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FINAL SUPPLEMENTAL REMEDIAL INVESTIGATION FOR SITE 83 OPERABLE UNIT 1 (OU 1) MCAS CHERRY POINT NC

05/01/2011

CH2M HILL

Final

Supplemental Remedial Investigation
Site 83, Operable Unit 1

Marine Corps Air Station
Cherry Point, North Carolina

Contract Task Order 208

May 2011

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A *Site Soil Investigation Report, Operable Unit 1 – Site 83, MCAS Cherry Point, North Carolina.* Rhēa Engineers & Consultants, Inc. (June, 2010)

B *2009 Additional Investigation Activities, Operable Unit 1, MCAS Cherry Point, North Carolina*. CH2M HILL. (January 19, 2010)

C *Summary of the Updated Human Health Risk Assessment – Site 83, OU1, Marine Corps Air Station Cherry Point, North Carolina.* CH2M HILL. (July 13, 2010)

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Acronyms and Abbreviations

AOC	area of concern
BERA	Baseline Ecological Risk Assessment
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLEAN	Comprehensive Long-term Environmental Action—Navy
COPC	chemical of potential concern
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethene
DDT	dichlorodiphenyltrichloroethane
ERA	Ecological Risk Assessment
FFA	Federal Facilities Agreement
FMD	Facility Maintenance Department
ft/day	feet per day
ft/ft	feet per foot
HHRA	Human Health Risk Assessment
HI	hazard index
IR	Installation Restoration
µg/kg	micrograms per kilogram
MCAS	Marine Corps Air Station
msl	mean sea level
NACIP	Navy Assessment and Control of Installation Pollutants
NAVFAC	Naval Facilities Engineering Command
NC 2L Standards	North Carolina Administrative Code, Title 15A, Subchapter 2L, Groundwater Standards
NCDENR	North Carolina Department of Environment and Natural Resources
NC SSL	North Carolina Soil Screening Level
OU	operable unit
OWS	oil/water separator
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PCE	tetrachloroethene
RCRA	Resource Conservation and Recovery Act
RFA	RCRA Facility Assessment
RFI	RCRA Facility Investigation

RI	Remedial Investigation
RME	reasonable maximum exposure
ROD	record of decision
RSL	Regional Screening Level
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act
SRI	Supplemental Remedial Investigation
SSL	soil screening level
SVOC	semivolatile organic compound
SWMU	solid waste management unit
UFP	Uniform Federal Policy
USEPA	United States Environmental Protection Agency
VOC	volatile organic compound

SECTION 1

Introduction

This Supplemental Remedial Investigation (SRI) Report presents the data and findings from recent environmental investigation activities conducted to further characterize the nature and extent of contamination and to assess potential risks to human health at Site 83, located within Operable Unit (OU) 1 at Marine Corps Air Station (MCAS) Cherry Point, North Carolina (**Figures 1-1** and **1-2**). Site 83, the Building 96 Former Pesticide Mixing Area, is a former pesticide-mixing and -storage area located in the southwestern portion of OU1 **(Figure 1-3)**.

This report was prepared under the Department of the Navy (Navy), Naval Facilities Engineering Command (NAVFAC), Atlantic Division, Comprehensive Long-term Environmental Action—Navy (CLEAN) III Contract N62470-02-D-3052, Contract Task Order 0208, for submittal to NAVFAC Mid-Atlantic Division, MCAS Cherry Point Environmental Affairs Department (EAD), United States Environmental Protection Agency (USEPA) Region 4, and North Carolina Department of Environment and Natural Resources (NCDENR). The Navy, EAD, USEPA, and NCDENR work jointly as the MCAS Cherry Point Tier I Partnering Team.

Results of the historical site investigations performed at OU1 (including Site 83) from 1983 to 2000 were presented in the 2002 OU1 RI (TetraTech NUS, Inc. (TetraTech, 2002). At Site 83, soil was found to be impacted with pesticides, polycyclic aromatic hydrocarbons (PAHs), and lead. However, the extent of contamination at Site 83 was not fully defined, and the data evaluated for potential risks to human health were grouped with data of other sites. As a result, an additional soil investigation and Human Health Risk Assessment (HHRA) were more recently conducted at Site 83. In addition, one monitoring well was installed at the site to assess contaminant leachability from soil to groundwater and for groundwater monitoring.

The soil investigation was conducted in July and August 2009 and included a comprehensive, grid-based sampling approach to evaluate the current nature and extent of PAHs, pesticides, and lead-impacted soils, and to confirm the results of the historical investigations. Results were presented in the *Site Soil Investigation Report, Operable Unit 1 – Site 83* (Rhēa, 2010), included as **Appendix A**.

The installation and sampling of the monitoring well was conducted in April 2009, as documented in the technical memorandum *2009 Additional Investigation Activities, Operable Unit 1* (CH2M HILL, 2009a), included as **Appendix B**.

An updated HHRA of the data from the additional soil investigation was conducted to evaluate the potential risks to human health. Results of the HHRA are included in this SRI and were summarized in the technical memorandum *Summary of the Updated Human Health Risk Assessment – Site 83* (CH2M HILL, 2010a), included as **Appendix C**.

1.1 Objectives and Approach

The overall objective of this SRI is to provide an updated evaluation of the nature and extent of soil contamination, assess the leachability of contamination from soil to groundwater, and evaluate the potential risk to human health from exposure to soil at Site 83. This SRI combines the compendium of investigation reports into one document and the evaluation is intended to support development of risk-based cleanup decisions, if warranted.

The detailed objectives and approach of the SRI are as follows:

- Review and incorporate relevant results from historical and recent investigations at Site 83:
  - 2002 OU1 RI (TetraTech, 2002)
  - Baseline Ecological Risk Assessment (BERA) (CH2M HILL, 2006)
  - Additional site soil investigation (Rhēa, 2010)
  - Additional groundwater investigation (CH2M HILL, 2010b)
- Quantitatively assess the potential human health risks associated with exposure to constituents detected in site soil, as evaluated in the updated HHRA (CH2M HILL, 2010a)

1.2 Report Organization

This SRI is composed of the following sections:

- **Section 1—**Introduction
- **Section 2—**Site Background and History
- **Section 3—**Conceptual Site Model
- **Section 4—**Human Health and Ecological Risk Assessments
- **Section 5—**Conclusions and Recommendations
- **Section 6—**References

Tables and figures are provided at the end of each respective section. Appendices are provided electronically in PDF format on CD-ROM.

Legend

- Cities
- Rivers and Streams
- Military Installation
- County Boundary

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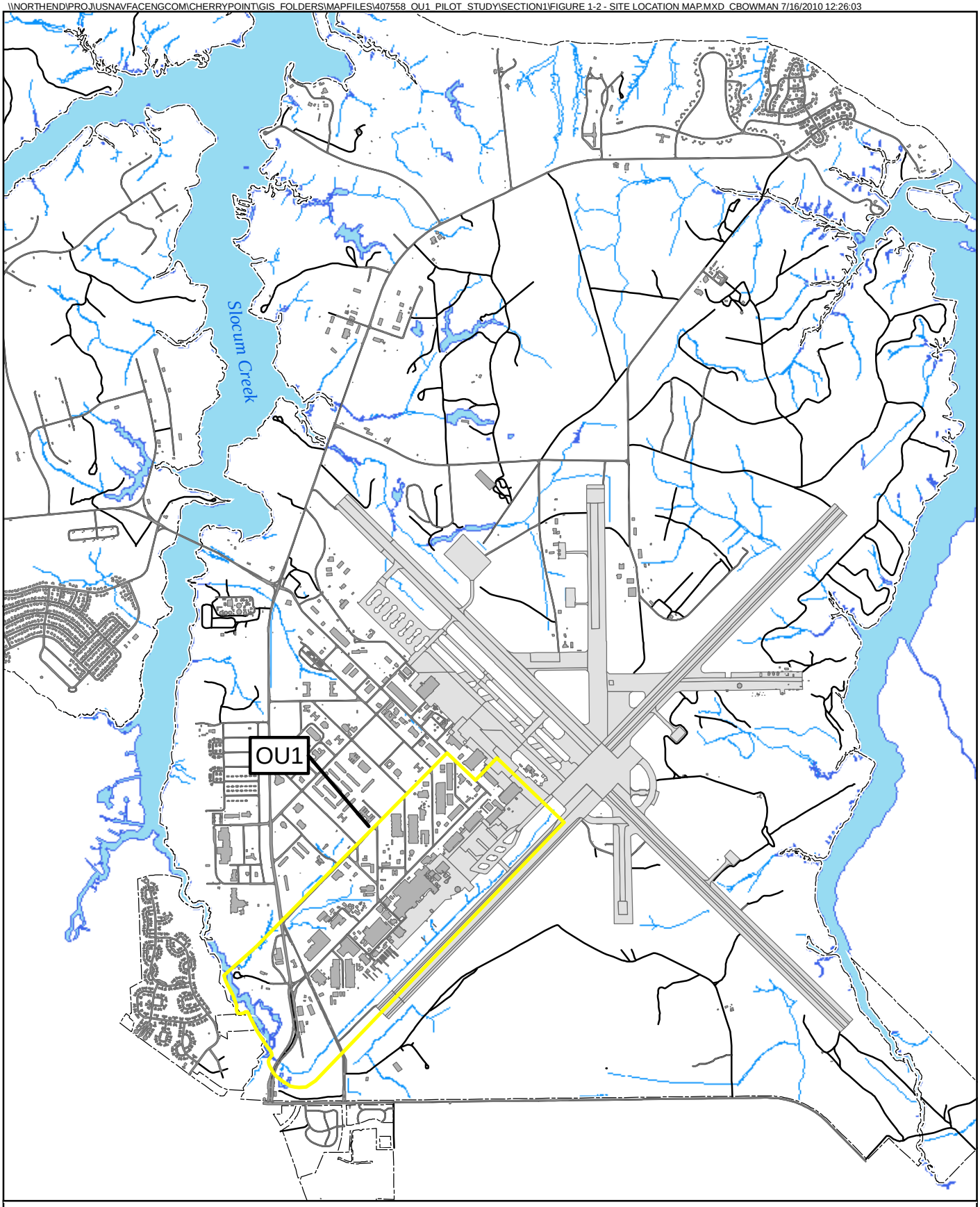
Figure 1-1
Base Location Map
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL.



Legend

- OU Boundary
- Base Boundary
- Buildings
- Runway
- Road
- Surface Water

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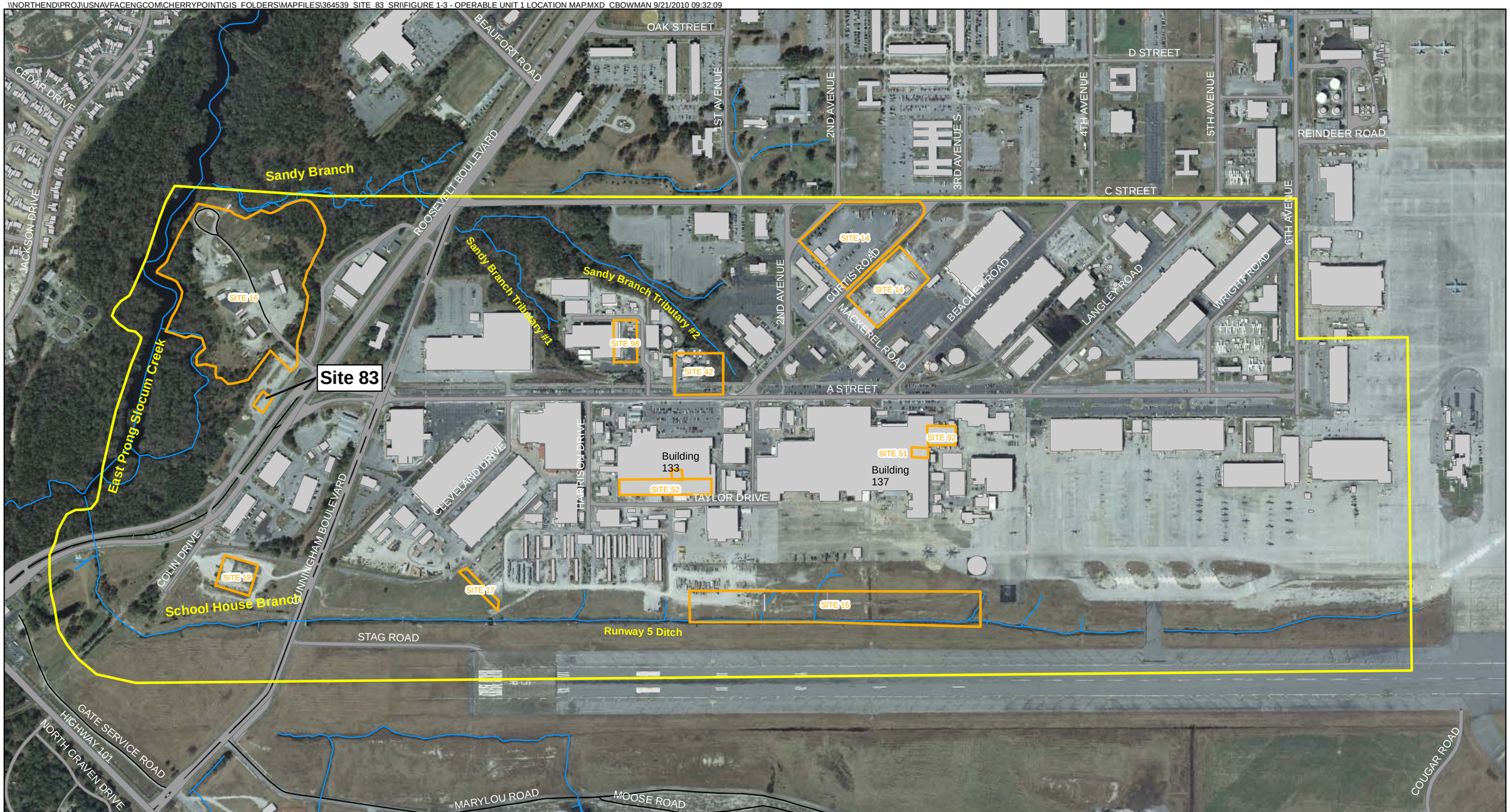
Figure 1-2
OU1 Location Map
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL.

\\NORTHEND\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\364539_SITE_83_SRI\FIGURE 1-3 - OPERABLE UNIT 1 LOCATION MAP.MXD CBOWMAN 9/21/2010 09:32:09



Legend

- Surface Water
- Site Boundary
- OU1 Boundary
- Existing Buildings

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0 600 1,200 Feet

Figure 1-3
Sites Within OU1
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL.

SECTION 2

Site Background and History

This section provides a general summary of both the MCAS Cherry Point Installation and Site 83, including site descriptions, environmental history, and previous investigations.

2.1 Installation Description

MCAS Cherry Point is a 13,164-acre military reservation located adjacent to the city of Havelock in southeastern Craven County, North Carolina (**Figure 1-1**). MCAS Cherry Point was commissioned in 1942 and provides support facilities and services for the Second Marine Aircraft Wing, the Fleet Readiness Center–East (formerly the Naval Aviation Depot), Combat Service Support Detachment 21 of the Second Marine Logistics Group, the Naval Air Maintenance Training Group Detachment, and the Defense Reutilization and Marketing Office. MCAS Cherry Point maintains facilities for training and for supporting the Atlantic Fleet Marine Force aviation units and is designated as a primary aviation supply point.

2.2 Environmental History

MCAS Cherry Point has been actively involved with environmental investigations and remediation programs since 1983, beginning with the Navy Assessment and Control of Installation Pollutants (NACIP) Program. The NACIP Program was modeled after the USEPA Superfund Program, authorized by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or "Superfund") in 1980. An Initial Assessment Study was the first investigation of potentially hazardous sites at MCAS Cherry Point conducted under NACIP in 1983.

The Navy Installation Restoration (IR) Program was initiated in 1986, following enactment of the Superfund Amendments and Reauthorization Act (SARA), and replaced the NACIP. In 1988, a Resource Conservation and Recovery Act (RCRA) Facility Assessment (RFA) was conducted at MCAS Cherry Point. The RFA was the first step under the RCRA corrective action process and consisted of a preliminary review of all available relevant documents, a visual site inspection, and a sampling event (when appropriate) at the 114 solid waste management units (SWMUs) and two areas of concern (AOCs) identified in the RFA.

In 1989, the Navy entered into a RCRA Administrative Order on Consent (Consent Order) with USEPA to perform RCRA Facility Investigations (RFIs) at 35 of the 114 SWMUs identified in the RFA. On December 16, 1994, MCAS Cherry Point was scored and ranked by USEPA for inclusion on the CERCLA National Priorities List. Since the Consent Order was signed, additional sites have been identified. The original RCRA permit modification was issued in 1998 and identified 116 new SWMUs and two new AOCs.

On May 12, 2005, the Navy, USEPA, and NCDENR executed a Federal Facilities Agreement (FFA) for MCAS Cherry Point. Under the FFA, all past and future work at IR Program sites, SWMUs, and AOCs will be reviewed, and a course of action for future work requirements at

each site will be developed. The execution of the FFA effectively terminated the RCRA Consent Order.

As part of the requirements established under CERCLA, an administrative record file has been established for the IR Program at MCAS Cherry Point. The administrative record is a compilation of all documents that the Navy uses to select a remedial action or removal action for a site. Regardless of the nature of the site, an administrative record must be maintained. The administrative record will also serve as the basis for any future legal review of decisions made by the Navy concerning remedial action taken at a site. A copy of the MCAS Cherry Point administrative record file is available for review online as part of the MCAS Cherry Point IR Program public Website at: https://portal.navfac.navy.mil/portal/page/portal/navfac/navfac_ww_pp/navfac_hq_pp/navfac_env_pp/env_restoration_installations/arfsearch?p_instln_id=CHERRY_POINT_MCAS.

2.3 Site Description and History

2.3.1 Operable Unit 1

OU1 is an industrial area approximately 565 acres in size, located in the southwestern portion of MCAS Cherry Point (**Figures 1-2** and **1-3**). OU1 is bound by C Street and Sandy Branch to the northwest, portions of the MCAS Cherry Point flightline and runway to the northeast and southeast, and East Prong Slocum Creek to the southwest.

Eleven sites at OU1 were identified in the FFA as requiring additional investigations. Sites 14, 15, and 18 require no further action (CH2M HILL, 2010c). Sites 16, 42, 47, 51, 52, 92, and 98 are currently being evaluated separately from Site 83. Sites 42, 47, 51, 52, 92, and 98 were identified as contributing to the OU1 Central Groundwater Plume contamination, which migrates in the surficial aquifer immediately to the north of Site 83 (CH2M HILL, 2009b).

2.3.2 Site 83

Site 83 is a former pesticide-mixing area, approximately 1 acre in size, located in the southwest portion of OU1 (**Figures 1-3 and 2-1**). Two buildings were formerly located at the site, Building 96 (former pesticide shop) and Building 418 (corrugated Quonset hut), with a corrugated metal roof joining the two buildings.

Building 96 was constructed before 1948 and was reportedly used as a pesticide-mixing and -storage area from 1965 to 1981, when a new pesticide shop (SWMU S-12) was built across Roosevelt Boulevard. Building 96 was subsequently used for equipment storage and administrative space until 1997. A bermed concrete wash rack was located adjacent to Building 418. A drain from the wash rack and a nearby catch basin drain formerly discharged in the area of a steep bank to the west that leads to a wetland located adjacent to East Prong Slocum Creek (TetraTech, 2002).

The buildings have since been removed, and in early 2006 the concrete foundation and slab of Building 96 were removed during a non-CERCLA demolition project. The area around former Building 96 is covered by asphalt/concrete with a grassy area to the west. This area is relatively flat until the edge of the steep slope to the west leading to the wetland. A

geotextile cap was placed over the former foundation location to eliminate potential exposure pathways.

Site 83 was first identified by MCAS Cherry Point in 1997. A Solid Waste Management Unit Assessment Report was conducted in 1998 that included the collection of soil, groundwater, and sediment samples. Groundwater and soil contamination was identified and additional investigation of Site 83 was recommended as part of the comprehensive evaluation of OU1 (B&R, 1998). Soil contamination was also identified outside of the Site 83 boundary in the downslope wetland area. This area of contamination was also considered to be associated with Site 83 (TetraTech, 2002).

2.4 Summary of Previous Investigations and Removal Actions

This subsection provides a general summary and results of previous investigations and removal actions conducted at Site 83 that were used to develop the site conceptual model.

2.4.1 Facility Maintenance Department Spill Response

In February and April 1996, remedial activities were conducted for the cleanup of an oil spill near the Facility Maintenance Department (FMD) oil/water separator (OWS) (**Figure 2-1**). The OWS was located south of Site 83, and the spill extended into the southern portion of Site 16. Petroleum-contaminated soil was excavated to depths ranging from 2 to 4 feet below ground surface (bgs) and confirmation samples were collected from the sides and bottom of the excavation. Excavated soil was disposed of offsite.

During the excavation activities, pesticide contamination was observed in the soil based on visual and olfactory observations. Ten soil samples collected from the sides and bottom of the excavation were analyzed for chlordane (16-FMD-CP63CS070 through 16-FMD-CP63CS079 on **Figure 2-1**). Since pesticides were detected in the soil, the remedial action for the oil spill was stopped. The details of the investigation are presented in the *FMD Spill Response Summary Report, Operable Unit 01, Site 16* (FMD Spill Response Summary Report) (OHM, 1996).

2.4.2 Solid Waste Management Unit Assessment

In 1997, MCAS Cherry Point notified NCDENR and USEPA that a new SWMU had been discovered at Building 96, and the area was subsequently designated as Site 83. Multiple soil (83-SB-01 through 83-SB-13, 83-SS-01, and 83-SS-02 on **Figure 2-1**), sediment, and groundwater samples were collected and three monitoring wells were installed in the vicinity of former Building 96. Complete details of the investigation are documented in the *SWMU Assessment Report for Site 83, Building 96 Former Pesticide Mixing Area, Marine Corps Air Station Cherry Point, North Carolina* (B&R, 1998). Pesticides and PAHs were detected in the surface soil at concentrations that were determined to pose an unacceptable risk to industrial workers. However, these concentrations were detected beneath the building concrete slab, so there was not a complete exposure pathway. Fewer pesticides were detected with depth in the soil. No PAHs or pesticides were observed in groundwater.

2.4.3 Debris Piles Removal Action

A CERCLA Time-Critical Removal Action was conducted in the vicinity of Site 83 in 1997 related to the numerous debris piles, tanks, empty storage vessels, and other construction debris. Asbestos-containing material, debris, and soil contaminated with petroleum hydrocarbons, asbestos, and lead were removed for offsite disposal (**Figure 2-1**). All visible surface debris was removed. Confirmation soil samples were collected to verify that action levels had been attained. The details are presented in the *CERCLA Time-Critical Removal for Operable Unit 1, Site 16 Debris Pile* (OHM, 1998).

2.4.4 Remedial Investigation for Operable Unit 1

The objective of the 2002 OU1 RI (TetraTech, 2002) was to collect adequate chemical data to determine the nature and extent of contamination and to determine whether the contamination presented an unacceptable risk to human health or the environment at OU1 through an HHRA and an Ecological Risk Assessment (ERA). Data from historical site investigations were used in conjunction with additional soil, sediment, groundwater, and surface water samples collected for the RI. Details are presented in the 2002 OU1 RI (TetraTech, 2002).

Soil samples from Site 83 had the most frequent detections of PAHs. Pesticides were detected in the area around the former pesticide shop (Site 83 and Site 16 FMD Spill Area) and in surface water bodies within OU1. The 2002 OU1 RI (TetraTech, 2002) determined that in this area, the presence of pesticides in soil were associated with the former pesticide shop.

Additional soil samples were collected as part of the 2002 OU1 RI (TetraTech, 2002) to define the extent of the pesticide contamination. Chlordane immunoassay field test kits were used to minimize the number of laboratory soil sampling locations, since chlordane was previously detected during the 1996 FMD spill response. The highest concentrations detected from the soil samples were found in areas where surface debris (e.g., old metal containers) was identified (near sample locations 83SB29 and 83SB30) (**Figure 2-1**). In addition, the soil sampling also detected elevated concentrations of other pesticides, including 4,4′-dichlorodiphenyldichloroethane (4′4′-DDD), 4-4′-dichlorodiphenyldichloroethene (4-4′-DDE), and 4-4′-dichlorodiphenyltrichloroethane (4-4′-DDT).

One upgradient monitoring well (83MW001) and four cross-gradient/downgradient monitoring wells (83MW002, 83MW003, MW50, and MW51) were used to characterize groundwater in the area of Site 83 (**Figure 2-1)**. Each monitoring well was sampled for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), and inorganic constituents. VOCs (related to the Central Groundwater Plume) and inorganic constituents (cadmium, iron, and manganese determined to be naturally occurring) were detected above screening criteria concentrations in groundwater located adjacent to Site 83.

A baseline HHRA was performed to evaluate potential health risks for all media at OU1. Potential excess lifetime cancer risks and noncancer hazard indexes (HIs) were calculated for several potential receptors, including construction workers, maintenance workers, full-time employees (including military personnel), adolescent trespassers, adult recreational users, and future child and adult residents. Soil samples from Sites 16 and 83 and BRAC Site 5 were grouped together as Soil Grouping 3 for evaluation. Risks associated with exposure

to groundwater were evaluated for the surficial, Yorktown, and Castle-Hayne Aquifers for all of OU1. Risks were also evaluated for all of OU1 for surface water and sediment exposures.

Calculated cancer risks for exposure to Soil Grouping 3 surface soil by hypothetical future residents exceeded USEPA's target risk range. The calculated HIs for exposure to soil by construction workers and exposure to surface soil by child residents exceeded USEPA's target hazard level of 1.0. The calculated HI and cancer risks for potential future potable use of the surficial aquifer exceeded USEPA's target levels. VOCs, carcinogenic PAHs, arsenic, iron, and thallium were the major risk contributors for the surficial aquifer. However, the carcinogenic PAHs were primarily associated with detections near Building 137 and not related to Site 83. Estimated cancer risk for exposure to OU1 sediment by child residents and lifetime residents exceeded USEPA's target levels related to carcinogenic PAHs. However, sediment samples within East Prong Slocum Creek adjacent to Site 83 did not contain PAHs.

Steps 1 through 3a of the ERA process were conducted as part of the 2002 OU1 RI. A Step 3a Addendum was recommended to further evaluate potential ecological risk at Site 83.

2.4.5 Step 3a Addendum

The Step 3a Addendum (CH2M HILL, 2003) further refined receptor exposure scenarios, delineated more specific sources of chemicals of potential concern (COPCs), delineated the spatial extent of such COPCs, developed a better understanding of potential risks to ecological receptors, and evaluated potential offsite contaminant releases to Slocum Creek. The report identified portions of Site 83 as primary areas posing potential ecological risk that should receive further evaluation through a BERA.

2.4.6 Baseline Ecological Risk Assessment Work Plan

The results of the Step 3a Addendum were used to present the baseline problem formulation (Step 3b) in the BERA Work Plan (CH2M HILL, 2004). This included a refined conceptual site model, assessment and measurement endpoints, risk hypotheses, and plans for site-specific studies that included targeted/supplemental media sampling and toxicity testing and ecological surveys in aquatic habitats of Sandy Branch and the terrestrial habitats of Soil Grouping 3.

2.4.7 Baseline Ecological Risk Assessment

As part of the BERA for OU1, additional soil samples and toxicity samples from small insects were collected at Site 83 to fill data gaps and address areas of uncertainty. Sixteen soil samples (SS-100 through SS-116) were collected and analyzed for SVOCs, pesticides, PCBs, metals, and cyanide (**Figure 2-1)**. Other pesticides, including endosulfan II, endosulfan II sulfate, heptachlor, and heptachlor epoxide were detected in soil. Details are presented in the *Baseline Ecological Risk Assessment for Operable Unit 1, Marine Corps Air Station Cherry Point, North Carolina* (OU1 BERA) (CH2M HILL, 2005).

The BERA established two assessment endpoints which consisted of protection of the soil invertebrate community and protection of populations of insectivorous mammalian species (CH2M HILL, 2005). Potential risks were identified for the invertebrate community based on inorganics and pesticides. However, the BERA recommended that consideration be given to whether risk to the soil invertebrate community adjacent to Site 83 warranted remediation.

Due to the steep topography and position within the landscape at the edge of a semi-improved area, the hillside where the samples were collected will never be high quality habitat even if remediation is performed. No risks were identified to the insectivorous mammalian species (CH2M HILL, 2005).

A post-BERA investigation work plan (CH2M HILL, 2006) was compiled that summarized the ecological risk assessment at OU1. The report determined that the quality of the soil and the steep hillside are a poor habitat for soil invertebrates. Any potential ecological risk was not determined to be significant in the area. Trees provide nesting and roosting areas for the birds and help to stabilize the soil, reducing erosion and subsequent deposition into East Prong Slocum Creek. As a result, additional ecological investigations or related action at Site 83 was deemed unnecessary.

2.4.8 Operable Unit 1 Remedial Investigation Addendum

The OU1 RI Addendum presented an updated evaluation of the site conceptual model, nature and extent of contamination in soil and groundwater, and potential risks to human health and the environment within OU1 (CH2M HILL, 2009). The OU1 RI Addendum focused on the OU1 Central Groundwater Plume and provided updates on the status of each OU1 site.

2.4.9 Site 83 Soil Investigation Report

In July and August 2009, an additional soil investigation study was conducted to confirm residual PAHs, pesticides, and lead in soil, and further characterize the vertical and horizontal extent of soil contamination at Site 83. The field investigation was conducted in accordance with the *Final Sampling and Analysis Plan, Operable Unit 1, Site 83, Soil Delineation Sampling* (Uniform Federal Policy Sampling and Analysis Plan [UFP-SAP]) (Rhēa, 2009). More detailed information of the soil investigation is included in *Site Soil Investigation Report, Operable Unit 1 – Site 83, MCAS Cherry Point, North Carolina* (Rhēa, 2010), included in **Appendix A**.

The soil investigation included a comprehensive, grid-based sampling approach and also overlapped areas characterized by historical investigations (**Figure 2-2**). Soil assessment activities were limited to shallow depths (less than 5 feet). Three distinct areas were identified for sampling based on location and topography. These areas are identified as Area A—Site 83 (the former building 96 location) and adjacent lot, Area B—west of Site 83 (on the steep slope), and Area C—southwest of Site 83 (area of previous soil removals) (**Figure 2-2)**.

Soil samples were collected from 31 primary locations, 29 secondary locations, and 51 field locations. At each location, continuous soil cores were driven to the required depth. Five soil samples were initially collected at 1-foot depth intervals (0–1 foot, 1–2 feet, 2–3 feet, 3-4 feet, and 4–5 feet) at each primary soil sample location identified in the UFP-SAP, with the exception of locations 6R, 7R, and 5R, where only three sample intervals were collected due to minimal recovery (saturated soil). Samples were typically collected at four 1-foot depth intervals (0–1 foot, 1–2 feet, 2–3 feet, and 3–4 feet) at subsequent secondary and field sample locations.

2.4.10 2009 Additional Groundwater Investigation

In 2009, additional field activities at OU1 were conducted to further characterize the extent of the chlorinated VOC groundwater plume at OU1. The field activities included the collection of groundwater samples from 160 existing monitoring wells and the installation and sampling of 14 new monitoring wells. One upper surficial aquifer monitoring well (16GW49) was installed at Site 83 to serve as part of the monitoring well network for long-term monitoring and to aid in an evaluation of soil contaminant leachability to groundwater. The location of the monitoring well is shown in **Figure 2-2**. Complete details of this investigation are presented in the technical memorandum *2009 Additional Investigation Activities, Operable Unit 1* (CH2M HILL, 2009a), included in **Appendix B**.

\\NORTHEND\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\364539_SITE_83_SRI\FIGURE 2-1 - PREVIOUS SAMPLE LOCATIONS_PORTRAIT.MXD CBOWMAN 10/7/2010 13:19:49

Legend

- Upper Surficial Aquifer Monitoring Well (2002 OU1 RI)
- Lower Surficial Aquifer Monitoring Well (2002 OU1 RI)
- Sediment Sample Location (2002 OU1 RI)
- Soil Sample Location (2002 OU1 RI)
- Soil Sample Location (2005 BERA)
- Ground Surface Contour (4 feet interval)
- Demolished Building
- 1997 Excavated Area (Debris Piles Removal Action)
- 1996 FMD Spill Response Excavation Area
- Facility Maintenance Department Oil/Water Separator
- Site 83 Boundary

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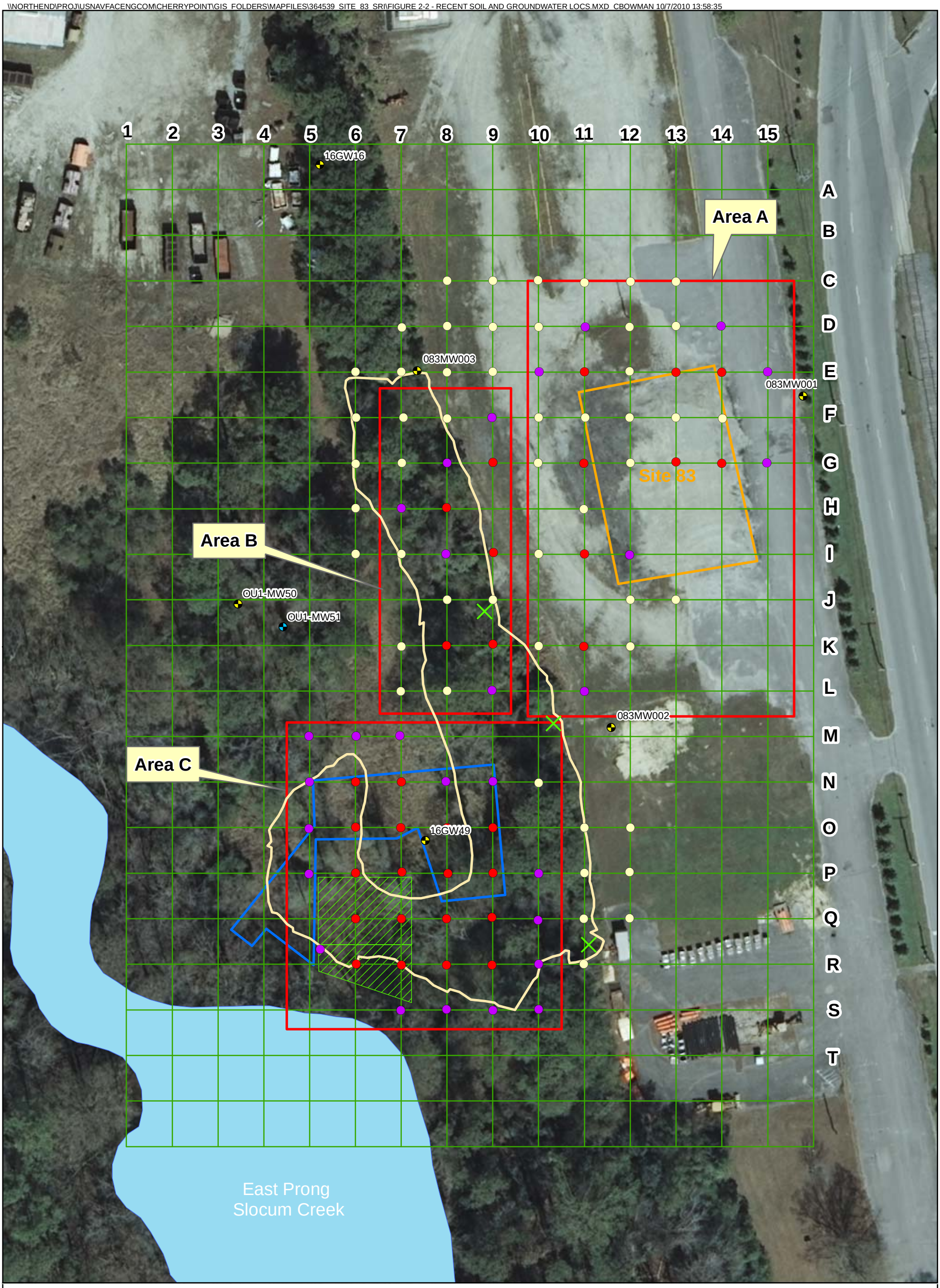
Figure 2-1
Previous Investigations Sample Locations
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL.



Legend

- Upper Surficial Aquifer Monitoring Well (2009 Additional Investigation)
- Lower Surficial Aquifer Monitoring Well (2009 Additional Investigation)
- Primary Soil Sample Location
- Secondary Soil Sample Location
- Field Soil Sample Location
- Outfall Culvert or Pipe
- Site 83 25 ft. Grid Sampling
- Area of Clearing
- Site 83 Areas of Concern
- Site 83 Boundary
- 1997 Excavated Area (Debris Piles Removal Action)
- 1996 FMD Soil Response Excavation Area

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Feet

CH2MHILL.

Figure 2-2
Recent Soil and Groundwater Sample Locations
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

SECTION 3

Conceptual Site Model

The 2002 OU1 RI Report (TetraTech, 2002) and the 2009 OU1 RI Addendum (CH2M HILL, 2009b) provide detailed information regarding the OU1 conceptual site model , including the geologic and hydrogeologic conditions, nature and extent of contamination, chemical fate and transport, and human health and ecological risk. A summary of each as it relates to Site 83 is presented below. The conceptual site model of OU1 is shown in **Figure 3-1**.

