | 4 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 4 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 2 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 3 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 2 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 6 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 4 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 6 | 10 | 10 | |
| NASJ-159-GH-01-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 10 | |
| | | | | | | | | | |
| NASJ-159-GH-12-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-12-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-12-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-12-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-12-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-12-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-12-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-12-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-12-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-12-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-12-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-12-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 | |
| NASJ-159-GH-12-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-12-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NASJ-159-GH-14-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | 0.005 | 1 |
| NASJ-159-GH-14-01 | 1 | Naphthalene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-14-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-14-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-14-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-14-01 | 1 | Acenaphthene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-14-01 | 1 | Fluorene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-14-01 | 1 | Phenanthrene | 3510/8310 | ug/L | 0.04 | 1 | 1 |
| NASJ-159-GH-14-01 | 1 | Anthracene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-14-01 | 1 | Fluoranthene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-14-01 | 1 | Pyrene | 3510/8310 | ug/L | 0.04 | 0.05 | 1 |
| NASJ-159-GH-14-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-14-01 | 1 | Chrysene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-14-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | 0.06 | 0.1 | 1 |
| NASJ-159-GH-14-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-14-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-14-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-14-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-14-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-14-01 | 1 | P-Terphenyl | 3510/8310 | % | | | 1 |
| NASJ-159-GH-14-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | 6 | 40 | 20 |
| NASJ-159-GH-14-01 | 1 | Benzene | 5030/8021 | ug/L | 4 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | Toluene | 5030/8021 | ug/L | 8 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | 8 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | 4 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | 6 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | o-Xylene | 5030/8021 | ug/L | 4 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | 12 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | 8 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | 12 | 20 | 20 |
| NASJ-159-GH-14-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | 20 |
| NASJ-159-GH-15-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | 0.005 | 1 |
| NASJ-159-GH-15-01 | 1 | Naphthalene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-15-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-15-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-15-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-15-01 | 1 | Acenaphthene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-15-01 | 1 | Fluorene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-15-01 | 1 | Phenanthrene | 3510/8310 | ug/L | 0.04 | 1 | 1 |
| NASJ-159-GH-15-01 | 1 | Anthracene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-15-01 | 1 | Fluoranthene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-15-01 | 1 | Pyrene | 3510/8310 | ug/L | 0.04 | 0.05 | 1 |
| NASJ-159-GH-15-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-15-01 | 1 | Chrysene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-15-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | 0.06 | 0.1 | 1 |
| NASJ-159-GH-15-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-15-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-15-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-15-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-15-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-15-01 | 1 | P-Terphenyl | 3510/8310 | % | | | 1 |
| NASJ-159-GH-15-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | 6 | 40 | 20 |
| NASJ-159-GH-15-01 | 1 | Benzene | 5030/8021 | ug/L | 4 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | Toluene | 5030/8021 | ug/L | 8 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | 8 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | 4 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | 6 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | o-Xylene | 5030/8021 | ug/L | 4 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | 12 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | 8 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | 12 | 20 | 20 |
| NASJ-159-GH-15-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | 20 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-21-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-21-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-21-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-21-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-21-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-21-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-21-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-21-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-21-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-21-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-21-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-21-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-21-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-21-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-21-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-21-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-21-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-21-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-21-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-22-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-22-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-22-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-22-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-22-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-22-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-22-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-22-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-22-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-22-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-22-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-22-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-22-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-22-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-22-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-22-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-22-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-22-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-22-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NASJ-159-GH-24-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | 0.005 | 1 |
| NASJ-159-GH-24-01 | 1 | Naphthalene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-24-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | Acenaphthene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-24-01 | 1 | Fluorene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-24-01 | 1 | Phenanthrene | 3510/8310 | ug/L | 0.04 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | Anthracene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-24-01 | 1 | Fluoranthene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-24-01 | 1 | Pyrene | 3510/8310 | ug/L | 0.04 | 0.05 | 1 |
| NASJ-159-GH-24-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-24-01 | 1 | Chrysene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-24-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | 0.06 | 0.1 | 1 |
| NASJ-159-GH-24-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-24-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-24-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-24-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-24-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-24-01 | 1 | P-Terphenyl | 3510/8310 | % | | | 1 |
| NASJ-159-GH-24-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | 0.3 | 2 | 1 |
| NASJ-159-GH-24-01 | 1 | Benzene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | Toluene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | 0.3 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | o-Xylene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | 0.6 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | 0.6 | 1 | 1 |
| NASJ-159-GH-24-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | 1 |

QSARF # 03943

# ENVIRONMENTAL CONSERVATION LABORATORIES

4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
Ph. (904) 296-3007 • Fax (904) 296-6210

10207 General Drive
Orlando, Florida 32824
Ph. (407) 826-5314 • Fax (407) 850-6945

ENCO CompQAP No.: 960038G/0

## CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: NAS JAX, GAS HILL CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PAGE 1 OF 1

PROJECT LOC. (State): FL
SAMPLER(s) NAME: M. DALE / E. PARKER
PHONE: 904 281-0400
FAX: 904 281 0070

CLIENT NAME: Tetra Tech NUS, Inc.
CLIENT PROJECT MANAGER: MERVIN DALE

CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

MATRIX TYPE / REQUIRED ANALYSIS / PRESERVATIVE / NUMBER OF CONTAINERS SUBMITTED

| STATION | DATE | TIME | GRAB | COMP | SAMPLE IDENTIFICATION | SURFACE WATER | GROUND WATER | WASTEWATER | DRINKING WATER | SOIL/SOLID/SEDIMENT | NONAQUEOUS LIQUID (oil, solvent, etc.) | AIR | SLUDGE | OTHER | 8021B HCl | 8310 None | Pb 6010B HNO3 | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 073099 | 1010 | ✓ | | NASJ-159-GH-24-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | COC #03944 |
| 2 | 073099 | 1024 | ✓ | | NASJ-159-GH-14-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 3 | 073099 | 1148 | ✓ | | NASJ-159-GH-21-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 4 | 073099 | 1220 | ✓ | | NASJ-159-GH-01-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 5 | 073099 | 1505 | ✓ | | NASJ-159-GH-15-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 6 | 073099 | 1543 | ✓ | | NASJ-159-GH-22-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 7 | 073099 | 1712 | ✓ | | NASJ-159-GH-12-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | |
| 8 | ~~073099~~ | | ~~✓~~ | | ~~NASJ-159-GH-06-01~~ | ~~✓~~ | | | | | | | | | ~~2~~ | ~~1~~ | ~~1~~ | | | | | | | Did not collect MWDale |
| 9 | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | |

| SAMPLE KIT PREPARED BY: ☒ JACKSONVILLE ☐ ORLANDO | DATE | TIME | RELINQUISHED BY: (SIGNATURE) Mervin W. Dale | DATE 073099 | TIME 1811 | RECEIVED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) Donna A Potts | DATE 7/30/99 | TIME 1811 | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
| RECEIVED BY (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |

| RECEIVED FOR LABORATORY BY: (SIGNATURE) ☒ Jacksonville ☐ Orlando | DATE | TIME | CUSTODY INTACT | ENCO LOG NO. | REMARKS |
|---|---|---|---|---|---|
| Jackson | 7/31/99 | 930 | ☒ YES ☐ NO | JR 7908 | |