3.1 Physical Characteristics

This subsection presents an evaluation of the Site 83 physical characteristics pertaining to the surface features and conceptual hydrogeology of the site. The physical characteristics describe the primary mechanisms that control the fate and migration of contamination at the site.

3.1.1 Topography

Site 83 consists of the former Building 96 concrete slab and is relatively flat (at approximately 24 feet above mean sea level [msl]); however, further to the west, the ground surface slopes significantly downward in a westerly direction towards East Prong Slocum Creek (to an elevation of 2 feet above msl). The area west of Site 83 consists of a wetland area and dense woods (**Figure 2-1**).

3.1.2 Surface Water

East Prong Slocum Creek is located to the west of Site 83. The creek is brackish and flows into Slocum Creek and eventually the Neuse River. East Prong Slocum Creek is classified by NCDENR as a Class C fresh water body.

3.1.3 Geology

The uppermost soils consist predominantly of fill material composed of sands, silts, and clays mixed with wood fragments that may extend to a depth of 10 feet bgs. Within the majority of OU1, the native soils beneath the fill material (from shallowest to deepest) include:

- Holocene-age undifferentiated deposits and Pleistocene-age Flanner Beach Formation composed of unconsolidated, interfingered beds of fine-grained sand, silt, clay, shell, and peat beds, and scattered deposits of coarse-grained material to a depth of 40 to 50 feet bgs. A layer of coarse sand with abundant shell fragments commonly marks the base of the Flanner Beach Formation.
- Pleistocene-age James City Formation composed primarily of clay that is generally 10 feet thick.

- Pliocene-age Yorktown Formation composed of fine- to coarse-grained sand with clay that is generally 50 feet thick.
- Miocene-age Pungo River Formation composed of fine-grained sand that is approximately 80 feet thick.

3.1.4 Hydrogeology

The hydrogeologic framework beneath OU1 consists of nine hydrostratigraphic units: five aquifers and four confining units that extend to a depth of approximately 500 feet. From shallowest to deepest, the aquifers with associated confining units include the surficial, Yorktown, Pungo River, Upper Castle Hayne, and Lower Castle Hayne aquifers. Each aquifer is separated by a confining unit except where these units are absent or discontinuous.

The surficial aquifer is the first encountered groundwater and has a saturated thickness that ranges from approximately 30 to 45 feet beneath OU1. The depths to the groundwater table (i.e., thickness of the vadose zone) beneath Site 83 are generally between 3 feet bgs in the southwestern portion near East Prong Slocum Creek and 7 feet bgs near the former Building 96 concrete slab.

The Yorktown confining unit generally ranges from 5- to 10-feet thick and is composed of the James City Formation. The Yorktown aquifer occurs beneath the confining unit and is composed of the Yorktown Formation. However, beneath Site 83, a paleochannel has eroded the Yorktown and Pungo River confining units and deposited younger-aged sediments. As a result, the uppermost aquifers are in direct hydraulic communication in this area.

Groundwater flows generally westward in the surficial and Yorktown aquifer towards East Prong Slocum Creek beneath Site 83. The average linear horizontal groundwater velocity is estimated at approximately 0.1 to 0.2 feet per day (ft/day) within the surficial aquifer, with a horizontal hydraulic gradient of approximately 0.003 feet per foot (ft/ft). An upward vertical hydraulic gradient occurs beneath Site 83.

3.2 Nature and Extent of Contamination

This subsection presents an updated evaluation of the nature and extent of contamination at Site 83. The nature and extent of contamination provides fundamental information to the evaluation of contaminant fate and transport and potential risks.

3.2.1 Data Evaluation

The nature and extent of soil contamination at Site 83 was evaluated using the results from the 2009 site soil investigation (Rhēa, 2010) (**Appendix A**). The nature and extent of groundwater contamination at Site 83 was evaluated using the results from the 2002 OU1 RI (TetraTech, 2002) and the 2009 OU1 additional groundwater investigation (CH2M HILL, 2010b) (**Appendix B**).

Regulatory Standards and Risk-Based Screening Values

The processes used to evaluate risks to human receptors and the consideration of a constituent as a chemical of concern is discussed in Section 4. However, to determine the nature of soil and groundwater contamination within Site 83, analytes were compared, as applicable, to the following screening values:

- Soil samples were screened against:
  - USEPA Regional Screening Levels (RSLs) for industrial soil (May 2010), adjusted as appropriate (for noncarcinogenic effects).
  - North Carolina Soil Screening Levels (NC SSLs) for the protection of groundwater.
- Groundwater samples were screened against:
  - Federal Maximum Contaminant Levels (MCLs) and Secondary MCLs
  - North Carolina Administrative Code, Title 15A, Subchapter 2L, Groundwater Standards for "Class GA Groundwater Quality" (NC 2L Standards).
  - USEPA Regional Screening Levels (RSLs) for Tap Water (May 2010), adjusted as appropriate (for noncarcinogenic effects).

3.2.2 Soil

The spatial distribution of samples collected at Site 83 provides sufficient coverage of the environmental media at the site to assess the nature and extent of contamination. In total, 183 and 156 soil samples were collected and analyzed for select pesticides (dieldrin, heptachlor epoxide, heptachlor, 4-4′ DDE, 4-4′ DDD, 4-4′ DDT, and chlordane) and select PAHs (benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno(1,2,3-cd)pyrene), respectively at Site 83 (including duplicates), from 31 primary locations, 29 secondary locations, and 51 field locations. Analytical results are compared with industrial RSLs and NC SSLs in **Table 3-1** and exceedances of the industrial RSLs are shown in **Figure 3-2**.

More detailed evaluations are provided in the Soil Investigation Report (Rhēa, 2010) included in **Appendix A**.

Polycyclic Aromatic Hydrocarbons

All five PAHs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, dibenz(a,h)-anthracene, and indeno(1,2,3,-cd)pyrene) were detected above the screening criteria (industrial RSLs and NC SSLs).

Benzo(a)pyrene was the most frequently detected PAH above screening criteria with a maximum concentration of 24,000 micrograms per kilogram (µg/kg), 14 samples above the industrial RSL of 210 µg/kg, and 33 samples above the NC SSL of 59 µg/kg. Most exceedances of the screening criteria occurred within surface soil located approximately 100 feet of former Building 96. Benzo(a)pyrene was observed above screening criteria in subsurface soil to a depth of 4 feet, generally in the areas near the former excavation areas. All other PAHs occurred less frequently, but in similar samples where benzo(a)pyrene was detected. PAHs occurred primarily at one sample depth interval within soil and do not migrate with depth.

Pesticides

Six of the seven pesticides (heptachlor, heptachlor epoxide, 4,4′-DDD, 4,4′-DDT, dieldrin, and chlordane) were detected at concentrations above a screening criterion. 4,4′-DDE was not detected above screening criteria.

Chlordane was detected above the industrial RSL of 6,500 µg/kg at seven locations and above the NC SSL of 68 µg/kg at 84 locations. Chlordane exceedances were typically limited to the surface soil (01 foot), except for two sample locations where the impacted soil extended to the 1- to 2-foot interval. The maximum concentration of chlordane was detected in the surface soil at a concentration of 220,000 µg/kg. Chlordane generally occurred in small localized areas within 80 feet to the west of the former building slab and within surface soil. However, chlordane was detected at a concentration of 200,000 µg/kg at one surface soil sample, located approximately 175 feet further to the south (**Figure 3-2**).

Dieldrin was detected above the industrial RSL of 110 µg/kg in seven samples, and above the NC SSL of 0.81 µg/kg in 26 samples with a maximum concentration of 1,500 µg/kg. Dieldrin was predominantly detected in surface soil in the vicinity of former Building 96.

Heptachlor, heptachlor epoxide, 4,4′-DDD, and 4,4′-DDT were detected less frequently above the industrial RSLs and NC SSLs. Heptachlor and heptachlor epoxide generally occurred where chlordane was observed, but less frequently. Localized occurrences of 4,4′-DDD and 4,4′-DDT exceeded the industrial RSLs (7,200 and 7,000 µg/kg, respectively) south of the former excavation areas with maximum concentrations of 9,300 and 28,000 µg/kg, respectively.

Lead

Lead samples were collected from five primary sample locations collected at Area B from the 0- to 1-foot and 2- to 3-foot intervals. All lead sample results were below both the NC SSL and the industrial RSL.

3.2.3 Groundwater

The monitoring well network at Site 83 consists of six wells that provide the basis for defining the nature and extent of contamination in groundwater. **Figure 3-3** presents the distribution of impacts in groundwater.

Although PAHs and pesticides were detected above the NC SSLs, these constituents were not detected above screening criteria in groundwater. In addition, lead was not detected above screening criteria in groundwater. This indicates that soil contamination is not leaching to groundwater at Site 83.

Tetrachloroethene (PCE) was the only constituent detected above screening criteria (NC 2L Standards) in the area of Site 83 during the 2009 additional groundwater investigation, and is likely related to the chlorinated VOC groundwater plume that originates upgradient of Site 83 (**Appendix B**). PCE will be addressed as part of the Central Groundwater Plume. As discussed in Section 2.4.4, VOCs and inorganic constituents detected above screening criteria in groundwater adjacent to the site during the 2002 OU1 RI were determined to be related to the Central Groundwater Plume and naturally occurring, respectively.

3.3 Chemical Fate and Transport

This subsection discusses the fate and transport of chemicals observed in soil and groundwater at Site 83. Fate and transport consists of identification of theoretical chemical phases and migration and degradation pathways. An understanding of the mobility and

persistence of a chemical in the subsurface is part of the overall assessment of the potential for that chemical to cause an adverse human health or environmental effect.

Contaminant transport mechanisms within soil include wind erosion of the surface soil, volatilization, runoff and subsequent erosion of surface soil, and percolation of soluble chemicals through the subsurface to the water table. Contaminated soils may be released to the environment via wind erosion of loose soil particles and carried downwind of their source. Additionally, contaminants with higher vapor pressures can be released to the environment via volatilization. Precipitation can generate overland flow which can erode and transport contaminated soil down topographic gradients. Downward vertical migration within the soil will depend on the water solubility of the chemical and its affinity to sorb to soil organic matter. Water percolation and leaching through the soils may also contribute to groundwater migration.

The contaminants in the soil of Site 83 include PAHs and pesticides. The physical properties of PAHs and pesticides cause them to bind to soil, and they are not likely to leach into groundwater. Consistent with this tendency, these chemicals were not detected in groundwater.

TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)	Minimum Reporting Limit (µg/kg dry)	Location of max. exceedance/detection	# exceedance/ # samples						
Sample ID:						OU1-83-13E-S-0-1	OU1-83-13E-S-2-3	OU1-83-14E-S-0-1	OU1-83-14E-S-1-2	OU1-83-14E-S-2-3	OU1-83-14E-S-2-3
Date Sampled:						7/28/2009	7/28/2009	7/28/2009	7/30/2009	7/28/2009	7/28/2009
Date Reported:						7/30/2009	7/29/2009	7/29/2009	8/4/2009	7/29/2009	7/30/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	2.0	OU1-83-11P-S-0-1	12/183	4.6	<2.3	2.5	<23	<2.3	0.093 U
Heptachlor epoxide	190	0.82	2.0	OU1-83-8G-S-0-1	11/183	<2.2	<2.3	<2.2	<23	<2.3	0.16 U
4,4'-DDE	5,100	--	4.0	OU1-83-9Q-S-0-1/ OU1-83-11P-S-0-1	0/183	<4.4	<4.6	<4.4	<45	<4.6	0.21 U
Dieldrin	110	0.81	4.0	OU1-83-11F-S-0-1/OU1-83-12E-S-0-1	26/183	**4.8 J**	<4.6	**120 J**	<45	<4.6	0.31 U
4,4'-DDD	7,200	240	4.0	OU1-83-9R-S-0-1	11/183	<4.4	<4.6	5.1	<45	<4.6	0.27 U
4,4'-DDT	7,000	340	4.0	OU1-83-11P-S-0-1-P	11/183	<4.4	<4.6	11	<45	<4.6	0.26 U
Chlordane (tech)	6,500	68	40	OU1-83-8G-S-0-1	85/183	**450**	<46	**750**	<45	<46	3.3 U
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	10	OU1-83-9F-S-0-1	14/156	24	<12	25	--	<12	1.9 U
Benzo(a)pyrene	210	59	10	OU1-83-9F-S-0-1	33/156	<11	<12	32	--	<12	1.9 U
Benzo(b)fluoranthene	2,100	600	10	OU1-83-9F-S-0-1	9/156	<11	<12	61	--	<12	1.9 U
Dibenz(a,h)anthracene	210	190	10	OU1-83-9F-S-0-1	5/156	<11	<12	40	--	<12	0.65 U
Indeno(1,2,3-cd)pyrene	2,100	2,000	10	OU1-83-9F-S-0-1	1/156	47	<12	41	--	<12	3.8 U
Lead (mg/kg)*	800	270		OU1-83-8H-S-0-1	0/13	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
* Lead results provided by TestAmerica
U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.

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	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-13G-S-0-1	OU1-83-13G-S-0-1-P	OU1-83-13G-S-2-3	OU1-83-11E-S-0-1	OU1-83-11E-S-2-3	OU1-83-11G-S-0-1	OU1-83-11G-S-2-3	OU1-83-11I-S-0-1	OU1-83-11I-S-0-1
Date Sampled:			7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009
Date Reported:			7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/30/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	**10**	<2.3	<2.4	<2.2	<2.3	<2.2	<2.3	**12**	**8.1 J**
Heptachlor epoxide	190	0.82	<2.2	<2.3	<2.4	<2.2	<2.3	<2.2	<2.3	<2.1	0.73 U
4,4'-DDE	5,100	--	14	<4.7	<4.8	<4.4	<4.7	45	<4.6	150	41
Dieldrin	110	0.81	**12 J**	<4.7	<4.8	<4.4	<4.7	**9.4 J**	<4.6	**50 J**	**63**
4,4'-DDD	7,200	240	<4.5	<4.7	<4.8	<4.4	<4.7	<4.4	<4.6	<4.2	1.3 U
4,4'-DDT	7,000	340	<4.5	<4.7	<4.8	<4.4	<4.7	47 J	<4.6	180	180
Chlordane (tech)	6,500	68	**1800**	**320**	<48	<44	<47	**280**	<46	**6700**	**3900**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	<11	<12	<12	<11	<12	30	<12	**1600**	**710 J**
Benzo(a)pyrene	210	59	<11	<12	<12	<11	<12	**71**	<12	**2300**	**570**
Benzo(b)fluoranthene	2,100	600	<11	<12	<12	<11	<12	64	<12	**1800**	560
Dibenz(a,h)anthracene	210	190	<11	<12	<12	<11	<12	<11	<12	**740**	39
Indeno(1,2,3-cd)pyrene	2,100	2,000	<11	<12	<12	<11	<12	61	<12	1600	150
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
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TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
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U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
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	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)										
Sample ID:			OU1-83-11I-S-1-2	OU1-83-11I-S-2-3	OU1-83-11I-S-2-3-P	OU1-83-11K-S-0-1	OU1-83-11K-S-0-1	OU1-83-11K-S-1-2	OU1-83-11K-S-2-3	OU1-83-6Q-S-0-1	OU1-83-6Q-S-2-3	OU1-83-6Q-S-3-4
Date Sampled:			7/31/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/30/2009	7/28/2009	7/28/2009	7/31/2009	7/31/2009
Date Reported:			8/2/2009	7/31/2009	7/31/2009	7/31/2009	7/30/2009	8/4/2009	7/31/2009	7/31/2009	8/3/2009	8/3/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)												
Heptachlor	380	6.6	<22	<2.2	<2.3	<2.2	0.48 U	<23	<2.2	<2.5	<23	<24
Heptachlor epoxide	190	0.82	<22	<2.2	<2.3	<2.2	0.81 U	<23	<2.2	<2.5	<23	<24
4,4'-DDE	5,100	--	<44	<4.5	<4.7	<4.3	3.0 J	<46	<4.5	<4.9	<46	<48
Dieldrin	110	0.81	<44	<4.5	<4.7	**140**	**73**	<46	<4.5	<4.9	<46	<48
4,4'-DDD	7,200	240	<44	<4.5	<4.7	<4.3	1.4 U	<46	<4.5	8.8	<46	<48
4,4'-DDT	7,000	340	<44	<4.5	<4.7	<4.3	5.6 J	<46	<4.5	<4.9	<46	<48
Chlordane (tech)	6,500	68	**220**	<45	<47	**1600**	**780**	**110**	<45	59	**750**	**750**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)												
Benzo(a)anthracene	2,100	180	<11	<11	<12	49	52	--	<11	<12	**560**	41
Benzo(a)pyrene	210	59	<11	<11	<12	**80**	49	--	<11	<12	**310**	46
Benzo(b)fluoranthene	2,100	600	<11	<11	<12	120	70	--	<11	18	250	50
Dibenz(a,h)anthracene	210	190	<11	<11	<12	39	0.66 U	--	<11	<12	67	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	<11	<11	<12	100	66	--	<11	15	170	33
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--	--

Notes:
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	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-6R-S-0-1	OU1-83-6R-S-1-3	OU1-83-6P-S-0-1	OU1-83-6P-S-2-3	OU1-83-6P-S-3-4	OU1-83-6O-S-0-1	OU1-83-6O-S-0-1-P	OU1-83-6O-S-2-3	OU1-83-6O-S-3-4
Date Sampled:			7/28/2009	7/31/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/31/2009	8/2/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009	8/1/2009	7/30/2009	7/30/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<2.9	<25	<2.3	<2.2	<2.4	<2.3	<2.3	<3.0	<2.5
Heptachlor epoxide	190	0.82	<2.9	<25	<2.3	<2.2	<2.4	<2.3	<2.3	<3.0	<2.5
4,4'-DDE	5,100	--	<5.8	<49	<4.6	12	<4.7	<4.7	4.7	41	<5.0
Dieldrin	110	0.81	<5.8	<49	<4.6	<4.4	<4.7	<4.7	<4.6	<6.0	<5.0
4,4'-DDD	7,200	240	<5.8	<49	<4.6	<4.4	<4.7	<4.7	<4.6	47	<5.0
4,4'-DDT	7,000	340	<5.8	<49	<4.6	<4.4	<4.7	<4.7	<4.6	8.0 J	<5.0
Chlordane (tech)	6,500	68	<58	<98	<46	**510**	<47	<47	**490**	**2500**	**130**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	<15	<25	<12	22	<12	<12	--	130	<12
Benzo(a)pyrene	210	59	<15	<25	<12	28	<12	<12	--	**150**	<12
Benzo(b)fluoranthene	2,100	600	<15	<25	15	41	<12	<12	--	130	<12
Dibenz(a,h)anthracene	210	190	<15	<25	<12	<11	<12	<12	--	49	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	<15	<25	<12	22	<12	<12	--	110	<12
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
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TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
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	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-6N-S-0-1	OU1-83-6N-S-2-3	OU1-83-6N-S-3-4	OU1-83-6N-S-4-5	OU1-83-7N-S-0-1	OU1-83-7N-S-2-3	OU1-83-7N-S-3-4	OU1-83-7O-S-0-1	OU1-83-7O-S-2-3
Date Sampled:			7/29/2009	7/29/2009	7/29/2009	7/30/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/30/2009	7/30/2009	7/30/2009	8/1/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<2.3	<2.3	<2.4	--	<2.2	<2.3	<2.5	<2.3	<2.4
Heptachlor epoxide	190	0.82	<2.3	<2.3	<2.4	--	<2.2	<2.3	<2.5	<2.3	<2.4
4,4'-DDE	5,100	--	<4.5	<4.6	6.4	--	<4.5	<4.6	<5.0	<4.6	12 J
Dieldrin	110	0.81	<4.5	<4.6	<4.7	--	<4.5	<4.6	<5.0	<4.6	<4.8
4,4'-DDD	7,200	240	<4.5	<4.6	28	--	<4.5	<4.6	13	<4.6	25 J
4,4'-DDT	7,000	340	<4.5	<4.6	<4.7	--	<4.5	<4.6	<5.0	<4.6	<4.8
Chlordane (tech)	6,500	68	<45	<46	58 J	--	<45	67 J	<5.0	**160 J**	**710 J**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	<11	<11	**1500**	<25	13	<12	<13	<11	<12
Benzo(a)pyrene	210	59	<11	<11	**1500**	<25	<11	<12	<13	<11	<12
Benzo(b)fluoranthene	2,100	600	<11	<11	**840**	<25	<11	<12	<13	<11	<12
Dibenz(a,h)anthracene	210	190	<11	<11	**340**	<25	<11	<12	<13	<11	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	<11	<11	710	<25	<11	<12	<13	<11	<12
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
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Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
* Lead results provided by TestAmerica
U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.

TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-7O-S-2-3-P	OU1-83-7O-S-3-4	OU1-83-7P-S-0-1	OU1-83-7P-S-1-3	OU1-83-7Q-S-0-1	OU1-83-7Q-S-2-3	OU1-83-7Q-S-3-4	OU1-83-7R-S-0-1	OU1-83-7R-S-1-3
Date Sampled:			7/29/2009	7/29/2009	7/29/2009	7/31/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/31/2009
Date Reported:			7/30/2009	7/30/2009	7/30/2009	8/2/2009	7/30/2009	7/30/2009	7/31/2009	7/31/2009	8/2/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<2.3	<2.5	<2.5	<25	<2.3	<2.4	<2.7	<2.4	<23
Heptachlor epoxide	190	0.82	<2.3	<2.5	<2.5	<25	<2.3	<3.4	<2.7	<2.4	<23
4,4'-DDE	5,100	--	<4.7	<5.1	<5.1	<51	<4.6	<4.7	59	<4.8	<47
Dieldrin	110	0.81	<4.7	<5.1	<5.1	<51	<4.6	<4.7	<5.3	<4.8	<47
4,4'-DDD	7,200	240	<4.7	15	10 J	110	<4.6	<4.7	45 J	<4.8	<47
4,4'-DDT	7,000	340	<4.7	<5.1	6.9 J	<51	<4.6	<4.7	8.2	<4.8	<47
Chlordane (tech)	6,500	68	**200 J**	<51	**290 J**	**980**	<46	<47	**660 J**	<48	<47
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	<12	<13	<13	<13	13	<12	<13	<12	<12
Benzo(a)pyrene	210	59	<12	<13	<13	<13	<12	<12	<13	<12	<12
Benzo(b)fluoranthene	2,100	600	<12	<13	<13	<13	<12	<12	<13	<12	<12
Dibenz(a,h)anthracene	210	190	<12	<13	<13	<13	<12	<12	<13	<12	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	<12	<13	<13	<13	<12	<12	<13	<12	<12
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
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Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
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U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
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TABLE 3-1
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2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-8R-S-0-1	OU1-83-8R-S-2-3	OU1-83-8R-S-3-4	OU1-83-8Q-S-0-1	OU1-83-8Q-S-2-3	OU1-83-8Q-S-2-3-P	OU1-83-8Q-S-3-4	OU1-83-8P-S-0-1	OU1-83-8P-S-2-3
Date Sampled:			7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<2.7	<2.5	<2.4	<2.8	<2.5	<2.5	<2.5	<2.6	<2.4
Heptachlor epoxide	190	0.82	<2.7	<2.5	<2.4	<2.8	<2.5	<2.5	<2.5	<2.6	<2.4
4,4'-DDE	5,100	--	370	<5.0	<4.9	<5.6	<5.0	<5.1	5.2	11	<4.7
Dieldrin	110	0.81	<5.4	<5.0	<4.9	<5.6	<5.0	<5.1	<4.9	<5.3	<4.7
4,4'-DDD	7,200	240	**690 J**	8.9	<4.9	8.6	7.0	8.0	44	75	<4.7
4,4'-DDT	7,000	340	120	<5.0	<4.9	<5.6	<5.0	<5.1	<4.9	5.5	<4.7
Chlordane (tech)	6,500	68	**490 J**	<50	<49	<56	<50	<51	<49	**130 J**	<47
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	120	<12	<12	<14	<12	<13	<12	<13	<12
Benzo(a)pyrene	210	59	**150**	<12	<12	<14	18	<13	<12	22	<12
Benzo(b)fluoranthene	2,100	600	180	<12	<12	<14	19	<13	<12	23	<12
Dibenz(a,h)anthracene	210	190	<13	<12	<12	<14	<12	<13	<12	<13	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	100	<12	<12	<14	18	<13	<12	20	<12
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
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TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)										
Sample ID:			OU1-83-8P-S-3-4	OU1-83-8O-S-0-1	OU1-83-8O-S-2-3	OU1-83-8O-S-3-4	OU1-83-9O-S-0-1	OU1-83-9O-S-1-2	OU1-83-9O-S-2-3	OU1-83-9O-S-3-4	OU1-83-9Q-S-0-1	OU1-83-9Q-S-2-3
Date Sampled:			7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	8/18/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	8/19/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)												
Heptachlor	380	6.6	<2.4	<2.3	<2.3	<2.6	<2.4	<22	<2.3	<2.4	<2.4	<2.4
Heptachlor epoxide	190	0.82	<2.4	<2.3	<2.3	<2.6	**44**	<22	**5.8 J**	<2.4	<2.4	<2.4
4,4'-DDE	5,100	--	<4.7	<4.6	8.3	<5.2	18	<45	5.0	<4.7	4200	<4.7
Dieldrin	110	0.81	<4.7	<4.6	<4.7	<5.2	**190**	<45	**41**	**9.8**	<4.9	<4.7
4,4'-DDD	7,200	240	<4.7	<4.6	40	<5.2	17	<45	<4.5	<4.7	<4.9 R	<4.7
4,4'-DDT	7,000	340	<4.7	<4.6	4.8	<5.2	<4.9	<45	4.5	<4.7	**6200**	<4.7
Chlordane (tech)	6,500	68	<47	<46	**94 J**	<52	**4000 J**	**610**	**560 J**	<47	**990 J**	<47
PAHs with Selected Ion Monitoring (Soil) (µg/kg)												
Benzo(a)anthracene	2,100	180	<12	21	<12	<13	130	--	<11	<12	120	<12
Benzo(a)pyrene	210	59	<12	19	<12	<13	**160**	--	<11	<12	**170**	<12
Benzo(b)fluoranthene	2,100	600	<12	22	<12	<13	190	--	<11	<12	200	<12
Dibenz(a,h)anthracene	210	190	<12	<11	<12	<13	51	--	<11	<12	<12	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	<12	14	<12	<13	130	--	<11	<12	140	<12
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--	--

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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)										
Sample ID:			OU1-83-9Q-S-3-4	OU1-83-14G-S-0-1	OU1-83-14G-S-2-3	OU1-83-9P-S-0-1	OU1-83-9P-S-2-3	OU1-83-9P-S-3-4	OU1-83-9R-S-0-1	OU1-83-9R-S-1-2	OU1-83-9R-S-2-3	OU1-83-9R-S-3-4
Date Sampled:			7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	8/18/2009	7/29/2009	7/29/2009
Date Reported:			8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/19/2009	8/1/2009	8/1/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)												
Heptachlor	380	6.6	<23	<23	<24	<23	<24	<24	<25	<23	<24	<25
Heptachlor epoxide	190	0.82	<23	<23	<24	<23	<24	<24	<25	<23	<24	<25
4,4'-DDE	5,100	--	<46	<46	<47	90 J	<49	<47	1500 J	110	<47	<50
Dieldrin	110	0.81	<46	<46	<47	<46	<49	<47	<49	<47	<47	<50
4,4'-DDD	7,200	240	<46	<46	<47	<46	<49	<47	**9300**	160	**330 J**	150 J
4,4'-DDT	7,000	340	<46	<46	<47	87 J	<49	<47	**6800**	330	<47	<50
Chlordane (tech)	6,500	68	<46	<46	<47	57	<49	<47	**3500**	**220**	51	<50
PAHs with Selected Ion Monitoring (Soil) (µg/kg)												
Benzo(a)anthracene	2,100	180	<12	<11	<12	<12	<12	<12	45	--	<12	<12
Benzo(a)pyrene	210	59	<12	<11	<12	<12	<12	<12	**75**	--	<12	<12
Benzo(b)fluoranthene	2,100	600	<12	<11	<12	<12	<12	<12	86	--	<12	<12
Dibenz(a,h)anthracene	210	190	<12	<11	<12	<12	<12	<12	<12	--	<12	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	<12	<11	<12	<12	<12	<12	95	--	<12	<12
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--	--

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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-8K-S-0-1	OU1-83-8K-S-0-1-P	OU1-83-8K-S-0-1	OU1-83-8K-S-1-2	OU1-83-8K-S-2-3	OU1-83-9K-S-0-1	OU1-83-9K-S-2-3	OU1-83-9K-S-2-3-P	OU1-83-8H-S-0-1
Date Sampled:			7/29/2009	7/29/2009	7/30/2009	8/4/2009	7/29/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009
Date Reported:			8/1/2009	8/1/2009	8/3/2009	8/5/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<24	<23	0.11 U	<22	<22	<23	<22	<22	<25
Heptachlor epoxide	190	0.82	**53 J**	**53**	0.19 U	<22	<22	<23	<22	<22	<25
4,4'-DDE	5,100	--	<47	<45	0.93 J	<44	<45	<46	<44	<44	110
Dieldrin	110	0.81	**240 J**	**240**	**92 J**	<44	<45	<46	<44	<44	<50
4,4'-DDD	7,200	240	**300 J**	<45	0.32 U	<44	<45	<46	<44	<44	<50
4,4'-DDT	7,000	340	<47	45	9.1	<44	<45	<46	<44	<44	120
Chlordane (tech)	6,500	68	**1900**	**3000**	**850 J**	<44	<45	**520**	<44	<44	**730**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	13	<11	47	--	<11	17	29	<11	59
Benzo(a)pyrene	210	59	21	13	**120**	--	<11	31	32	<11	**71**
Benzo(b)fluoranthene	2,100	600	32	<11	160	--	<11	25	74	<11	270
Dibenz(a,h)anthracene	210	190	<12	<11	38	--	<11	<12	<11	<11	<25
Indeno(1,2,3-cd)pyrene	2,100	2,000	18	<11	120	--	<11	21	<11	<11	54
Lead (mg/kg)*	800	270	24	27	--	--	3.7	98	53	57	140

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2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-8H-S-0-1-P	OU1-83-8H-S-1-2	OU1-83-8H-S-2-3	OU1-83-8H-S-2-3	OU1-83-9G-S-0-1	OU1-83-9G-S-1-2	OU1-83-9G-S-2-3	OU1-83-9G-S-2-3-P	OU1-83-9I-S-0-1
Date Sampled:			7/30/2009	8/6/2009	7/30/2009	7/30/2009	7/30/2009	8/3/2009	7/30/2009	7/30/2009	7/31/2009
Date Reported:			8/1/2009	8/8/2009	8/1/2009	8/3/2009	8/1/2009	8/4/2009	8/1/2009	8/2/2009	8/2/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<25	<23	<22	0.10 U	<23	<22	<23	<23	<23
Heptachlor epoxide	190	0.82	**27**	<23	<22	0.17 U	<23	<22	<23	<23	**47**
4,4'-DDE	5,100	--	110	<46	<43	0.23 U	<46	<44	<46	<46	<46
Dieldrin	110	0.81	<51	<46	<43	0.34 U	**180**	<44	<46	<46	<46
4,4'-DDD	7,200	240	<51	<46	<43	0.29 U	48 J	76	<46	<46	97
4,4'-DDT	7,000	340	140	<46	<43	0.28 U	89	260	<46	<46	<46
Chlordane (tech)	6,500	68	**850**	<46	<43	3.5 U	**3000**	67	<93	<46	**3500**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	110	--	<11	2.1 U	**620**	100	<23	<12	**750**
Benzo(a)pyrene	210	59	**160**	--	<11	2.1 U	**880**	**95**	<23	<12	**610**
Benzo(b)fluoranthene	2,100	600	230	--	<11	2.1 U	**1300**	160	<23	<12	**680**
Dibenz(a,h)anthracene	210	190	39	--	<11	0.70 U	**220**	37	<23	<12	150
Indeno(1,2,3-cd)pyrene	2,100	2,000	110	--	<11	4.1 U	810	86	<23	<12	480
Lead (mg/kg)*	800	270	110	--	4.3	--	77	--	7.7	--	10

Notes:
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2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)										
Sample ID:			OU1-83-9I-S-1-2	OU1-83-9I-S-2-3	OU1-83-9I-S-2-3-P	OU1-83-6M-S-3-4	OU1-83-5M-S-3-4	OU1-83-5N-S-3-4	OU1-83-12I-S-0-1	OU1-83-10I-S-0-1	OU1-83-10I-S-1-2	OU1-83-10I-S-2-3
Date Sampled:			8/3/2009 & 8/19/09	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	8/3/2009	8/18/2009
Date Reported:			8/4/2009 & 8/20/09	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/4/2009	8/19/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)												
Heptachlor	380	6.6	<23	<23	<23	--	--	--	<23	**50**	**890**	<22
Heptachlor epoxide	190	0.82	<23	<23	<23	--	--	--	<23	<22	<22	<22
4,4'-DDE	5,100	--	<46	<47	<46	--	--	--	<46	<44	90 J	<45
Dieldrin	110	0.81	<46	<47	<46	--	--	--	<46	<44	<44	<45
4,4'-DDD	7,200	240	<46	<47	<46	--	--	--	140	<44	<44	<45
4,4'-DDT	7,000	340	<46	<47	<46	--	--	--	<46	<44	63	<45
Chlordane (tech)	6,500	68	<46	**260**	**220**	--	--	--	**1500**	**26000**	**35000**	<45
PAHs with Selected Ion Monitoring (Soil) (µg/kg)												
Benzo(a)anthracene	2,100	180	<11	<12	<11	<85	<25	<13	82	**180**	150	--
Benzo(a)pyrene	210	59	<11	<12	<11	<85	<25	<13	**100**	**280**	**200**	--
Benzo(b)fluoranthene	2,100	600	<45	<12	<11	<85	<25	<13	89	390	210	--
Dibenz(a,h)anthracene	210	190	<11	<12	<11	<85	<25	<13	<11	130	90	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	<11	<12	<11	<85	<25	<13	96	270	340	--
Lead (mg/kg)*	800	270	--	35	--	--	--	--	--	--	--	--

Notes:
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Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-10I-S-2-3-P	OU1-83-14D-S-0-1	OU1-83-14D-S-0-1-P	OU1-83-15E-S-0-1	OU1-83-12K-S-0-1	OU1-83-12K-S-0-1-P	OU1-83-11L-S-0-1	OU1-83-10K-S-0-1	OU1-83-10K-S-0-1-P
Date Sampled:			8/18/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009
Date Reported:			8/19/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<23	<22	<21	<21	<21	<21	<22	<22	<23
Heptachlor epoxide	190	0.82	<23	<22	<21	<21	<21	<21	<22	<22	<23
4,4'-DDE	5,100	--	<46	<43	<43	<42	<42	<42	<44	<45	<46
Dieldrin	110	0.81	<46	<43	<43	**100 J**	<42	<42	<44	<45	<46
4,4'-DDD	7,200	240	<46	<43	<43	<42	<42	<42	<44	<45	<46
4,4'-DDT	7,000	340	<46	<43	<43	<42	<42	<42	<44	<45	<46
Chlordane (tech)	6,500	68	<46	<43	<43	**600**	<42	66	**150**	**85**	**110**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	--	--	--	--	--	--	--	<45	--
Benzo(a)pyrene	210	59	--	--	--	--	--	--	--	<45	--
Benzo(b)fluoranthene	2,100	600	--	--	--	--	--	--	--	110	--
Dibenz(a,h)anthracene	210	190	--	--	--	--	--	--	--	<45	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	--	--	--	--	--	--	--	<45	--
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
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U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-10K-S-1-2	OU1-83-9F-S-0-1	OU1-83-9F-S-1-2	OU1-83-9J-S-0-1	OU1-83-9J-S-1-2	OU1-83-10G-S-0-1	OU1-83-10G-S-0-1-P	OU1-83-10G-S-1-2	OU1-83-5Q-S-2-3
Date Sampled:			8/19/2009	8/3/2009	8/4/2009	8/3/2009 & 8/19/09	8/19/2009	8/3/2009	8/3/2009	8/4/2009	8/3/2009
Date Reported:			8/20/2009	8/4/2009	8/8/2009	8/4/2009 & 8/20/09	8/19/2009 & 8/20/09	8/4/2009	8/4/2009	8/5/2009	8/4/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<23	<22	<22	<23	<22	**67**	**22**	<21	--
Heptachlor epoxide	190	0.82	<23	<22	<22	<23	<22	<21	<21	<21	--
4,4'-DDE	5,100	--	<46	<44	<43	<46	<45	<42	<42	91	--
Dieldrin	110	0.81	<46	**78**	<43	<46	<45	**63**	<42	<42	--
4,4'-DDD	7,200	240	<46	<44	<43	<46	<45	<42	96	<42	--
4,4'-DDT	7,000	340	<46	<44	<43	<46	<45	58	<42	260	--
Chlordane (tech)	6,500	68	**160**	**9500**	**90**	**83**	<45	**7700**	**1600**	**2200**	--
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	--	**9800**	<43	**490**	13	71	**570**	<42	<12
Benzo(a)pyrene	210	59	--	**24000**	44	**530**	36	**83**	**490**	<42	<12
Benzo(b)fluoranthene	2,100	600	--	**29000**	<43	**720**	76	100	**660**	<42	<46
Dibenz(a,h)anthracene	210	190	--	**6600**	<43	160	<11	<11	150	<42	<12
Indeno(1,2,3-cd)pyrene	2,100	2,000	--	**23000**	<43	400	54	87	400	45	<12
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)										
Sample ID:			OU1-83-8J-S-0-1	OU1-83-8I-S-0-1	OU1-83-8G-S-0-1	OU1-83-8G-S-1-2	OU1-83-8G-S-2-3	OU1-83-5P-S-2-3	OU1-83-9N-S-0-1	OU1-83-10N-S-0-1	OU1-83-10O-S-0-1	OU1-83-14F-S-0-1
Date Sampled:			8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/4/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009
Date Reported:			8/4/2009	8/4/2009	8/4/2009	8/19/2009	8/5/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)												
Heptachlor	380	6.6	<23	<23	**950**	**170**	<22	--	<23	<23	<25	<22
Heptachlor epoxide	190	0.82	<23	<23	**5300 J**	**360**	<22	--	<23	<23	<25	<22
4,4'-DDE	5,100	--	<46	<47	1400	150 J	<44	--	<46	<46	<49	<44
Dieldrin	110	0.81	<46	<47	<47	**82**	<44	--	<46	<46	<49	<44
4,4'-DDD	7,200	240	<46	<47	**330**	46	<44	--	<46	<46	<49	<44
4,4'-DDT	7,000	340	<46	<47	<47	150	<44	--	<46	47	<49	<44
Chlordane (tech)	6,500	68	<46	<47	**220000**	**27000**	<44	--	49	66	<49	<44
PAHs with Selected Ion Monitoring (Soil) (µg/kg)												
Benzo(a)anthracene	2,100	180	<11	<12	120	<46	--	<13	--	--	--	--
Benzo(a)pyrene	210	59	<11	<12	**160**	<46	--	<13	--	--	--	--
Benzo(b)fluoranthene	2,100	600	<46	<47	280	<46	--	<51	--	--	--	--
Dibenz(a,h)anthracene	210	190	<11	<12	44	<46	--	<13	--	--	--	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	<11	<12	130	<46	--	<13	--	--	--	--
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--	--