**PROJECT** Ms. Lee Leck
**DELIVERY** Tetra Tech NUS, Inc.
**ADDRESS:** 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR7908
**DATE SUBMITTED** : July 31, 1999
**DATE REPORTED** : August 18, 1999

**INVOICE:** Accounts Payable
**ADDRESS:** 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REFERENCE** : NAS JAX Gas Hill
NO255 (CTO-101)
**P.O. #** : PITT-N7173-P99492(sd)
**Taxpayer ID #** : 59-3497702

**INVOICE**

| DESCRIPTION | PRICE | QTY | AMOUNT |
|---|---|---|---|
| EPA METHOD 5030/8021 (VOCs by GC/PID) | $ 50.00 | X 7 | $ 350.00 |
| EPA METHOD 3510/8310 (PAH by HPLC) | $ 120.00 | X 7 | $ 840.00 |
| EPA METHOD 3010/6010b (Lead) | $ 12.00 | X 7 | $ 84.00 |
| | **TOTAL** | | **$ 1274.00** |

**Please remit payment to :**
Environmental Conservation Laboratories, Inc.
9500 Satellite Blvd., Suite 190
Orlando, FL 32837-8466
**TERMS: NET 30 DAYS**
Past Due Balances are subject to a 1.5% per month service charge.

**Environmental Conservation Laboratories, Inc.**
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

# CASE NARRATIVE

**Date:** August 19, 1999

**Client:** Tetra Tech NUS, Inc.

**Project #:** N0255 / CTO101

**Lab ID:** JR7908

## Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Seven aqueous samples were received on July 31, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

## Quality Control Remarks

In the 8021 analyses, the MS and MSD recoveries for benzene were unavailable due to high sample concentration.

## Other Comments

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

**Environmental Conservation Laboratories, Inc.**
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

**CLIENT** : Tetra Tech NUS, Inc.
**ADDRESS**: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR7920
**DATE SUBMITTED**: August 3, 1999
**DATE REPORTED** : August 23, 1999



**ATTENTION**: Ms. Lee Leck

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: NO255/CTO101

NAS JAX Gas Hill

08/02/99

| | | |
|---|---|---|
| #1 | - NASJ-159-GH-09-01 | @ 09:58 |
| #2 | - NASJ-159-GH-03-01 | @ 10:20 |
| #3 | - NASJ-159-GH-16-01 | @ 12:05 |
| #4 | - NASJ-159-GH-02-01 | @ 12:35 |
| #5 | - NASJ-159-GH-19-01 | @ 15:40 |
| #6 | - NASJ-159-GH-13-01 | @ 15:55 |
| #7 | - NASJ-159-GH-10-01 | @ 17:28 |
| #8 | - NASJ-159-GH-17-01 | @ 17:40 |
| #9 | - NASJ-159-GH-DUP2-01 | |
| #10 | - TRIPBLANK | |

**PROJECT MANAGER** _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-09-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48.5 | µg/L |
| Surrogate Percent Recovery | 97 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-09-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/04/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-09-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 7.8 | µg/L |
| Surrogate Percent Recovery | 78 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-03-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 59 | µg/L |
| Surrogate Percent Recovery | 118 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/09/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-03-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/04/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-03-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | **3.7** | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | **0.44** | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 7.4 | µg/L |
| Surrogate Percent Recovery | 74 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-16-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49.5 | µg/L |
| Surrogate Percent Recovery | 99 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-16-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-16-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 7.7 | µg/L |
| Surrogate Percent Recovery | 77 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-02-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 10 U D1 | µg/L |
| Benzene | **6.0** D1 | µg/L |
| Toluene | **8.0** D1 | µg/L |
| Chlorobenzene | 5.0 U D1 | µg/L |
| Ethylbenzene | **38** D1 | µg/L |
| m-Xylene & p-Xylene | **700** D1 | µg/L |
| o-Xylene | **58** D1 | µg/L |
| 1,3-Dichlorobenzene | 5.0 U D1 | µg/L |
| 1,4-Dichlorobenzene | 5.0 U D1 | µg/L |
| 1,2-Dichlorobenzene | 5.0 U D1 | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 53.5 | µg/L |
| Surrogate Percent Recovery | 107 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/09/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-02-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/04/99 | |

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:5 dilution.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-02-01 | Units |
|---|---|---|
| Naphthalene | **2.0** | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | **3.3** | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | **0.12** I | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | **0.11** I | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 6.7 | µg/L |
| Surrogate Percent Recovery | 67 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-19-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-19-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-19-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 5.2 | µg/L |
| Surrogate Percent Recovery | 52 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-13-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | **1.4** | µg/L |
| m-Xylene & p-Xylene | **10** | µg/L |
| o-Xylene | **4.5** | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49.5 | µg/L |
| Surrogate Percent Recovery | 99 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-13-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-13-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 7.3 | µg/L |
| Surrogate Percent Recovery | 73 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-10-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48.5 | µg/L |
| Surrogate Percent Recovery | 97 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-10-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/04/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-10-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 7.6 | µg/L |
| Surrogate Percent Recovery | 76 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-17-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-17-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/04/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-17-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | **4.0** | µg/L |
| Fluorene | **0.84** | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 7.6 | µg/L |
| Surrogate Percent Recovery | 76 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-DUP2-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | **1.7** | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49.5 | µg/L |
| Surrogate Percent Recovery | 99 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-DUP2-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/04/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-DUP2-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | **3.5** | µg/L |
| Fluorene | **0.74** | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 7.1 | µg/L |
| Surrogate Percent Recovery | 71 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | TRIPBLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49.5 | µg/L |
| Surrogate Percent Recovery | 99 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49 | µg/L |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/06/99 | |

| TOTAL METALS | METHOD | LAB BLANK | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/04/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | LAB BLANK | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 8.1 | µg/L |
| Surrogate Percent Recovery | 81 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/05/99 | |
| Date Analyzed | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7920
DATE REPORTED: August 23, 1999
REFERENCE : NO255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 51.5 | µg/L |
| Surrogate Percent Recovery | 103 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 61 | µg/L |
| Surrogate Percent Recovery | 122 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/09/99 | |

U = Compound was analyzed for but not detected to the level shown.

## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | LCS TARGET µg/L | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|---|
| EPA Method 602/6230D/8020/8021 | | | | | |
| Benzene | */ */ 97 | 20 | 60-138 | <1 | 17 |
| Toluene | #54/ 72/106 | 20 | 57-138 | #28 | 16 |
| Ethylbenzene | */ */105 | 20 | 49-144 | <1 | 17 |
| o-Xylene | */ */105 | 20 | 50-151 | <1 | 17 |
| EPA Method 8310 | | | | | |
| Naphthalene | 63/ 55/ 70 | 10 | 22-130 | 14 | 20 |
| Acenaphthene | 67/ 78/121 | 10 | 14-163 | 15 | 19 |
| Benzo(a)pyrene | 84/ 88/ 96 | 1 | 33-137 | 5 | 36 |
| Benzo(g,h,i)perylene | 78/ 80/ 90 | 2 | 36-135 | 2 | 34 |
| Total Metals | | | | | |
| Lead, 3010/6010 | 105/107/105 | 1 | 68-126 | 2 | 19 |

NOTE: Pb LCS target units are mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

* = MS/MSD/RPD unavailable due to high original sample concentration.
\# = One or more of the associated value failed to meet laboratory established criteria for accuracy/precision.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

QSARF # 0394
BR006

# ENVIRONMENTAL CONSERVATION LABORATORIES

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10207 General Drive
Orlando, Florida 32824
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ENCO CompQAP No.: 960038G/0

## CHAIN OF CUSTODY RECORD

PROJECT REFERENCE: GAB HILL NASJAX CTO 101
PROJECT NO.: N0255
P.O. NUMBER:
PROJECT LOC. (State): FL
SAMPLER(s) NAME: M. DALE / E. PARKER
PHONE: 904 281 0400
FAX: 904 281 0070
CLIENT NAME: TetraTech NUS, Inc.
CLIENT PROJECT MANAGER: MERVIN DALE
CLIENT ADDRESS (CITY, STATE, ZIP): JACKSONVILLE, FL 32256

PAGE 1 OF 1

☒ STANDARD REPORT DELIVERY
☐ EXPEDITED REPORT DELIVERY (surcharge)
Date Due:

| STATION | DATE | TIME | GRAB | COMP | SAMPLE IDENTIFICATION | SURFACE WATER | GROUND WATER | WASTEWATER | DRINKING WATER | SOIL/SOLID/SEDIMENT | NONAQUEOUS LIQUID (oil, solvents, etc.) | AIR | SLUDGE | OTHER | AC | None | HNO3 | | | | | | | | REMARKS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | | | | 8021B | 8310 | Pb 6010B | | | | | | | | |
| | | | | | | | | | | | | | | | PRESERVATIVE | | | | | | | | | | |
| | | | | | | | | | | | | | | | NUMBER OF CONTAINERS SUBMITTED | | | | | | | | | | |
| 1 | 080299 | 0958 | ✓ | | NASJ-159-GH-09-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 2 | 080299 | 1020 | ✓ | | NASJ-159-GH-03-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | COC# 03946 |
| 3 | 080299 | 1205 | ✓ | | NASJ-159-GH-16-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 4 | 080299 | 1235 | ✓ | | NASJ-159-GH-02-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 5 | 080299 | 1540 | ✓ | | NASJ-159-GH-19-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 6 | 080299 | 1555 | ✓ | | NASJ-159-GH-13-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 7 | 080299 | 1728 | ✓ | | NASJ-159-GH-10-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 8 | 080299 | 1740 | ✓ | | NASJ-159-GH-17-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 9 | 080299 | 00000 | ✓ | | NASJ-159-GH-DUP2-01 | ✓ | | | | | | | | | 2 | 1 | 1 | | | | | | | | |
| 10 | 072899 | — | ✓ | | TRIP BLANK | | | | | | | | | ✓ | 2 | | | | | | | | | | |
| 11 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | | | | | | | | | | | | | | | | | | | | | | | | | |

| SAMPLE KIT PREPARED BY: ☐JACKSONVILLE ☐ORLANDO | DATE | TIME | RELINQUISHED BY: (SIGNATURE) Mervin W. Dale | DATE 8/3/99 | TIME 0735 | RECEIVED BY: (SIGNATURE) | DATE | TIME |
|---|---|---|---|---|---|---|---|---|
| RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME |
| RECEIVED BY (SIGNATURE) | DATE | TIME | RELINQUISHED BY: (SIGNATURE) | DATE | TIME | RECEIVED BY: (SIGNATURE) | DATE | TIME |

| RECEIVED FOR LABORATORY BY: (SIGNATURE) | DATE | TIME | CUSTODY INTACT | ENCO LOG NO. | REMARKS |
|---|---|---|---|---|---|
| Tom Carlson ☒ Jacksonville ☐ Orlando | 8/3/99 | 7:35 | ☐ YES ☐ NO | R7920 | |

**Environmental Conservation Laboratories, Inc.**
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ENCO Laboratories

DHRS Certification No. E82277

# CASE NARRATIVE

**Date:** August 24, 1999

**Client:** Tetra Tech NUS, Inc.

**Project #:** N0255 / CTO101

**Lab ID:** JR7920

## Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Nine aqueous samples and one trip blank were received on August 3, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

## Quality Control Remarks

In the 8021 analyses, one component exhibited RPD's and recoveries outside of established limits : toluene. Additionally, matrix spike and spike duplicate (MS/MSD) recoveries were unavailable due to the high concentrations present in the sample used as the original. Recoveries for both the toluene matrix spike and spike duplicate trended low due to a matrix-related effect, and the data was released without qualification. Laboratory control standard recoveries were within control limits for all spiked constituents.

**Other Comments**

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

| sample_no | run_number | parameter | method | units | idl | mdl | crdl_crql | dil_factor | pct_moist |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-02-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-02-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-02-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-02-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-02-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-02-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-02-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-02-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-02-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-02-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-02-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-02-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-02-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-02-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-02-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-02-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-02-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-02-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-02-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-02-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-02-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 1.5 | 10 | 5 | |
| NASJ-159-GH-02-01 | 1 | Benzene | 5030/8021 | ug/L | | 1 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | Toluene | 5030/8021 | ug/L | | 2 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 2 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 1 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 1.5 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 1 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 3 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 2 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 3 | 5 | 5 | |
| NASJ-159-GH-02-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 5 | |
| NASJ-159-GH-03-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-03-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-03-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-03-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-03-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-03-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-03-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-03-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-03-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-03-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-03-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-03-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 | |
| NASJ-159-GH-03-01 | 1 | Benzene | 5030/8021 | ug/l | | 0.2 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-03-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-09-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-09-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-09-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-09-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-09-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-09-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-09-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-09-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-09-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-09-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-09-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-09-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-09-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-09-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-09-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-09-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-09-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-09-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-09-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| | | | | | | | | |
| NASJ-159-GH-10-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-10-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-10-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-10-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-10-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-10-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-10-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-10-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-10-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-10-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-10-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-10-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-10-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-10-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-10-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-10-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-10-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-10-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-10-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-13-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-13-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-13-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-13-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-13-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-13-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-13-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-13-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-13-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-13-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-13-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-13-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-13-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-13-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-13-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-13-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-13-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-13-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-13-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| | | | | | | | | |
| NASJ-159-GH-16-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-16-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-16-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-16-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-16-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-16-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-16-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-16-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-16-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-16-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-16-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-16-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-16-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-16-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-16-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-16-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-16-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-16-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-16-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-17-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-17-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-17-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-17-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-17-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-17-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-17-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-17-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-17-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-17-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-17-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-17-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-17-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-17-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-17-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-17-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-17-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-17-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-17-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-19-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-19-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-19-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-19-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-19-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-19-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-19-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-19-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-19-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-19-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-19-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-19-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-19-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-19-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-19-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-19-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-19-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-19-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-19-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-DUP2-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DUP2-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| | | | | | | | | |
| TRIPBLANK | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| TRIPBLANK | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLANK | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLANK | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLANK | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLANK | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| TRIPBLANK | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLANK | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIPBLANK | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLANK | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIPBLANK | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

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ENCO Laboratories

DHRS Certification No. E82277

**CLIENT** : Tetra Tech NUS, Inc.
**ADDRESS**: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR7944
**DATE SUBMITTED**: August 3, 1999
**DATE REPORTED** : August 23, 1999