Notes:
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2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)										
Sample ID:			OU1-83-5R-S-1-3	OU1-83-10F-S-0-1	OU1-83-10F-S-1-2	OU1-83-10F-S-2-3	OU1-83-10E-S-0-1	OU1-83-10E-S-1-2	OU1-83-8F-S-0-1	OU1-83-8F-S-2-3	OU1-83-8F-S-1-2	OU1-83-9E-S-0-1
Date Sampled:			8/4/2009	8/4/2009	8/4/2009	8/6/2009	8/4/2009	8/4/2009	8/4/2009		8/4/2009	8/4/2009
Date Reported:			8/5/2009	8/5/2009	8/5/2009	8/7/2009	8/5/2009	8/5/2009	8/5/2009	8/19/2009	8/5/2009	8/5/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)												
Heptachlor	380	6.6	--	<21	--	--	<21	--	<23	--	<23	<22
Heptachlor epoxide	190	0.82	--	<21	--	--	<21	--	**30**	--	<23	<22
4,4'-DDE	5,100	--	--	43	--	--	<42	--	<46	--	<45	<44
Dieldrin	110	0.81	--	**120**	--	--	**57**	--	**170**	--	<45	<44
4,4'-DDD	7,200	240	--	<42	--	--	<42	--	<46	--	<45	<44
4,4'-DDT	7,000	340	--	62	--	--	<42	--	<46	--	<45	<44
Chlordane (tech)	6,500	68	--	**3900**	--	--	**930**	--	**1900**	--	**75**	**1700**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)												
Benzo(a)anthracene	2,100	180	<66	<42	<42	<46	<42	<45	94	**180**	140	93
Benzo(a)pyrene	210	59	**70**	<42	<42	<46	<42	<45	**130**	**170**	**220**	**120**
Benzo(b)fluoranthene	2,100	600	200	110	<42	<46	<42	<45	510	260	590	400
Dibenz(a,h)anthracene	210	190	<66	<42	<42	<46	<42	<45	<93	51	<90	<88
Indeno(1,2,3-cd)pyrene	2,100	2,000	76	48	<42	<46	<42	<45	170	130	210	130
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--	--

Notes:
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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-9E-S-1-2	OU1-83-9E-S-2-3	OU1-83-8E-S-0-1	OU1-83-8E-S-1-2	OU1-83-8E-S-1-2-P	OU1-83-10S-S-0-1	OU1-83-10R-S-0-1	OU1-83-9S-S-0-1	OU1-83-9S-S-0-1-P
Date Sampled:			8/4/2009	8/6/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009	8/5/2009	8/5/2009
Date Reported:			8/5/2009	8/7/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/6/2009	8/6/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	--	--	<23	--	--	<24	<24	<23	<22
Heptachlor epoxide	190	0.82	--	--	<23	--	--	<24	<24	<23	<22
4,4'-DDE	5,100	--	--	--	<45	--	--	300	<47	550	<44
Dieldrin	110	0.81	--	--	<45	--	--	<48	<47	<46	<44
4,4'-DDD	7,200	240	--	--	<45	--	--	67 J	<47	86 J	<44
4,4'-DDT	7,000	340	--	--	<45	--	--	**1700**	<47	**1400**	180
Chlordane (tech)	6,500	68	--	--	**2100**	--	--	<48	<47	**270**	**76**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	**280**	<48	<45	<50	<48	--	--	--	--
Benzo(a)pyrene	210	59	**240**	<48	<45	<50	<48	--	--	--	--
Benzo(b)fluoranthene	2,100	600	300	<48	<45	<50	<48	--	--	--	--
Dibenz(a,h)anthracene	210	190	<43	<48	<45	<50	<48	--	--	--	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	160	<48	<45	<50	<48	--	--	--	--
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)										
Sample ID:			OU1-83-7K-S-0-1	OU1-83-7L-S-0-1	OU1-83-8L-S-0-1	OU1-83-7E-S-0-1	OU1-83-7E-S-1-2	OU1-83-10D-S-0-1	OU1-83-10D-S-1-2	OU1-83-9D-S-0-1	OU1-83-9D-S-1-2	OU1-83-7F-S-0-1
Date Sampled:			8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009
Date Reported:			8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)												
Heptachlor	380	6.6	<23	<23	<24	--	--	--	--	--	--	<23
Heptachlor epoxide	190	0.82	<23	<23	<24	--	--	--	--	--	--	<23
4,4'-DDE	5,100	--	<45	<46	<47	--	--	--	--	--	--	<47
Dieldrin	110	0.81	<45	<46	<47	--	--	--	--	--	--	<47
4,4'-DDD	7,200	240	<45	<46	<47	--	--	--	--	--	--	<47
4,4'-DDT	7,000	340	<45	<46	<47	--	--	--	--	--	--	<47
Chlordane (tech)	6,500	68	**250**	<46	<47	--	--	--	--	--	--	66
PAHs with Selected Ion Monitoring (Soil) (µg/kg)												
Benzo(a)anthracene	2,100	180	--	--	--	<47	<47	**260**	<46	<45	<44	<47
Benzo(a)pyrene	210	59	--	--	--	<47	<47	**420**	<46	<45	<44	<47
Benzo(b)fluoranthene	2,100	600	--	--	--	<47	<47	500 J	<46	<45	<44	120 J
Dibenz(a,h)anthracene	210	190	--	--	--	<47	<47	120	<46	<45	<44	<47
Indeno(1,2,3-cd)pyrene	2,100	2,000	--	--	--	<47	<47	400	<46	<45	<44	<47
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--	--

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Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-7F-S-1-2	OU1-83-7G-S-0-1	OU1-83-7G-S-1-2	OU1-83-8D-S-0-1	OU1-83-8D-S-1-2	OU1-83-7H-S-0-1	OU1-83-7H-S-1-2	OU1-83-10Q-S-0-1	OU1-83-10Q-S-0-1-P
Date Sampled:			8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009
Date Reported:			8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/7/2009	8/8/2009	8/8/2009	8/8/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<23	<22	<23	--	--	<28	<22	<23	<28
Heptachlor epoxide	190	0.82	<23	<22	<23	--	--	<28	<22	<23	<28
4,4'-DDE	5,100	--	<46	<44	<46	--	--	<55	<45	3300	2900
Dieldrin	110	0.81	<46	<44	<46	--	--	<55	<45	<45	<56
4,4'-DDD	7,200	240	<46	<44	<46	--	--	<55	<45	**920**	**2900**
4,4'-DDT	7,000	340	<46	<44	<46	--	--	<55	<45	**9700 J**	**17000 J**
Chlordane (tech)	6,500	68	<46	<44	<46	--	--	<55	<45	**2200**	**2300**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	<46	<44	<46	**1200**	<46	--	--	--	--
Benzo(a)pyrene	210	59	<46	<44	<46	**1300**	<46	--	--	--	--
Benzo(b)fluoranthene	2,100	600	130 J	<44	<46	**2700 J**	<46	--	--	--	--
Dibenz(a,h)anthracene	210	190	<46	<44	<46	**360**	<46	--	--	--	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	<46	<44	<46	1200	<46	--	--	--	--
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

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Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-10Q-S-1-2	OU1-83-10P-S-0-1	OU1-83-10C-S-0-1	OU1-83-10C-S-1-2	OU1-83-11D-S-0-1	OU1-83-11D-S-1-2	OU1-83-9C-S-0-1	OU1-83-9C-S-1-2	OU1-83-8C-S-0-1
Date Sampled:				8/6/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/6/2009
Date Reported:			8/19/2009	8/8/2009	8/7/2009	8/7/2009	8/7/2009 & 8/21/09	8/7/2009	8/7/2009	8/7/2009	8/7/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<22	<22	--	--	<21	--	--	--	--
Heptachlor epoxide	190	0.82	<22	<22	--	--	**33**	--	--	--	--
4,4'-DDE	5,100	--	470	<43	--	--	<42	--	--	--	--
Dieldrin	110	0.81	<44	<43	--	--	**80**	--	--	--	--
4,4'-DDD	7,200	240	**510**	<43	--	--	<42	--	--	--	--
4,4'-DDT	7,000	340	**740**	<43	--	--	<42	--	--	--	--
Chlordane (tech)	6,500	68	**650**	<43	--	--	**1800**	--	--	--	--
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	--	--	<11	<11	12	<11	19	<11	52
Benzo(a)pyrene	210	59	--	--	<11	<11	15	<11	17	<11	**81**
Benzo(b)fluoranthene	2,100	600	--	--	<11	<11	19	<11	31	<11	100
Dibenz(a,h)anthracene	210	190	--	--	<11	<11	<11	<11	<11	<11	34
Indeno(1,2,3-cd)pyrene	2,100	2,000	--	--	13	<11	15	<11	16	<11	68
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

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Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-8C-S-0-1-P	OU1-83-8C-S-1-2	OU1-83-7D-S-0-1	OU1-83-7D-S-1-2	OU1-83-9L-S-0-1	OU1-83-11C-S-0-1	OU1-83-11C-S-0-1	OU1-83-11C-S-1-2	OU1-83-11F-S-0-1
Date Sampled:			8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009 & 8/21/09	8/21/2009	8/6/2009	8/18/2009
Date Reported:			8/7/2009	8/7/2009	8/7/2009	8/7/2009	8/7/2009	8/7/2009 & 8/25/09	8/26/2009	8/7/2009	8/19/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	--	--	--	--	<24	<21	0.094 U	--	**79**
Heptachlor epoxide	190	0.82	--	--	--	--	<24	<21	0.16 U	--	<21
4,4'-DDE	5,100	--	--	--	--	--	<47	<43	0.21 U	--	<43
Dieldrin	110	0.81	--	--	--	--	<47	<43	**2.8 J**	--	**1500**
4,4'-DDD	7,200	240	--	--	--	--	<47	<43	0.27 U	--	120
4,4'-DDT	7,000	340	--	--	--	--	<47	<43	0.26 U	--	130
Chlordane (tech)	6,500	68	--	--	--	--	**84**	**69**	3.3	--	**26000**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	<11	<11	120	<12	--	<11	--	<11	**520**
Benzo(a)pyrene	210	59	<11	<11	**150**	<12	--	<11	--	<11	**460**
Benzo(b)fluoranthene	2,100	600	<11	<11	260	<12	--	<11	--	<11	**630**
Dibenz(a,h)anthracene	210	190	<11	<11	50	<12	--	<11	--	<11	160
Indeno(1,2,3-cd)pyrene	2,100	2,000	<11	<11	120	<12	--	<11	--	<11	330
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
* Lead results provided by TestAmerica
U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.

TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-11F-S-1-2	OU1-83-11H-S-0-1	OU1-83-11H-S-1-2	OU1-83-12J-S-0-1	OU1-83-12J-S-1-2	OU1-83-8N-S-0-1	OU1-83-8S-S-0-1	OU1-83-11P-S-0-1	OU1-83-11P-S-0-1-P
Date Sampled:			8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009
Date Reported:			8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/25/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<22	<22	<22	<21	<22	<22	<31	**3300**	**1900**
Heptachlor epoxide	190	0.82	<22	<22	<22	<21	<22	<22	<31	<23	<23
4,4'-DDE	5,100	--	<43	<43	<44	<43	<44	<45	<62	4200	3600
Dieldrin	110	0.81	<43	<43	<44	**250**	<44	<45	<62	<46	<45
4,4'-DDD	7,200	240	<43	<43	<44	<43	<44	<45	120	**5400**	**4500**
4,4'-DDT	7,000	340	<43	48	<44	<43	<44	<45	<62	**27000**	**28000**
Chlordane (tech)	6,500	68	**150**	**1200**	<44	**2900**	<44	<45	<62	**200000**	**95000**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	<11	44	<11	<11	--	--	--	--	--
Benzo(a)pyrene	210	59	<11	48	<11	17	--	--	--	--	--
Benzo(b)fluoranthene	2,100	600	<11	73	<11	19	--	--	--	--	--
Dibenz(a,h)anthracene	210	190	<43	<11	<11	<11	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	<11	47	<11	17	--	--	--	--	--
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
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U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.

TABLE 3-1
Site 83 Summary of Soil Analytical Results
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Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-11P-S-1-2	OU1-83-11Q-S-0-1	OU1-83-11R-S-0-1	OU1-83-12F-S-0-1	OU1-83-12F-S-1-2	OU1-83-12O-S-0-1	OU1-83-12O-S-0-1-P	OU1-83-12P-S-0-1	OU1-83-12Q-S-0-1
Date Sampled:			8/18/2009	8/18/2009	8/18/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009
Date Reported:			8/20/2009	8/19/2009	8/19/2009	8/20/2009	8/21/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<23	**33**	<22	<22	<23	<22	<22	<21	<22
Heptachlor epoxide	190	0.82	<23	<23	<22	<22	<23	<22	<22	<21	<22
4,4'-DDE	5,100	--	91	110	<45	<43	<45	44	<43	460	<43
Dieldrin	110	0.81	<46	<46	<45	**230**	<45	<43	<43	<42	<43
4,4'-DDD	7,200	240	<46	92	<45	<43	<45	<43	<43	**560**	<43
4,4'-DDT	7,000	340	110	**650**	<45	<43	<45	45	<43	**1200**	51
Chlordane (tech)	6,500	68	<46	<46	**160**	**95**	<45	<43	<43	**180**	**1000**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	--	--	--	<11	--	--	--	--	--
Benzo(a)pyrene	210	59	--	--	--	<11	--	--	--	--	--
Benzo(b)fluoranthene	2,100	600	--	--	--	<11	--	--	--	--	--
Dibenz(a,h)anthracene	210	190	--	--	--	<11	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	--	--	--	<11	--	--	--	--	--
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
* Lead results provided by TestAmerica
U or < indicates that the consituent was not detected
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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)									
Sample ID:			OU1-83-11O-S-0-1	OU1-83-13J-S-0-1	OU1-83-12E-S-0-1	OU1-83-12E-S-1-2	OU1-83-12G-S-0-1	OU1-83-13F-S-0-1	OU1-83-13F-S-0-1-P	OU1-83-12D-S-0-1	OU1-83-12D-S-1-2
Date Sampled:			8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009
Date Reported:			8/20/2009	8/20/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)											
Heptachlor	380	6.6	<21	<21	<21	<23	<21	<23	<23	<22	<23
Heptachlor epoxide	190	0.82	<21	<21	**28**	<23	<21	<23	<23	<22	<23
4,4'-DDE	5,100	--	<43	<42	<43	<46	<43	<46	<45	<43	<45
Dieldrin	110	0.81	<43	<42	**1500**	<46	<43	<46	<45	**520**	**67**
4,4'-DDD	7,200	240	<43	<42	<43	<46	<43	<46	<45	<43	<45
4,4'-DDT	7,000	340	<43	<42	<43	<46	<43	<46	<45	<43	<45
Chlordane (tech)	6,500	68	<43	<42	**1200**	<46	<43	**380**	**580**	**3100**	**86**
PAHs with Selected Ion Monitoring (Soil) (µg/kg)											
Benzo(a)anthracene	2,100	180	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	210	59	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	2,100	600	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	210	190	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	--	--	--	--	--	--	--	--	--
Lead (mg/kg)*	800	270	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
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TABLE 3-1
Site 83 Summary of Soil Analytical Results
2009 Rhēa Site Soil Investigation Report
Marine Corps Station Cherry Point
Cherry Point, North Carolina

	RSL for Industrial Soil (µg/kg)	NC SSL Jan. 2010 (µg/kg)			
Sample ID:			OU1-83-13D-S-0-1	OU1-83-12C-S-0-1	OU1-83-13C-S-0-1
Date Sampled:			8/20/2009	8/20/2009	8/20/2009
Date Reported:			8/21/2009	8/25/2009	8/25/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)					
Heptachlor	380	6.6	<22	<21	<22
Heptachlor epoxide	190	0.82	<22	<21	<22
4,4'-DDE	5,100	--	<43	<42	<43
Dieldrin	110	0.81	<43	<42	<43
4,4'-DDD	7,200	240	<43	<42	<43
4,4'-DDT	7,000	340	<43	<42	<43
Chlordane (tech)	6,500	68	63	<42	<43
PAHs with Selected Ion Monitoring (Soil) (µg/kg)					
Benzo(a)anthracene	2,100	180	--	--	--
Benzo(a)pyrene	210	59	--	--	--
Benzo(b)fluoranthene	2,100	600	--	--	--
Dibenz(a,h)anthracene	210	190	--	--	--
Indeno(1,2,3-cd)pyrene	2,100	2,000	--	--	--
Lead (mg/kg)*	800	270	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are highlighted gray
Exceedances of the NC SSLs are in bold text and underlined
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow
Samples not analyzed are signified by "--"
* Lead results provided by TestAmerica
U or < indicates that the consituent was not detected
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.

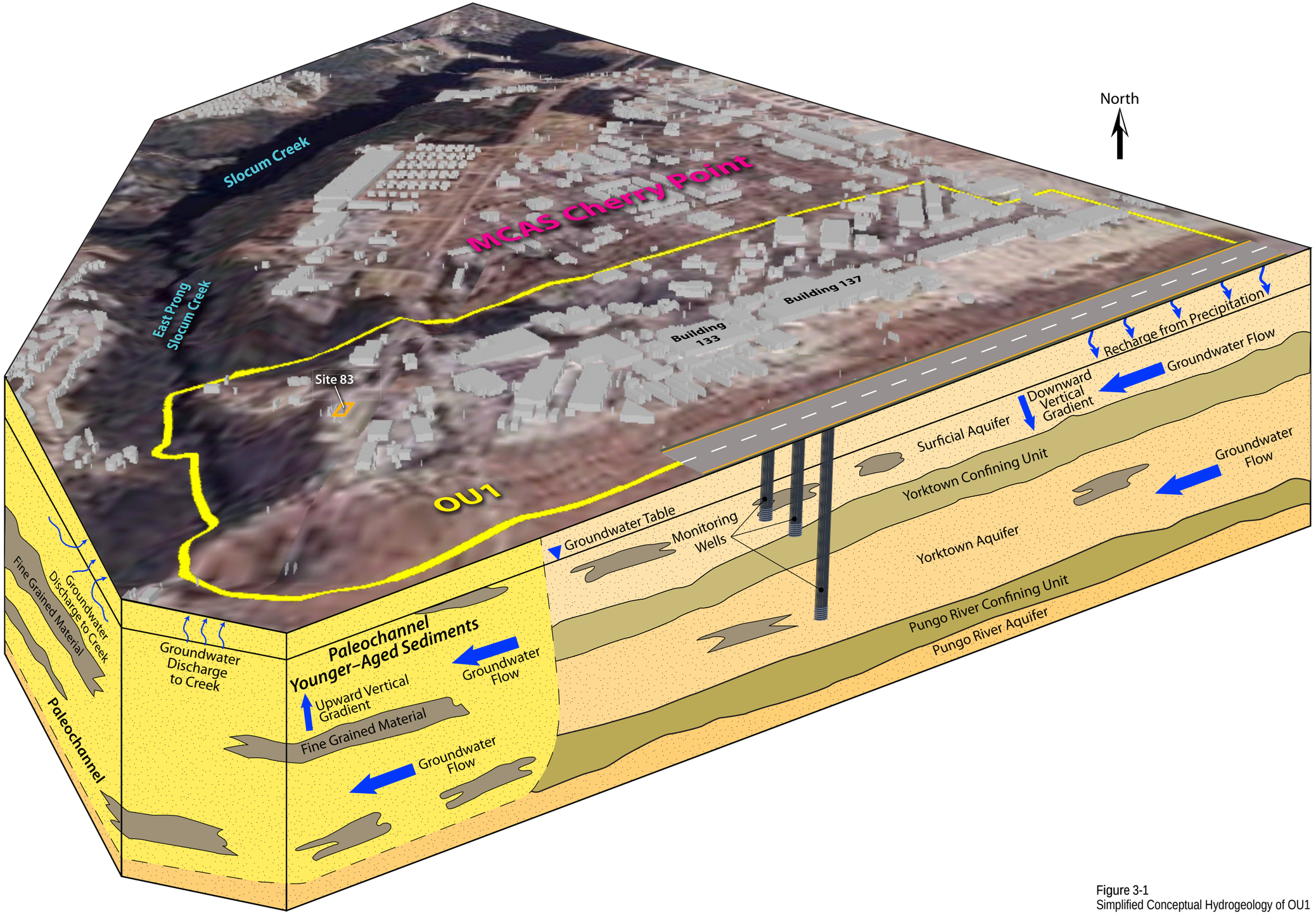
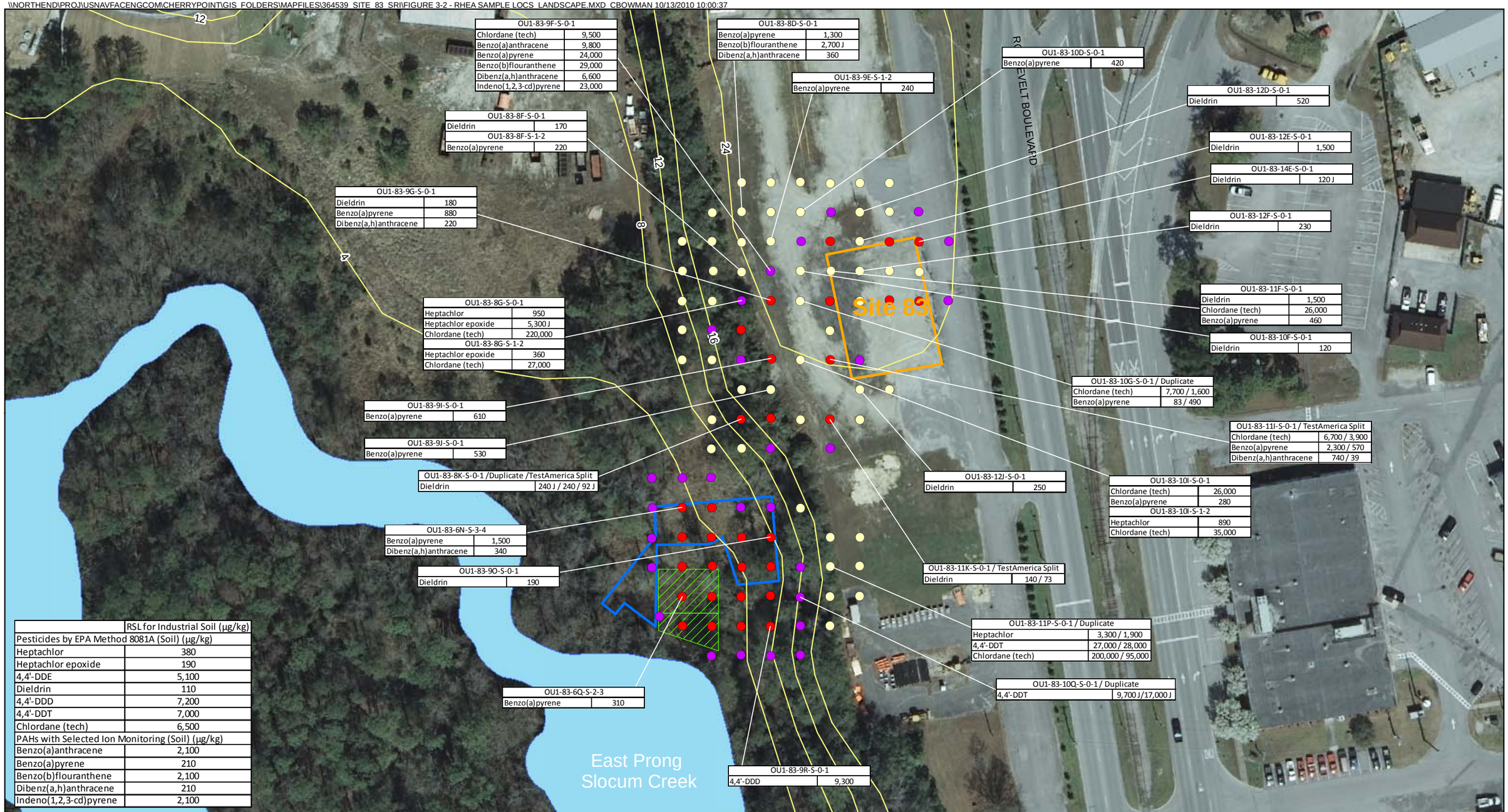


Figure 3-1
Simplified Conceptual Hydrogeology of OU1
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL

\\NORTHEND\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\364539_SITE_83_SRI\FIGURE 3-2 - RHEA SAMPLE LOCS_LANDSCAPE.MXD CBOWMAN 10/13/2010 10:00:37



	RSL for Industrial Soil (µg/kg)
Pesticides by EPA Method 8081A (Soil) (µg/kg)	
Heptachlor	380
Heptachlor epoxide	190
4,4'-DDE	5,100
Dieldrin	110
4,4'-DDD	7,200
4,4'-DDT	7,000
Chlordane (tech)	6,500
PAHs with Selected Ion Monitoring (Soil) (µg/kg)	
Benzo(a)anthracene	2,100
Benzo(a)pyrene	210
Benzo(b)flouranthene	2,100
Dibenz(a,h)anthracene	210
Indeno(1,2,3-cd)pyrene	2,100

Legend

- Primary Soil Sample Location
- Secondary Soil Sample Location
- Field Soil Sample Location
- Ground Surface Contour (4 feet interval)
- 1997 Excavated Area (Debris Piles Removal Action)
- 1996 FMD Soil Response Excavation Area
- Site 83 Boundary

N
W E
S

0 40 80
Feet

Figure 3-2
2009 Rhēa Site Soil Investigation Sampling Results
Exceedances of Industrial RSLs in Soil
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL.

83MW003	1998
1,2,4-Trichlorobenzene	0.13 J
1,2-Dichlorobenzene	5
1,4-Dichlorbenzene	0.79 J

83MW001	1998
1,2-Dichlorobenzene	9.7
1,2-Dichlorobenzene	4.5 J
1,4-Dichlorobenzene	1.5

MW50	2000	2009
cis-1,2-DCE	3.4	ND
trans-1,2-DCE	0.37 J	ND
TCE	0.5 J	ND
Vinyl Chloride	2	ND

MW51	2000	2009
1,2-Dichlorobenzene	0.46 J	ND
1,4-Dichlorbenzene	0.18 J	ND
Carbon Disulfide	0.38 J	ND
Chloroform	0.95 J	ND
Chlorobenzene	1.3	ND
cis-1,2-DCE	8.3	ND
Vinyl Chloride	1	ND

	NC2L Standards (January, 2010) (µg/L)
1,2,4-Trichlorobenzene	70
1,2-Dichlorobenzene	20
1,4-Dichlorobenzene	6
Carbon disulfide	700
Chlorobenzene	50
Chloroform	70
PCE	0.7
TCE	3
cis-1,2-DCE	70
trans-1,2-DCE	100
Vinyl Chloride	0.03

83MW002
No Detections

16GW49	2009
cis-1,2-DCE	5.9
trans-1,2-DCE	0.89 J
PCE	2.6
TCE	2.3

Legend

- Upper Surficial Aquifer Monitoring Well
- Lower Surficial Aquifer Monitoring Well
- 1997 Excavated Area (Debris Piles Removal Action)
- 1996 FMD Soil Response Excavation Area
- Site 83 Boundary

Notes:
-Inorganic Constituents not included on this Figure
-All concentrations in micrograms per liter
-ND - Not Detected

N
W E
S

0 25 50 100 Feet

Figure 3-3
Detections in Groundwater Samples
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL.

SECTION 4

Human Health Risk Assessment Summary

An updated HHRA was prepared for Site 83 using the data collected during the additional soil investigation study. Soil samples collected during the 2002 OU1 RI were not included in the HHRA, since sampling conducted during the additional soil investigation study was representative of current site conditions and overlapped previous sampling areas. Human health risks associated with exposure to constituents detected in soil were evaluated for potential exposure pathways based on existing site conditions and current and potential future site use. The complete updated HHRA technical memorandum is included in **Appendix C**.

The HHRA used current risk assessment methods, updated as necessary from the risk assessment methodology used for the 2002 OU1 RI HHRA. The screening levels used to select the COPCs for further quantitative evaluation in the risk assessment were updated from the values used in 2002 OU1 RI (the USEPA Region 9 preliminary remediation goals) to the current USEPA RSL table values (USEPA, 2010). The exposure factors used to calculate daily intake values were updated to currently used values, if necessary. Also, in the 2002 OU1 RI, soils at Sites 16 and 83 were evaluated as one soil group. This HHRA evaluated only soil samples collected at Site 83.

4.1 Chemicals of Potential Concern

Soil data collected during the additional soil investigation study were evaluated in the risk assessment. Surface soil samples were collected from depths of 0 to 1 foot. Subsurface soil samples were collected at depths ranging from 2 to 5 feet bgs.

Based on the site topography, the site was evaluated as two exposure units, the "Upland Area" and the "Lowland Area" (Figure 1 of **Appendix B**). The Upland Area consists of the flat area surrounding and including the former Building 96 location. The data were grouped according to these two exposure units for evaluation in the HHRA.

Detected constituents were screened by comparing analytical results with health-based criteria for soil and ambient air. The maximum detected concentration of each constituent in each medium was compared to the USEPA residential soil RSLs and residential air RSLs.

Following USEPA Region 4 risk assessment guidance (USEPA, 2000), any member of a chemical class that was detected that had other members selected as COPCs was retained as a COPC (i.e., if one carcinogenic PAH was selected as a COPC, since the maximum detected concentration exceeded the screening level, all detected PAHs were retained as COPCs).

All detected pesticides and PAHs in the Upland Area surface soil and the combined surface and subsurface soil exceeded the residential soil RSLs, with the exception of heptachlor epoxide, and were retained as COPCs. In the Lowland Area, all detected pesticides and PAHs in surface soil and combined surface and subsurface soil exceeded the residential soil RSLs, with the exception of benzo(a)anthracene, and were retained as COPCs. Benzo(a)anthracene was retained as a COPC based on the selection criteria of a chemical

from the same class, carcinogenic PAHs. For the soil-to-air pathway for surface soil and combined surface and subsurface soil in each exposure area, there were no exceedances of the residential air RSLs; therefore, no constituents were retained as COPCs.

4.2 Exposure Evaluation

Based upon the exposure assessment, the current land use exposure routes for quantitative evaluation for both the Upland and Lowland Areas within Site 83 included the following:

- **Industrial worker**—Incidental ingestion of and dermal contact with surface soil.
- **Maintenance worker**—Incidental ingestion of and dermal contact with surface soil.
- **Trespasser/visitor (adult, adolescent, and child)**—Incidental ingestion of and dermal contact with surface soil.

The future land use exposure routes included the following:

- **Industrial worker**—Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Maintenance worker**—Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Trespasser/visitor (adult, adolescent, and child)**—Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Construction worker**—Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Resident (adult and child)**—Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).

4.3 Risk Estimates

USEPA's target range for excess lifetime cancer risk (ELCR) associated with CERCLA sites is 1 in 10,000 (1×10^{-4}) to 1 in 1,000,000 (1×10^{-6}). Similarly, the target noncancer HI is 1.0 or less. Risk estimates were calculated for potential receptors and exposure pathways using conservative assumptions for exposure factors and exposure point concentrations.

The results of the HHRA indicate that for both current and potential future land use, Site 83 does not pose unacceptable health risks to any of the receptors evaluated in this HHRA. Contact with Upland Area and Lowland Area surface soil and combined surface and subsurface soil would not result in noncarcinogenic hazards above the USEPA target HI of 1 or carcinogenic risks above the USEPA target range of 1×10^{-6} to 1×10^{-4}.

SECTION 5

Conclusions and Proposed Path Forward

The overall objective of this SRI is to present the data and findings obtained from historical and recent investigations conducted to characterize the nature and extent of contamination in soil and groundwater, assess potential risks to human health associated with exposure to site soil, and summarize the potential risks to human health from exposure to groundwater and potential risks to the environment.

This section presents the conclusions of the SRI conducted at Site 83 and the proposed path forward for the site.

5.1 Conclusions

5.1.1 Physical Characteristics

- The topography of Site 83 is relatively flat in the area of the former Building 96 concrete slab, but slopes significantly downward in a westerly direction towards East Prong Slocum Creek.
- Groundwater within the surficial aquifer at Site 83 was encountered at depths ranging from 3 to 7 feet bgs. Groundwater flows generally westward and discharges at East Prong Slocum Creek. An upward vertical hydraulic gradient occurs beneath Site 83.

5.1.2 Environmental Media Contamination

Analytical data collected during the 2002 OU1 RI (for groundwater only), the additional soil investigation study, and the additional groundwater investigations provide the primary basis for the evaluation of the nature and extent of PAHs, pesticides, and lead contamination in soil and groundwater:

- PAHs
  - PAHs exceeding both the industrial RSLs and the NC SSLs in soil were benzo(a)pyrene, dibenz(a,h)anthracene, benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3,-cd)pyrene. The majority of exceedances were found within surface soils west of the former Building 96 location. Benzo(a)pyrene was the most frequently detected PAH above screening criteria with a maximum concentration of 24,000 µg/kg.
  - Although each PAH exceeded the NC SSL in one or more soil samples, no PAHs were detected in groundwater above screening criteria.
- Pesticides
  - Pesticides exceeding the industrial RSL and NC SSL in soil were dieldrin, chlordane, heptachlor, heptachlor epoxide, 4,4'-DDD, and 4,4'-DDT. 4,4'-DDE was not detected above the industrial RSL and NC SSL. The most frequently observed pesticides were

dieldrin and chlordane within surface soils in the vicinity and west of former Building 96, with maximum concentrations of 1,500 and 220,000 µg/kg, respectively.

  - Pesticides were not detected above screening criteria in groundwater.

- Lead
  - Lead was not detected above screening criteria in soil and groundwater.

5.1.3 Contaminant Migration

The potential sources of contamination at Site 83 include former Building 96, the former debris piles, and former activities related to the pesticide mixing area from 1965 to 1981. However, soil contaminated with hydrocarbons and in some areas pesticides was removed in 1996, and the debris piles and associated soil containing high levels of lead were removed in 1997.

The potential for contaminant migration from wind erosion, surface runoff, and groundwater is minimal. PAHs, pesticides, and lead are not readily mobile and tend to bind to the soil. The vegetative cover also reduces the potential for migration.

5.1.4 Human Health Risk Assessment

An updated HHRA was conducted for Site 83 to evaluate the magnitude and probability of actual or potential harm to human health posed by contamination at the site. The HHRA evaluated potential current and future health risks from exposure to environmental media.

Contact with surface soil and combined surface and subsurface soil would not result in noncarcinogenic hazards above the USEPA target HI of 1 or carcinogenic risks above the USEPA target range of 1×10^{-6} to 1×10^{-4}.

5.1.5 Ecological Risk Assessment

A post-BERA investigation work plan (CH2M HILL, 2006) was compiled that summarized the ERA at OU1. The report determined that the quality of the soil and the steep hillside make a poor habitat for soil invertebrates. Any potential ecological risk was not determined to be significant in the area. Trees provide nesting and roosting areas for the birds and help to stabilize the soil, reducing erosion and subsequent deposition into East Prong Slocum Creek. As a result, additional ecological investigations or related action at Site 83 was deemed to be unnecessary.