**ATTENTION**: Ms. Lee Leck

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: N0255/CTO101

NAS JAX Gas Hill

| | | | |
|---|---|---|---|
| #1 | - NASJ-159-GH-07-01 | @ 10:35 | (08/03/99) |
| #2 | - NASJ-159-GH-05-01 | @ 10:47 | (08/03/99) |
| #3 | - NASJ-159-GH-04-01 | @ 13:40 | (08/03/99) |
| #4 | - NASJ-159-GH-06-01 | @ 14:55 | (08/03/99) |
| #5 | - NASJ-159-GH-20-01 | @ 16:03 | (08/03/99) |
| #6 | - NASJ-159-GH-08-01 | @ 16:05 | (08/03/99) |
| #7 | - NASJ-159-GH-DUP3-01 | | (08/03/99) |
| #8 | - TRIPBLANK | | (07/28/99) |

**PROJECT MANAGER** _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-07-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50.5 | µg/L |
| Surrogate Percent Recovery | 101 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-07-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-07-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.4 | µg/L |
| Surrogate Percent Recovery | 94 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-05-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-05-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | **0.0060** I | mg/L |
| Date Analyzed | | 08/10/99 | |

I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).
U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-05-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 5.3 | µg/L |
| Surrogate Percent Recovery | 53 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-04-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48 | µg/L |
| Surrogate Percent Recovery | 96 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-04-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-04-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.6 | µg/L |
| Surrogate Percent Recovery | 86 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-06-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 48.5 | µg/L |
| Surrogate Percent Recovery | 97 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-06-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-06-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.9 | µg/L |
| Surrogate Percent Recovery | 89 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-20-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49.5 | µg/L |
| Surrogate Percent Recovery | 99 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-20-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-20-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.5 | µg/L |
| Surrogate Percent Recovery | 75 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-08-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49 | µg/L |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-08-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-08-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | **0.050** I | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | **0.10** I | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | **0.050** I | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 9.4 | µg/L |
| Surrogate Percent Recovery | 94 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-DUP3-01 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50.5 | µg/L |
| Surrogate Percent Recovery | 101 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-DUP3-01 | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-DUP3-01 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.6 | µg/L |
| Surrogate Percent Recovery | 76 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | TRIPBLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 52 | µg/L |
| Surrogate Percent Recovery | 104 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49 | µg/L |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

| TOTAL METALS | METHOD | LAB BLANK | Units |
|---|---|---|---|
| Lead | 3010/6010 | 0.0050 U | mg/L |
| Date Analyzed | | 08/10/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | LAB BLANK | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.050 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 9.3 | µg/L |
| Surrogate Percent Recovery | 93 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 08/10/99 | |
| Date Analyzed | 08/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR7944
DATE REPORTED: August 23, 1999
REFERENCE : N0255/CTO101
PROJECT NAME : NAS JAX Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 49 | µg/L |
| Surrogate Percent Recovery | 98 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 08/07/99 | |

U = Compound was analyzed for but not detected to the level shown.

## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | LCS Target µg/L | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|---|
| EPA Method 5030/8021 (NASJ-159-GH-07-01) | | | | | |
| Benzene | 97/ 99/ 82 | 20 | 60-138 | 2 | 17 |
| Toluene | 95/ 96/ 81 | 20 | 57-138 | 1 | 16 |
| Ethylbenzene | 101/ 99/103 | 20 | 49-144 | 2 | 17 |
| o-Xylene | 96/ 98/ 83 | 20 | 50-151 | 2 | 17 |
| EPA Method 5030/8021 (NASJ-159-GH-05-01,NASJ-159-GH-04-01,NASJ-159-GH-06-01,NASJ-159-GH-20-01,NASJ-159-GH-08-01,NASJ-159-GH-DUP3-01,TRIPBLANK) | | | | | |
| Benzene | 96/ 92/ 91 | 20 | 60-138 | 4 | 17 |
| Toluene | 95/ 92/ 92 | 20 | 57-138 | 3 | 16 |
| Ethylbenzene | 100/ 95/ 92 | 20 | 49-144 | 5 | 17 |
| o-Xylene | 94/ 92/ 90 | 20 | 50-151 | 2 | 17 |
| EPA Method 3510/8310 | | | | | |
| Naphthalene | 82/ 58/ 76 | 10 | 22-130 | #34 | 20 |
| Acenaphthene | 82/ 64/ 74 | 10 | 14-163 | #25 | 19 |
| Benzo(a)pyrene | 78/ 62/ 90 | 1 | 33-137 | 23 | 36 |
| Benzo(g,h,i)perylene | 72/ 56/ 92 | 2 | 36-135 | 25 | 34 |
| Total Metals | | | | | |
| Lead, 3010/6010 | 99/ 99/103 | 1 | 68-126 | <1 | 19 |

NOTE: LCS target units for Lead is mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

# = The associated value failed to meet laboratory established criteria for precision.
< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

This report shall not be reproduced except in full, without the written approval of the laboratory. Results for these procedures apply only to the samples as submitted.

**Brown & Root Environmental**

REPORT TO ADDRESS: 7018 A.C. SKINNER PKWY. STE 250, JAX, FL 32256

TELEPHONE: 904 281 0400 FAX: 904 281 0070

SITE MANAGER: MERVIN DALE

PROJECT NAME: GAS HILL, NASJAX

BRE PROJECT NO.: N0255 CODE: CTO 101

P.O. NO.:

SHIPPED TO: ENCO, JACKSONVILLE, FL (LABORATORY NAME, CITY)

PAGE 1 OF 1

## CHAIN OF CUSTODY RECORD

SAMPLED BY (PRINT): M.W. DALE

SAMPLER SIGNATURE: Mervin W. Dale

## LABORATORY ANALYSIS

☒ STANDARD TAT ☐ RUSH

☐ 24 HR. ☐ 48 HR. ☐ 72 HR. ☐ 7 DAYS

RESULTS DUE DATE:

| LAB NO. | DATE | TIME | SAMPLE IDENTIFICATION | SAMPLE TYPE COMP. | SAMPLE TYPE GRAB | MATRIX | PARAMETERS 8021B | 8310 | Pb, 6010B | | | | | | | NUMBER OF CONTAINERS | COMMENTS: |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | PRES. TYPE | HCl | None | HNO3 | | | | | | | |
| | 080399 | 1035 | NASJ-159-GH-07-01 | | ✓ | GW | 2 | 1 | 1 | | | | | | | 4 | |
| | 080399 | 1047 | NASJ-159-GH-05-01 | | ✓ | GW | 2 | 1 | 1 | | | | | | | 4 | |
| | 080399 | 1340 | NASJ-159-GH-04-01 | | ✓ | GW | 2 | 1 | 1 | | | | | | | 4 | |
| | 080399 | 1455 | NASJ-159-GH-06-01 | | ✓ | GW | 2 | 1 | 1 | | | | | | | 4 | |
| | 080399 | 1603 | NASJ-159-GH-20-01 | | ✓ | GW | 2 | 1 | 1 | | | | | | | 4 | |
| | 080399 | 1605 | NASJ-159-GH-08-01 | | ✓ | GW | 2 | 1 | 1 | | | | | | | 4 | |
| | 080399 | 0000 | NASJ-159-GH-DUP3-01 | | ✓ | GW | 2 | 1 | 1 | | | | | | | 4 | |
| | 072899 | — | TRIP BLANK | | ✓ | OT | 2 | | | | | | | | | 2 | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| | | | TOTAL NUMBER OF CONTAINERS | | | | 16 | 7 | 7 | | | | | | | 38 | |

| | | | | | |
|---|---|---|---|---|---|
| EMPTY BOTTLES RELINQUISHED BY (SIGNATURE) ① | SEAL INTACT? YES NO N/A | DATE: TIME: | EMPTY BOTTLES RECEIVED BY (SIGNATURE) ② Mervin W. Dale | SEAL INTACT? (YES) NO N/A | DATE: 080299 TIME: 257 |
| RELINQUISHED BY (SIGNATURE) ③ Mervin W. Dale | SEAL INTACT? YES NO (N/A) | DATE: 080399 TIME: 1710 | RECEIVED BY (SIGNATURE) ④ [illegible] | SEAL INTACT? YES NO N/A | DATE: 08/03/99 TIME: 1710 |
| RELINQUISHED BY (SIGNATURE) ⑤ | SEAL INTACT? YES NO N/A | DATE: TIME: | RECEIVED BY (SIGNATURE) ⑥ | SEAL INTACT? YES NO N/A | DATE: TIME: |