5.2 Proposed Path Forward

The data collected at Site 83 indicate that the environmental media have been adequately characterized. Based on the current site conditions, no unacceptable risks to human health or the environment exist. In addition, the former removal actions eliminated potential future sources of contamination (i.e., debris), and also soil containing contaminant concentrations posing potentially unacceptable risks to human health and/or ecological receptors. As a result, no further action is warranted for Site 83. It is recommended that the site proceed to a No Further Action Proposed Plan and Record of Decision.

SECTION 6

References

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Appendix A

Site Soil Investigation Report, Operable Unit 1—Site 83
MCAS Cherry Point, North Carolina
Rhēa Engineers & Consultants, Inc. (June, 2010)

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FINAL
SITE SOIL INVESTIGATION REPORT

OPERABLE UNIT 1 – SITE 83
MCAS CHERRY POINT, NORTH CAROLINA

CONTRACT NO.
N40085-09-D-3214
CTO: 0002

RHĒA PROJECT NO. 431

JUNE 2010

PREPARED FOR:

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LIST OF ACRONYMS AND ABBREVIATIONS

2nd FSSG	Second Force Service Support Group
B&R	Brown and Root Environmental
BERA	Baseline Ecological Risk Assessment
bgs	Below ground surface
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DDE	Dichlorodiphenyl Dichloroethylene
DDD	Dichlorodiphenyl Dichloroethane
DDT	Dichlorodiphenyl Trichloroethane
DPT	Direct Push Technology
DRMO	Defense Reutilization and Marketing Office
EAD	Environmental Affairs Department
ECCS	ECCS Laboratories, Inc.
EDD	Electronic Data Deliverable
FMD	Facility Maintenance Department
FMF	Fleet Marine Force
FRCE	Fleet Readiness Center East
ft	Foot/feet
GC-ECD	Gas Chromatographs with Electron Capture Detectors
GC-MS	Gas Chromatographs Mass Spectrometer
GPS	Global Positioning System
IDW	Investigative Derived Wastes
IWTP	Industrial Wastewater Treatment Plant
LCS	Laboratory Control Sample
MAW	Marine Aircraft Wing
MCAS	Marine Corps Air Station
MS/MSD	Matrix Spike/Matrix Spike Duplicate
NCDENR	North Carolina Department of Environment and Natural Resources
OU	Operable Unit

OWS	Oil-water Separator
PAHs	Polycyclic Aromatic Hydrocarbons
Parratt Wolff	Parratt Wolff, Inc.
PCBs	Polychlorinated Biphenyls
PLS	Professional Locating Services, Inc.
ppb	Parts per Billion
QC	Quality Control
Rhēa	Rhēa Engineers & Consultants, Inc.
RI	Remedial Investigation
RSL	Regional Screening Level
SVOCs	Semi-volatile Organic Compounds
SWMU	Solid Waste Management Unit
TestAmerica	TestAmerica Laboratories, Inc.
UFP-SAP	Uniform Federal Policy Sampling Analysis Plan
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

EXECUTIVE SUMMARY

The Marine Corps Air Station (MCAS) Cherry Point is located in southeastern Craven County, North Carolina, just north of the town of Havelock (Figure 1). The Air Station encompasses approximately 13,164 acres and is situated on a peninsula north of Core and Bogue Sounds and south of the Neuse River. It is bound on the east by Hancock Creek, on the south by North Carolina Highway 101, on the west by an irregular boundary line approximately three-quarters of a mile west of Slocum Creek, and on the north by the Neuse River.

Operable Unit 1 (OU1) is an industrial area approximately 565 acres in size, located in the southwestern portion of MCAS Cherry Point (Figure 2). Site 83 is a former pesticide mixing area, approximately one acre in size, located in the southwest portion of OU1, near Site 16 and East Prong Slocum Creek. The former pesticide shop (Building 96) was constructed before 1948 and was used as a pesticide mixing and storage area from 1965 to 1981, until a new pesticide shop was built at another location. From 1981 until it was demolished in 1997, Building 96 was used for storage of equipment and hazardous materials.

Site 83 was first identified by MCAS Cherry Point in 1997. A Solid Waste Management Unit (SWMU) Assessment Report was conducted in 1998 that included the collection of soil, groundwater and sediment samples. Groundwater and soil contamination was identified, and an additional investigation of Site 83 was recommended as part of the comprehensive evaluation of OU1 (Brown & Root Environmental [B&R], 1998). Soil contamination was also identified outside of the Site 83 boundary in the down slope wetland area. This area of contamination is considered to be associated with Site 83. Several site investigations and removal activities have occurred from 1997 through 2009.

Historical soil sampling analytical data indicates that polycyclic aromatic hydrocarbons (PAH) and pesticide concentrations exceed various screening criteria within the Site 83 boundary and in soils located west/southwest of the site adjacent to East Prong Slocum Creek. These exceedances are the basis for the additional sampling that is detailed in the *Final Sampling and Analysis Plan, Operable Unit 1, Site 83, Soil Delineation Sampling, MCAS Cherry Point, North Carolina* (*UFP-SAP*) (Rhēa, 2009) and that is described in this report. The *UFP-SAP* states:

> "The objective of the soil sampling is to confirm residual contamination of polycyclic aromatic hydrocarbons (PAHs), pesticides, and lead at the site, characterize portions of the site where historical information is limited or

> suspect, and delineate the vertical and horizontal extent of impacted site soils. This information will be incorporated into future site documents and will be used to develop feasible remedial alternatives. These investigative soil samples will be utilized as pre-confirmatory samples in the event that an excavation remedial alternative is selected."

Rhēa Engineers & Consultants, Inc. (Rhēa) performed the Site 83 soil sampling in accordance with the *UFP-SAP*. Site activities were conducted between July 21 and August 21, 2009. Soil samples were collected from 31 primary locations, 29 secondary locations and 51 field locations during the investigation using direct push technology (DPT), and sample analysis was completed by a mobile laboratory. During the field work, 183 and 158 soil samples were analyzed for pesticides and PAHs, respectively.

Soil delineation sampling confirmed the presence of pesticides and PAHs above the Industrial Regional Screening Levels (RSLs) at Site 83 and provided a technically sound and defensible assessment of the vertical and lateral extent of soil above the Industrial RSLs. The analytical data gathered during the sampling event will be incorporated into future site documents and will be used to develop feasible remedial alternatives. These investigative soil samples were also collected to serve as confirmatory samples in the event that an excavation remedial alternative is selected.

1.0 SITE BACKGROUND

The Marine Corps Air Station (MCAS) Cherry Point is located in southeastern Craven County, North Carolina, just north of the town of Havelock (Figure 1). The Air Station encompasses approximately 13,164 acres and is situated on a peninsula north of Core and Bogue Sounds and south of the Neuse River. It is bound on the east by Hancock Creek, on the south by North Carolina Highway 101, on the west by an irregular boundary line approximately three-quarters of a mile west of Slocum Creek, and on the north by the Neuse River.

The MCAS was commissioned in 1942 to maintain and support facilities, services, and material of a Marine Aircraft Wing (MAW) and other activities and units as designated by the Commandant of the Marine Corps. Occupants of the Air Station include the 2nd MAW, the Fleet Readiness Center East (FRCE), the Combat Service Support Detachment 21 of the Second Force Service Support Group (2nd FSSG), and the Naval Air Maintenance Training Group Detachment and the Defense Reutilization and Marketing Office (DRMO). The Air Station has facilities for training and support of the Fleet Marine Force (FMF) Atlantic aviation units and is also designated as a primary aviation supply point.

Operable Unit (OU) 1 is an industrial area approximately 565 acres in size, located in the southwestern portion of MCAS Cherry Point (Figure 2). OU1 is bound by C Street and Sandy Branch to the northwest, portions of the MCAS Cherry Point flight line and runway to the northeast and southeast, and East Prong Slocum Creek to the southwest.

Site 83 is a former pesticide mixing area, approximately one acre in size, located in the southwest portion of OU1, near Site 16 and East Prong Slocum Creek. The former pesticide shop (Building 96) was constructed before 1948 and was used as a pesticide mixing and storage area from 1965 to 1981, until a new pesticide shop was built at another location. From 1981 until it was demolished in 1997, Building 96 was used for storage of equipment and hazardous materials. In early 2006, the Building 96 concrete foundation was removed during a demolition project. Geotextile fabric was placed over the removed foundation area and covered with stone to reduce potential exposure pathways.

The area around the Building 96 footprint is relatively flat and is covered by asphalt and concrete. A grassy area is located west of former Building 96, adjacent to the site boundary. The western edge of this grassy area contains a steep slope which leads to the wetland adjacent to East Prong Slocum Creek.

Beneath Site 83, the groundwater table is approximately seven feet below ground surface and flows west, towards East Prong Slocum Creek. The uppermost soils predominantly consist of fill material composed of sands, silts, and clays mixed with wood fragments that may extend to a depth of 10 feet (ft) below ground surface (bgs). Figure 3 presents a simplified hydrogeologic conceptual model beneath OU1.

1.1 SUMMARY OF PREVIOUS INVESTIGATIONS AND SITE ACTIONS

The results of the environmental investigations conducted from 1983 to 2000 at OU1 were presented in the *2002 Remedial Investigation* (RI) (TetraTech, 2002). The results of the additional investigations that were conducted to further characterize the chlorinated Volatile Organic Compounds (VOCs) groundwater plume beneath OU1 were presented in the *OU1 RI Addendum* (CH2M HILL, 2008).

Site 83 was first identified by MCAS Cherry Point in 1997. The initial Site 83 investigation described in Section 1.1.2 was centered around Building 96; however, the investigation extended beyond the footprint of the building down-gradient to the southwest (Figure 4).

The following sections briefly summarize the various site investigations and other site actions completed to date at Site 83 (from oldest to most recent).

1.1.1 Facility Maintenance Department Spill Response

In February and April 1996, remedial activities were conducted for the cleanup of an oil spill near the Facility Maintenance Department (FMD) oil-water separator (OWS). The OWS was located south of Site 83 and the spill extended into the southern portion of Site 16 (Figure 4). Petroleum-contaminated soil was excavated to depths ranging from 2 to 4 ft bgs and confirmation samples were collected from the sides and bottom of the excavation. Excavated soil was disposed of offsite.

During the excavation activities, visual and olfactory observations identified pesticide contamination. Ten soil samples collected from the sides and bottom of the excavation were analyzed for chlordane. Since pesticides were detected in the soil, the remedial action for the oil spill was stopped. The details of the investigation are presented in the *FMD Spill Response Summary Report, Operable Unit 1, Site 16* (OHM, 1996).

There is uncertainty regarding the locations of the soil samples collected during this spill response, as the *2002 RI* locations do not corroborate the locations identified on the *FMD Spill Response Report* (TetraTech, 2002; OHM, 1996). Similarly, the *2002 RI* reported

that the excavation bottom confirmation samples 16-FMD-CP63CS070, 16-FMD-CP63CS071, 16-FMDCP63CS073 and 16-FMD-CP63CS075 were collected at a depth of 0 to 1 ft bgs; however, it is also documented that the samples were collected at a depth of 3 ft bgs (OHM, 1996).

1.1.2 Solid Waste Management Unit Assessment

In 1997, MCAS Cherry Point notified the North Carolina Department of Environment and Natural Resources (NCDENR) and the United States Environmental Protection Agency (USEPA) that a new Solid Waste Management Unit (SWMU) had been discovered at Building 96, and the area was subsequently designated as Site 83. Multiple soil, sediment, and groundwater samples were collected and three monitoring wells were installed in the vicinity of the former Building 96.

Groundwater and soil contamination was identified at Site 83, and an additional investigation was recommended as part of the comprehensive evaluation of OU1 (Brown & Root Environmental [B&R], 1998). Soil contamination was also identified outside of the Site 83 boundary in the downslope wetland area. This area of contamination is also considered to be associated with Site 83.

Pesticides and polycyclic aromatic hydrocarbons (PAHs) were detected in the surface soil at concentrations that pose an unacceptable risk to industrial workers; however, these concentrations were detected beneath the building concrete pad and did not provide a complete exposure pathway. Fewer pesticides were detected with depth in the soil. No PAHs or pesticides were observed in groundwater. Details of the investigation are documented in the *SWMU Assessment Report for Site 83, Building 96 Former Pesticide Mixing Area, Marine Corps Air Station Cherry Point, North Carolina* (B&R, 1998).

1.1.3 Debris Piles Removal Action

A Comprehensive Environmental Response, Compensation and Liability (CERCLA) Time-Critical Removal Action was conducted southwest of Building 96 in 1997 related to the numerous debris piles, tanks, empty storage vessels and other construction debris on the site. Asbestos-containing material, debris and soil contaminated with petroleum hydrocarbons, asbestos, and lead were removed for offsite disposal (Figure 4). All visible surface debris was removed. Confirmation soil samples were collected to verify that action levels had been attained. The details are presented in the *CERCLA Time-Critical Removal for Operable Unit 1, Site 16 Debris Pile* (OHM, 1998).

1.1.4 Remedial Investigation for Operable Unit 1

Data from historical site investigations were used in conjunction with additional soil, sediment, groundwater and surface water samples collected for the RI. Details are presented in the *2002 RI* (TetraTech, 2002).

Soil samples from Site 83 (and Site 16) had the most frequent detections of PAHs. Pesticides were detected in the area around the former pesticide shop (Site 83 and Site 16 FMD Spill Area) and in surface water bodies within OU1. The *2002 RI* determined that in the Site 83 area, the presence of pesticides in soil were associated with the former pesticide shop (TetraTech, 2002).

Additional soil samples were collected as part of the *2002 RI* to define the extent of the pesticide contamination (TetraTech, 2002). Chlordane immunoassay field test kits were used to minimize the number of laboratory soil sampling locations, since chlordane was previously detected during the 1996 FMD spill response. The highest concentrations detected from the soil samples were found in an area where surface debris (old metal containers, etc.) was identified. In addition, the soil sampling also detected elevated concentrations of other pesticides, including 4,4'-dichlorodiphenyl dichloroethane (4,4'-DDD), 4-4'-dichlorodiphenyl dichloroethylene (4-4'-DDE), and 4-4'-dichlorodiphenyl trichloroethane (4-4'-DDT).

1.1.5 Baseline Ecological Risk Assessment

As part of the *Baseline Ecological Risk Assessment for Operable Unit 1, Marine Corps Air Station Cherry Point, North Carolina* (OU1 BERA) (CH2M HILL, 2005), additional soil samples and toxicity samples from small insects were collected at Site 83 to fill data gaps and address areas of uncertainty. Samples were collected and analyzed for semi-volatile organic compounds (SVOCs), pesticides, polychlorinated biphenyls (PCBs), metals, and cyanide. Other pesticides, including endosulfan II, endosulfan II sulfate, heptachlor, and heptachlor epoxide were detected in soil.

The *OU1 BERA* identified potential risks for soil invertebrates from direct exposure to chemical contamination in three samples along the hillside adjacent to Site 83, but indicated that the hillside where these samples were located will never be high quality habitat due to the steep topography and position within the landscape at the edge of a semi-improved area. No risks were identified for the insectivorous mammalian species in the BERA.

The *FINAL Post-BERA Investigation Work Plan for Operable Unit 1, Marine Corps Air Station Cherry Point, North Carolina* (Post-BERA Work Plan) (CH2M HILL, 2006) determined that the quality of soils on the steep hillside was poor for soil invertebrates (i.e., sandy with little retention of moisture and organic material) and the ecological risks identified in previous studies were not considered significant.

1.2 PHYSICAL CHARACTERISTICS

Site 83 consists of the former Building 96 concrete pad and is relatively flat; however, further to the west, the ground surface slopes significantly downward in a westerly direction towards East Prong Slocum Creek. The area west of Site 83 consists of dense woods. The uppermost soils consist predominantly of fill material composed of sands, silts, and clays mixed with wood fragments that may extend to a depth of 10 feet bgs. A simplified Conceptual Site Model, developed by CH2M HILL, is included as Figure 3.

Potential exposure at Site 83 may occur under current and future land use scenarios. Construction workers, base employees, and maintenance workers may be exposed to Site 83 soils. Since the quality of the soil and steep hillside are poor habitat for soil invertebrates (CH2M HILL, 2006), it was concluded by the MCAS Cherry Point Partnering Team that additional ecological investigations or related action at Site 83 was unnecessary.

1.3 SAMPLING AND ANALYSIS PLAN

Historical soil sampling analytical data indicates that PAH and pesticide concentrations exceed various screening criteria within the Site 83 boundary and in soils located west/southwest of the site adjacent to East Prong Slocum Creek.

CH2M HILL compiled the historical soil analytical data and included it in the *Draft Focused Feasibility Study, Sites 14, 15, 16, 18, 40, and 83, Operable Unit 1* (CH2M HILL, 2009)[1]. The exceedances specified in the *Draft Focused Feasibility Study* are the basis for the additional sampling that is detailed in the *Final Sampling and Analysis Plan, Operable Unit1, Site 83, Soil Delineation Sampling, MCAS Cherry Point, North Carolina* (*UFP-SAP*) and that is described in this report (Rhēa, 2009). The *UFP-SAP* states that,

> "The objective of the soil sampling is to confirm residual contamination of polycyclic aromatic hydrocarbons, pesticides, and lead at the site, characterize portions of the site where historical information is limited or

[1] Subsequent to the November 2008 Partnering Team Meeting, it was decided that additional soil sampling would be completed prior to proceeding with the Focused Feasibility Study.

suspect, and delineate the vertical and horizontal extent of impacted site soils. This information will be incorporated into future site documents and will be used to develop feasible remedial alternatives. These investigative soil samples will be utilized as pre-confirmatory samples in the event that an excavation remedial alternative is selected."

2.0 SOIL DELINEATION SAMPLING

Prior to conducting the field work, project personnel – including the field sampling team, laboratory managers, and data validator – signed off on his or her relevant sections of the *UFP-SAP* via Worksheet #4. *UFP-SAP* Worksheet #4, complete with signatures, is included as Appendix A.

Site activities were conducted between July 21 and August 21, 2009. Primary tasks associated with the soil investigation included mobilization and site setup, utility clearance, site clearing, direct push technology (DPT) soil sampling, and site restoration. Soil sampling was conducted in accordance with the methods and procedures presented in the *UFP-SAP*. Selected site photographs are included as Appendix B.

2.1 MOBILIZATION AND SITE SETUP

This task included the mobilization of personnel and equipment to the work site, setup of the mobile laboratory, marking areas for utility surveying, and site clearing. The mobile laboratory was housed in a trailer and included three Gas Chromatographs equipped with Electron Capture Detectors (GC-ECD) for pesticide analysis, one Gas Chromatograph/Mass Spectrometer (GS-MS) for PAH analysis, a refrigerator for sample storage, an oven to dry samples, and multiple computers for processing data.

The mobile laboratory contained equipment with a radiological source that was used in the analysis of samples; therefore, in accordance with MCAS Cherry Point policy, specific approval was required to enter the base. Mobile laboratory personnel obtained this approval prior to mobilization.

2.1.1 Utility Clearance

Professional Locating Services, Inc. (PLS) conducted a Level B underground utility survey on July 28, 2009. All underground utilities were marked within the designated sampling areas prior to performing any intrusive activities.

2.1.2 Clearing

Efforts were initially made to minimize the clearing of large, established trees along the Area B bank and in Area C. During the initial clearing of underbrush and small trees, it was determined that the larger trees in these areas would have to be removed to accurately locate and access the sampling locations identified in the *UFP-SAP*. Rhēa met with the Environmental Affairs Department (EAD) prior to clearing any large trees and subsequently received permission to clear the area.

Approximately 0.6 acres of trees and brush were cleared between July 21 and 24, 2009, using a combination of wide-tracked grinding equipment and chain saws. Trees were cut flush with the ground surface and chipped to provide a mulch layer over the ground surface. Wetlands & Woodlands Management, LLC, of Elizabethtown, North Carolina, provided clearing services. The approximate area of clearing is shown on Figure 4.

2.2 SAMPLE LAYOUT AND DESIGN

The sampling design and rationale was developed using the Guidance for Performing Site Inspections under CERCLA (Interim Final, USEPA/540-R-92-021, PB92-963375, September 1992) and was provided in the *UFP-SAP*. The sampling locations were selected to confirm elevated concentrations from previous investigative activities, to characterize portions of the site that were not previously investigated, and to delineate the vertical and horizontal extent of impacted site soils, so that these samples could be used as pre-confirmatory samples for a potential soil removal action.

Three distinct areas were identified for sampling based on location and topography. These areas are identified as Area A – Site 83 (the former building 96 location) and adjacent lot, Area B – west of Site 83 (on the steep slope) and Area C – southwest of Site 83 (area of previous soil removals).

The approved *UFP-SAP* included three distinct sample types identified as primary, secondary and field soil samples. Primary sample locations were located around areas where historical data indicated an exceedance of the Industrial Regional Screening Levels (RSLs). Secondary locations were identified to provide contingent locations in the event the primary sample exceeded the Industrial RSLs. Field sample locations were selected during the field work based on review of analytical data and topography and served to delineate areas where the primary and secondary soil samples were not sufficient, or to tighten the delineation around locations that exceeded the Industrial RSLs.

The number, locations, and sample intervals of the primary and secondary sampling points were discussed and agreed upon with the Partnering Team (February 2009). The *UFP-SAP* identified 31 primary and 33 secondary soil sample locations. Field samples were located with input from the Partnering Team throughout the sampling process. The locations of field samples were selected based on the decision path and logic outlined in the *UFP-SAP* and were collected in accordance with the procedures provided in the *UFP-SAP*.

The site was overlain with a grid for ease of identifying sample locations. The sample identification scheme was identified in the *UFP-SAP* and was in the following form: Operable Unit - Site Name - Sample Grid Location - Matrix (liquid [L] or solid/soil [S] or gas [G]) – Top of Sample Interval – Bottom of Sample Interval. For example, a soil sample collected from the 0-1 ft depth interval from Grid Location 6I would have the following identification number: OU1-83-6I-S-0-1. The sampling grid is shown on Figures 4, 5, 6, and 7.

2.3 SOIL SAMPLING PROCEDURES

Prior to sample collection, Rhēa located the primary sample locations using a handheld Global Positioning System (GPS) unit and marked each location with a wooden stake. Secondary and field soil samples were located with the GPS or tape measure and marked with wooden stakes upon collection.

Parratt Wolff, Inc. (Parratt Wolff) of Hillsborough, North Carolina, provided the DPT services. Soil samples were typically retrieved using a tractor mounted 9600T Powerprobe® and 2-inch diameter stainless steel macro-core samplers fitted with disposable acetate liners. Sample locations that could not be accessed with the tractor mounted probe were retrieved using a slide hammer and stainless steel macro-core sampler fitted with disposable acetate liners. At each location, continuous soil cores were driven to the required depth. Five soil samples were initially collected at 1-ft depth intervals (0-1 ft, 1-2 ft, 2-3 ft, 3-4 ft, and 4-5 ft) at each primary soil sample location identified in the *UFP-SAP*, with the exception of locations 6R, 7R and 5R, where only three sample intervals were collected due to the minimal recovery (saturated soil). Samples were typically collected at four 1-foot depth intervals (0-1 ft, 1-2 ft, 2-3 ft and 3-4 ft) at subsequent field sample locations.

Upon retrieval of sample material, Rhēa field team members characterized the lithology (i.e., physical characteristics, soil type, cohesiveness, color, grain size, and relative moisture content) of the soil at each boring location and recorded the data on soil sample collection reports (Appendix C). Personnel wore disposable nitrile gloves to collect

samples and changed gloves between samples. Macro-core samplers used for soil sample collection were decontaminated with a high pressure spray, followed with a Liquinox® water solution rinse and a final rinse with potable water.

Each boring location was backfilled with bentonite chips upon completion of sampling. Borings located in the asphalt areas (Locations 13C, 13D, 14D, 15E, 15G and 12Q) were restored with cold patch.

Soil samples were collected from 31 primary locations, 29 secondary locations and 51 field locations during the investigation. Primary, secondary and field sample locations are identified in Figure 4.

2.4 INVESTIGATIVE DERIVED WASTES

Investigative Derived Waste (IDW) consisted of DPT soil cores, decontamination fluids and personal protective equipment. Soil cores generated by sampling efforts were containerized in 55-gallon steel drums, labeled, and subsequently sampled to determine disposal requirements.

Disposal of IDW soil was performed in accordance with MCAS Cherry Point guidance. IDW soil was characterized as a non-hazardous waste based on analytical data and was properly disposed of at Republic Services Inc. East Carolina Environmental Landfill in Aulander, North Carolina on October 28, 2009. The waste classification analytical report, non-hazardous waste manifest, and certificate of disposal are included in Appendix D.

Decontamination fluids generated by sampling efforts were containerized and disposed of at the Industrial Wastewater Treatment Plant (IWTP). A chit signed by the MCAS EAD accompanied each delivery of water to the IWTP. Decontaminated personal protective equipment and other wastes (e.g., gloves, disposable sampling equipment) were disposed of as regular trash.

2.5 SITE RESTORATION

Cleared areas were seeded upon completion of sampling activities using a mixture of ryegrass, fescue and bluegrass. In addition, an 8-ounce non-woven geotextile fabric and recycled concrete (less than 1-ft diameter) from the OU1 Site 16 system concrete pad demolition were placed along eroded sections of the bank adjacent to Area C as a temporary erosion control measure on October 27, 2009. The concrete was removed

from an uncontaminated location on the OU1 site and approval was obtained from NCDENR and USEPA prior to placement of the material.

3.0 LABORATORY ANALYSIS/PROGRAM

Primary soil samples were submitted to ECCS Laboratories, Inc. (ECCS) mobile laboratory for selected pesticide (USEPA Method 8081) and PAH (USEPA Method 8270C) analysis via chain of custody procedures. Samples submitted for pesticide analysis were analyzed and reported for the target analytes dieldrin, heptachlor epoxide, heptachlor, 4-4'-DDE, 4-4'-DDD, 4-4'-DDT, and chlordane. Samples submitted for PAH analysis were analyzed and reported for the target analytes benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(a,h)anthracene, indeno (1,2,3-cd) pyrene. Primary samples collected from Area B locations (i.e., 8K, 9K, 8H, 9G and 9I) were also submitted to TestAmerica Laboratories, Inc. (TestAmerica) of Savannah, Georgia for lead analysis.

The 0-1 ft and 2-3 ft sample depth intervals were initially analyzed from each primary location at Areas A and B, while the 0-1 ft, 2-3 ft and 3-4 ft intervals were initially analyzed at Area C. If the 2-3 ft depth interval sample did not meet the applicable RSL (for industrial soil) for a particular constituent, the 3-4 ft sample interval was analyzed for the constituent group that did not meet the RSL (for industrial soil) in the 2-3 ft depth interval. Likewise, if the 3-4 ft depth interval sample did not meet the applicable industrial standard for a particular constituent, the 4-5 ft sample interval was analyzed for the constituent group that did not meet RSL (for industrial soil) in the 3-4 ft depth interval. For Area C, the 0-1 ft, 2-3 ft and 3-4 ft depth intervals were initially analyzed. Subsequent depth intervals were analyzed as necessary. If the 0-1 ft analytical result was above the RSL, and the 2-3 ft analytical result was below the RSL, the 1-2 ft depth interval was analyzed.

Subsequent secondary and field samples were analyzed for pesticide and/or PAH analysis based on the results of the adjacent samples. If a specific interval exceeded the Industrial RSL, adjacent locations were collected and analysis was requested for that particular interval for the constituent group that was above the Industrial RSL.

During the field work, 183 and 158 soil samples were analyzed for pesticides and PAHs, respectively. The laboratory results are included in Table 1 and Appendix E.

3.1 QUALITY ASSURANCE/QUALITY CONTROL

Quality control (QC) samples, including duplicates, matrix spike/matrix spike duplicate (MS/MSD), trip blank, field blank and equipment blank samples were collected in accordance with the *UFP-SAP*. The quality control sample frequencies were as follows:

- Duplicates: 1 per 10 samples
- MS/MSD: 1 per 20 samples
- Field Blanks: 1 per week
- Equipment Blanks: 1 per day

Twenty-two duplicate samples, 13 aqueous equipment blank samples and three aqueous field blank samples were collected and analyzed during the Site 83 sampling event. The laboratory completed an MS/MSD analysis at a frequency of one sample for every 20 samples submitted for analysis, or, at minimum, one MS/MSD sample per day.

Soil samples from six locations, including 8K, 14E, 11I, 11K, 8H and 11C, were also collected as split samples and sent to TestAmerica for analysis. These samples were collected and analyzed to confirm the data provided by the mobile laboratory at these locations.

Laboratory results for duplicate and split samples are provided in Table 1. Duplicate samples were identified by adding a "P" designation to the end of the original sample identification.

3.2 SUMMARY OF ANALYTICAL RESULTS

ECCS submitted the final analytical laboratory report on September 19, 2009. TestAmerica submitted laboratory reports on July 30, August 3, August 4, and August 26, 2009 for the split pesticide and PAH samples and lead samples. Analytical results were compared to the Industrial RSLs based on the anticipated future land use at the site. Pesticides and PAHs were routinely detected above the Industrial RSLs at Areas A and B, and sporadically detected above the Industrial RSL at Area C.

As indicated in Section 3.0, analytical results are summarized in Table 1. Soil sample locations with exceedances of the Industrial RSL are identified in Figure 5, and individual constituent concentrations above the Industrial RSL are shown on Figure 6. Complete laboratory reports are included as Appendix E. Specific discussion of individual constituent groups is provided in the following paragraphs.

3.2.1 Pesticides

Analytical data indicates that one or more selected pesticide concentrations were above the Industrial RSLs at twenty locations. Dieldrin and chlordane were detected above the Industrial RSLs in the most number of samples, 12 and 10 samples, respectively. Heptachlor, heptachlor epoxide, 4,4'-DDD and 4,4'-DDT were sporadically detected above the Industrial RSLs, while 4,4'-DDE was not detected above the Industrial RSL.

Dieldrin was predominantly detected in concentrations above the Industrial RSL in surface soil (0-1 ft interval) in the vicinity of the former Building 96 location. Dieldrin was not detected above the Industrial RSL in any subsurface sample.

Chlordane was detected above the Industrial RSL at seven locations, six of which are located to the west of the former Building 96 location. Chlordane exceedances were typically limited to the 0-1 ft depth interval, with the exceptions of hot spots at locations 8G and 11P, where the impacted soil extended to the 1-2 ft interval. Chlordane was detected at locations 8G and 11P in the 0-1 ft interval at concentrations of 220,000 and 200,000 parts per billion (ppb), respectively.

3.2.2 Polycyclic Aromatic Hydrocarbons

Analytical data indicates that one or more selected PAHs concentrations were above the Industrial RSLs at 14 locations. Benzo(a)pyrene and dibenz(a,h)anthracene were detected above the Industrial RSL at 14 and five locations, respectively. Benzo(a)anthracene, benzo(b)fluoranthene, and indeno(1,2,3,-cd)pyrene were detected above the Industrial RSLs at one location.

Ten of 14 exceedances of the benzo(a)pyrene Industrial RSL were located in surface soil (0-1 ft interval) to the west of the former Building 96 location. Benzo(a)pyrene was detected above the Industrial RSL in the 1-2 ft sampling interval at locations 9E and 8F, and in deeper intervals within or near the 1996 FMD Spill Response Excavation Area (i.e., location 6N, 3-4 ft interval) and 1997 Excavation Area (Debris Piles Removal Area) (i.e., location 6Q, 2-3 ft interval).

Dibenz(a,h)anthracene exceeded the Industrial RSL within surface samples (0-1 ft interval) collected at locations 11I, 9G, 9F and 8D, and within one subsurface sample collected from the 3 to 4 ft interval at location 6N. The five samples where dibenz(a,h)anthracene exceeded the Industrial RSL correlate with the five highest concentrations of benzo(a)pyrene detected during the sampling.

Sample location 9F, located west of the former location of Building 96, is the only location where all five PAH constituents exceeded the Industrial RSL. The total PAH concentration within the 0-1 ft sampling interval at location 9F was greater than 90,000 ppb and signifies the highest concentration of PAHs in any one sample.

3.2.3 Lead

Lead samples were collected from the five Area B primary sample locations (8K, 9K, 8H, 9G and 9I) from the 0-1 ft and 2-3 ft intervals as per the *UFP-SAP*. The lead concentrations were below the Industrial RSL in each of these samples; therefore, no additional samples were analyzed for lead.

3.3 DATA VALIDATION

Data was validated as described in the USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review, USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review and SW-846. Data qualifiers and data validation reason codes (as appropriate) were added to electronic data deliverable (EDD) files. Rhēa's data manager checked the EDDs for completeness and accuracy and compared the EDD to the hard copy version of the reports.

The following data qualifiers were used during the data validation process to denote minor deficiencies or uncertainties:

- Data qualified with a "J" flag indicates that the values were estimated.
- Data qualified with a "U" indicates that the analyte was not detected and the associated number indicates the approximate sample concentration necessary to be detected.
- Data qualified with an "R" indicates that the result was rejected.

The data validation report is provided in Appendix F and includes text evaluating data in regards to completeness, chain of custody documentation, holding times, calibrations, blanks, surrogate recoveries, field duplicates, MS/MSDs, Laboratory Control Sample (LCS) analyses, compound identification and quantitation/reporting limits.

4.0 CONCLUSIONS

Soil delineation sampling confirmed the presence of pesticides and PAHs above the Industrial RSLs at Site 83 and provided technically sound and defensible assessment of the vertical and lateral extent of soil above the Industrial RSLs.

A contiguous area of surface soil exceeding one or more of the Industrial RSLs for pesticides and/or PAHs was identified west of the former location of Building 96 (western portion of Area A) and continued along and down the steep hillside (eastern portion of Area B). The soil above the Industrial RSLs within Areas A and B was limited to the 0-1 ft depth interval, with the exception of two small areas where the impacted soil extended to the 1-2 ft depth interval. Pesticides exceeded the Industrial RSL within the 1-2 ft depth interval at locations 8G (heptachlor epoxide and chlordane) and 10I (heptachlor and chlordane). The PAH benzo(a)pyrene exceeded the Industrial RSL within the 1-2 ft depth interval at location 8F. No subsurface samples from Areas A or B exceeded the Industrial RSLs.

Sporadic exceedances of pesticides were found within surface soil at the eastern portion of Area C and were most likely carried via surface water from the adjacent lot and grassy area from the east/northeast. Surface water was observed running off the adjacent areas in this vicinity during the field event. In addition, PAH exceedances were found at two subsurface locations in the western portion of Area C in the approximate areas where previous remedial actions were completed.

The analytical data gathered during the sampling event will be used to re-evaluate the human health risks at the site and will be used to develop feasible remedial alternatives. The investigative soil samples were also collected to serve as pre-confirmatory samples in the event that an excavation remedial alternative is selected. The soil sampling and analysis activities successfully delineated the pesticide and PAH contamination using the decision path and logic presented in the *UFP-SAP*. Split samples sent to the fixed based lab confirmed that the mobile laboratory data was suitable for use as definitive data; therefore, these samples could be used as pre-confirmatory excavation samples.

Figure 7 shows the approximate delineated soil areas where concentrations exceeded the Industrial RSLs. Note that Figure 7 serves as a visual representation of the vertical and lateral extents and is meant to aid in the discussion of the analytical results and to provide a sense of scale to the reader; it is not intended as a design drawing for a subsequent excavation alternative. The data provided in the Site Characterization Report will be used to develop feasible remedial alternatives, and ultimately, the selection of a remedy.

5.0 REFERENCES

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TABLE

Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-13E-S-0-1	OU1-83-13E-S-2-3	OU1-83-14E-S-0-1	OU1-83-14E-S-1-2	OU1-83-14E-S-2-3	OU1-83-14E-S-2-3	OU1-83-13G-S-0-1	OU1-83-13G-S-0-1-P	OU1-83-13G-S-2-3	OU1-83-11E-S-0-1	OU1-83-11E-S-2-3
Date Sampled:			7/28/2009	7/28/2009	7/28/2009	7/30/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009
Date Reported:			7/30/2009	7/29/2009	7/29/2009	8/4/2009	7/29/2009	7/30/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/31/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	4.6	<2.3	2.5	<23	<2.3	0.093 U	10	<2.3	<2.4	<2.2	<2.3
Heptachlor epoxide	2.0	190	<2.2	<2.3	<2.2	<23	<2.3	0.16 U	<2.2	<2.3	<2.4	<2.2	<2.3
4,4'-DDE	4.0	5,100	<4.4	<4.6	<4.4	<45	<4.6	0.21 U	14	<4.7	<4.8	<4.4	<4.7
Dieldrin	4.0	110	4.8 J	<4.6	**120 J**	<45	<4.6	0.31 U	12 J	<4.7	<4.8	<4.4	<4.7
4,4'-DDD	4.0	7,200	<4.4	<4.6	5.1	<45	<4.6	0.27 U	<4.5	<4.7	<4.8	<4.4	<4.7
4,4'-DDT	4.0	7,000	<4.4	<4.6	11	<45	<4.6	0.26 U	<4.5	<4.7	<4.8	<4.4	<4.7
Chlordane (tech)	40	6,500	450	<46	750	<45	<46	3.3 U	1800	320	<48	<44	<47
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	24	<12	25	--	<12	1.9 U	<11	<12	<12	<11	<12
Benzo(a)pyrene	10	210	<11	<12	32	--	<12	1.9 U	<11	<12	<12	<11	<12
Benzo(b)flouranthene	10	2,100	<11	<12	61	--	<12	1.9 U	<11	<12	<12	<11	<12
Dibenz(a,h)anthracene	10	210	<11	<12	40	--	<12	0.65 U	<11	<12	<12	<11	<12
Indeno(1,2,3-cd)pyrene	10	2,100	47	<12	41	--	<12	3.8 U	<11	<12	<12	<11	<12
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.
Samples not analyzed are signified by "--".
* Lead results provided by TestAmerica.
U or < indicates that the consituent was not detected.
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.
Sample identifiications ending with a "P" indicate a duplicate sample.

Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-11G-S-0-1	OU1-83-11G-S-2-3	OU1-83-11I-S-0-1	OU1-83-11I-S-0-1	OU1-83-11I-S-1-2	OU1-83-11I-S-2-3	OU1-83-11I-S-2-3-P	OU1-83-11K-S-0-1	OU1-83-11K-S-0-1	OU1-83-11K-S-1-2	OU1-83-11K-S-2-3
Date Sampled:			7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/31/2009	7/28/2009	7/28/2009	7/28/2009	7/28/2009	7/30/2009	7/28/2009
Date Reported:			7/31/2009	7/31/2009	7/31/2009	7/30/2009	8/2/2009	7/31/2009	7/31/2009	7/31/2009	7/30/2009	8/4/2009	7/31/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<2.2	<2.3	12	8.1 J	<22	<2.2	<2.3	<2.2	0.48 U	<23	<2.2
Heptachlor epoxide	2.0	190	<2.2	<2.3	<2.1	0.73 U	<22	<2.2	<2.3	<2.2	0.81 U	<23	<2.2
4,4'-DDE	4.0	5,100	45	<4.6	150	41	<44	<4.5	<4.7	<4.3	3.0 J	<46	<4.5
Dieldrin	4.0	110	9.4 J	<4.6	50 J	63	<44	<4.5	<4.7	**140**	73	<46	<4.5
4,4'-DDD	4.0	7,200	<4.4	<4.6	<4.2	1.3 U	<44	<4.5	<4.7	<4.3	1.4 U	<46	<4.5
4,4'-DDT	4.0	7,000	47 J	<4.6	180	180	<44	<4.5	<4.7	<4.3	5.6 J	<46	<4.5
Chlordane (tech)	40	6,500	280	<46	**6700**	3900	220	<45	<47	1600	780	110	<45
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	30	<12	1600	710 J	<11	<11	<12	49	52	--	<11
Benzo(a)pyrene	10	210	71	<12	**2300**	**570**	<11	<11	<12	80	49	--	<11
Benzo(b)flouranthene	10	2,100	64	<12	1800	560	<11	<11	<12	120	70	--	<11
Dibenz(a,h)anthracene	10	210	<11	<12	**740**	39	<11	<11	<12	39	0.66 U	--	<11
Indeno(1,2,3-cd)pyrene	10	2,100	61	<12	1600	150	<11	<11	<12	100	66	--	<11
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.
Samples not analyzed are signified by "--".
* Lead results provided by TestAmerica.
U or < indicates that the consituent was not detected.
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.
Sample identifiications ending with a "P" indicate a duplicate sample.

Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-6Q-S-0-1	OU1-83-6Q-S-2-3	OU1-83-6Q-S-3-4	OU1-83-6R-S-0-1	OU1-83-6R-S-1-3	OU1-83-6P-S-0-1	OU1-83-6P-S-2-3	OU1-83-6P-S-3-4	OU1-83-6O-S-0-1	OU1-83-6O-S-0-1-P	OU1-83-6O-S-2-3
Date Sampled:			7/28/2009	7/31/2009	7/31/2009	7/28/2009	7/31/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/31/2009	8/3/2009	8/3/2009	7/31/2009	8/2/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009	8/1/2009	7/30/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<2.5	<23	<24	<2.9	<25	<2.3	<2.2	<2.4	<2.3	<2.3	<3.0
Heptachlor epoxide	2.0	190	<2.5	<23	<24	<2.9	<25	<2.3	<2.2	<2.4	<2.3	<2.3	<3.0
4,4'-DDE	4.0	5,100	<4.9	<46	<48	<5.8	<49	<4.6	12	<4.7	<4.7	4.7	41
Dieldrin	4.0	110	<4.9	<46	<48	<5.8	<49	<4.6	<4.4	<4.7	<4.7	<4.6	<6.0
4,4'-DDD	4.0	7,200	8.8	<46	<48	<5.8	<49	<4.6	<4.4	<4.7	<4.7	<4.6	47
4,4'-DDT	4.0	7,000	<4.9	<46	<48	<5.8	<49	<4.6	<4.4	<4.7	<4.7	<4.6	8.0 J
Chlordane (tech)	40	6,500	59	750	750	<58	<98	<46	510	<47	<47	490	2500
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<12	560	41	<15	<25	<12	22	<12	<12	--	130
Benzo(a)pyrene	10	210	<12	**310**	46	<15	<25	<12	28	<12	<12	--	150
Benzo(b)flouranthene	10	2,100	18	250	50	<15	<25	15	41	<12	<12	--	130
Dibenz(a,h)anthracene	10	210	<12	67	<12	<15	<25	<12	<11	<12	<12	--	49
Indeno(1,2,3-cd)pyrene	10	2,100	15	170	33	<15	<25	<12	22	<12	<12	--	110
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.
Samples not analyzed are signified by "--".
* Lead results provided by TestAmerica.
U or < indicates that the consituent was not detected.
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.
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Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-6O-S-3-4	OU1-83-6N-S-0-1	OU1-83-6N-S-2-3	OU1-83-6N-S-3-4	OU1-83-6N-S-4-5	OU1-83-7N-S-0-1	OU1-83-7N-S-2-3	OU1-83-7N-S-3-4	OU1-83-7O-S-0-1	OU1-83-7O-S-2-3	OU1-83-7O-S-2-3-P
Date Sampled:			7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/30/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/30/2009	7/30/2009	7/30/2009	7/30/2009	8/1/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009	7/30/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<2.5	<2.3	<2.3	<2.4	--	<2.2	<2.3	<2.5	<2.3	<2.4	<2.3
Heptachlor epoxide	2.0	190	<2.5	<2.3	<2.3	<2.4	--	<2.2	<2.3	<2.5	<2.3	<2.4	<2.3
4,4'-DDE	4.0	5,100	<5.0	<4.5	<4.6	6.4	--	<4.5	<4.6	<5.0	<4.6	12 J	<4.7
Dieldrin	4.0	110	<5.0	<4.5	<4.6	<4.7	--	<4.5	<4.6	<5.0	<4.6	<4.8	<4.7
4,4'-DDD	4.0	7,200	<5.0	<4.5	<4.6	28	--	<4.5	<4.6	13	<4.6	25 J	<4.7
4,4'-DDT	4.0	7,000	<5.0	<4.5	<4.6	<4.7	--	<4.5	<4.6	<5.0	<4.6	<4.8	<4.7
Chlordane (tech)	40	6,500	130	<45	<46	58 J	--	<45	67 J	<5.0	160 J	710 J	200 J
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<12	<11	<11	1500	<25	13	<12	<13	<11	<12	<12
Benzo(a)pyrene	10	210	<12	<11	<11	**1500**	<25	<11	<12	<13	<11	<12	<12
Benzo(b)flouranthene	10	2,100	<12	<11	<11	840	<25	<11	<12	<13	<11	<12	<12
Dibenz(a,h)anthracene	10	210	<12	<11	<11	**340**	<25	<11	<12	<13	<11	<12	<12
Indeno(1,2,3-cd)pyrene	10	2,100	<12	<11	<11	710	<25	<11	<12	<13	<11	<12	<12
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.
Samples not analyzed are signified by "--".
* Lead results provided by TestAmerica.
U or < indicates that the consituent was not detected.
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MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-7O-S-3-4	OU1-83-7P-S-0-1	OU1-83-7P-S-1-3	OU1-83-7Q-S-0-1	OU1-83-7Q-S-2-3	OU1-83-7Q-S-3-4	OU1-83-7R-S-0-1	OU1-83-7R-S-1-3	OU1-83-8R-S-0-1	OU1-83-8R-S-2-3	OU1-83-8R-S-3-4
Date Sampled:			7/29/2009	7/29/2009	7/31/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/31/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/30/2009	7/30/2009	8/2/2009	7/30/2009	7/30/2009	7/31/2009	7/31/2009	8/2/2009	7/31/2009	7/31/2009	7/31/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<2.5	<2.5	<25	<2.3	<2.4	<2.7	<2.4	<23	<2.7	<2.5	<2.4
Heptachlor epoxide	2.0	190	<2.5	<2.5	<25	<2.3	<3.4	<2.7	<2.4	<23	<2.7	<2.5	<2.4
4,4'-DDE	4.0	5,100	<5.1	<5.1	<51	<4.6	<4.7	59	<4.8	<47	370	<5.0	<4.9
Dieldrin	4.0	110	<5.1	<5.1	<51	<4.6	<4.7	<5.3	<4.8	<47	<5.4	<5.0	<4.9
4,4'-DDD	4.0	7,200	15	10 J	110	<4.6	<4.7	45 J	<4.8	<47	690 J	8.9	<4.9
4,4'-DDT	4.0	7,000	<5.1	6.9 J	<51	<4.6	<4.7	8.2	<4.8	<47	120	<5.0	<4.9
Chlordane (tech)	40	6,500	<51	290 J	980	<46	<47	660 J	<48	<47	490 J	<50	<49
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<13	<13	<13	13	<12	<13	<12	<12	120	<12	<12
Benzo(a)pyrene	10	210	<13	<13	<13	<12	<12	<13	<12	<12	150	<12	<12
Benzo(b)flouranthene	10	2,100	<13	<13	<13	<12	<12	<13	<12	<12	180	<12	<12
Dibenz(a,h)anthracene	10	210	<13	<13	<13	<12	<12	<13	<12	<12	<13	<12	<12
Indeno(1,2,3-cd)pyrene	10	2,100	<13	<13	<13	<12	<12	<13	<12	<12	100	<12	<12
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:

Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.

TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.

Samples not analyzed are signified by "--".

* Lead results provided by TestAmerica.

U or < indicates that the consituent was not detected.

J - Estimated: The analyte was positively identified; the quantitation is an estimation.

R - Indicates that the result was rejected.

Sample identifiications ending with a "P" indicate a duplicate sample.

Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-8Q-S-0-1	OU1-83-8Q-S-2-3	OU1-83-8Q-S-2-3-P	OU1-83-8Q-S-3-4	OU1-83-8P-S-0-1	OU1-83-8P-S-2-3	OU1-83-8P-S-3-4	OU1-83-8O-S-0-1	OU1-83-8O-S-2-3	OU1-83-8O-S-3-4	OU1-83-9O-S-0-1
Date Sampled:			7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<2.8	<2.5	<2.5	<2.5	<2.6	<2.4	<2.4	<2.3	<2.3	<2.6	<2.4
Heptachlor epoxide	2.0	190	<2.8	<2.5	<2.5	<2.5	<2.6	<2.4	<2.4	<2.3	<2.3	<2.6	44
4,4'-DDE	4.0	5,100	<5.6	<5.0	<5.1	5.2	11	<4.7	<4.7	<4.6	8.3	<5.2	18
Dieldrin	4.0	110	<5.6	<5.0	<5.1	<4.9	<5.3	<4.7	<4.7	<4.6	<4.7	<5.2	**190**
4,4'-DDD	4.0	7,200	8.6	7.0	8.0	44	75	<4.7	<4.7	<4.6	40	<5.2	17
4,4'-DDT	4.0	7,000	<5.6	<5.0	<5.1	<4.9	5.5	<4.7	<4.7	<4.6	4.8	<5.2	<4.9
Chlordane (tech)	40	6,500	<56	<50	<51	<49	130 J	<47	<47	<46	94 J	<52	4000 J
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<14	<12	<13	<12	<13	<12	<12	21	<12	<13	130
Benzo(a)pyrene	10	210	<14	18	<13	<12	22	<12	<12	19	<12	<13	160
Benzo(b)flouranthene	10	2,100	<14	19	<13	<12	23	<12	<12	22	<12	<13	190
Dibenz(a,h)anthracene	10	210	<14	<12	<13	<12	<13	<12	<12	<11	<12	<13	51
Indeno(1,2,3-cd)pyrene	10	2,100	<14	18	<13	<12	20	<12	<12	14	<12	<13	130
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:

Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.

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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-9O-S-1-2	OU1-83-9O-S-2-3	OU1-83-9O-S-3-4	OU1-83-9Q-S-0-1	OU1-83-9Q-S-2-3	OU1-83-9Q-S-3-4	OU1-83-14G-S-0-1	OU1-83-14G-S-2-3	OU1-83-9P-S-0-1	OU1-83-9P-S-2-3	OU1-83-9P-S-3-4
Date Sampled:			8/18/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009
Date Reported:			8/19/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<22	<2.3	<2.4	<2.4	<2.4	<23	<23	<24	<23	<24	<24
Heptachlor epoxide	2.0	190	<22	5.8 J	<2.4	<2.4	<2.4	<23	<23	<24	<23	<24	<24
4,4'-DDE	4.0	5,100	<45	5.0	<4.7	4200	<4.7	<46	<46	<47	90 J	<49	<47
Dieldrin	4.0	110	<45	41	9.8	<4.9	<4.7	<46	<46	<47	<46	<49	<47
4,4'-DDD	4.0	7,200	<45	<4.5	<4.7	<4.9 R	<4.7	<46	<46	<47	<46	<49	<47
4,4'-DDT	4.0	7,000	<45	4.5	<4.7	6200	<4.7	<46	<46	<47	87 J	<49	<47
Chlordane (tech)	40	6,500	610	560 J	<47	990 J	<47	<46	<46	<47	57	<49	<47
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	--	<11	<12	120	<12	<12	<11	<12	<12	<12	<12
Benzo(a)pyrene	10	210	--	<11	<12	170	<12	<12	<11	<12	<12	<12	<12
Benzo(b)flouranthene	10	2,100	--	<11	<12	200	<12	<12	<11	<12	<12	<12	<12
Dibenz(a,h)anthracene	10	210	--	<11	<12	<12	<12	<12	<11	<12	<12	<12	<12
Indeno(1,2,3-cd)pyrene	10	2,100	--	<11	<12	140	<12	<12	<11	<12	<12	<12	<12
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-9R-S-0-1	OU1-83-9R-S-1-2	OU1-83-9R-S-2-3	OU1-83-9R-S-3-4	OU1-83-8K-S-0-1	OU1-83-8K-S-0-1-P	OU1-83-8K-S-0-1	OU1-83-8K-S-1-2	OU1-83-8K-S-2-3	OU1-83-9K-S-0-1	OU1-83-9K-S-2-3
Date Sampled:			7/29/2009	8/18/2009	7/29/2009	7/29/2009	7/29/2009	7/29/2009	7/30/2009	8/4/2009	7/29/2009	7/30/2009	7/30/2009
Date Reported:			8/1/2009	8/19/2009	8/1/2009	8/1/2009	8/1/2009	8/1/2009	8/3/2009	8/5/2009	8/1/2009	8/1/2009	8/1/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<25	<23	<24	<25	<24	<23	0.11 U	<22	<22	<23	<22
Heptachlor epoxide	2.0	190	<25	<23	<24	<25	53 J	53	0.19 U	<22	<22	<23	<22
4,4'-DDE	4.0	5,100	1500 J	110	<47	<50	<47	<45	0.93 J	<44	<45	<46	<44
Dieldrin	4.0	110	<49	<47	<47	<50	**240 J**	**240**	92 J	<44	<45	<46	<44
4,4'-DDD	4.0	7,200	**9300**	160	330 J	150 J	300 J	<45	0.32 U	<44	<45	<46	<44
4,4'-DDT	4.0	7,000	6800	330	<47	<50	<47	45	9.1	<44	<45	<46	<44
Chlordane (tech)	40	6,500	3500	220	51	<50	1900	3000	850 J	<44	<45	520	<44
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	45	--	<12	<12	13	<11	47	--	<11	17	29
Benzo(a)pyrene	10	210	75	--	<12	<12	21	13	120	--	<11	31	32
Benzo(b)flouranthene	10	2,100	86	--	<12	<12	32	<11	160	--	<11	25	74
Dibenz(a,h)anthracene	10	210	<12	--	<12	<12	<12	<11	38	--	<11	<12	<11
Indeno(1,2,3-cd)pyrene	10	2,100	95	--	<12	<12	18	<11	120	--	<11	21	<11
Lead (mg/kg)*		800	--	--	--	--	24	27	--	--	3.7	98	53

Notes:
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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-9K-S-2-3-P	OU1-83-8H-S-0-1	OU1-83-8H-S-0-1-P	OU1-83-8H-S-1-2	OU1-83-8H-S-2-3	OU1-83-8H-S-2-3	OU1-83-9G-S-0-1	OU1-83-9G-S-1-2	OU1-83-9G-S-2-3	OU1-83-9G-S-2-3-P	OU1-83-9I-S-0-1
Date Sampled:			7/30/2009	7/30/2009	7/30/2009	8/6/2009	7/30/2009	7/30/2009	7/30/2009	8/3/2009	7/30/2009	7/30/2009	7/31/2009
Date Reported:			8/1/2009	8/1/2009	8/1/2009	8/8/2009	8/1/2009	8/3/2009	8/1/2009	8/4/2009	8/1/2009	8/2/2009	8/2/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<22	<25	<25	<23	<22	0.10 U	<23	<22	<23	<23	<23
Heptachlor epoxide	2.0	190	<22	<25	27	<23	<22	0.17 U	<23	<22	>23	<23	47
4,4'-DDE	4.0	5,100	<44	110	110	<46	<43	0.23 U	<46	<44	<46	<46	<46
Dieldrin	4.0	110	<44	<50	<51	<46	<43	0.34 U	**180**	<44	<46	<46	<46
4,4'-DDD	4.0	7,200	<44	<50	<51	<46	<43	0.29 U	48 J	76	<46	<46	97
4,4'-DDT	4.0	7,000	<44	120	140	<46	<43	0.28 U	89	260	<46	<46	<46
Chlordane (tech)	40	6,500	<44	730	850	<46	<43	3.5 U	3000	67	<93	<46	3500
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<11	59	110	--	<11	2.1 U	620	100	<23	<12	750
Benzo(a)pyrene	10	210	<11	71	160	--	<11	2.1 U	**880**	95	<23	<12	**610**
Benzo(b)flouranthene	10	2,100	<11	270	230	--	<11	2.1 U	1300	160	<23	<12	680
Dibenz(a,h)anthracene	10	210	<11	<25	39	--	<11	0.70 U	**220**	37	<23	<12	150
Indeno(1,2,3-cd)pyrene	10	2,100	<11	54	110	--	<11	4.1 U	810	86	<23	<12	480
Lead (mg/kg)*		800	57	140	110	--	4.3	--	77	--	7.7	--	10

Notes:
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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-9I-S-1-2	OU1-83-9I-S-2-3	OU1-83-9I-S-2-3-P	OU1-83-6M-S-3-4	OU1-83-5M-S-3-4	OU1-83-5N-S-3-4	OU1-83-12I-S-0-1	OU1-83-10I-S-0-1	OU1-83-10I-S-1-2	OU1-83-10I-S-2-3	OU1-83-10I-S-2-3-P
Date Sampled:			8/3/2009 & 8/19/09	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	8/3/2009	8/18/2009	8/18/2009
Date Reported:			8/4/2009 & 8/20/09	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/2/2009	8/4/2009	8/19/2009	8/19/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<23	<23	<23	--	--	--	<23	50	**890**	<22	<23
Heptachlor epoxide	2.0	190	<23	<23	<23	--	--	--	<23	<22	<22	<22	<23
4,4'-DDE	4.0	5,100	<46	<47	<46	--	--	--	<46	<44	90 J	<45	<46
Dieldrin	4.0	110	<46	<47	<46	--	--	--	<46	<44	<44	<45	<46
4,4'-DDD	4.0	7,200	<46	<47	<46	--	--	--	140	<44	<44	<45	<46
4,4'-DDT	4.0	7,000	<46	<47	<46	--	--	--	<46	<44	63	<45	<46
Chlordane (tech)	40	6,500	<46	260	220	--	--	--	1500	**26000**	**35000**	<45	<46
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<11	<12	<11	<85	<25	<13	82	180	150	--	--
Benzo(a)pyrene	10	210	<11	<12	<11	<85	<25	<13	100	**280**	200	--	--
Benzo(b)flouranthene	10	2,100	<45	<12	<11	<85	<25	<13	89	390	210	--	--
Dibenz(a,h)anthracene	10	210	<11	<12	<11	<85	<25	<13	<11	130	90	--	--
Indeno(1,2,3-cd)pyrene	10	2,100	<11	<12	<11	<85	<25	<13	96	270	340	--	--
Lead (mg/kg)*		800	--	35	--	--	--	--	--	--	--	--	--

Notes:
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Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-14D-S-0-1	OU1-83-14D-S-0-1-P	OU1-83-15E-S-0-1	OU1-83-12K-S-0-1	OU1-83-12K-S-0-1-P	OU1-83-11L-S-0-1	OU1-83-10K-S-0-1	OU1-83-10K-S-0-1-P	OU1-83-10K-S-1-2	OU1-83-9F-S-0-1	OU1-83-9F-S-1-2
Date Sampled:			7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	7/31/2009	8/19/2009	8/3/2009	8/4/2009
Date Reported:			8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/20/2009	8/4/2009	8/8/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<22	<21	<21	<21	<21	<22	<22	<23	<23	<22	<22
Heptachlor epoxide	2.0	190	<22	<21	<21	<21	<21	<22	<22	<23	<23	<22	<22
4,4'-DDE	4.0	5,100	<43	<43	<42	<42	<42	<44	<45	<46	<46	<44	<43
Dieldrin	4.0	110	<43	<43	100 J	<42	<42	<44	<45	<46	<46	78	<43
4,4'-DDD	4.0	7,200	<43	<43	<42	<42	<42	<44	<45	<46	<46	<44	<43
4,4'-DDT	4.0	7,000	<43	<43	<42	<42	<42	<44	<45	<46	<46	<44	<43
Chlordane (tech)	40	6,500	<43	<43	600	<42	66	150	85	110	160	**9500**	90
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	--	--	--	--	--	--	<45	--	--	**9800**	<43
Benzo(a)pyrene	10	210	--	--	--	--	--	--	<45	--	--	**24000**	44
Benzo(b)flouranthene	10	2,100	--	--	--	--	--	--	110	--	--	**29000**	<43
Dibenz(a,h)anthracene	10	210	--	--	--	--	--	--	<45	--	--	**6600**	<43
Indeno(1,2,3-cd)pyrene	10	2,100	--	--	--	--	--	--	<45	--	--	**23000**	<43
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
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Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-9J-S-0-1	OU1-83-9J-S-1-2	OU1-83-10G-S-0-1	OU1-83-10G-S-0-1-P	OU1-83-10G-S-1-2	OU1-83-5Q-S-2-3	OU1-83-8J-S-0-1	OU1-83-8I-S-0-1	OU1-83-8G-S-0-1	OU1-83-8G-S-1-2	OU1-83-8G-S-2-3
Date Sampled:			8/3/2009 & 8/19/09	8/19/2009	8/3/2009	8/3/2009	8/4/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/4/2009
Date Reported:			8/4/2009 & 8/20/09	8/19/2009 & 8/20/09	8/4/2009	8/4/2009	8/5/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009	8/19/2009	8/5/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<23	<22	67	22	<21	--	<23	<23	**950**	170	<22
Heptachlor epoxide	2.0	190	<23	<22	<21	<21	<21	--	<23	<23	**5300 J**	**360**	<22
4,4'-DDE	4.0	5,100	<46	<45	<42	<42	91	--	<46	<47	1400	150 J	<44
Dieldrin	4.0	110	<46	<45	63	<42	<42	--	<46	<47	<47	82	<44
4,4'-DDD	4.0	7,200	<46	<45	<42	96	<42	--	<46	<47	330	46	<44
4,4'-DDT	4.0	7,000	<46	<45	58	<42	260	--	<46	<47	<47	150	<44
Chlordane (tech)	40	6,500	83	<45	**7700**	1600	2200	--	<46	<47	**220000**	**27000**	<44
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	490	13	71	570	<42	<12	<11	<12	120	<46	--
Benzo(a)pyrene	10	210	**530**	36	83	**490**	<42	<12	<11	<12	160	<46	--
Benzo(b)flouranthene	10	2,100	720	76	100	660	<42	<46	<46	<47	280	<46	--
Dibenz(a,h)anthracene	10	210	160	<11	<11	150	<42	<12	<11	<12	44	<46	--
Indeno(1,2,3-cd)pyrene	10	2,100	400	54	87	400	45	<12	<11	<12	130	<46	--
Lead (mg/kg)*		800	--		--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.
Samples not analyzed are signified by "--".
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U or < indicates that the consituent was not detected.
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.
Sample identifiications ending with a "P" indicate a duplicate sample.

Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-5P-S-2-3	OU1-83-9N-S-0-1	OU1-83-10N-S-0-1	OU1-83-10O-S-0-1	OU1-83-14F-S-0-1	OU1-83-5R-S-1-3	OU1-83-10F-S-0-1	OU1-83-10F-S-1-2	OU1-83-10F-S-2-3	OU1-83-10E-S-0-1	OU1-83-10E-S-1-2
Date Sampled:			8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/3/2009	8/4/2009	8/4/2009	8/4/2009	8/6/2009	8/4/2009	8/4/2009
Date Reported:			8/4/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009	8/5/2009	8/5/2009	8/5/2009	8/7/2009	8/5/2009	8/5/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	--	<23	<23	<25	<22	--	<21	--	--	<21	--
Heptachlor epoxide	2.0	190	--	<23	<23	<25	<22	--	<21	--	--	<21	--
4,4'-DDE	4.0	5,100	--	<46	<46	<49	<44	--	43	--	--	<42	--
Dieldrin	4.0	110	--	<46	<46	<49	<44	--	**120**	--	--	57	--
4,4'-DDD	4.0	7,200	--	<46	<46	<49	<44	--	<42	--	--	<42	--
4,4'-DDT	4.0	7,000	--	<46	47	<49	<44	--	62	--	--	<42	--
Chlordane (tech)	40	6,500	--	49	66	<49	<44	--	3900	--	--	930	--
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<13	--	--	--	--	<66	<42	<42	<46	<42	<45
Benzo(a)pyrene	10	210	<13	--	--	--	--	70	<42	<42	<46	<42	<45
Benzo(b)flouranthene	10	2,100	<51	--	--	--	--	200	110	<42	<46	<42	<45
Dibenz(a,h)anthracene	10	210	<13	--	--	--	--	<66	<42	<42	<46	<42	<45
Indeno(1,2,3-cd)pyrene	10	2,100	<13	--	--	--	--	76	48	<42	<46	<42	<45
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:

Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.

TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.

Samples not analyzed are signified by "--".

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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-8F-S-0-1	OU1-83-8F-S-2-3	OU1-83-8F-S-1-2	OU1-83-9E-S-0-1	OU1-83-9E-S-1-2	OU1-83-9E-S-2-3	OU1-83-8E-S-0-1	OU1-83-8E-S-1-2	OU1-83-8E-S-1-2-P	OU1-83-10S-S-0-1	OU1-83-10R-S-0-1
Date Sampled:			8/4/2009		8/4/2009	8/4/2009	8/4/2009	8/6/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009	8/4/2009
Date Reported:			8/5/2009	8/19/2009	8/5/2009	8/5/2009	8/5/2009	8/7/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<23	--	<23	<22	--	--	<23	--	--	<24	<24
Heptachlor epoxide	2.0	190	30		<23	<22	--	--	<23	--	--	<24	<24
4,4'-DDE	4.0	5,100	<46	--	<45	<44	--	--	<45	--	--	300	<47
Dieldrin	4.0	110	**170**	**--**	<45	<44	--	--	<45	--	--	<48	<47
4,4'-DDD	4.0	7,200	<46	--	<45	<44	--	--	<45	--	--	67 J	<47
4,4'-DDT	4.0	7,000	<46	--	<45	<44	--	--	<45	--	--	1700	<47
Chlordane (tech)	40	6,500	1900	--	75	1700	--	--	2100	--	--	<48	<47
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	94	180	140	93	280	<48	<45	<50	<48	--	--
Benzo(a)pyrene	10	210	130	170	**220**	120	**240**	<48	<45	<50	<48	--	--
Benzo(b)flouranthene	10	2,100	510	260	590	400	300	<48	<45	<50	<48	--	--
Dibenz(a,h)anthracene	10	210	<93	51	<90	<88	<43	<48	<45	<50	<48	--	--
Indeno(1,2,3-cd)pyrene	10	2,100	170	130	210	130	160	<48	<45	<50	<48	--	--
Lead (mg/kg)*		800	--		--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-9S-S-0-1	OU1-83-9S-S-0-1-P	OU1-83-7K-S-0-1	OU1-83-7L-S-0-1	OU1-83-8L-S-0-1	OU1-83-7E-S-0-1	OU1-83-7E-S-1-2	OU1-83-10D-S-0-1	OU1-83-10D-S-1-2	OU1-83-9D-S-0-1	OU1-83-9D-S-1-2
Date Sampled:			8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009
Date Reported:			8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<23	<22	<23	<23	<24	--	--	--	--	--	--
Heptachlor epoxide	2.0	190	<23	<22	<23	<23	<24	--	--	--	--	--	--
4,4'-DDE	4.0	5,100	550	<44	<45	<46	<47	--	--	--	--	--	--
Dieldrin	4.0	110	<46	<44	<45	<46	<47	--	--	--	--	--	--
4,4'-DDD	4.0	7,200	86 J	<44	<45	<46	<47	--	--	--	--	--	--
4,4'-DDT	4.0	7,000	1400	180	<45	<46	<47	--	--	--	--	--	--
Chlordane (tech)	40	6,500	270	76	250	<46	<47	--	--	--	--	--	--
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	--	--	--	--	--	<47	<47	260	<46	<45	<44
Benzo(a)pyrene	10	210	--	--	--	--	--	<47	<47	**420**	<46	<45	<44
Benzo(b)flouranthene	10	2,100	--	--	--	--	--	<47	<47	500 J	<46	<45	<44
Dibenz(a,h)anthracene	10	210	--	--	--	--	--	<47	<47	120	<46	<45	<44
Indeno(1,2,3-cd)pyrene	10	2,100	--	--	--	--	--	<47	<47	400	<46	<45	<44
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-7F-S-0-1	OU1-83-7F-S-1-2	OU1-83-7G-S-0-1	OU1-83-7G-S-1-2	OU1-83-8D-S-0-1	OU1-83-8D-S-1-2	OU1-83-7H-S-0-1	OU1-83-7H-S-1-2	OU1-83-10Q-S-0-1	OU1-83-10Q-S-0-1-P	OU1-83-10Q-S-1-2
Date Sampled:			8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	
Date Reported:			8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009	8/7/2009	8/8/2009	8/8/2009	8/8/2009	8/19/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<23	<23	<22	<23	--	--	<28	<22	<23	<28	<22
Heptachlor epoxide	2.0	190	<23	<23	<22	<23	--	--	<28	<22	<23	<28	<22
4,4'-DDE	4.0	5,100	<47	<46	<44	<46	--	--	<55	<45	3300	2900	470
Dieldrin	4.0	110	<47	<46	<44	<46	--	--	<55	<45	<45	<56	<44
4,4'-DDD	4.0	7,200	<47	<46	<44	<46	--	--	<55	<45	920	2900	510
4,4'-DDT	4.0	7,000	<47	<46	<44	<46	--	--	<55	<45	**9700 J**	**17000 J**	740
Chlordane (tech)	40	6,500	66	<46	<44	<46	--	--	<55	<45	2200	2300	650
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<47	<46	<44	<46	1200	<46	--	--	--	--	--
Benzo(a)pyrene	10	210	<47	<46	<44	<46	**1300**	<46	--	--	--	--	--
Benzo(b)flouranthene	10	2,100	120 J	130 J	<44	<46	**2700 J**	<46	--	--	--	--	--
Dibenz(a,h)anthracene	10	210	<47	<46	<44	<46	**360**	<46	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	10	2,100	<47	<46	<44	<46	1200	<46	--	--	--	--	--
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-10P-S-0-1	OU1-83-10C-S-0-1	OU1-83-10C-S-1-2	OU1-83-11D-S-0-1	OU1-83-11D-S-1-2	OU1-83-9C-S-0-1	OU1-83-9C-S-1-2	OU1-83-8C-S-0-1	OU1-83-8C-S-0-1-P	OU1-83-8C-S-1-2	OU1-83-7D-S-0-1
Date Sampled:			8/6/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/5/2009	8/6/2009	8/6/2009	8/6/2009	8/6/2009
Date Reported:			8/8/2009	8/7/2009	8/7/2009	8/7/2009 & 8/21/09	8/7/2009	8/7/2009	8/7/2009	8/7/2009	8/7/2009	8/7/2009	8/7/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<22	--	--	<21	--	--	--	--	--	--	--
Heptachlor epoxide	2.0	190	<22	--	--	33	--	--	--	--	--	--	--
4,4'-DDE	4.0	5,100	<43	--	--	<42	--	--	--	--	--	--	--
Dieldrin	4.0	110	<43	--	--	80	--	--	--	--	--	--	--
4,4'-DDD	4.0	7,200	<43	--	--	<42	--	--	--	--	--	--	--
4,4'-DDT	4.0	7,000	<43	--	--	<42	--	--	--	--	--	--	--
Chlordane (tech)	40	6,500	<43	--	--	1800	--	--	--	--	--	--	--
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	--	<11	<11	12	<11	19	<11	52	<11	<11	120
Benzo(a)pyrene	10	210	--	<11	<11	15	<11	17	<11	81	<11	<11	150
Benzo(b)flouranthene	10	2,100	--	<11	<11	19	<11	31	<11	100	<11	<11	260
Dibenz(a,h)anthracene	10	210	--	<11	<11	<11	<11	<11	<11	34	<11	<11	50
Indeno(1,2,3-cd)pyrene	10	2,100	--	13	<11	15	<11	16	<11	68	<11	<11	120
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:

Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.

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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-7D-S-1-2	OU1-83-9L-S-0-1	OU1-83-11C-S-0-1	OU1-83-11C-S-0-1	OU1-83-11C-S-1-2	OU1-83-11F-S-0-1	OU1-83-11F-S-1-2	OU1-83-11H-S-0-1	OU1-83-11H-S-1-2	OU1-83-12J-S-0-1	OU1-83-12J-S-1-2
Date Sampled:			8/6/2009	8/6/2009	8/6/2009 & 8/21/09	8/21/2009	8/6/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009
Date Reported:			8/7/2009	8/7/2009	8/7/2009 & 8/25/09	8/26/2009	8/7/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/25/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	--	<24	<21	0.094 U	--	79	<22	<22	<22	<21	<22
Heptachlor epoxide	2.0	190	--	<24	<21	0.16 U	--	<21	<22	<22	<22	<21	<22
4,4'-DDE	4.0	5,100	--	<47	<43	0.21 U	--	<43	<43	<43	<44	<43	<44
Dieldrin	4.0	110	--	<47	<43	2.8 J	--	**1500**	<43	<43	<44	**250**	<44
4,4'-DDD	4.0	7,200	--	<47	<43	0.27 U	--	120	<43	<43	<44	<43	<44
4,4'-DDT	4.0	7,000	--	<47	<43	0.26 U	--	130	<43	48	<44	<43	<44
Chlordane (tech)	40	6,500	--	84	69	3.3	--	**26000**	150	1200	<44	2900	<44
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	<12	--	<11	--	<11	520	<11	44	<11	<11	--
Benzo(a)pyrene	10	210	<12	--	<11	--	<11	**460**	<11	48	<11	17	--
Benzo(b)flouranthene	10	2,100	<12	--	<11	--	<11	630	<11	73	<11	19	--
Dibenz(a,h)anthracene	10	210	<12	--	<11	--	<11	160	<43	<11	<11	<11	--
Indeno(1,2,3-cd)pyrene	10	2,100	<12	--	<11	--	<11	330	<11	47	<11	17	--
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
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Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-8N-S-0-1	OU1-83-8S-S-0-1	OU1-83-11P-S-0-1	OU1-83-11P-S-0-1-P	OU1-83-11P-S-1-2	OU1-83-11Q-S-0-1	OU1-83-11R-S-0-1	OU1-83-12F-S-0-1	OU1-83-12F-S-1-2	OU1-83-12O-S-0-1	OU1-83-12O-S-0-1-P
Date Sampled:			8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/18/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009
Date Reported:			8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/20/2009	8/19/2009	8/19/2009	8/20/2009	8/21/2009	8/20/2009	8/20/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<22	<31	**3300**	**1900**	<23	33	<22	<22	<23	<22	<22
Heptachlor epoxide	2.0	190	<22	<31	<23	<23	<23	<23	<22	<22	<23	<22	<22
4,4'-DDE	4.0	5,100	<45	<62	4200	3600	91	110	<45	<43	<45	44	<43
Dieldrin	4.0	110	<45	<62	<46	<45	<46	<46	<45	**230**	<45	<43	<43
4,4'-DDD	4.0	7,200	<45	120	5400	4500	<46	92	<45	<43	<45	<43	<43
4,4'-DDT	4.0	7,000	<45	<62	**27000**	**28000**	110	650	<45	<43	<45	45	<43
Chlordane (tech)	40	6,500	<45	<62	**200000**	**95000**	<46	<46	160	95	<45	<43	<43
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	--	--	--	--	--	--	--	<11	--	--	--
Benzo(a)pyrene	10	210	--	--	--	--	--	--	--	<11	--	--	--
Benzo(b)flouranthene	10	2,100	--	--	--	--	--	--	--	<11	--	--	--
Dibenz(a,h)anthracene	10	210	--	--	--	--	--	--	--	<11	--	--	--
Indeno(1,2,3-cd)pyrene	10	2,100	--	--	--	--	--	--	--	<11	--	--	--
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.
Samples not analyzed are signified by "--".
* Lead results provided by TestAmerica.
U or < indicates that the consituent was not detected.
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.
Sample identifiications ending with a "P" indicate a duplicate sample.

Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)											
Sample ID:			OU1-83-12P-S-0-1	OU1-83-12Q-S-0-1	OU1-83-11O-S-0-1	OU1-83-13J-S-0-1	OU1-83-12E-S-0-1	OU1-83-12E-S-1-2	OU1-83-12G-S-0-1	OU1-83-13F-S-0-1	OU1-83-13F-S-0-1-P	OU1-83-12D-S-0-1	OU1-83-12D-S-1-2
Date Sampled:			8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/19/2009	8/20/2009	8/20/2009	8/20/2009	8/20/2009
Date Reported:			8/20/2009	8/20/2009	8/20/2009	8/20/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009	8/21/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)													
Heptachlor	2.0	380	<21	<22	<21	<21	<21	<23	<21	<23	<23	<22	<23
Heptachlor epoxide	2.0	190	<21	<22	<21	<21	28	<23	<21	<23	<23	<22	<23
4,4'-DDE	4.0	5,100	460	<43	<43	<42	<43	<46	<43	<46	<45	<43	<45
Dieldrin	4.0	110	<42	<43	<43	<42	**1500**	<46	<43	<46	<45	**520**	67
4,4'-DDD	4.0	7,200	560	<43	<43	<42	<43	<46	<43	<46	<45	<43	<45
4,4'-DDT	4.0	7,000	1200	51	<43	<42	<43	<46	<43	<46	<45	<43	<45
Chlordane (tech)	40	6,500	180	1000	<43	<42	1200	<46	<43	380	580	3100	86
PAHs with Selected Ion Monitoring (Soil) (µg/kg)													
Benzo(a)anthracene	10	2,100	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	10	210	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)flouranthene	10	2,100	--	--	--	--	--	--	--	--	--	--	--
Dibenz(a,h)anthracene	10	210	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-cd)pyrene	10	2,100	--	--	--	--	--	--	--	--	--	--	--
Lead (mg/kg)*		800	--	--	--	--	--	--	--	--	--	--	--

Notes:

Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.

TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.

Samples not analyzed are signified by "--".

* Lead results provided by TestAmerica.

U or < indicates that the consituent was not detected.

J - Estimated: The analyte was positively identified; the quantitation is an estimation.

R - Indicates that the result was rejected.

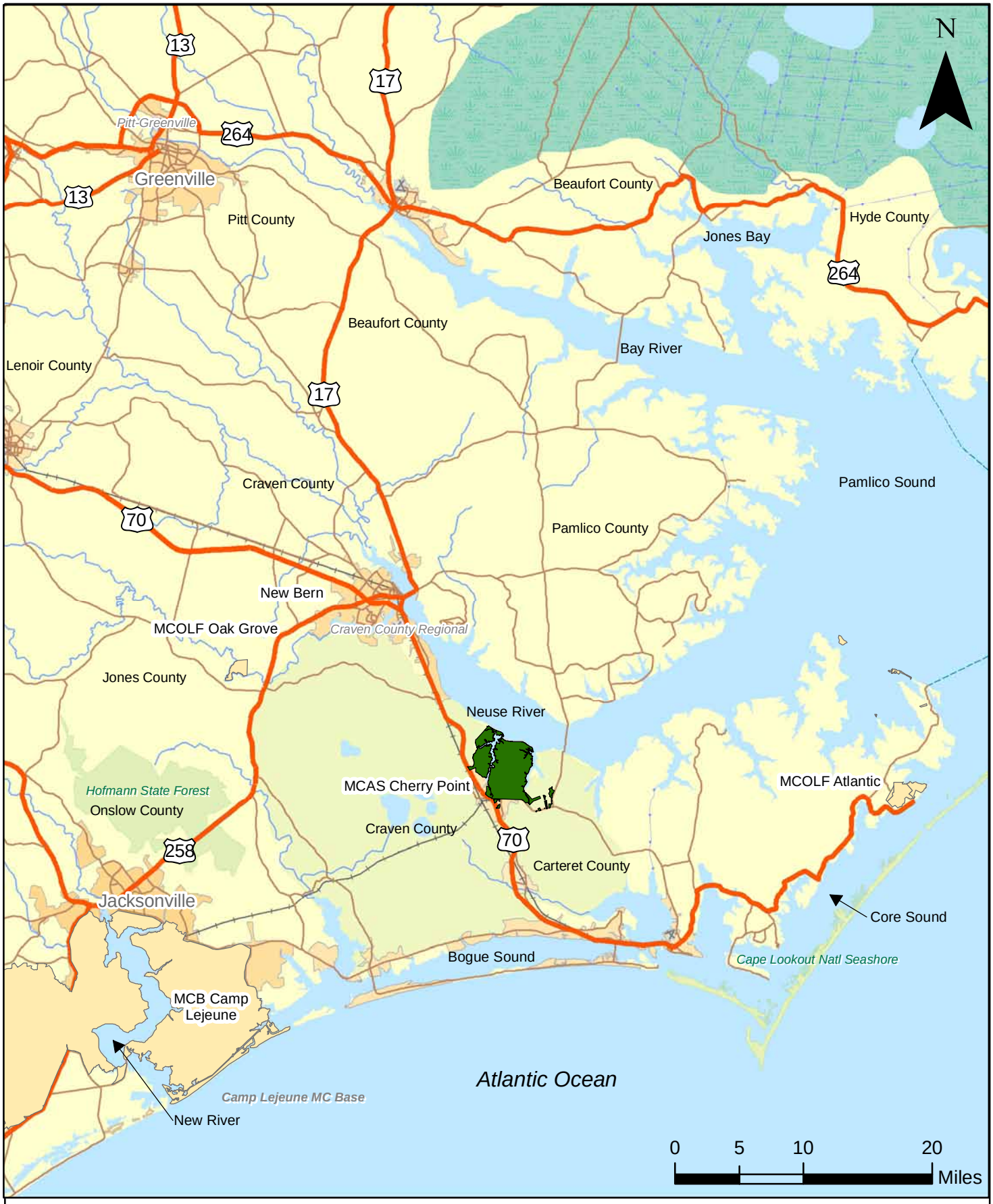
Sample identifiications ending with a "P" indicate a duplicate sample.

Table 1
Summary of Soil Analytical Results
Operable Unit 1, Site 83
MCAS Cherry Point, NC

	Minimum Reporting Limit (µg/kg dry)	RSL for Industrial Soil (µg/kg)			
Sample ID:			OU1-83-13D-S-0-1	OU1-83-12C-S-0-1	OU1-83-13C-S-0-1
Date Sampled:			8/20/2009	8/20/2009	8/20/2009
Date Reported:			8/21/2009	8/25/2009	8/25/2009
Pesticides by EPA Method 8081A (Soil) (µg/kg)					
Heptachlor	2.0	380	<22	<21	<22
Heptachlor epoxide	2.0	190	<22	<21	<22
4,4'-DDE	4.0	5,100	<43	<42	<43
Dieldrin	4.0	110	<43	<42	<43
4,4'-DDD	4.0	7,200	<43	<42	<43
4,4'-DDT	4.0	7,000	<43	<42	<43
Chlordane (tech)	40	6,500	63	<42	<43
PAHs with Selected Ion Monitoring (Soil) (µg/kg)					
Benzo(a)anthracene	10	2,100	--	--	--
Benzo(a)pyrene	10	210	--	--	--
Benzo(b)flouranthene	10	2,100	--	--	--
Dibenz(a,h)anthracene	10	210	--	--	--
Indeno(1,2,3-cd)pyrene	10	2,100	--	--	--
Lead (mg/kg)*		800	--	--	--

Notes:
Exceedances of the RSL for Industrial Soil are in bold text and highlighted gray.
TestAmerica analytical results from Pesticides and PAH split samples are highlighted in light yellow.
Samples not analyzed are signified by "--".
* Lead results provided by TestAmerica.
U or < indicates that the consituent was not detected.
J - Estimated: The analyte was positively identified; the quantitation is an estimation.
R - Indicates that the result was rejected.
Sample identifiications ending with a "P" indicate a duplicate sample.

FIGURES

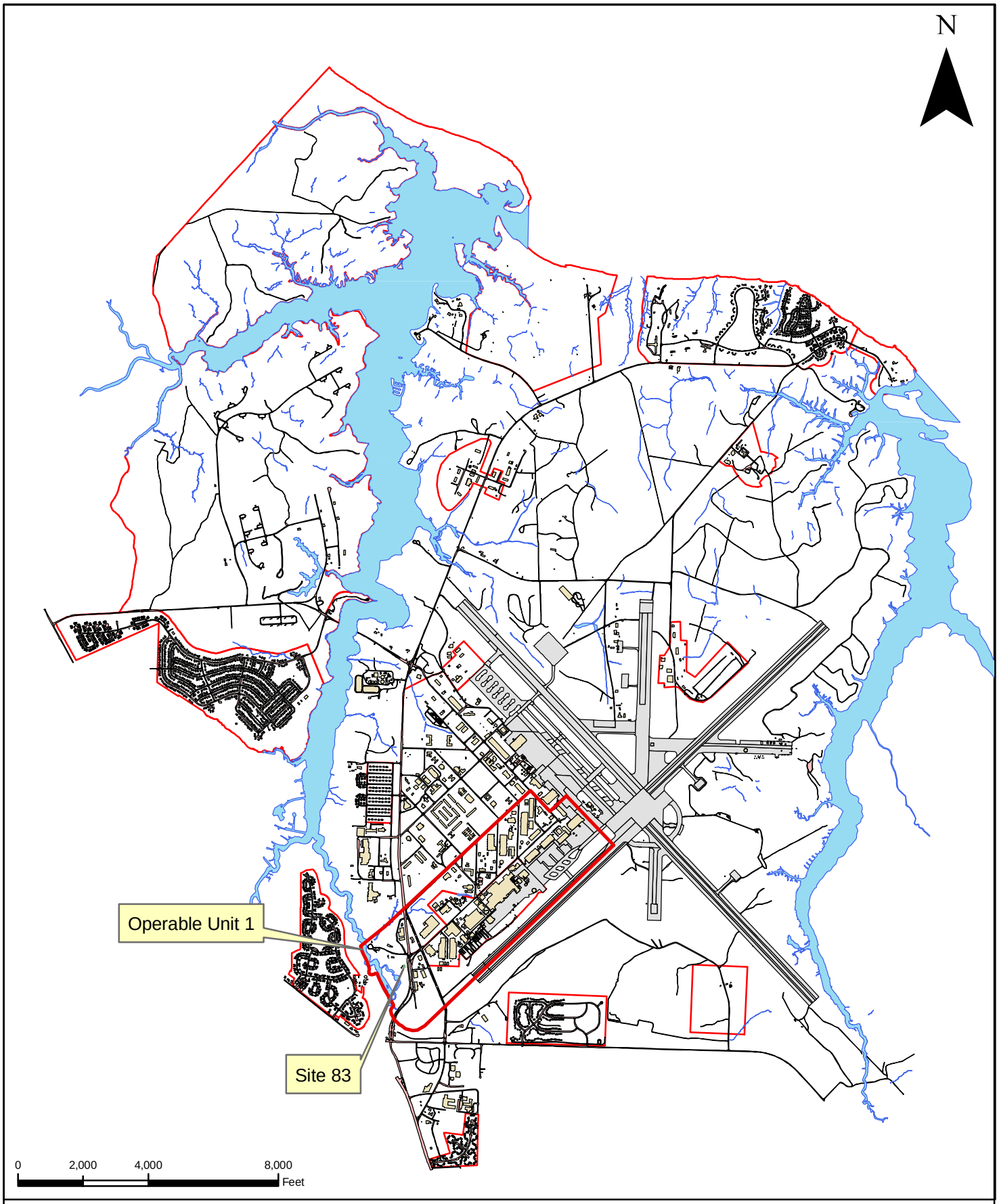


Legend

- MCAS Cherry Point
- County Boundaries
- Highway
- Major Road
- Local Road
- Major Railroad Lines
- Stream
- Water Bodies

RHEA Engineers & Consultants, Inc.

Figure 1
MCAS Cherry Point Location Map
MCAS Cherry Point, North Carolina



Legend

- Site 83
- Operable Unit 1
- Water Bodies
- Buildings
- Base Area

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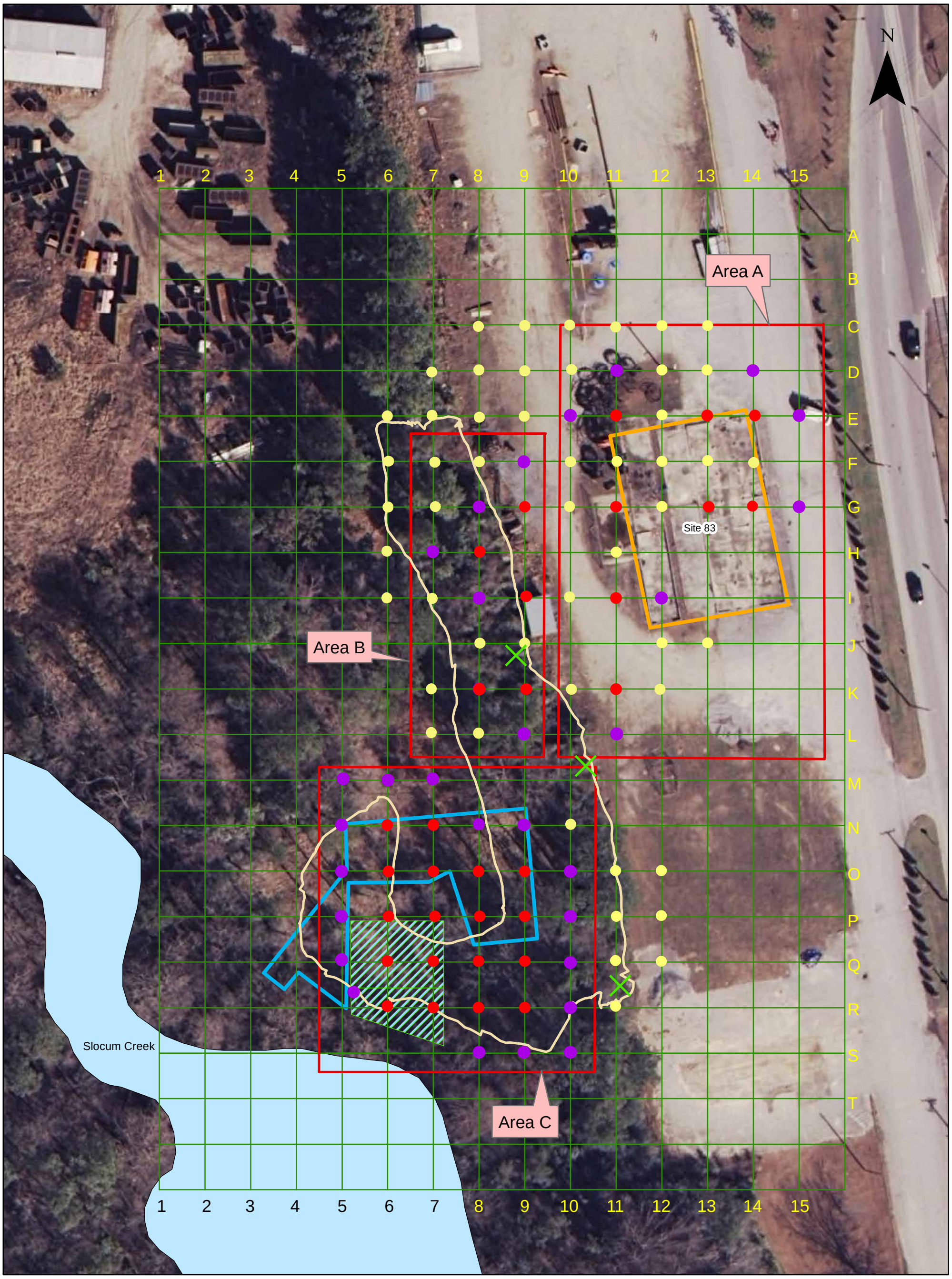
Figure 2
OU1 Location Map
MCAS Cherry Point, North Carolina

FIGURE 3
Simplified Conceptual Site Model of Sites 16 and 83
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL



Legend

- Outfall culvert or pipe
- Area of Clearing
- Site 83 Areas of Concern
- Site 83 25 ft. Grid Sampling
- Streams (Major)
- Site 83
- 1997 Excavation Area (Debris Piles Removal Action)
- 1996 FMD Spill Response Excavation Area
- Primary Soil Sample Location
- Secondary Soil Sample Location
- Field Soil Sample Location

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Figure 4
Soil Sample Locations
OU1, Site 83 Soil Delineation
MCAS Cherry Point, North Carolina

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Legend

- Outfall culvert or pipe
- Site 83 Areas of Concern
- Site 83 25 ft. Grid Sampling
- Streams (Major)
- Site 83
- 1997 Excavation Area (Debris Piles Removal Action)
- 1996 FMD Spill Response Excavation Area

Notes:

0-1' / 1-2' / 2-3' / 3-4' / 4-5' — Typical layout of sample intervals, with the exception of 5R, 6R, 7P, and 7R (soil too saturated to retain full recovery)

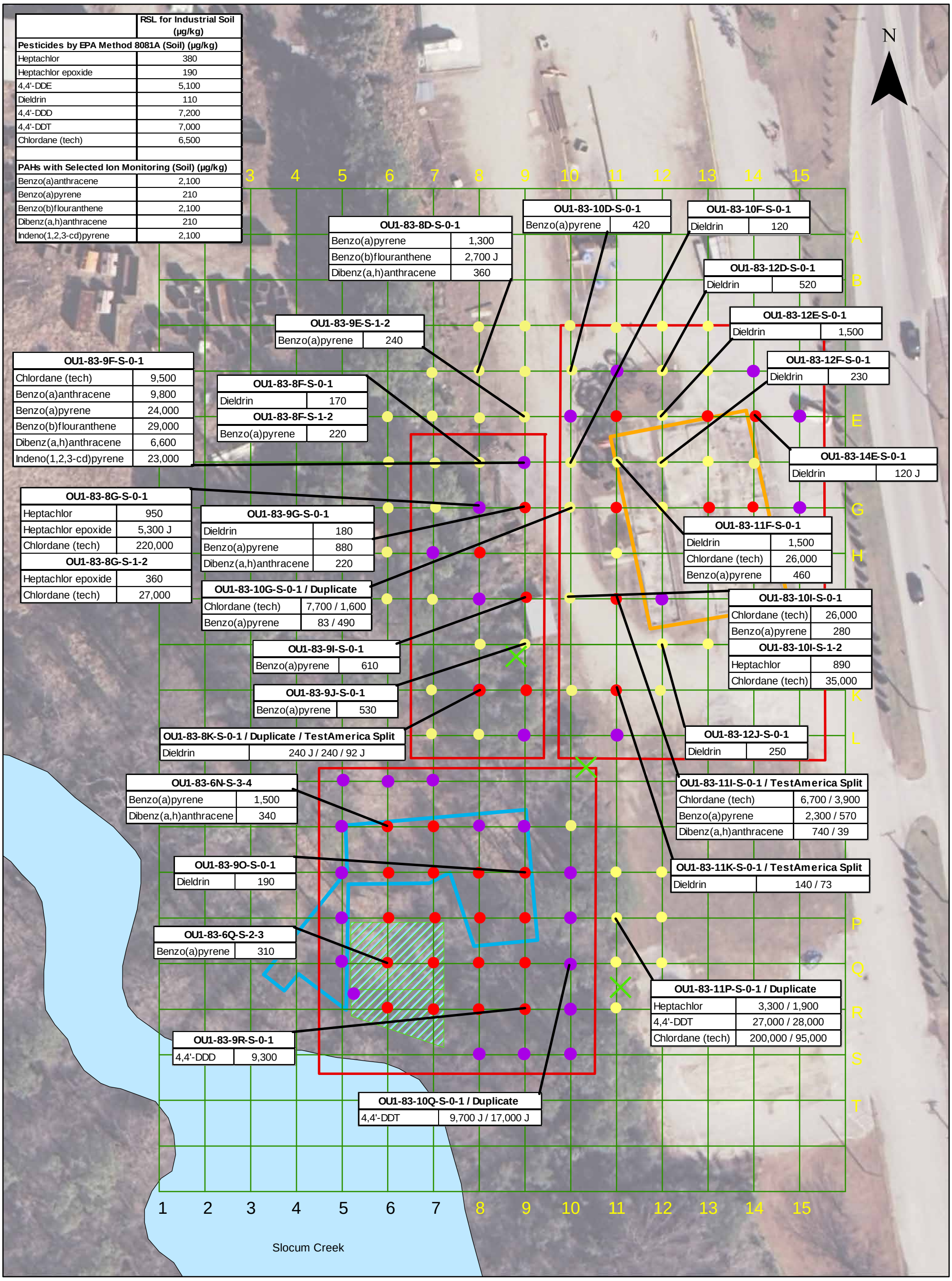
- Sample was analyzed, one or more constituents exceeded the Industrial RSL
- Sample was analyzed, results were below the Industrial RSL
- Sample was collected but not analyzed

1 Signifies a pesticide analysis

2 Signifies a PAH analysis

Lead was analyzed by TestAmerica in all primary locations within Area B. No exceedances were reported.

Figure 5
Soil Sample Locations with Exceedances of Screening Criteria
OU1, Site 83 Soil Delineation
MCAS Cherry Point, North Carolina



	RSL for Industrial Soil (µg/kg)
Pesticides by EPA Method 8081A (Soil) (µg/kg)	
Heptachlor	380
Heptachlor epoxide	190
4,4'-DDE	5,100
Dieldrin	110
4,4'-DDD	7,200
4,4'-DDT	7,000
Chlordane (tech)	6,500
PAHs with Selected Ion Monitoring (Soil) (µg/kg)	
Benzo(a)anthracene	2,100
Benzo(a)pyrene	210
Benzo(b)flouranthene	2,100
Dibenz(a,h)anthracene	210
Indeno(1,2,3-cd)pyrene	2,100

0 50 100 Feet

Legend

- Outfall culvert or pipe
- Site 83 Areas of Concern
- Site 83 25 ft. Grid Sampling
- Streams (Major)
- Site 83
- 1997 Excavation Area (Debris Piles Removal Action)
- 1996 FMD Spill Response Excavation Area
- Primary Soil Sample Location
- Secondary Soil Sample Location
- Field Soil Sample Location

Note:
All sample results are presented in micrograms per kilogram (µg/kg)

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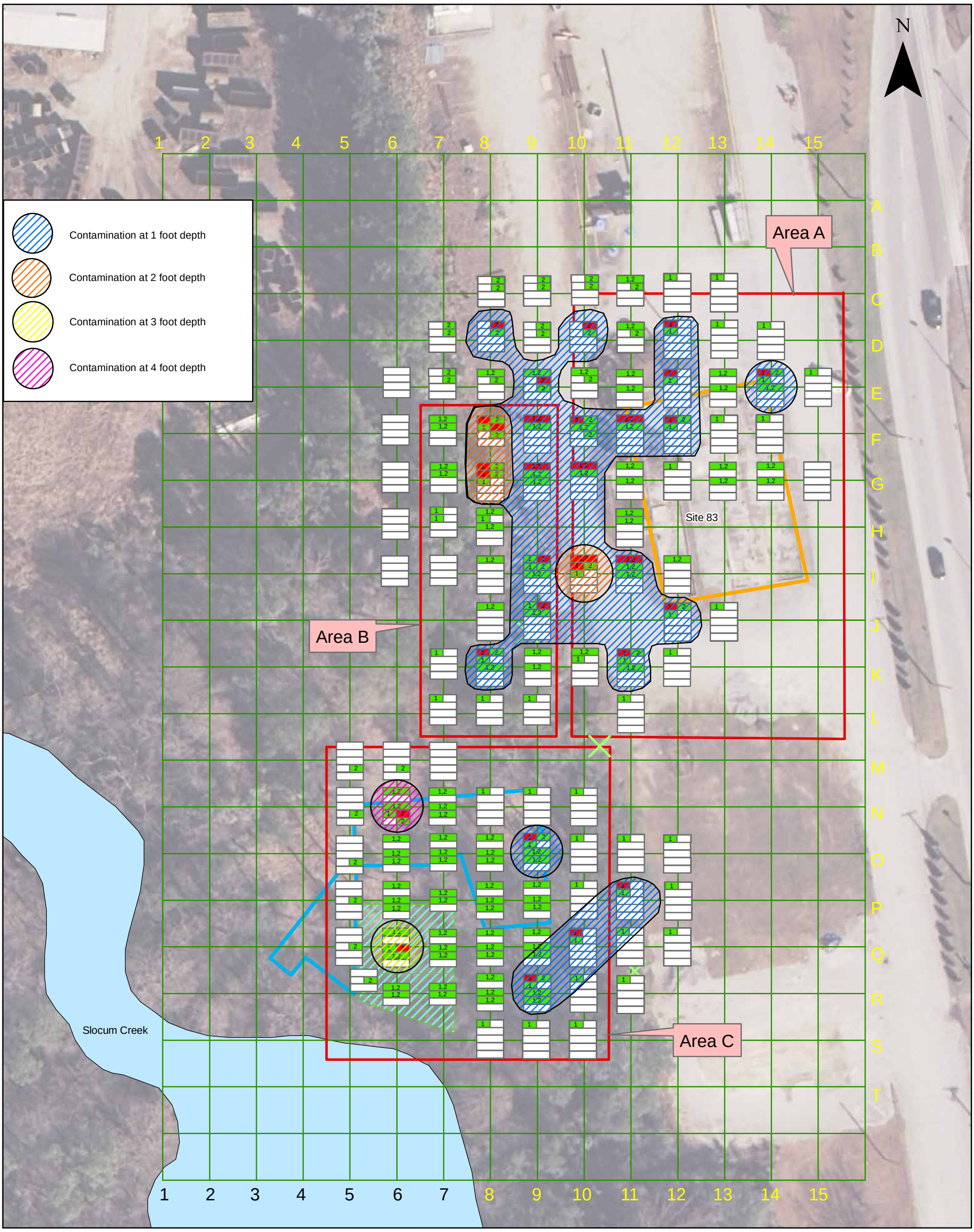
Figure 6
Constituents Exceeding the Screening Criteria
OU1, Site 83 Soil Delineation
MCAS Cherry Point, North Carolina



0 50 100 Feet

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Legend

- Outfall culvert or pipe
- Site 83 Areas of Concern
- Site 83 25 ft. Grid Sampling
- Streams (Major)
- Site 83
- 1997 Excavation Area (Debris Piles Removal Action)
- 1996 FMD Spill Response Excavation Area

Notes:

0-1' / 1-2' / 2-3' / 3-4' / 4-5' — Typical layout of sample intervals, with the exception of 5R, 6R, 7P, and 7R (soil too saturated to retain full recovery)

- Sample was analyzed, one or more constituents exceeded the Industrial RSL
- Sample was analyzed, results were below the Industrial RSL
- Sample was collected but not analyzed

1 Signifies a pesticide analysis

2 Signifies a PAH analysis

Lead was analyzed by TestAmerica in all primary locations within Area B. No exceedances were reported.

Figure 7
Vertical and Lateral Extent of Soil Above Screening Criteria
OU1, Site 83 Soil Delineation
MCAS Cherry Point, North Carolina

APPENDIX A

UFP-SAP WORKSHEET 4
PROJECT PERSONNEL
SIGN-OFF SHEET

SAP Worksheet #4 – Project Personnel Sign-Off Sheet

Name	Organization/Title/Role	Telephone Number (optional)	Signature/email receipt	SAP Section Reviewed	Date SAP Read
Beth Cockcroft	Rhēa / Data Validation	774-266-3414 (cell)	Beth J. Cockcroft	All	07/2009
Brad McCalla	Rhēa / Field Team Leader	724-443-4111	Brad A McCalla	All	07/09
Zach Wicks	Rhēa / Data Manager	724-443-4111	[illegible]	All	07/09
TBD	Rhēa / Field Team Members				
Nick Nigro	ECCS / President	608-221-8700	[illegible]	12, 25, 28	07/2009
~~Greg Graf~~ MIKE LINSKENS	ECCS / QA Manager	608-221-8700	Michael Linskens		
Kathy Smith	TestAmerica / Project Manager	912-354-7858	Kathryn Smith		07/2009

EFFECTIVE 06/2009, MIKE LINSKENS, SENIOR CHEMIST AND OWNER, ASSUMED QA MANAGER RESPONSIBILITIES FOR MR. GRAF.

APPENDIX B

SITE PHOTOGRAPHS

SITE CLEARING USING TRACKED EQUIPMENT

SOIL SAMPLING WITH TRACTOR MOUNTED GEOPROBE – AREA A

SOIL SAMPLING WITH TRACTOR MOUNTED GEOPROBE – AREA C

SOIL SAMPLING WITH SLIDE HAMMER-AREA B

SOIL SAMPLE COLLECTION PROCEDURES

LABORATORY SAMPLE PREPARATION

GC/MS INSTRUMENTATION

LABORATORY STAFF PROCESSING DATA

AREA A

AREA C

AREA B

APPENDIX C

SOIL SAMPLE COLLECTION REPORTS

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-11K-S-0-1	0-1	Light brown, coarse sand, fine gravel	1400
OU1-83-11K-S-1-2	1-2	Dark brown, coarse sand w/ med. gravel to clayey sand	1405
OU1-83-11K-S-2-3	2-3	Dark-light brown, clayey sand to coarse sand w/ gravel + silt	1407
OU1-83-11K-S-3-4	3-4	Light brown, fine silty sand to stiff fine sand	1408
OU1-83-11K-S-4-5	4-5	Light brown, very stiff fine sand/silty sand	1410

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: 2 MS/DS samples collected OU1-83-11K-S-2-3-MS/DS (2-3 ft. interval) ZDW
2-3' interval → encountered 1-2" thick gravel/quartz seam w/ coarse sand
TestAmerica – split OU1-83-11K-S-0-1

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-13E-S-0-1	0-1	Light-Dark Brown Silty Sand w/ Gravel	10:45
OU1-83-13E-S-1-2	1-2	Light-Dark Brown Silty Sand	10:55
OU1-83-13E-S-2-3	2-3	Light Brown Sandy Clay, well packed/tight	10:57
OU1-83-13E-3-4	3-4	Light brown, Sandy clay, very well packed	11:00
OU1-83-13E-4-5	4-5	Light brown Sandy clay, very well packed	11:02

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM / ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-13G-S-0-1	0-1	Light brown-gray, silty sand, coarse gravel	1200
OU1-83-13G-S-1-2	1-2	Light brown, concrete mix, silty sand + clay	1205
OU1-83-13G-S-2-3	2-3	Light brown, clayey sand	1207
OU1-83-13G-S-3-4	3-4	Light brown, sand to silty sand	1208
OU1-83-13G-S-4-5	4-5	Light brown, sand, very fine grained	1210

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

ZDW 7-28-09

Number of Containers: ~~8~~ 6

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: Duplicate Collected - OU1-83-13G-S-0-1-P (0-1 ft. interval) 1212

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/2009	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-14E-S-0-1	0-1	Light brown to black, Silty sand, fine gravel	11:15
OU1-83-14E-S-1-2	1-2	Light brown-black, cinder / silty sand	11:18
OU1-83-14E-S-2-3	2-3	Light brown, fine grained silty sand	11:20
OU1-83-14E-S-3-4	3-4	Light brown, " " "	11:23
OU1-83-14E-S-4-5	4-5	light brown silty sand, fine grained	11:25

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: Split collected for TestAmerica (2-3')

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM / ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-146-S-0-1	0-1	Light brown - gray, silty sand w/gravel mix	11:45
OU1-83-146-S-1-2	1-2		11:50
OU1-83-146-S-2-3	2-3		11:52
OU1-83-146-S-3-4	3-4	light brown silty sand	11:55
OU1-83-146-S-4-5	4-5	light brown sand	11:58

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	/ /	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-11E-S-0-1	0-1	Light brown, coarse-fine grained silty sand	1220
OU1-83-11E-S-1-2	1-2	Light brown, silty sand, fine gravel	1225
OU1-83-11E-S-2-3	2-3	Light-dark brown, silty sand w/ mixed clay	1227
OU1-83-11E-S-3-4	3-4	" " " "	1229
OU1-83-11E-S-4-5	4-5	Light brown, silty sand to fine sand	1230

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85° F Sunny

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM / ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-116-S-0-1	0-1	light brown to black silty sand + cinders	12:45
OU1-83-116-S-1-2	1-2	cinder, brown to dark brown sand w/ cinders	12:48
OU1-83-116-S-2-3	2-3	light brown, fine grained to clayey sand	12:50
OU1-83-116-S-3-4	3-4	light brown sandy clay, stiff	12:52
OU1-83-116-S-4-5	4-5	light brown sandy clay	12:55
			~~12:55~~ BAM

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-11I-S-0-1	0-1	Light, coarse grained sand	1345
OU1-83-11I-S-1-2	1-2	Light brown, course sand to fine sand	1350
OU1-83-11I-S-2-3	2-3	light brown fine sand to brown clay	1352
OU1-83-11I-S-3-4	3-4	light brown sandy clay, stiff	1354
OU1-83-11I-S-4-5	4-5	light brown sandy clay, stiff	1355

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ~~5~~ 6 ZDW 7-28-09

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions

Remarks: Duplicate collected OU1-83-11I-S-2-3-P (2-3 ft. interval) 1353
~~3 MS/MSD Samples collected OU1-83-11I-S-2-3-MS/MSD (2-3 ft. interval)~~
Test America split at OU1-83-11I-S-0-1 ZDW

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6Q-S-0-1	0-1	Dark brown, clayey sand, some organics	1635
~~OU1-83-6Q-S-1-2~~	~~1-2~~		~~1637~~ ZDW
ZDW ~~OU1-83-6Q-S-2-3~~	~~2-3~~		
~~OU1-83-6Q-S-3-4~~	~~3-4~~		
~~OU1-83-6Q-S-4-5~~	~~4-5~~		
OU1-83-6Q-S-1-3	1-3	Light brown, coarse sand	1637
OU1-83-6Q-S-3-5	3-5	" "	1639

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 6

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F, Sunny, hot

Remarks: Duplicate collected OU1-83-6Q-~~S3-4~~ S-3-5-P (3-4 ft. interval) 1639
1st attempt hit concrete after 1", 2nd attempt - 2' recovery from 1-5 ft.