SPECIAL INSTRUCTIONS:

LABORATORY REMARKS: JR 7944 Bagle

SAMPLE CONTAINERS PRECLEANED BY: ☐ BRE ☐ LABORATORY ☐ MANUFACTURER

METHOD OF SHIPMENT:

BILL OF LADING NO.:

WHITE-FULLY EXECUTED COPY
YELLOW-RECEIVING LABORATORY COPY
PINK-SAMPLERS' COPY/QA COPY
GOLDENROD-SITE MANAGERS' COPY

SAMPLING TEAM: MERVIN DALE, ERIC PARKER

RECEIVED FOR LABORATORY BY (SIGNATURE):

DATE: TIME:

No. 3409

NO. 39150 (3/97)

**Environmental Conservation Laboratories, Inc.**
4810 Executive Park Court, Suite 211
Jacksonville, Florida 32216-6069
904 / 296-3007
Fax 904 / 296-6210
www.encolabs.com

ENCO Laboratories

DHRS Certification No. E82277

# CASE NARRATIVE

**Date:** August 24, 1999

**Client:** Tetra Tech NUS, Inc.

**Project #:** N0255 / CTO101

**Lab ID:** JR7944

## Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling by Environmental Conservation Laboratories, Inc. will be discussed in the QC Remarks section below.

Seven aqueous samples and one trip blank were received on August 3, 1999 in good condition on wet ice. No discrepancies were noted between the Chain of Custody and the containers. Samples were analyzed for the parameters as listed on the Chain of Custody.

All samples were extracted and analyzed within method-specified holding times.

## Quality Control Remarks

In the 8310 analyses, two components exhibited RPD's outside of established limits : naphthalene and acenaphthene. Recoveries for both the matrix spike and matrix spike duplicate were within control limits, and the data was released without qualification.

## Other Comments

Quality assurance acceptance limits for surrogates, matrix spikes, matrix spike duplicates and laboratory control limits are established in-house based on historical data.

The analytical data presented in this report are consistent with the methods as referenced in the analytical report. Any exceptions or deviations are noted in the QC remarks section of this narrative. Should there be any questions regarding this package, please feel free to contact the undersigned for additional information.

Released By:

Environmental Conservation Laboratories, Inc.

Richard E. Camp, II
Laboratory Manager

| sample_no | run_number | parameter | method | units | idl | mdl | crdl_crql | dil_factor | pct_moist |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-04-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-04-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-04-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-04-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-04-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-04-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-04-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-04-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-04-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-04-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-04-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-04-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 | |
| NASJ-159-GH-04-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-04-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 | |
| NASJ-159-GH-05-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-05-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-05-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-05-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-05-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-05-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-05-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-05-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-05-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-05-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-05-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-05-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 | |
| NASJ-159-GH-05-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-05-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-06-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-06-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-06-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-06-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-06-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-06-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-06-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-06-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-06-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-06-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-06-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-06-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-06-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-06-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-06-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-06-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-06-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-06-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-06-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-07-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-07-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-07-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-07-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-07-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-07-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-07-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-07-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-07-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-07-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-07-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-07-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-07-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-07-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-07-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-07-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-07-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-07-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-07-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-08-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-08-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-08-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-08-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-08-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-08-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-08-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-08-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-08-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-08-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-08-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-08-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-08-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-08-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-08-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-08-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-08-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-08-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-08-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-20-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-20-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-20-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-20-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-20-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-20-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-20-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-20-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-20-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-20-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-20-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-20-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-20-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-20-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-20-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-20-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-20-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-20-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-20-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-DUP3-01 | 1 | Lead | 3010/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DUP3-01 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| TRIPBLANK | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| TRIPBLANK | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLANK | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLANK | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLANK | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLANK | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| TRIPBLANK | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIPBLANK | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIPBLANK | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIPBLANK | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIPBLANK | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

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ENCO Laboratories

DHRS Certification No. E82277

**CLIENT** : Tetra Tech NUS, Inc.
**ADDRESS**: 661 Anderson Dr.
Foster Plaza 7
Pittsburg, PA 15220-2745

**REPORT #** : JR8408
**DATE SUBMITTED**: September 3, 1999
**DATE REPORTED** : September 28, 1999



**ATTENTION**: Ms. Lee Leck

**SAMPLE IDENTIFICATION**

Samples submitted and
identified by client as:

PROJECT #: N0255.FBO.050230

Gas Hill

| | | | |
|---|---|---|---|
| #1 | - NASJ-159-GH-35-02 | @ 14:35 | (09/02/99) |
| #2 | - NASJ-159-GH-36-02 | @ 14:42 | (09/02/99) |
| #3 | - NASJ-159-GH-37-02 | @ 15:29 | (09/02/99) |
| #4 | - NASJ-159-GH-33-02 | @ 16:22 | (09/02/99) |
| #5 | - NASJ-159-GH-34-02 | @ 17:16 | (09/02/99) |
| #6 | - NASJ-159-GH-32-02 | @ 17:55 | (09/02/99) |
| #7 | - NASJ-159-GH-38-02 | @ 10:30 | (09/03/99) |
| #8 | - NASJ-159-GH-39-02 | @ 10:36 | (09/03/99) |
| #9 | - NASJ-159-GH-MSMS01-2 | @ 10:30 | (09/03/99) |
| #10 | - NASJ-159-GH-DU01-02 | | (09/02/99) |
| #11 | - TRIP BLANK | | (08/31/99) |

**PROJECT MANAGER** _____
Scott D. Martin

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-35-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | **4.0** | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 59 | µg/L |
| Surrogate Percent Recovery | 118 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-35-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | **0.0050** I | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

**ENCO LABORATORIES**
**REPORT #** : JR8408
**DATE REPORTED**: September 28, 1999
**REFERENCE** : N0255.FBO.050230
**PROJECT NAME** : Gas Hill



## RESULTS OF ANALYSIS

| **EPA METHOD 3510/8310 - PAH BY HPLC** | **NASJ-159-GH-35-02** | | | **Units** |
|---|---|---|---|---|
| Naphthalene | 5.0 | U | D1 | µg/L |
| Acenaphthylene | 10 | U | D1 | µg/L |
| 1-Methylnaphthalene | **99** | | D1 | µg/L |
| 2-Methylnaphthalene | **62** | | D1 | µg/L |
| Acenaphthene | **12** | | D1 | µg/L |
| Fluorene | **5.6** | | D1 | µg/L |
| Phenanthrene | 10 | U | D1 | µg/L |
| Anthracene | **1.9** | | D1 | µg/L |
| Fluoranthene | **3.9** | | D1 | µg/L |
| Pyrene | 1.0 | U | D1 | µg/L |
| Benzo(a)anthracene | 0.50 | U | D1 | µg/L |
| Chrysene | 0.50 | U | D1 | µg/L |
| Benzo(b)fluoranthene | 1.0 | U | D1 | µg/L |
| Benzo(k)fluoranthene | 0.50 | U | D1 | µg/L |
| Benzo(a)pyrene | 0.50 | U | D1 | µg/L |
| Dibenzo(a,h)anthracene | 1.0 | U | D1 | µg/L |
| Benzo(g,h,i)perylene | 1.0 | U | D1 | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.50 | U | D1 | µg/L |
| **Surrogate (p-terphenyl)** | | | | |
| Surrogate Expected Value | 10.0 | | | µg/L |
| Surrogate Reported Value | 7.2 | | | µg/L |
| Surrogate Percent Recovery | 72 | | | % |
| Surrogate Control Limit | 39-148 | | | % |
| Date Extracted | 09/09/99 | | | |
| Date Analyzed | 09/11/99 | | | |

U = Compound was analyzed for but not detected to the level shown.
D1 = Analyte value determined from a 1:10 dilution.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-36-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | **2.0** | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50.5 | µg/L |
| Surrogate Percent Recovery | 101 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-36-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | **0.0060** I | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-36-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.4 | µg/L |
| Surrogate Percent Recovery | 84 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-37-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50.5 | µg/L |
| Surrogate Percent Recovery | 101 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-37-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-37-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 1.0 U | µg/L |
| Fluorene | 0.10 U | µg/L |
| Phenanthrene | 0.10 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.050 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.8 | µg/L |
| Surrogate Reported Value | 8.8 | µg/L |
| Surrogate Percent Recovery | 88 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-33-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 52 | µg/L |
| Surrogate Percent Recovery | 104 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-33-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | **0.0060** I | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-33-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.6 | µg/L |
| Surrogate Percent Recovery | 86 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-34-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 51.5 | µg/L |
| Surrogate Percent Recovery | 103 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-34-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-34-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10 | µg/L |
| Surrogate Reported Value | 3.8 | µg/L |
| Surrogate Percent Recovery | 38* | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

* = Surrogate recovery outside of laboratory established limits.
U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-32-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | **1.2** I | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50.5 | µg/L |
| Surrogate Percent Recovery | 101 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-32-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-32-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | **2.4** | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 3.8 | µg/L |
| Surrogate Percent Recovery | 38* | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

* = Surrogate recovery outside of laboratory established limits.
U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-38-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | **1.1** I | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 52.5 | µg/L |
| Surrogate Percent Recovery | 105 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/08/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-38-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-38-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | **0.10** I | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.0 | µg/L |
| Surrogate Percent Recovery | 70 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
**REPORT #** : JR8408
**DATE REPORTED**: September 28, 1999
**REFERENCE** : N0255.FBO.050230
**PROJECT NAME** : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-39-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | **3.5** | µg/L |
| Benzene | **3.2** | µg/L |
| Toluene | **1.8** | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 67 | µg/L |
| Surrogate Percent Recovery | 134* | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-39-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 09/08/99 | |

* = Surrogate recovery outside of laboratory established limits.
U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-39-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.4 | µg/L |
| Surrogate Percent Recovery | 84 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-MSMS01-2 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | **1.4** I | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50.5 | µg/L |
| Surrogate Percent Recovery | 101 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-MSMS01-2 | Units |
|---|---|---|---|
| Lead | 3010/6010b | **0.0050** I | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-MSMS01-2 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 7.6 | µg/L |
| Surrogate Percent Recovery | 76 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | NASJ-159-GH-DU01-02 | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | **1.6** I | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | NASJ-159-GH-DU01-02 | Units |
|---|---|---|---|
| Lead | 3010/6010b | **0.0050** I | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.
I = Analyte detected; value is between the Method Detection Level (MDL) and the Practical Quantitation Level (PQL).

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | NASJ-159-GH-DU01-02 | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 4.4 | µg/L |
| Surrogate Percent Recovery | 44 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | TRIP BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 51 | µg/L |
| Surrogate Percent Recovery | 102 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

U = Compound was analyzed for but not detected to the level shown.

ENCO LABORATORIES
REPORT # : JR8408
DATE REPORTED: September 28, 1999
REFERENCE : N0255.FBO.050230
PROJECT NAME : Gas Hill



## RESULTS OF ANALYSIS

| EPA METHOD 5030/8021 - VOLATILE ORGANICS | LAB BLANK | Units |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/07/99 | |

| TOTAL METALS | METHOD | LAB BLANK | Units |
|---|---|---|---|
| Lead | 3010/6010b | 0.0050 U | mg/L |
| Date Analyzed | | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.

## RESULTS OF ANALYSIS

| EPA METHOD 3510/8310 - PAH BY HPLC | LAB BLANK | Units |
|---|---|---|
| Naphthalene | 0.50 U | µg/L |
| Acenaphthylene | 1.0 U | µg/L |
| 1-Methylnaphthalene | 1.0 U | µg/L |
| 2-Methylnaphthalene | 1.0 U | µg/L |
| Acenaphthene | 0.50 U | µg/L |
| Fluorene | 1.0 U | µg/L |
| Phenanthrene | 1.0 U | µg/L |
| Anthracene | 0.10 U | µg/L |
| Fluoranthene | 0.10 U | µg/L |
| Pyrene | 0.10 U | µg/L |
| Benzo(a)anthracene | 0.050 U | µg/L |
| Chrysene | 0.050 U | µg/L |
| Benzo(b)fluoranthene | 0.10 U | µg/L |
| Benzo(k)fluoranthene | 0.050 U | µg/L |
| Benzo(a)pyrene | 0.050 U | µg/L |
| Dibenzo(a,h)anthracene | 0.10 U | µg/L |
| Benzo(g,h,i)perylene | 0.10 U | µg/L |
| Indeno(1,2,3-cd)pyrene | 0.050 U | µg/L |
| **Surrogate (p-terphenyl)** | | |
| Surrogate Expected Value | 10.0 | µg/L |
| Surrogate Reported Value | 8.6 | µg/L |
| Surrogate Percent Recovery | 86 | % |
| Surrogate Control Limit | 39-148 | % |
| Date Extracted | 09/09/99 | |
| Date Analyzed | 09/11/99 | |

U = Compound was analyzed for but not detected to the level shown.

**ENCO LABORATORIES**
**REPORT #** : JR8408
**DATE REPORTED**: September 28, 1999
**REFERENCE** : N0255.FBO.050230
**PROJECT NAME** : Gas Hill



## RESULTS OF ANALYSIS

| **EPA METHOD 5030/8021 - VOLATILE ORGANICS** | **LAB BLANK** | **Units** |
|---|---|---|
| Methyl tert-butyl ether | 2.0 U | µg/L |
| Benzene | 1.0 U | µg/L |
| Toluene | 1.0 U | µg/L |
| Chlorobenzene | 1.0 U | µg/L |
| Ethylbenzene | 1.0 U | µg/L |
| m-Xylene & p-Xylene | 1.0 U | µg/L |
| o-Xylene | 1.0 U | µg/L |
| 1,3-Dichlorobenzene | 1.0 U | µg/L |
| 1,4-Dichlorobenzene | 1.0 U | µg/L |
| 1,2-Dichlorobenzene | 1.0 U | µg/L |
| **Surrogate (Bromofluorobenzene)** | | |
| Surrogate Expected Value | 50 | µg/L |
| Surrogate Reported Value | 50 | µg/L |
| Surrogate Percent Recovery | 100 | % |
| Surrogate Control Limits | 65-129 | % |
| Date Analyzed | 09/08/99 | |

U = Compound was analyzed for but not detected to the level shown.