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM/20W Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6R-S-0-1	0-1	Dark brown, wet to moist silty sand	1545
OU1-83-6R-S-1-2	1-2	Dark to light brown, moist silty sand	1547
20W ~~OU1-83-6R-S-2-3~~	~~2-3~~		1550
~~OU1-83-6R-S-3-4~~	~~3-4~~		1552
~~OU1-83-6R-S-4-5~~	~~4-5~~		1553
OU1-83-6R-S-2-5	2-5	Coarse rock fragments, gray, silty sand, large grained sand mostly rock	1615

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny, hot

Remarks: Recovered 16" from 5' spoon, 2nd attempt, similar recovery 1st attempt
2-5 foot interval sample on hold

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6N-S-0-1	0-1	Dark brown silty sand w/ some gravel	8:30
OU1-83-6N-S-1-2	1-2	Dark brown/black organic to fine grained sand	8:35
OU1-83-6N-S-2-3	2-3	Light, fine grained sand to dark brown sand	8:37
OU1-83-6N-S-3-4	3-4	Dark brown fine grained to silty sand	8:39
OU1-83-6N-S-4-5	4-5	Sandy clay to coarse grained light gray sand	8:40

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 85°F, Sunny, very humid

Remarks: 3½' of recovery from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-GP-S-01	0-1	Silty ~~to~~ sand, dark brown w/ organics	7:40
OU1-83-GP-S-1-2	1-2	Dark brown, coarse sand w/ gravel	7:45
OU1-83-GP-S-2-3	2-3	Dark gray, coarse sand w/ gravel	7:47
OU1-83-GP-S-3-4	3-4	Light brown to gray, moist sand	7:48
OU1-83-GP-S-4-5	4-5	Gray to brown sand/peat w/ organic material	7:50

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 82°F, humid, sunny

Remarks: 3' recovery from 8' ~~spoon~~ 1-5' interval

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-60-S-0-1	0-1	Light brown to tan, silty sand	7:55
OU1-83-60-S-1-2	1-2	Light gray, coarse sand w/ rock fragments	8:00
OU1-83-60-S-2-3	2-3	Gray to dark brown silty sand w/ rock fragments	8:02
OU1-83-60-S-3-4	3-4	Dark brown silty sand to light tan sand	8:03
OU1-83-60-S-4-5	4-5	Dark brown to black, mucky organic material	8:05

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 6

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions

Remarks: Duplicate collected OU1-83-60-S-0-1-P (0-1 ft. interval) 7:55
3' recovery from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/28/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7N-S-0-1	0-1	Dark brown silty sand w/ organics + gravel	8:50
OU1-83-7N-S-1-2	1-2	Tan sand w/ black streaks	8:55
OU1-83-7N-S-2-3	2-3	Dark gray to black sand, fine grained	8:56
OU1-83-7N-S-3-4	3-4	Brown clayey sand	8:57
OU1-83-7N-S-4-5	4-5	Brown ~~sandy clay~~ to fine grained saturated sand	8:59
		clayey sand	

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No. _____

Describe Compositing _____

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	402	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/28/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny, humid

Remarks: 3½' of recovery from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhëa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-TP-S-0-1	0-1	Dark brown clayey sand	9:20
OU1-83-TP-S-1-3	1-3	Dark brown clayey sand to wet fine sand	9:25
OU1-83-TP-S-3-5	3-5	Sand w/ organic matter, very wet	9:29

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 3

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: 1st attempt - 1' recovery from 4' spoon, 2nd attempt - 2' recovery
MS/MSD on 0-1' interval

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-70-S-0-1	0-1	Dark brown clayey sand	~~8:05~~ 9:0
OU1-83-70-S-1-2	1-2	Brown clay mix with fine sand	9:10
OU1-83-70-S-2-3	2-3	Gray sand w/ some black organic material	9:12
OU1-83-70-S-3-4	3-4	Brown clayey sand to fine sand	9:13
OU1-83-70-S-4-5	4-5	Fine sand to dark brown mucky organic w/ wood	9:15

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 6

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, humid, cool breeze

Remarks: Duplicate collected OU1-83-70-S2-3-P (2-3' interval) 9:12
3' recovery from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	TIME
OU1-83-7Q-S-0-1	0-1'	gray to brown clayey sand	10:10
OU1-83-7Q-S-1-2	1-2	Dark brown clayey sand to coarse sand	10:15
OU1-83-7Q-S-2-3	2-3	Tan coarse sand	10:16
OU1-83-7Q-S-3-4	3-4	Coarse tan sand to sandy clay (dark brown)	10:18
OU1-83-7Q-S-4-5	4-5	Dark grey moist sand	10:20

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny

Remarks: 1-5' 1st attempt ~2' recovery, but 1' was wood
2nd attempt - 2½' recovery - 5 intervals collected

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-TR-S-0-1	0-1	dark brown clayey sand w/ organics to fine grained sand	10:3
OU1-83-TR-S-1-3	1-3	dark brown clayey sand to fine grained tan sand	10:46
OU1-83-TR-S-3-5	3-5	gray sand	10:45

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No. _____

Describe Compositing _____

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	40z	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 3

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, humid

Remarks: 1-5' 1st attempt 18"
2nd attempt - 2' recovery - collect 1-3', 3-5' intervals

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29 09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SR-S-0-1	0-1	Dark brown organic muck w/ clayey sand to fine sand	11:00
OU1-83-SR-S-1-2	1-2	Gray sand	11:05
OU1-83-SR-S-2-3	2-3	Gray sand to sandy clay	11:06
OU1-83-SR-S-3-4	3-4	Gray sand w/ streaks of dark brown muck	11:08
OU1-83-SR-S-4-5	4-5	Dark brown muck w/ organics and clayey sand	11:10

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29 09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, humid

Remarks: 3' recovery from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9R-S-0-1	0-1	Black to dark brown organic material + coarse sand	1535
OU1-83-9R-S-1-2	1-2	Black silty sand to coarse gray sand	1600
OU1-83-9R-S-2-3	2-3	Coarse gray sand	1602
OU1-83-9R-S-3-4	3-4	Coarse gray sand to silty brown sand	1603
OU1-83-9R-S-4-5	4-5	Dark brown silty clay, many organics	1605

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny, humid, hot

Remarks: 1st attempt - 16" recovery
2nd attempt - 28" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9Q-S-0-1	0-1	Dark brown silty sand to light gray sand	1455
OU1-83-9Q-S-1-2	1-2	Brown to light brown w/ clayey sand mix	1458
OU1-83-9Q-S-2-3	2-3	Light brown to gray course sand	1500
OU1-83-9Q-S-3-4	3-4	Light gray sand w/ some root matter	1502
OU1-83-9Q-S-4-5	4-5	Brown organic material w/ roots	1504

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny, humid, hot

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	731
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9P-S-0-1	0-1	Dark brown sand w/ organic material to tan sand	1515
OU1-83-9P-S-1-2	1-2	Some black organic material to dark gray sand	1517
OU1-83-9P-S-2-3	2-3	Moist gray to light gray sand	1519
OU1-83-9P-S-3-4	3-4	Moist gray sand w/ clay seam	1520
OU1-83-9P-S-4-5	4-5	Moist gray sand, coarse	1522

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny, hot, humid

Remarks: 32 inch recovery - 2nd attempt
1st attempt - hit root at 1' bgs

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	ZDW/BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SQ-S-0-1	0-1	Gray to dark gray sand w/ small roots, saturated	11:30
OU1-83-SQ-S-1-2	1-2	Gray saturated sand	11:35
OU1-83-SQ-S-2-3	2-3	Gray moist sand	1330
OU1-83-SQS-3-4	3-4	Gray moist sand	1332
OU1-83-SQ-S-4-5	4-5	Black to dark brown organic muck	1333

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 80°F Sunny

Remarks: Duplicate collected OU1-83-SQ-S-2-3-P (2-3' interval) 1332
1st attempt - 2' recovery from 4' spoon
2nd attempt - 2 1/2' recovery (30")

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SP-S-0-1	0-1	Light brown clayey sand to finer sand	1340
OU1-83-SP-S-1-2	1-2	Tan to light gray sand, coarse	1345
OU1-83-SP-S-2-3	2-3	Light gray sand	1347
OU1-83-SP-S-3-4	3-4	" "	1348
OU1-83-SP-S-4-5	4-5	Light gray sand to dark brown organic muck	1350

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, humid

Remarks: 4' recovery (full)

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-80-S-~~1~~	0-1	Dark brown clayey sand to tan sand	1355
OU1-83-80-S-1-2	1-2	Tan fine grained sand to dark brown silty sand	1357
OU1-83-80-S-2-3	2-3	Dark brown moist sand	1359
OU1-83-80-S-3-4	3-4	Dark gray silty sand to coarse gray sand	1400
OU1-83-80-S-4-5	4-5	Gray coarse sand to black organic muck	1401

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, humid, breeze

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/29 09	Time Collected	See Below
Collected By	BAM/LDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-90-S-0-1	0-1	Tan sand w/ black streaks mixed, some organics	1425
OU1-83-90-S-1-2	1-2	Gray sand w/ black streaks	1430
OU1-83-90-S-2-3	2-3	Gray sand	1431
OU1-83-90-S-3-4	3-4	Gray to light gray sand, very moist	1432
OU1-83-90-S-4-5	4-5	Light gray sand to black organic muck	1433

Sampling Method: OPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/29/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, humid, breeze

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/30/09	Time Collected	See Below
Collected By	BAM/ZPW Rhea Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9I-S-0-1	0-1	Dark brown loose silty sand to brown silty sand	1145
OU1-83-9I-S-1-2	1-2	Brown coarse, loose silty sand to fine tan sand	1146
OU1-83-9I-S-2-3	2-3	Tan/orange fine sand w/ black streaks	1147
OU1-83-9I-S-3-4	3-4	Orange fine sand to light tan fine sand	1148
OU1-83-9I-S-4-5	4-5	Tan fine silty sand, packed very tight	1149

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/30/09 Laboratory: ECCS/Test America (Kent)

Weather Conditions: 85°F Sunny, hot

Remarks: Rhea duplicate collected at 2-3' interval

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/30/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SH-S-0-1	0-1	Silty ~~clay~~ sand w/ organics + clay	0950
OU1-83-SH-S-1-2	1-2	Dark brown organic material to light orange sand	0951
OU1-83-SH-S-2-3	2-3	Light orange sand, very fine	0952
OU1-83-SH-S-3-4	3-4	" " "	0953
OU1-83-SH-S-4-5	4-5	" " "	0954

Sampling Method: Slide hammer w/ acetate sleeve

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ZDW 7-28-09 ~~5~~ 6

Date Received by Lab: 7/30/09 Laboratory: ECCS/TestAmerica Cleve

Weather Conditions: 90°F Sunny

Remarks: Duplicate collected OU1-83-SH-S-0-1-D (0-1 ft. interval) 0950
Split collected at 2-3', full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/30/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9K-S-0-1	0-1	Dark brown organic silty sand, few organisms	0850
OU1-83-9K-S-1-2	1-2	Dark organic material with clayey sand	0910
OU1-83-9K-S-2-3	2-3	Dark to light brown silty sand	0911
OU1-83-9K-S-3-4	3-4	Light brown silty sand	0912
OU1-83-9K-S-4-5	4-5	Light brown silty sand to fine gray sand	0913

Sampling Method: Slide hammer w/ acetate sleeve

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers ZDW 7-28-09 ~~5~~ 6

Date Received by Lab 7/30/09 Laboratory ECCS/Test America/Lead,

Weather Conditions

Remarks Duplicate collected OU1-83-9K-S-2-3-P (2-3 ft. interval) 0911
1st attempt - 16" recovery from 4' spoon
2nd attempt - ~~full recovery~~ 38" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/30/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-8K-S-0-1	0-1	Black organic soil to tan fine sand	0825
OU1-83-8K-S-1-2	1-2	Tan sand to orange sand w/ black streaks	0830
OU1-83-8K-S-2-3	2-3	Orange sand to fine tan sand	0831
OU1-83-8K-S-3-4	3-4	Dry tan sand to saturated tan sand	0832
OU1-83-8K-S-4-5	4-5	Saturated fine tan sand	0833

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ZDW 7-28-09 ~~5~~ 6

Date Received by Lab: 7/30/09 Laboratory: ECCS / Test America / lead

Weather Conditions: 82°F, sunny, humid

Remarks: Duplicate collected OU1-83-8K-S-0-1-P (0-1 ft. interval)
Full recovery, Split at 0-1' interval
Hold duplicate collected (2-3')

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/30/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-96-S-0-1	0-1	Dark organic material to brown silty sand	1130
OU1-83-96-S-1-2	1-2	Brown silty sand to tan sand to orange sandy clay	1131
OU1-83-96-S-2-3	2-3	Orange fine sand w/ sandy clay	1132
OU1-83-96-S-3-4	3-4	very packed orange/tan sandy clay	1133
OU1-83-96-S-4-5	4-5	" " " "	1134

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/30/09 Laboratory: ECCS/Test America (lead,

Weather Conditions: 85°F Sunny, hot

Remarks: Full recovery
Rhea duplicate taken from 2-3' interval

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/30/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

6R – 2nd attempt

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
	0-1	Original 0-1' used	
OU1-83-6R-S-1-3	1-3	Loose tan sand, very wet, some clay mix	1250
OU1-83-6R-S-3-5	3-5	Saturated organic material w/ some sand	1253

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 2

Date Received by Lab: 7/30/09 Laboratory: ECCS

Weather Conditions: 73°F hot + sunny

Remarks: 1st attempt – 10" recovery
2nd attempt – 22" recovery, split 1-3' and 3-5'

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 @ Soil Delineation	Project No.	431
Date Collected	7/30/09	Time Collected	See Below
Collected By	BAM/JDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

6Q - 2nd attempt

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6Q-S-1-2	1-2	Black organic matter with silty sand	1310
OU1-83-6Q-S-2-3	2-3	Dark gray to tan fine sand, moist	1311
OU1-83-6Q-S-3-4	3-4	Dark gray to black sand with silty sand mix	1312
OU1-83-6Q-S-4-5	4-5	Dark gray silty sand to black organic muck	1313

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 7/30/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny + hot

Remarks: 1st attempt - 20" recovery
2nd attempt - 29" recovery, using for all intervals

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10K-S-0-1	0-1	Brown silty sand to tan sand	1600
OU1-83-10K-S-1-2	1-2	Dark brown to tan sandy clay	1605
OU1-83-10K-S-2-3	2-3	Brown sandy clay with packed clay seams	1607
OU1-83-10K-S-3-4	3-4	Brown clayey sand	1609
OU1-83-10K-S-4-5	4-5	Brown clayey sand to fine tan sand	1611

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 6 (6 lead)

Date Received by Lab: 7/31/09 Laboratory: ECCS / TestAmerica (lead)

Weather Conditions: 90°F cloudy

Remarks: Duplicate collected OU1-83-10K-S-01-P (1600)
Lead samples collected
~~[illegible]~~ recovery → 3½'

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-95-S-0-1	0-1	Black organic mix to coarse gray sand	1500
OU1-83-95-S-1-2	1-2	Dark brown organic mix to course gray sand	1505
OU1-82-95-S-2-3	2-3	Coarse gray sand, moist	1507
OU1-83-95-S-3-4	3-4	" " " "	1509
OU1-83-95-S-4-5	4-5	Brown silty sand organic mix w/ roots	1511

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 6

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny

Remarks: Duplicate collected OU1-83-95-S-0-1-P (1500)
27" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/RDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-5N-S-0-1	0-1	tan sand, course grained	~~1120~~ 1105
OU1-83-5N-S-1-2	1-2	Very wet tan, runny sand to moist gray sand	1125
OU1-83-5N-S-2-3	2-3	Moist silty sand, light brown	1126
OU1-83-5N-S-3-4	3-4	Coarse grained clayey sand to coarse gray sand	1127
OU1-83-5N-S-4-5	4-5	Coarse grained gray sand	1128

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: ~~5~~ 90°F Sunny, hot

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SM-S-0-1	0-1	Black organic material to gray wet sand	1045
OU1-83-SM-S-1-2	1-2	Black organic muck to ~~fine~~ wet gray sand	1046
OU1-83-SM-S-2-3	2-3	Wet gray sand	1047
OU1-83-SM-S-3-4	3-4	Wet gray sand to black muck w/ organics	1048
OU1-83-SM-S-4-5	4-5	Black organic muck, very wet	1049

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 92° Sunny, hot

Remarks: 29" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10I-S-0-1	0-1	Brown silty sand w/ roots to coarse brown sand	1540
OU1-83-10I-S-1-2	1-2	Brown sand w/coarse black minerals to tan sand	1545
OU1-83-10I-S-2-3	2-3	Tan sand to tan sandy clay, well packed	1547
OU1-83-10I-S-3-4	3-4	Tan sandy clay, well packed	1549
OU1-83-10I-S-4-5	4-5	Tan sandy clay, very well packed	1551

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5 (6 lead)

Date Received by Lab: 7/31/09 Laboratory: ECCS/TestAmerica (lead)

Weather Conditions: 87°F cloudy, hot

Remarks: ~~[illegible]~~ Lead samples collected here
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SP-S-0-1	0-1	Tan clay to brown sandy clay to organic mix	1325
OU1-83-SP-S-1-2	1-2	Brown organic mix to gray moist course sand	1327
OU1-83-SP-S-2-3	2-3	Moist gray course grained sand w/ black streaks	1329
OU1-83-SP-S-3-4	3-4	Brown organic mix, very moist	1331
OU1-83-SP-S-4-5	4-5	Brown organic mix to saturated muck	1333

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/AFM	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny.

Remarks: 36" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-50-S-0-1	0-1	Moist, black organic silty sand	1310
OU1-83-50-S-1-2	1-2	Black gritty gravel + sand to fine gray sand	1312
OU1-83-50-S-2-3	2-3	Coarse grained gray sand, moist	1313
OU1-83-50-S-3-4	3-4	Coarse gray moist sand	1314
OU1-83-50-S-4-5	4-5	Black organic material with mix of clay	1315

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ~~5~~ 6

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny

Remarks: Duplicate collected OU1-83-50-S-0-1-P (0-1') 1310
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7M-S-0-1	0-1	Black organic mix to brown sand to tan fine sand	1430
OU1-83-7M-S-1-2	1-2	Tan fine sand to gray moist sand w/ black	1434
OU1-83-7M-S-2-3	2-3	Moist gray sand to gray sandy clay	1435
OU1-83-7M-S-3-4	3-4	Gray coarse grained sand, moist	1436
OU-83-7M-S-4-5	4-5	Dark brown clayey organic mix / muck	1437

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
RB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 95°F Sunny

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/JDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SS-S-0-1	0-1	Dark brown organic muck and sand mix	1450
OU1-83-SS-S1-2	1-2	Saturated muck to moist gray sand, coarse	1455
OU1-83-SS-S2-3	2-3	Coarse grained moist sand, gray	1457
OU1-83-SS-S-3-4	3-4	Organic mix and silty clay	1459
OU1-83-SS-S-4-5	4-5	Organic mix w/ some silty clay, tree roots	1501

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny

Remarks: 36" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhea Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-14D-S-0-1	0-1	Black crumbled asphalt to coarse dry sand	0810
OU1-83-14D-S-1-2	1-2	Dry coarse sand to moist fine sand, tan	0812
OU1-83-14D-S-2-3	2-3	Tan sand, moist, w/ black coarse material to fine sand	0813
OU1-83-14D-S-3-4	3-4	Fine light tan sand, moist, to tan clayey sand	0814
OU1-83-14D-S-4-5	4-5	" " " " "	0815
		Tan clayey sand to orange sandy clay	

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ~~7~~ 6

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 80°F Sunny, breeze

Remarks: Duplicate collected OU1-83-14D-S-0-1-P (0810) 0-1' interval
Full recovery
0 4" asphalt on surface

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	2DW/BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-15E-S-0-1	0-1	Dry black asphalt crumbles to black-stained sand	0825
OU1-83-15E-S-1-2	1-2	Orange clayey sand to tan sandy clay	0826
OU1-83-15E-S-2-3	2-3	Tan sandy clay, very well packed	0827
OU1-83-15E-S-3-4	3-4	" " " "	0828
OU1-83-15E-S-4-5	4-5	Tan sandy clay w/ orange streaks throughout w/ higher sand content in clay	0829

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 80° F Sunny, breeze

Remarks: 4" asphalt on surface
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-12I-S-0-1	0-1	Coarse black rock fragments to black coarse sand	0915
OU1-83-12I-S-1-2	1-2	Black stained fine sand, (tan w/ black staining)	0916
OU1-83-12I-S-2-3	2-3	Brown clayey sand to hard/stiff gray clay	0917
OU1-83-12I-S-3-4	3-4	Stiff gray to tan clay to orange sandy clay	0918
OU1-83-12I-S-4-5	4-5	Orange sandy clay to fine tan sand	0919

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-156-S-0-1	0-1	Dry black asphalt to dry coarse dark brown sand	0855
OU1-83-156-S-1-2	1-2	Dry fine sand to moist clayey sand	0857
OU1-83-156-S-2-3	2-3	Moist clayey sand to tan sandy clay	0858
OU1-83-156-S-3-4	3-4	Tan sandy clay	~~0858~~ 0859
OU1-83-156-S-4-5	4-5	Tan sandy clay to very fine tan sand	~~0859~~ 0900

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ~~8~~ 6

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 82°F Sunny, hot

Remarks: Duplicate collected OU1-83-156-S-0-1-P (0-1') (0856)
3" asphalt on surface
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZBW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SQ-S-0-1	0-1	Brown organic mix with mixed concrete frags.	1330
OU1-83-SQ-S-1-2	1-2	Brown organic mix w/ some sand	1334
OU1-83-SQ-S-2-3	2-3	Dark brown sand to gray coarse moist sand	1340
OU1-83-SQ-S-3-4	3-4	Gray moist coarse sand to brown organic mix	1341
OU1-83-SQ-S-4-5	4-5	Brown organic mix w/ some clayey sand	1342

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ~~4~~ 6

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny

Remarks: Duplicate OU1-83-SQ-S-0-1-P (1330)
1st attempt - 24" recovery in 4' spoon
2nd attempt - 28" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-11L-S-0-1	0-1	Dark brown coarse gravel + sand to fine tan sand	0955
OU1-83-11L-S-1-2	1-2	Dark brown, very dry crumbled coarse sand	0956
OU1-83-11L-S-2-3	2-3	Light brown, packed, stiff sandy clay (mostly clay)	0957
OU1-83-11L-S-3-4	3-4	Packed clay to dry coarse silty sand (dark brown)	0958
OU1-83-11L-S-4-5	4-5	Dry silty sand to packed fine gray to tan sand	0959

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-12K-S-0-1	0-1	Very dry crumbled gravel and sand, tan	0930
OU1-83-12K-S-1-2	1-2	Dry tan sand to packed fine sand	0931
OU1-83-12K-S-2-3	2-3	Fine packed tan sand to packed sandy clay	0932
OU1-83-12K-S-3-4	3-4	Very packed sandy clay, light brown	0933
OU1-83-12K-S-4-5	4-5	Light brown sandy clay to very fine sand	0934

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ~~8~~ 6

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: Duplicate OU1-83-12K-S-0-1-P (0-1') 0930
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	931
Date Collected	7/31/09	Time Collected	See Below
Collected By	BAM/RPW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6M-S-0-1	0-1	Moist organic material to moist silty sand	1030
OU1-83-6M-S-1-2	1-2	Dark gray silty sand to moist gray sand	1031
OU1-83-6M-S-2-3	2-3	Gray moist sand to brownish sand w/ organics	1032
OU1-83-6M-S-3-4	3-4	Brown organic material - large tree root encountered	1033
OU1-83-6M-S-4-5	4-5	Black organic muck	1034

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 6

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, hot

Remarks: Duplicate collected OU1-83-6M-S-0-1-P (0-1') 1030
full recovery, large tree root encountered at 3-4' interval

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	7/31/09	Time Collected	See Below
Collected By	ZDW/BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SR-S-0-1	0-1	Brown organic mix to gray moist sand to org. mix	1355
~~OU1-83-SR-S~~			~~1400~~

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers

Date Received by Lab: 7/31/09 Laboratory: ECCS

Weather Conditions: 95°F Sunny, hot

Remarks: 1st attempt - 3" recovery - moved on - kept 0-1' sample
Location in floodplain along creek (Slocum), very soggy ground

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-86-S-0-1	0-1	Crumbled silty sand w/ organics to tan sand	1246
OU1-83-86-S-1-2	1-2	Moist tan sand to moist tan sand	1250
OU1-83-86-S-2-3	2-3	Moist tan sand	1252
OU1-83-86-S-3-4	3-4	Moist tan sand w/ black streaks	1254
OU1-83-86-S-4-5	4-5	Packed sand with some clay seams throughout	1256

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 85°F cloudy, hot

Remarks: 1st attempt - no recovery
2nd attempt - 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9F-S-0-1	0-1	Coarse brown sand to hardened black mineral mix	0920
OU1-83-9F-S-1-2	1-2	Very hard black clayey mix to coarse tan sand	0925
OU1-83-9F-S-2-3	2-3	Tan sand to brown sand w/ black streaks	0927
OU1-83-9F-S-3-4	3-4	Tan/orange sand to tan sandy clay	0929
OU1-83-9F-S-4-5	4-5	Tan clayey sand to packed tan sand	0931

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 82°F, cloudy

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10N-S-0-1	0-1	Loose organic silty sand to moist tan sand (9-12')	0900
OU1-83-10N-S-1-2	1-2	Tan sand to clayey sand (brown)	0905
OU1-83-10N-S-2-3	2-3	Brown clayey sand	0907
OU1-83-10N-S-3-4	3-4	Gray fine sand to tan sand	0909
OU1-83-10N-S-4-5	4-5	Tan sand	0911

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 80°F Cloudy, humid

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10G-S-0-1	0-1	Brown dry gritty silty sand to gray sand	1230
OU1-83-10G-S-1-2	1-2	Dry gritty silty sand, very coarse, to coarse silty sand	1235
OU1-83-10G-S-2-3	2-3	Dry dark brown sand	1237
OU1-83-10G-S-3-4	3-4	" " " " to sandy clay	1239
OU1-83-10G-S-4-5	4-5	Sandy clay to fine packed tan sand	1241

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 6

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 85°F cloudy, humid

Remarks: Duplicate OU1-83-10G-S-0-1-P (1230)
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-100-S-0-1	0-1	Dry brown organic mix to moist sand, light tan	0820
OU1-83-100-S-1-2	1-2	Brown organic mix to tan moist sand	0830
OU1-83-100-S-2-3	2-3	Dark gray moist sand	0832
OU1-83-100-S-3-4	3-4	Tan sand, packed, moist	0834
OU1-83-100-S-4-5	4-5	Wet light gray sand	0836

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 80°F, cloudy, humid

Remarks: 3' recovery from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SI-S-0-1	0-1	Dark brown organics to silty sand to tan packed clayey sand	1035
OU1-83-SI-S-1-2	1-2	Tan to gray sand w/ silty organics	1055
OU1-83-SI-S-2-3	2-3	Orange clayey sand	1058
OU1-83-SI-S-3-4	3-4	Orange clayey sand	~~1~~ 1100
OU1-83-SI-S-4-5	4-5	Tan, packed sand	1102

Sampling Method: Slide hammer

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 85°F Cloudy, humid

Remarks: 1st attempt - 28" recovery
2nd attempt -

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9N-S-0-1	0-1	Dark brown organic + sand mix, moist	0840
OU1-83-9N-S-1-2	1-2	Dark brown organic + silty sand mix w/ roots	0845
OU1-83-9N-S-2-3	2-3	Dark brown organic + silty sand mix	0847
OU1-83-9N-S-3-4	3-4	Dark brown organic + silty sand mix to tan sand	0849
OU1-83-9N-S-4-5	4-5	Wet gray sand to wet tan sand	0851

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 80°F, cloudy

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9J-S-0-1	0-1	Loose silty organics to brown clayey sand	0945
OU1-83-9J-S-1-2	1-2	Loose hardened black material, dry	0947
OU1-83-9J-S-2-3	2-3	Moist sandy clay, tan	0948
OU1-83-9J-S-3-4	3-4	moist clayey sand, light brown to tan	0951
OU1-83-9J-S-4-5	4-5	Light brown to tan fine sand, moist	0953

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 82°F cloudy + humid

Remarks: 3' recovery from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-~~83~~-S-0-1	0-1	1-2" mucky organic mix to ~~clayey~~ sand to orange ~~sand~~ clay	1000
OU1-83-83-S-1-2	1-2	Orange sandy clay	1005
OU1-83-83-S-2-3	2-3	Orange clayey sand to packed tan sand	1008
OU1-83-83-S-3-4	3-4	Packed tan sand to fine tan, dry sand	1010
OU1-83-83-S-4-5	4-5	Fine dry tan sand to packed tan sand	1012

Sampling Method ~~DPT~~ Slide hammer

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers 5

Date Received by Lab 8/3/09 Laboratory ECCS

Weather Conditions 82°F cloudy + humid

Remarks 32" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-14F-S-0-1	0-1	Gritty black material to tan clayey sand	1405
OU1-83-14F-S-1-2	1-2	Packed clayey sand, tan	1410
OU1-83-14F-S-2-3	2-3	" " " "	1412
OU1-83-14F-S-3-4	3-4	" " " "	1414
OU1-83-14F-S-4-5	4-5	" " " "	1415

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers

Date Received by Lab: 8/3/09 Laboratory: ECCS

Weather Conditions: 87°F Sunny w/clouds + breeze

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 53 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-105-S-0-1	0-1	Black silty sand, very fine	0740
OU1-83-105-S-1-2	1-2	Brown silty sand to very fine sand, ~~tan~~ gray	0745
OU1-83-105-S-2-3	2-3	Gray ~~Tan~~, fine sand to tan fine sand	0747
OU1-83-105-S-3-4	3-4	Tan, fine sand, moist	0749
OU1-83-105-S-4-5	4-5	Tan, very fine sand, saturated	0751

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 82°F, sunny + humid

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/20W Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9E-S-0-1	0-1	Brown silty sand mix to black, crumbled material	1215
OU1-83-9E-S-1-2	1-2	Black packed silty sand to hard clay, strong odor	1217
OU1-83-9E-S-2-3	2-3	Tan packed clay	1219
OU1-83-9E-S-3-4	3-4	Tan packed clay	1220

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny, hot

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SE-S-0-1	0-1	Coarse silty sand w/ black streaks, odor	1130
OU1-83-SE-S-1-2	1-2	Gray sandy clay to gray clay	1132
OU1-83-SE-S-2-3	2-3	Tan sand w/ black streaks	1134
OU1-83-SE-S-3-4	3-4	Light brown sand w/ black streaks	1136

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 92°F Sunny

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/3/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SR-S-0-1	0-1	Brown mucky organic mix (8/3) collection	1510 (8/3
8/4:	~~[illegible]~~		
OU1-83-SR-S-1-3	1-3	Organic muck, brown, with silty mix + roots	0910
OU1-83-SR-S-3-5	3-5	Black organic muck w/ roots	0912

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers

Date Received by Lab / / Laboratory ECCS

Weather Conditions

Remarks Moved location SR roughly 12' away from water to try and get a better recovery. → 4" recovery
3rd attempt → moved location again - 8" recovery, gave up.
4th attempt - 2' recovery, root hit at 10-16"

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10P-S-0-1	0-1	Brown organic matter to fine grained tan sand	0850
OU1-83-10P-S-1-2	1-2	Fine tan sand	0855
OU1-83-10P-S-2-3	2-3	Fine tan sand w/ seam of clayey sand	0857
OU1-83-10P-S-3-4	3-4	Fine tan sand, moist	0859
OU1-83-10P-S-4-5	4-5	Fine tan sand	0901

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10E-S-0-1	0-1	Dry crumbled silty sand to black crumbled material	1120
OU1-83-10E-S-1-2	1-2	Light brown crumbled silty sand to packed clay	1122
OU1-83-10E-S-2-3	2-3	Tan packed clay, little sand mixed in	1124
OU1-83-10E-S-3-4	3-4	Tan packed clay, very little sand mixed in	1126

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, hot

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10F-S-0-1	0-1	Dry crumbled coarse sand (tan) to black coarse sand	1105
OU1-83-10F-S-1-2	1-2	Dry crumbled black material to coarse sand to clay	1107
OU1-83-10F-S-2-3	2-3	Brown sandy clay	1109
OU1-83-10F-S-3-4	3-4	Brown sandy clay	1111

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10R-S-0-1	0-1	Brown silty organic mix to tan clayey sand to sand	0805
OU1-83-10R-S-1-2	1-2	Very fine brown silty sand	0810
OU1-83-10R-S-2-3	2-3	Brown silty sand to tan sand, fine	0812
OU1-83-10R-S-3-4	3-4	fine sand, tan, moist	0814
OU1-83-10R-S-4-5	4-5	Very fine, light tan, saturated, runny	0816

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny, humid

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10Q-S0-1	0-1	Silty sand organic mix w/ many roots	0835
OU1-83-10Q-S-1-2	1-2	Gray, fine sand	0840
OU1-83-10Q-S-2-3	2-3	" " "	0842
OU1-83-10Q-S-3-4	3-4	Gray, fine sand, moist	0844
OU1-83-10Q-S-4-5	4-5	Fine sand, gray, to gray sandy clay.	0846

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/4/09 Laboratory: ECCI

Weather Conditions: 85°F Sunny, humid

Remarks: Duplicate collected OU1-83-10Q-S-0-1-P
3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/4/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SF-S-0-1	0-1	Dark brown silty sand w/ tan clay	1140
OU1-83-SF-S-1-2	1-2	Dark brown sand, very fine	1142
OU1-83-SF-S-2-3	2-3	Dark brown clayey sand	1144
OU1-83-SF-S-3-4	3-4	Dark brown silty sand w/ minimal clay	1146

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/4/09 Laboratory: ECCS

Weather Conditions: 95°F Sunny

Remarks: recovery → 3' from 4' spoon

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10D-S-0-1	0-1	Gray sand to black stained sand + cinders	1720
OU1-83-10D-S-1-2	1-2	Black stained cinders to dark tan clay	1722
OU1-83-10D-S-2-3	2-3	Tan, very packed clay	1724
OU1-83-10D-S-3-4	3-4	Tan, very packed clay to orange sandy clay	1725

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 90°F cloudy, humid

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SD-S-0-1	0-1	Brown organic mix to black cinders, odor	1700
OU1-83-SD-S-1-2	1-2	Tan clayey sand	1702
OU1-83-SD-S-2-3	2-3	Tan clay, hard	1704
OU1-83-SD-S-3-4	3-4	Tan clay to fine sand	1706

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 90°F cloudy, humid

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/20W Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-~~1er~~ 9D-S-0-1	0-1	Fine brown sand to black cinders mix w/ clayey sand	1710
OU1-83-9D-S-1-2	1-2	Black cinders mixed w/ clayey sand	1712
OU1-83-9D-S-2-3	2-3	Tan sandy clay	1714
OU1-83-9D-S-3-4	3-4	" "	1716

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 90°F cloudy, humid

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-76-S-0-1	0-1	Brown organic silt to orange sand, fine	1650
OU1-83-76-S-1-2	1-2	Orange clayey sand to sandy clay	1652
OU1-83-76-S-2-3	2-3	Tan sand	1653
OU1-83-76-S-3-4	3-4	Tan sand w/ some orange streaks	1655

Sampling Method: ~~DPT~~ Slide hammer

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No. _____

Describe Compositing _____

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 90°F cloudy, humid

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/2Dw Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7F-S-0-1	0-1	Brown organic mix to tan sand	1635
OU1-83-7F-S-1-2	1-2	Brown fine sand w/ some roots	1637
OU1-83-7F-S-2-3	2-3	Tan sand, fine	1639
OU1-83-7F-S-3-4	3-4	Very fine, tan sand	1640

Sampling Method ~~DPT~~ Slide hammer

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No. _____

Describe Compositing _____

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers 4

Date Received by Lab 8/5/09 Laboratory ECCS

Weather Conditions 90°F humid

Remarks 1st attempt ~24" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7E-S-0-1	0-1	Dark brown sand to brown sandy clay	1620
OU1-83-7E-S-1-2	1-2	Brown sandy clay	1622
OU1-83-7E-S-2-3	2-3	Hard brown clay and sand mix	1624
OU1-83-7E-S-3-4	3-4	" " " " " "	1626

Sampling Method ~~DPT~~ Slide hammer

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers 4

Date Received by Lab 8/5/09 Laboratory ECCS

Weather Conditions 90°F Sunny w/ clouds, humid

Remarks 32" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZOW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7L-S-0-1	0-1	Brown sand to fine tan sand	0755
OU1-83-7L-S-1-2	1-2	Fine tan sand to gray sand w/ seam of organic mix	0757
OU1-83-7L-S-2-3	2-3	Dark brown silty sand, very fine, moist	0759
OU1-83-7L-S-3-4	3-4	Brown fine silty sand to wet fine tan sand	0801

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 83°F Sunny, humid

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-10C-S-0-1	0-1	Black cinder material to about 1' depth	0910
OU1-83-10C-S-1-2	1-2	Dark brown, very hard sandy clay to tan sandy clay	0912
OU1-83-10C-S-2-3	2-3	Tan sandy clay	0914
OU1-83-10C-S-3-4	3-4	Tan sandy clay	0916

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, humid

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/04	Time Collected	See Below
Collected By	BAM/ZOW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7K-S-0-1	0-1	Brown gritty sand to fine tan sand, slight odor	0740
OU1-83-7K-S-1-2	1-2	Fine tan sand to fine dark tan sand, moist	0742
OU1-83-7K-S-2-3	2-3	Dark tan moist sand	0744
OU1-83-7K-S-3-4	3-4	Saturated tan sand, fine to very fine some clayey sand	0745

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/04 Laboratory: ECCS

Weather Conditions: 80°F Sunny, humid

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SL-S-0-1	0-1	Very fine brown silty sand w/ organics	0810
OU1-83-SL-S-1-2	1-2	Fine gray sand to tan clayey sand, fine	0812
OU1-83-SL-S-2-3	2-3	Wet, tan clayey sand	0813
OU1-83-SL-S-3-4	3-4	Saturated tan, very fine, sand	0815

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 85°F Sunny, humid

Remarks: 32" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9L-S-0-1	0-1	Brown silty sand w/ organics	0830
OU1-83-9L-S-1-2	1-2	Light brown sand	0832
OU1-83-9L-S-2-3	2-3	Light brown sand w/ tree roots (small)	0834
OU1-83-9L-S-3-4	3-4	Very fine tan sand	0835

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 86°F Sunny, humid

Remarks: Had trouble due to massive tree stump burried under "mulch", moved several times to avoid it, ended up ~3' from steak

32" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZDU Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-11D-S-0-1	0-1	Silty sand + gravel mix, (tan, grey, orange)	0920
OU1-83-11D-S-1-2	1-2	Gray sand to tan clay, very hard	0922
OU1-83-11D-S-2-3	2-3	Tan clay, very hard, to sandy clay	0924
OU1-83-11D-S-3-4	3-4	~~" " " " " "~~	0926
		Tan sandy clay	

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, hot

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/5/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-9C-S-0-1	0-1	Coarse tan sand to ~1' black material, no odor	0855
OU1-83-9C-S-1-2	1-2	Black material (1-2") to packed sandy clay	0857
OU1-83-9C-S-2-3	2-3	Packed sandy clay	0859
OU1-83-9C-S-3-4	3-4	Packed sandy clay w/ some loose sand mix	0900

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
RCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/5/09 Laboratory: ECCS

Weather Conditions: 90°F Sunny, hot

Remarks: Drillers forgot liner in 1st attempt, 2nd attempt full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/2DW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-11C-S-0-1	0-1	Coarse sand w/ gravel to tan clay	1045
OU1-83-11C-S-1-2	1-2	Tan clay, well packed	1047
OU1-83-11C-S-2-3	2-3	" " " "	1048
OU1-83-11C-S-3-4	3-4	" " " "	1050