## QUALITY CONTROL DATA

| Parameter | % RECOVERY MS/MSD/LCS | LCS TARGET µg/L | ACCEPT LIMITS | % RPD MS/MSD | ACCEPT LIMITS |
|---|---|---|---|---|---|
| EPA Method 5030/8021 | | | | | |
| Benzene | 100/101/102 | 20 | 60-138 | <1 | 17 |
| Toluene | 125/124/110 | 20 | 57-138 | <1 | 16 |
| Ethylbenzene | 109/105/104 | 20 | 49-144 | 4 | 17 |
| o-Xylene | 102/102/104 | 20 | 50-151 | <1 | 17 |
| EPA Method 3510/8310 | | | | | |
| Naphthalene | 93/ 88/ 84 | 10 | 22-130 | 6 | 20 |
| Acenaphthene | 92/ 86/ 83 | 10 | 14-163 | 7 | 19 |
| Benzo(a)pyrene | 97/ 97/ 94 | 1 | 33-137 | <1 | 36 |
| Benzo(g,h,i)perylene | 66/ 64/ 50 | 2 | 36-135 | 3 | 34 |
| Total Metals | | | | | |
| Lead, 3010/6010b | 101/100/102 | 1 | 68-126 | <1 | 19 |

NOTE: Pb LCS target units are mg/L

Environmental Conservation Laboratories Comprehensive QA Plan #960038

< = Less Than
MS = Matrix Spike
MSD = Matrix Spike Duplicate
LCS = Laboratory Control Standard
RPD = Relative Percent Difference

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JK8408

TETRA TECH NUS, INC. CHAIN OF CUSTODY | NUMBER 159-2 | PAGE 1 OF 1

| | | | |
|---|---|---|---|
| PROJECT NO: N0255. FB0.050230 | SITE NAME: GAS HILL | PROJECT MANAGER AND PHONE NUMBER: Greg Roof 904 743-1-281-0400 | LABORATORY NAME AND CONTACT: ENCO |
| SAMPLERS (SIGNATURE): Mervin W. Dale, Eric Pale | | FIELD OPERATIONS LEADER AND PHONE NUMBER: Mervin Dale 904 281-0400 | ADDRESS: 4810 Executive Park Ct., Ste 211 |
| | | CARRIER/WAYBILL NUMBER: None | CITY, STATE: Jacksonville, FL 32824 |

STANDARD TAT ☐
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ ~~72 hr.~~ ☐ 7 day ☐ 14 day
21 DAYS

CONTAINER TYPE PLASTIC (P) or GLASS (G): G G P
PRESERVATIVE USED: HCl None $HNO_3$

| DATE YEAR 1999 | TIME | SAMPLE ID | MATRIX | GRAB (G) COMP (C) | No. OF CONTAINERS | VOA's (BTEX + MTBE) 8021B | PAH's 8310 | Pb 6010B (trace) | COMMENTS |
|---|---|---|---|---|---|---|---|---|---|
| 09/02 | 1435 | NASJ-159-GH-35-02 | GW | G | 4 | 2 | 1 | 1 | ① Cool to 4°C |
| | 1442 | NASJ-159-GH-36-02 | GW | G | 4 | 2 | 1 | 1 | ② Custody seal on 2 coolers |
| | 1529 | NASJ-159-GH-37-02 | GW | G | 4 | 2 | 1 | 1 | |
| | 1622 | NASJ-159-GH-33-02 | GW | G | 4 | 2 | 1 | 1 | ③ Trip Blank supplied by Labs |
| | 1716 | NASJ-159-GH-34-02 | GW | G | 4 | 2 | 1 | 1 | |
| | 1755 | NASJ-159-GH-32-02 | GW | G | 4 | 2 | 1 | 1 | |
| 09/03 | 1030 | NASJ-159-GH-38-02 | GW | G | 4 | 2 | 1 | 1 | ④ ALL VOA VIALS in one cooler. |
| 09/03 | 1036 | NASJ-159-GH-39-02 | GW | G | 4 | 2 | 1 | 1 | |
| 09/03 | 1030 | NASJ-159-GH-MSMSD1-02 | GW | G | 4 | 2 | 1 | 1 | |
| 09/02 | 0900 | NASJ-159-GH-DUP1-02 | GW | G | 4 | 2 | 1 | 1 | |
| 08/31 | — | TRIP BLANK | W | G | 4 | ✓ | | | |

| | | | | | |
|---|---|---|---|---|---|
| 1. RELINQUISHED BY: Mervin W. Dale | DATE 09/03/99 | TIME 1321 | 1. RECEIVED BY: [illegible] | DATE 9/3/99 | TIME 13:21 |
| 2. RELINQUISHED BY | DATE | TIME | 2. RECEIVED BY | DATE | TIME |
| 3. RELINQUISHED BY | DATE | TIME | 3. RECEIVED BY | DATE | TIME |

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

3/99
FCRM NO. TtNUS-001

| sample_no | run_number | parameter | method | units | idl | mdl | crdl_crql | dil_factor | pct_moist |
|---|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-32-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-32-02 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-32-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-32-02 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-32-02 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-32-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-32-02 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-32-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-32-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-32-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-32-02 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-32-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 | |
| NASJ-159-GH-32-02 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-32-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 | |
| NASJ-159-GH-33-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 | |
| NASJ-159-GH-33-02 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-33-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 | |
| NASJ-159-GH-33-02 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-33-02 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 | |
| NASJ-159-GH-33-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-33-02 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-33-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-33-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 | |
| NASJ-159-GH-33-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 | |
| NASJ-159-GH-33-02 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 | |
| NASJ-159-GH-33-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 | |
| NASJ-159-GH-33-02 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 | |
| NASJ-159-GH-33-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-34-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-34-02 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-34-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-34-02 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-34-02 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-34-02 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-34-02 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-34-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-34-02 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-34-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-34-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-34-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-34-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-34-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-34-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-34-02 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-34-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-34-02 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-34-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-35-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-35-02 | 1 | Naphthalene | 3510/8310 | ug/L | | 2 | 5 | 10 |
| NASJ-159-GH-35-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 1 | 10 | 10 |
| NASJ-159-GH-35-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 1 | 10 | 10 |
| NASJ-159-GH-35-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 2 | 10 | 10 |
| NASJ-159-GH-35-02 | 1 | Acenaphthene | 3510/8310 | ug/L | | 2 | 5 | 10 |
| NASJ-159-GH-35-02 | 1 | Fluorene | 3510/8310 | ug/L | | 0.4 | 1 | 10 |
| NASJ-159-GH-35-02 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.4 | 10 | 10 |
| NASJ-159-GH-35-02 | 1 | Anthracene | 3510/8310 | ug/L | | 0.3 | 0.5 | 10 |
| NASJ-159-GH-35-02 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.4 | 1 | 10 |
| NASJ-159-GH-35-02 | 1 | Pyrene | 3510/8310 | ug/L | | 0.4 | 0.5 | 10 |
| NASJ-159-GH-35-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.2 | 0.5 | 10 |
| NASJ-159-GH-35-02 | 1 | Chrysene | 3510/8310 | ug/L | | 0.2 | 0.5 | 10 |
| NASJ-159-GH-35-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.6 | 1 | 10 |
| NASJ-159-GH-35-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.3 | 0.5 | 10 |
| NASJ-159-GH-35-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.3 | 0.5 | 10 |
| NASJ-159-GH-35-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.7 | 1 | 10 |
| NASJ-159-GH-35-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.7 | 1 | 10 |
| NASJ-159-GH-35-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.2 | 0.5 | 10 |
| NASJ-159-GH-35-02 | 1 | P-Terphenyl | 3510/8310 | % | | | | 10 |
| NASJ-159-GH-35-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-35-02 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-35-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-36-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-36-02 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-36-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-36-02 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-36-02 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-36-02 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-36-02 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-36-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-36-02 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-36-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-36-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-36-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-36-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-36-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-36-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-36-02 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-36-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-36-02 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-36-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-37-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-37-02 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-37-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-37-02 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-37-02 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-37-02 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-37-02 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-37-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-37-02 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-37-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-37-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-37-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-37-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-37-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-37-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-37-02 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-37-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-37-02 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-37-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| NASJ-159-GH-38-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | 0.005 | 1 |
| NASJ-159-GH-38-02 | 1 | Naphthalene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-38-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | Acenaphthene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-38-02 | 1 | Fluorene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-38-02 | 1 | Phenanthrene | 3510/8310 | ug/L | 0.04 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | Anthracene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-38-02 | 1 | Fluoranthene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-38-02 | 1 | Pyrene | 3510/8310 | ug/L | 0.04 | 0.05 | 1 |
| NASJ-159-GH-38-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-38-02 | 1 | Chrysene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-38-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | 0.06 | 0.1 | 1 |
| NASJ-159-GH-38-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-38-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-38-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-38-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-38-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-38-02 | 1 | P-Terphenyl | 3510/8310 | % | | | 1 |
| NASJ-159-GH-38-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | 0.3 | 2 | 1 |
| NASJ-159-GH-38-02 | 1 | Benzene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | Toluene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | 0.3 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | o-Xylene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | 0.6 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | 0.6 | 1 | 1 |
| NASJ-159-GH-38-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | 1 |
| NASJ-159-GH-39-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | 0.005 | 1 |
| NASJ-159-GH-39-02 | 1 | Naphthalene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-39-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | 0.1 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | Acenaphthene | 3510/8310 | ug/L | 0.2 | 0.5 | 1 |
| NASJ-159-GH-39-02 | 1 | Fluorene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-39-02 | 1 | Phenanthrene | 3510/8310 | ug/L | 0.04 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | Anthracene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-39-02 | 1 | Fluoranthene | 3510/8310 | ug/L | 0.04 | 0.1 | 1 |
| NASJ-159-GH-39-02 | 1 | Pyrene | 3510/8310 | ug/L | 0.04 | 0.05 | 1 |
| NASJ-159-GH-39-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-39-02 | 1 | Chrysene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-39-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | 0.06 | 0.1 | 1 |
| NASJ-159-GH-39-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-39-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | 0.03 | 0.05 | 1 |
| NASJ-159-GH-39-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-39-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | 0.07 | 0.1 | 1 |
| NASJ-159-GH-39-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | 0.02 | 0.05 | 1 |
| NASJ-159-GH-39-02 | 1 | P-Terphenyl | 3510/8310 | % | | | 1 |
| NASJ-159-GH-39-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | 0.3 | 2 | 1 |
| NASJ-159-GH-39-02 | 1 | Benzene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | Toluene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | 0.3 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | o-Xylene | 5030/8021 | ug/L | 0.2 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | 0.6 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | 0.4 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | 0.6 | 1 | 1 |
| NASJ-159-GH-39-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | 1 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| NASJ-159-GH-DU01-02 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-DU01-02 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-DU01-02 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-DU01-02 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Lead | 3050/6010 | mg/L | 0.003 | | 0.005 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Naphthalene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Acenaphthylene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | 1-Methylnaphthalene | 3510/8310 | ug/L | | 0.1 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | 2-Methylnaphthalene | 3510/8310 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Acenaphthene | 3510/8310 | ug/L | | 0.2 | 0.5 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Fluorene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Phenanthrene | 3510/8310 | ug/L | | 0.04 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Anthracene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Fluoranthene | 3510/8310 | ug/L | | 0.04 | 0.1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Pyrene | 3510/8310 | ug/L | | 0.04 | 0.05 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Benzo(a)anthracene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Chrysene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Benzo(b)fluoranthene | 3510/8310 | ug/L | | 0.06 | 0.1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Benzo(k)fluoranthene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Benzo(a)pyrene | 3510/8310 | ug/L | | 0.03 | 0.05 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Dibenzo(a,h)anthracene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Benzo(g,h,i)perylene | 3510/8310 | ug/L | | 0.07 | 0.1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Indeno(1,2,3-cd)pyrene | 3510/8310 | ug/L | | 0.02 | 0.05 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | P-Terphenyl | 3510/8310 | % | | | | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| NASJ-159-GH-MSMS01-2 | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |
| TRIP BLANK | 1 | Methyl tert-butyl ether | 5030/8021 | ug/L | | 0.3 | 2 | 1 |
| TRIP BLANK | 1 | Benzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIP BLANK | 1 | Toluene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIP BLANK | 1 | Chlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIP BLANK | 1 | Ethylbenzene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIP BLANK | 1 | m-Xylene & p-Xylene | 5030/8021 | ug/L | | 0.3 | 1 | 1 |
| TRIP BLANK | 1 | o-Xylene | 5030/8021 | ug/L | | 0.2 | 1 | 1 |
| TRIP BLANK | 1 | 1,3-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIP BLANK | 1 | 1,4-Dichlorobenzene | 5030/8021 | ug/L | | 0.4 | 1 | 1 |
| TRIP BLANK | 1 | 1,2-Dichlorobenzene | 5030/8021 | ug/L | | 0.6 | 1 | 1 |
| TRIP BLANK | 1 | Bromofluorobenzene | 5030/8021 | % | | | | 1 |

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ENCO Laboratories

DHRS Certification No. E82277

I Richard Camp, as the Laboratory Manager, hereby attest that all electronic deliverables have been reviewed and are in agreement with the associated hardcopy data. The enclosed electronic files have been reviewed for accuracy (including significant figures), completeness and format. The laboratory will be responsible for any labor time necessary to correct enclosed electronic deliverables that have been found to be in error. I can be reached at 904-296-3007 if there are any questions or problems with the enclosed electronic deliverables.

Enclosed Files:

| TTNUS Project | ENCO Project (s) | Files(s) |
|---|---|---|
| N0255 / CT0101 | JR8358 | m-JR8358 |
| | | OS-JR8358 |
| | | OV-JR8358 |
| | | TPH-JR8358 |
| | | W-JR8358 |
| | | |
| | JR8408 | m-JR8408 |
| | | OS-JR8408 |
| | | OV-JR8408 |

Signature: [signature] Title: Laboratory Manager Date: 09/27/99