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7D-S-0-1	0-1	Brown organic silty mix to coarse sand w/ gravel	~~1045~~ 105
OU1-83-7D-S-1-2	1-2	Brown clayey sand to dark tan sand	~~1047~~ 105
OU1-83-7D-S-2-3	2-3	Tan silty sand	~~1048~~ 105
OU1-83-7D-S-3-4	3-4	Tan silty sand to brown silty sand	~~1050~~ 110

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-SC-S-0-1	0-1	Tan silty sand to black cinders to clayey sand	1025
OU1-83-SC-S-1-2	1-2	Tan silty sand to ~3" of black cinders	1027
OU1-83-SC-S-2-3	2-3	Tan sandy clay	1028
OU1-83-SC-S-3-4	3-4	Tan sandy clay	1030

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: Full recovery
Duplicate collected OU1-83-SC-S-1-2-P (1027)

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6F-S-0-1	0-1	Brown organic mix to brown sand, moist	1130
OU1-83-6F-S-1-2	1-2	Gray sand to tan sand, fine	1132
OU1-83-6F-S-2-3	2-3	Fine tan sand w/ clay seam (2")	1134
OU1-83-6F-S-3-4	3-4	Tan sand, fine	1135

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: Duplicate collected OU1-83-6F-S-1-2-P (1132)
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/16/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-GG-S-0-1	0-1	Brown organic silty sand to brown sand	1320
OU1-83-GG-S-1-2	1-2	Tan dry sand, fine	1322
OU1-83-GG-S-2-3	2-3	" " "	1324
OU1-83-GG-S-3-4	3-4	" " "	1325

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/16/09 Laboratory: ECCS

Weather Conditions

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6E-S-0-1	0-1	1-2" brown organics to gray sand	1120
OU1-83-6E-S-1-2	1-2	Gray sand to fine tan sand	1122
OU1-83-6E-S-2-3	2-3	Fine tan sand	1124
OU1-83-6E-S-3-4	3-4	Fine tan sand	1125

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz.	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	DAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6I-S-0-1	0-1	Brown silty sand organic mix	1350
OU1-83-6I-S-1-2	1-2	Tan fine grained sand	1352
OU1-83-6I-S-2-3	2-3	" " " "	1354
OU1-83-6I-S-3-4	3-4	" " " ", saturated	1356

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-6H-S-0-1	0-1	Brown organics to tan moist sand	1333
OU1-83-6H-S-1-2	1-2	Tan sand to white sand, very clean (fill?)	1335
OU1-83-6H-S-2-3	2-3	Orange, clean, fine sand	1337
OU1-83-6H-S-3-4	3-4	White to orange sand, wet, fine	1338

Sampling Method: Ⓣ

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7I-S-0-1	0-1	Brown organic mix w/ sand to tan sand	1405
OU1-83-7I-S-1-2	1-2	Tan moist sand w/ orange streaks	1407
OU1-83-7I-S-2-3	2-3	" " " "	1409
OU1-83-7I-S-3-4	3-4	" " " "	1410

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PCB/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCI

Weather Conditions

Remarks: Duplicate collected OU1-83-7I-S-0-1-P
Full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	~~OU~~ Site 83 Soil Delineation	Project No.	431
Date Collected	8/6/09	Time Collected	See Below
Collected By	BAM/ZDW Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	Time
OU1-83-7H-S-0-1	0-1	Dark brown organic mix to silty sand w/gravel	1340
OU1-83-7H-S-1-2	1-2	Tan silty sand to very fine sand	1342
OU1-83-7H-S-2-3	2-3	white/tan very fine sand	1344
OU1-83-7H-S-3-4	3-4	" " " "	1345

Sampling Method: Slide hammer

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
BED/PAH	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/6/09 Laboratory: ECCS

Weather Conditions

Remarks: 3' recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KRR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-11F-5-0-1	0-1	Light brown to light silty fine to coarse grained sand with some gravel	8:50
OU1-83-11F-5-1-2	1-2	Light to dark brown silty fine to coarse grained sand + gravel to 1.5 thin dark brown silty clay	
OU1-83-11F-5-2-3	2-3	Light brown very fine sandy, silty clay	8:54
OU1-83-11F-5-3-4	3-4	Light brown very fine sandy, silty clay	8:58

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☒	N ☐	Y ☐	N ☒
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80s + sunny

Remarks: 4½" of recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/RLR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])
OU1-83-11H-S-0-1	0-1	Dark brown to black gravelly asphalt to .5 then slightly silty fine sand to gravel 9:06
OU1-83-11H-S-1-2	1-2	Dark brown tan fine to coarse sand to 1.5 then silty fine sand 9:08
OU1-83-11H-S-2-3	2-3	Light brown to tan silty very fine sand 9:10
OU1-83-11H-S-3-4	3-4	Light brown silty to clayey very fine sand 9:12

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80s sunny

Remarks: 44" Recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAN/KRR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-10I-S-0-1	0-1	Dark brown Fine to coarse grained silty sand	9:20
OU1-83-10I-S-1-2	1-2	Dark brown Fine to coarse grained silty sand, total asphalt @ 1.2 then tan very fine silty sand	9:22
OU1-83-10I-S-2-3	2-3	Tan very fine silty sand to 2.8 then light brown silty clay	9:24
OU1-83-10I-S-3-4	3-4	Light brown silty clay	9:26

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: #5

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80s sunny

Remarks: 4' recovery

Dup collected at 2-3' interval OU1-83-10I-S-2-3-P

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KRR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-12J-5-0-1	0-1	Light brown fine grained silty sand, with some gravel	9:50
OU1-83-12J-5-1-2	1-2	Light brown to tan fine grained silty sand becoming more silty @ 1.8	9:5
OU1-83-12J-5-2-3	2-3	Light orange/light brown very fine sandy silty clay	9:5
OU1-83-12J-5-3-4	3-4	Light orange/light brown very fine sandy silty clay	9:5

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° sunny

Remarks: 4' Recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KAR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
001-83-85-S-0-1	0-1	Dark gray, silty sand with roots + organic material (wet)	10:40
001-83-85-S-1-2	1-2	Light gray medium to coarse grained sand (wet)	10:42
001-83-85-S-2-3	2-3	Light gray medium to coarse grained sand (wet)	10:44
001-83-85-S-3-4	3-4	Light gray medium to coarse grained sand (wet	10:46

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° sunny

Remarks: 24" recovery
Two attempts for sample. First was 24", Second was 20", went with first sample

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KRR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-9R-5-0-1	0-1	Black silty fine grained sand with organic material	11:00
OU1-83-9R-5-1-2	1-2	Dark gray silty fine grained sand grading to a medium to coarse sand	11:02
OU1-83-9R-5-2-3	2-3	Light gray medium to coarse grained sand	11:04
OU1-83-9R-5-3-4	3-4	Light gray medium to coarse grained sand	11:06

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests / PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° sunny.

Remarks: 27" recovery
Two attempts, went with first, second was ~ 24"

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KRR Rhea Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-90-5-0-1	0-1	Black to dark brown silty fine grained sand, Organic material in first 2"	11:3
OU1-83-90-5-1-2	1-2	Light brown silty fine-grained sand	11:3
OU1-83-90-5-2-3	2-3	Light brown silty fine-grained sand	11:3
OU1-83-90-5-3-4	3-4	Light gray to tan medium to coarse grained sand	11:3

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° sunny

Remarks: 40" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KRR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-8N-5-0-1	0-1	Dark brown silty fine sand with organic material (Odor).	13:35
OU1-83-8N-5-1-2	1-2	Dark brown silty fine sand	13:37
OU1-83-8N-5-2-3	2-3	Light grayish brown fine sand	13:39
OU1-83-8N-5-3-4	3-4	Light grayish medium to coarse sand (Wet)	13:41

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° sunny

Remarks: 40" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KRR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-11R-5-0-1	0-1	Dark brown silty fine grained sand with organic material	15:00
OU1-83-11R-5-0-2	1-2	Light brown slightly sandy silty clay	15:02
OU1-83-11R-5-2-3	2-3	Dark brown silty fine grained sand	15:04
OU1-83-11R-5-3-4	3-4	Dark brown silty fine grained sand with some clay	15:06

Sampling Method: ~~DPT~~ macrocore sampler + slide hammer

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° sunny

Remarks: 30" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

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SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KAR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-11P-5-0-1	0-1	Dark brown organic material, then fine grained sand	14:15
OU1-83-11P-5-1-2	1-2	Dark brown silty fine grained sand to 1.5	14:17
OU1-83-11P-5-2-3	2-3	Dark brown silty fine grained sand	14:19
OU1-83-11P-5-3-4	3-4	Orangish brown silty fine grained sand	14:21

Sampling Method: ~~DPT~~ macrocore sampler + slide hammer

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: ~~4~~ 5

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° Sunny

Remarks: 24" recovery

OU1-83-11P-5-0-1P is duplicate Obtained two borings kept first

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHĒA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/18/09	Time Collected	See Below
Collected By	BAM/KRR Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-11Q-5-0-1	0-1	Dark brown silty fine grained sand with organic material + roots	14:40
OU1-83-11Q-5-1-2	1-2	Dark brown silty fine grained sand with some clay	14:42
OU1-83-11Q-5-2-3	2-3	Dark brown silty fine grained sand with some clay	14:44
OU1-83-11Q-5-3-4	3-4	Dark brown silty fine grained sand	14:46

Sampling Method: ~~DPT~~ macrocore sampler + slide hammer

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/18/09 Laboratory: ECCS

Weather Conditions: 80° sunny

Remarks: 30" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-12F-S-0-1	0-1	silty sand + gravel w/ organics	08:25
OU1-83-12F-S-1-2	1-2	brown silty sand	08:27
OU1-83-12F-S-2-3	2-3	brown sandy clay, stiff	08:29
OU1-83-12F-S-3-4	3-4	" "	08:31

Sampling Method: DPT

Composite Sample? Y ☐ N ☐ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
pests/pAHs	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: HOT, HUMID, high 80s

Remarks: 38" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-12E-S-0-1	0-1	Silty sand + gravel w/ organics	08:45
OU1-83-12E-S-1-2	1-2	Silty brown sand	08:47
OU1-83-12E-S-2-3	2-3	Sandy clay, stiff	08:49
OU1-83-12E-S-3-4	3-4	" "	08:51

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: HOT, HUMID, high 80s

Remarks: full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-126-S-0-1	0-1	tan sand + gravel	09:00
OU1-83-126-S-1-2	1-2	fine grained sand	09:02
OU1-83-126-S-2-3	2-3	" " w/ clay	09:04
OU1-83-126-S-3-4	3-4	" " w/ clay	09:06

Sampling Method: DDT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
PAHs/pests	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECS

Weather Conditions: Hot, 90s

Remarks

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	931
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-9I-S-0-1	0-1	brown to black silty sand	09:20
OU1-83-9I-S-1-2	1-2	tan clayey sand	09:22
OU1-83-9I-S-2-3	2-3	tan sand	09:24
OU1-83-9I-S-3-4	3-4	tan sand w/ clay	09:26

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: 90s, hot + sunny

Remarks: full recovery
Resample location

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/19 09	Time Collected	See Below
Collected By	B/M Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-95-S-0-1	0-1	silty sand w/ black streaks	09:30
OU1-83-95-S-1-2	1-2	clayey sand w/ asphalt	09:32
OU1-83-95-S-2-3	2-3	" "	09:34
OU1-83-95-3-4	3-4	sand w/ trace clay	09:36

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PCBs	4 oz	Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECS

Weather Conditions

Remarks: 36" recovery
RESAMPLE due to original sample out of hold

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	931
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-10K-S-0-1	0-1	brown silty sand	10:15
OU1-83-10K-S-1-2	1-2	stiff sandy clay (tan to brown)	10:17
OU1-83-10K-S-2-3	2-3	brown clayey sand, moist	10:19
OU1-83-10K-S-3-4	3-4	clayey sand (tan to brown)	10:21

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: Sunny, 90s, hot

Remarks: 38" Recovery
RESAMPLE LOCATION

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 soil delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-120-S-0-1	0-1	tan to black silty sand + gravel	10:45
OU1-83-120-S-1-2	1-2	brown coarse grained sand	10:47
OU1-83-120-S-2-3	2-3	fine grained gray sand	10:49
OU1-83-120-S-3-4	3-4	black clayey sand (possible staining)	10:51

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pest/s/PAHs	4 oz	Y ☒	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: Hot 90s

Remarks: 39" Recovery
Duplicate collected @ 0-1' interval ID OU1-83-120-S-0-1-P

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 soil delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-12P-S-01	0-1	brown/tan silty sand w/ organics	11:00
OU1-83-12P-S-1-2	1-2	brown coarse grained to tan fined grained sand	11:02
OU1-83-12P-S-2-3	2-3	gray fined grained sand (w/ black staining?)	11:04
OU1-83-12P-S-3-4	3-4	gray to black clayey sand	11:06

Sampling Method: DPT

Composite Sample? Y ☐ N ☒ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory

Weather Conditions: Hot, sunny 90s

Remarks: ☆ 40" Recovery, some odors ☆

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 soil delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-12a-S-0-1	0-1	tan to brown silty sand + gravel	11:15
OU1-83-12a-S-1-2	1-2	fine grained sand, gray w/ black streaks	11:17
OU1-83-12a-S-2-3	2-3	" "	11:19
OU1-83-12a-S-3-4	3-4	tan ~~clay~~ (sandy clay	11:21

Sampling Method: DPT

Composite Sample? Y ☐ N ☐ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: HOT, 90s

Remarks: Full recovery, collected in asphalt area

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 soil delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	Brad A McCalla Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-110-S-0-1	0-1	brown silty sand	12:4
OU1-83-110-S-1-2	1-2	brown silty sand	12:47
OU1-83-110-S-2-3	2-3	brown to black sand (possible staining?)	12:49
OU1-83-110-S-3-4	3-4	gray coarse sand	12:51

Sampling Method: ~~D spade to~~ macrocore w/ acetate liner, slide hammer

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No. _____

Describe Compositing _____

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pest-s/PAHs	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: HOT, 90s

Remarks: 33" recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/19/09	Time Collected	See Below
Collected By	Brad A McCalla Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-13J-S-0-1	0-1	sand + gravel (tan to gray)	15:10
OU1-83-13J-S-1-2	1-2	fine grain tan sand	15:12
OU1-83-13J-S-2-3	2-3	tan sandy clay	15:14
OU1-83-13J-S-3-4	3-4	tan sandy clay	15:16

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PAHs	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/19/09 Laboratory: ECCS

Weather Conditions: Hot, sunny

Remarks: 4' Recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8 20 09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-13F-S-0-1	0-1	gravel to tan sand	11:15
OU1-83-13F-S-1-2	1-2	fine grained sand	11:17
OU1-83-13F-S-2-3	2-3	tan sandy clay, stiff	11:19
OU1-83-13F-S-3-4	3-4	" " , stiff	11:21

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests/PMIs	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8 20 09 Laboratory: ECCS

Weather Conditions: 90s, HOT

Remarks: 45" Recovery
Duplicate collected at 13F(0-1) ID is OU1-83-13F-S-0-1-P

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 soil delineation	Project No.	431
Date Collected	8/20/09	Time Collected	See Below
Collected By	B/M Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-12D-S-0-1	0-1	sand, gravel, + organics	14:56
OU1-83-12D-S-1-2	1-2	fine grained tan sand to sandy clay	14:58
OU1-83-12D-S-2-3	2-3	tan sandy clay	15:00
OU1-83-12D-S-3-4	3-4	" "	15:02

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/20/09 Laboratory: ECCS

Weather Conditions: HOT, 90'

Remarks: full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 soil delineation	Project No.	431
Date Collected	8/20/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-13D-S-01	0-1	sand + gravel	15:12
OU1-83-13D-S-1-2	1-2	fine grained sand	15:14
OU1-83-13D-S-2-3	2-3	tan sandy clay	15:16
OU1-83-13D-S-3-4	3-4	tan sandy clay	15:18

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/20/09 Laboratory: ECCS

Weather Conditions: HOT, 90°

Remarks: full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/20/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-12C-S-0-1	0-1	gray/tan fine grained sand	15:47
OU1-83-12C-S-1-2	1-2	tan clayey sand	15:49
OU1-83-12C-S-2-3	2-3	tan sandy clay	15:51
OU1-83-12C-S-3-4	3-4	tan sandy clay	15:53

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/20/09 Laboratory: ECES

Weather Conditions: HOT, 90s

Remarks: full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil Delineation	Project No.	431
Date Collected	8/20/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-13C-S-0-1	0-1	black asphalt to sandy gravel	16:25
OU1-83-13C-S-1-2	1-2	fine grained gray sand to clayey tan sand	16:27
OU1-83-13C-S-2-3	2-3	tan clayey ~~tan~~ sand	16:29
OU1-83-13C-S-3-4	3-4	tan clayey sand	16:31

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
pests	4 oz	Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/20/09 Laboratory: ECCS

Weather Conditions: HOT, 90

Remarks: full recovery

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE FIELD COLLECTION REPORT

Project Name	Site 83 Soil delineation	Project No.	431
Date Collected	8/20/09	Time Collected	See Below
Collected By	BAM Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	
OU1-83-11D-S-0-1	0-1	sand + gravel	16:40
OU1-83-11D-S-1-2	1-2	brown fine grained sand	16:42
OU1-83-11D-S-2-3	2-3	" "	16:44
OU1-83-11D-S-3-4	3-4	" "	16:46

Sampling Method: DPT

Composite Sample? Y ☐ N ☑ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 4

Date Received by Lab: 8/20/09 Laboratory: ECCS

Weather Conditions: HOT ~90°

Remarks: full recovery - Resample location

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

RHEA
Engineers & Consultants, Inc.

SOIL SAMPLE
FIELD COLLECTION REPORT

Project Name	Site 83 Soil delineation	Project No.	431
Date Collected	8/21/09	Time Collected	See Below
Collected By	BAm Rhēa Engineers & Consultants, Inc.		

SAMPLE(S) LOCATION SKETCH (use reverse if necessary)

Sample I.D. No.	Depth of Sample	Soil Description (Color, Composition, Staining, Odor, Field Measurements[1])	TIME
OU1-83-11C-S-0-1	0-1	brown sand w/ gravel	08:30
OU1-83-11C-S-1-2	1-2	tan clayey sand	
OU1-83-11C-S-2-3	2-3	tan clayey sand, stiff	
OU1-83-11C-S-3-4	3-4	" "	

Sampling Method: DPT

Composite Sample? Y ☐ N ☐ Composite Sample I.D. No.

Describe Compositing

SAMPLE TYPES COLLECTED

Type[2]	Volume	Per Sample?		Per Composite?	
Pests	4 oz	Y ☑	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐
		Y ☐	N ☐	Y ☐	N ☐

Number of Containers: 5

Date Received by Lab: 8/21/09 Laboratory: ECCS/TAmerica (split 11C(0-1))

Weather Conditions: Hot, ~90°F

Remarks: Full Recovery
split sample location OU1-83-11C-S-01

1. Organic vapor analysis, pocket penetrometer, etc.
2. Metals, VOA, organics, etc.

APPENDIX D

IDW WASTE DISPOSAL DATA/INFORMATION

ANALYTICAL REPORT

Job Number: 680-50134-2

Job Description: MCAS - Cherry Point, Site 83

For:
Rhea Engineers & Consultants, Inc.
4975 William Flynn Hwy
Suite 14
Gibsonia, PA 15044

Attention: Mr. Brad McCalla

Approved for release.
Kathryn Smith
Project Manager I
9/10/2009 10:55 AM

Kathryn Smith
Project Manager I
kathye.smith@testamericainc.com
09/10/2009

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager who signed this report.

Comments
No additional comments.

Receipt
All samples were received in good condition within temperature requirements.

GC/MS VOA
No analytical or quality issues were noted.

GC/MS Semi VOA
No analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
No analytical or quality issues were noted.

Metals
No analytical or quality issues were noted.

General Chemistry
Method(s) 1030: The following samples did not ignite; therefore, an ignitability value could not be obtained. The result has been reported as "No Burn" (NB).

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

VOA Prep
No analytical or quality issues were noted.

METHOD SUMMARY

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Volatile Organic Compounds (GC/MS)	TAL SAV	SW846 8260B	
TCLP Extraction	TAL SAV		SW846 1311
Purge and Trap	TAL SAV		SW846 5030B
Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	TAL SAV	SW846 8270C	
TCLP Extraction	TAL SAV		SW846 1311
Liquid-Liquid Extraction (Continuous)	TAL SAV		SW846 3520C
Gasoline Range Organics - (GC)	TAL SAV	SW846 8015B	
Closed System Purge and Trap	TAL SAV		SW846 5035
Diesel Range Organics (DRO) (GC)	TAL SAV	SW846 8015B	
Ultrasonic Extraction	TAL SAV		SW846 3550B
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081A_8082	
TCLP Extraction	TAL SAV		SW846 1311
Liquid-Liquid Extraction (Continuous)	TAL SAV		SW846 3520C
Ultrasonic Extraction	TAL SAV		SW846 3550B
Herbicides (GC)	TAL SAV	SW846 8151A	
TCLP Extraction	TAL SAV		SW846 1311
Extraction (Herbicides)	TAL SAV		SW846 8151A
Metals (ICP)	TAL SAV	SW846 6010B	
TCLP Extraction	TAL SAV		SW846 1311
Preparation, Total Metals	TAL SAV		SW846 3010A
Mercury (CVAA)	TAL SAV	SW846 7470A	
TCLP Extraction	TAL SAV		SW846 1311
Preparation, Mercury	TAL SAV		SW846 7470A
Ignitability, Solids	TAL SAV	SW846 1030	
Cyanide, Total and/or Amenable	TAL SAV	SW846 9012A	
Cyanide, Total and/or Amenable, Distillation	TAL SAV		SW846 9012A
Sulfide, Acid Soluble and Insoluble (Titrimetric)	TAL SAV	SW846 9034	
Sulfide, Distillation (Acid Soluble and Insoluble)	TAL SAV		SW846 9030B
pH	TAL SAV	SW846 9045D	

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Method	Analyst	Analyst ID
SW846 8260B	Bearden, Robert	RB
SW846 8270C	Haynes, Carion	CRH
SW846 8015B	Moncrief, Amy	AEM
SW846 8015B	Smith, Crystal	CAS
SW846 8081A_8082	Kellar, Joshua	JK
SW846 8081A_8082	Smith, Crystal	CAS
SW846 8151A	Smith, Crystal	CAS
SW846 6010B	Bland, Brian	BCB
SW846 7470A	Hardy, Donnetta	DH
SW846 1030	Blackshear, Kim	KB
SW846 9012A	McDonald, Debbie	DAM
SW846 9034	Vasquez, Juana	JV
SW846 9045D	Vasquez, Juana	JV

SAMPLE SUMMARY

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-50134-2	OU1-83-WC-S-1	Solid	08/21/2009 1600	08/22/2009 0945

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid Date Received: 08/22/2009 0945

8260B Volatile Organic Compounds (GC/MS)-TCLP

Method:	8260B	Analysis Batch: 680-146704		Instrument ID:	MSO2
Preparation:	5030B			Lab File ID:	o1258.d
Dilution:	20	Leachate Batch: 680-146619		Initial Weight/Volume:	5 mL
Date Analyzed:	08/29/2009 1351			Final Weight/Volume:	5 mL
Date Prepared:	08/29/2009 1351				
Date Leached:	08/27/2009 1840				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Benzene		0.020	U	0.020	0.020
Carbon tetrachloride		0.020	U	0.020	0.020
Chlorobenzene		0.020	U	0.020	0.020
Chloroform		0.020	U	0.020	0.020
1,2-Dichloroethane		0.020	U	0.020	0.020
1,1-Dichloroethene		0.020	U	0.020	0.020
2-Butanone (MEK)		0.20	U	0.20	0.20
Tetrachloroethene		0.020	U	0.020	0.020
Trichloroethene		0.020	U	0.020	0.020
Vinyl chloride		0.020	U	0.020	0.020

Surrogate	%Rec	Qualifier	Acceptance Limits
4-Bromofluorobenzene	103		75 - 120
Dibromofluoromethane	100		75 - 121
Toluene-d8 (Surr)	107		75 - 120

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid Date Received: 08/22/2009 0945

8270C Semivolatile Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)-TCLP

Method:	8270C	Analysis Batch: 680-146883		Instrument ID:	MSN
Preparation:	3520C	Prep Batch: 680-146473		Lab File ID:	n3774.d
Dilution:	1.0	Leachate Batch: 680-146439		Initial Weight/Volume:	200 mL
Date Analyzed:	09/01/2009 1406			Final Weight/Volume:	1 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL
Date Leached:	08/27/2009 0738				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Methyl Phenols,Total		0.10	U	0.10	0.10
1,4-Dichlorobenzene		0.050	U	0.050	0.050
2,4-Dinitrotoluene		0.050	U	0.050	0.050
Hexachlorobenzene		0.050	U	0.050	0.050
Hexachlorobutadiene		0.050	U	0.050	0.050
Hexachloroethane		0.050	U	0.050	0.050
Nitrobenzene		0.050	U	0.050	0.050
Pentachlorophenol		0.25	U	0.25	0.25
Pyridine		0.25	U	0.25	0.25
2,4,5-Trichlorophenol		0.050	U	0.050	0.050
2,4,6-Trichlorophenol		0.050	U	0.050	0.050

Surrogate	%Rec	Qualifier	Acceptance Limits
2,4,6-Tribromophenol	70		40 - 139
2-Fluorobiphenyl	62		50 - 113
2-Fluorophenol	67		38 - 116
Nitrobenzene-d5	78		45 - 112
Phenol-d5	66		38 - 116
Terphenyl-d14	83		10 - 121

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid % Moisture: 9.3 Date Received: 08/22/2009 0945

8015B Gasoline Range Organics - (GC)

Method:	8015B	Analysis Batch: 680-146720		Instrument ID:	VGWFID1
Preparation:	5035	Prep Batch: 680-146137		Initial Weight/Volume:	5.9 g
Dilution:	1.0			Final Weight/Volume:	5 g
Date Analyzed:	08/28/2009 1622			Injection Volume:	
Date Prepared:	08/24/2009 1124			Result Type:	PRIMARY

Analyte DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Gasoline Range Organics (GRO)-C6-C10	0.018	U	0.018	0.23

Surrogate	%Rec	Qualifier	Acceptance Limits
a,a,a-Trifluorotoluene	85		53 - 121

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid % Moisture: 9.3 Date Received: 08/22/2009 0945

8015B Diesel Range Organics (DRO) (GC)

Method:	8015B	Analysis Batch: 680-146200		Instrument ID:	SGQ
Preparation:	3550B	Prep Batch: 680-146151		Initial Weight/Volume:	30.04 g
Dilution:	1.0			Final Weight/Volume:	1 mL
Date Analyzed:	08/24/2009 1618			Injection Volume:	2 uL
Date Prepared:	08/24/2009 1340			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Diesel Range Organics [C10-C28]		22	M	2.3	3.6

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	75	M	39 - 140

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid Date Received: 08/22/2009 0945

8081A_8082 Organochlorine Pesticides & PCBs (GC)-TCLP

Method:	8081A_8082	Analysis Batch: 680-147132		Instrument ID:	SGM
Preparation:	3520C	Prep Batch: 680-146477		Initial Weight/Volume:	20 mL
Dilution:	1.0	Leachate Batch: 680-146456		Final Weight/Volume:	10 mL
Date Analyzed:	09/02/2009 1851			Injection Volume:	1.0 uL
Date Prepared:	08/27/2009 1347			Result Type:	PRIMARY
Date Leached:	08/26/2009 1800				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Chlordane (technical)		0.025	U	0.025	0.025
Endrin		0.0050	U	0.0050	0.0050
gamma-BHC (Lindane)		0.0025	U	0.0025	0.0025
Methoxychlor		0.025	U	0.025	0.025
Heptachlor		0.0025	U	0.0025	0.0025
Heptachlor epoxide		0.0025	U	0.0025	0.0025
Toxaphene		0.25	U	0.25	0.25

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	80		50 - 150
DCB Decachlorobiphenyl	85		50 - 150

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid % Moisture: 9.3 Date Received: 08/22/2009 0945

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-146368		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-146150		Initial Weight/Volume:	15.08 g
Dilution:	20			Final Weight/Volume:	5 mL
Date Analyzed:	08/25/2009 1915			Injection Volume:	1.0 uL
Date Prepared:	08/24/2009 1646			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
PCB-1016		64	U	64	720
PCB-1221		110	U	110	1500
PCB-1232		72	U	72	720
PCB-1242		61	U	61	720
PCB-1248		160	U	160	720
PCB-1254		50	U	50	720
PCB-1260		150	U	150	720

Surrogate	%Rec	Qualifier	Acceptance Limits
Tetrachloro-m-xylene	71		26 - 140
DCB Decachlorobiphenyl	134	J	50 - 129

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid Date Received: 08/22/2009 0945

8151A Herbicides (GC)-TCLP

Method:	8151A	Analysis Batch: 680-146850		Instrument ID:	SGS
Preparation:	8151A	Prep Batch: 680-146571		Initial Weight/Volume:	10 mL
Dilution:	1.0	Leachate Batch: 680-146456		Final Weight/Volume:	10 mL
Date Analyzed:	08/31/2009 2032			Injection Volume:	1.0 uL
Date Prepared:	08/28/2009 0812			Result Type:	PRIMARY
Date Leached:	08/26/2009 1800				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
2,4-D		0.050	U	0.050	0.050
Silvex (2,4,5-TP)		0.050	U	0.050	0.050

Surrogate	%Rec	Qualifier	Acceptance Limits
DCAA	79		50 - 150

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid Date Received: 08/22/2009 0945

6010B Metals (ICP)-TCLP

Method:	6010B	Analysis Batch: 680-146615		Instrument ID:	ICPD
Preparation:	3010A	Prep Batch: 680-146484		Lab File ID:	N/A
Dilution:	1.0	Leachate Batch: 680-146456		Initial Weight/Volume:	5 mL
Date Analyzed:	08/28/2009 0248			Final Weight/Volume:	50 mL
Date Prepared:	08/27/2009 1242				
Date Leached:	08/26/2009 1800				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Arsenic		0.20	U	0.20	0.20
Barium		1.0	U	1.0	1.0
Cadmium		0.10	U	0.10	0.10
Chromium		0.20	U	0.20	0.20
Lead		0.20	U	0.20	0.20
Selenium		0.50	U	0.50	0.50
Silver		0.10	U	0.10	0.10

7470A Mercury (CVAA)-TCLP

Method:	7470A	Analysis Batch: 680-146646		Instrument ID:	LEEMAN1
Preparation:	7470A	Prep Batch: 680-146510		Lab File ID:	N/A
Dilution:	1.0	Leachate Batch: 680-146456		Initial Weight/Volume:	0.50 mL
Date Analyzed:	08/27/2009 1933			Final Weight/Volume:	50 mL
Date Prepared:	08/27/2009 1235				
Date Leached:	08/26/2009 1800				

Analyte	DryWt Corrected: N	Result (mg/L)	Qualifier	MDL	RL
Mercury		0.020	U	0.020	0.020

General Chemistry

Client Sample ID: **OU1-83-WC-S-1**

Lab Sample ID: 680-50134-2 Date Sampled: 08/21/2009 1600
Client Matrix: Solid % Moisture: 9.3 Date Received: 08/22/2009 0945

Analyte	Result	Qual	Units	MDL	RL	Dil	Method
Cyanide, Total	0.23	U	mg/Kg	0.23	5.4	1.0	9012A
Analysis Batch: 680-146480	Date Analyzed: 08/27/2009 1043						DryWt Corrected: Y
Prep Batch: 680-146312	Date Prepared: 08/26/2009 0650						

Analyte	Result	Qual	Units	Dil	Method
Ignitability	NB		mm/sec	1.0	1030
Analysis Batch: 680-146167	Date Analyzed: 08/24/2009 1027				DryWt Corrected: N
pH	8.0		SU	1.0	9045D
Analysis Batch: 680-146420	Date Analyzed: 08/26/2009 1135				DryWt Corrected: N

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Sulfide	28	U	mg/Kg	28	28	1.0	9034
Analysis Batch: 680-146548	Date Analyzed: 08/27/2009 1627						DryWt Corrected: Y
Prep Batch: 680-146451	Date Prepared: 08/27/2009 0903						

DATA REPORTING QUALIFIERS

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Lab Section	Qualifier	Description
GC/MS VOA		
	U	Undetected at the Limit of Detection.
GC/MS Semi VOA		
	U	Undetected at the Limit of Detection.
GC VOA		
	U	Undetected at the Limit of Detection.
GC Semi VOA		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	M	Manual integrated compound.
	U	Undetected at the Limit of Detection.
Metals		
	U	Undetected at the Limit of Detection.
General Chemistry		
	U	Undetected at the Limit of Detection.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Method Blank - Batch: 680-146704

Method: 8260B
Preparation: 5030B

Lab Sample ID: MB 680-146704/22
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/29/2009 1028
Date Prepared: 08/29/2009 1028

Analysis Batch: 680-146704
Prep Batch: N/A
Units: mg/L

Instrument ID: GC/MS Volatiles - O C2
Lab File ID: oq132.d
Initial Weight/Volume: 5 mL
Final Weight/Volume: 5 mL

Analyte	Result	Qual	MDL	RL
Benzene	0.0010	U	0.0010	0.0010
Carbon tetrachloride	0.0010	U	0.0010	0.0010
Chlorobenzene	0.0010	U	0.0010	0.0010
Chloroform	0.0010	U	0.0010	0.0010
1,2-Dichloroethane	0.0010	U	0.0010	0.0010
1,1-Dichloroethene	0.0010	U	0.0010	0.0010
2-Butanone (MEK)	0.010	U	0.010	0.010
Tetrachloroethene	0.0010	U	0.0010	0.0010
Trichloroethene	0.0010	U	0.0010	0.0010
Vinyl chloride	0.0010	U	0.0010	0.0010

Surrogate	% Rec	Acceptance Limits
4-Bromofluorobenzene	101	75 - 120
Dibromofluoromethane	106	75 - 121
Toluene-d8 (Surr)	107	75 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 680-146704

Method: 8260B
Preparation: 5030B

LCS Lab Sample ID:	LCS 680-146704/19	Analysis Batch:	680-146704	Instrument ID:	GC/MS Volatiles - O C2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	oq124.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	5 mL
Date Analyzed:	08/29/2009 0827			Final Weight/Volume:	5 mL
Date Prepared:	08/29/2009 0827				

LCSD Lab Sample ID:	LCSD 680-146704/20	Analysis Batch:	680-146704	Instrument ID:	GC/MS Volatiles - O C2
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	oq126.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	5 mL
Date Analyzed:	08/29/2009 0901			Final Weight/Volume:	5 mL
Date Prepared:	08/29/2009 0901				

	% Rec.						
Analyte	LCS	LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Benzene	97	98	77 - 119	1	30		
Carbon tetrachloride	112	110	71 - 135	2	30		
Chlorobenzene	101	106	85 - 116	4	30		
Chloroform	106	103	82 - 120	3	30		
1,2-Dichloroethane	99	102	66 - 132	2	30		
1,1-Dichloroethene	102	98	62 - 141	3	30		
2-Butanone (MEK)	102	105	33 - 157	3	30		
Tetrachloroethene	104	108	76 - 126	4	30		
Trichloroethene	104	102	84 - 115	2	30		
Vinyl chloride	97	93	59 - 144	4	50		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
4-Bromofluorobenzene	102	107	75 - 120
Dibromofluoromethane	104	104	75 - 121
Toluene-d8 (Surr)	104	103	75 - 120

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Method Blank - Batch: 680-146473

Method: 8270C
Preparation: 3520C

Lab Sample ID:	MB 680-146473/7-A	Analysis Batch:	680-146883	Instrument ID:	GC/MS SemiVolatiles - N
Client Matrix:	Water	Prep Batch:	680-146473	Lab File ID:	n3770.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	09/01/2009 1207			Final Weight/Volume:	1 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL

Analyte	Result	Qual	MDL	RL
Methyl Phenols,Total	0.020	U	0.020	0.020
1,4-Dichlorobenzene	0.010	U	0.010	0.010
2,4-Dinitrotoluene	0.010	U	0.010	0.010
Hexachlorobenzene	0.010	U	0.010	0.010
Hexachlorobutadiene	0.010	U	0.010	0.010
Hexachloroethane	0.010	U	0.010	0.010
Nitrobenzene	0.010	U	0.010	0.010
Pentachlorophenol	0.050	U	0.050	0.050
Pyridine	0.050	U	0.050	0.050
2,4,5-Trichlorophenol	0.010	U	0.010	0.010
2,4,6-Trichlorophenol	0.010	U	0.010	0.010

Surrogate	% Rec	Acceptance Limits
2,4,6-Tribromophenol	56	40 - 139
2-Fluorobiphenyl	56	50 - 113
2-Fluorophenol	55	38 - 116
Nitrobenzene-d5	67	45 - 112
Phenol-d5	51	38 - 116
Terphenyl-d14	67	10 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

TCLP SPLPE Leachate Blank - Batch: 680-146473

Method: 8270C
Preparation: 3520C
TCLP

Lab Sample ID:	LB 680-146456/8-D	Analysis Batch:	680-146883	Instrument ID:	GC/MS SemiVolatiles - N
Client Matrix:	Solid	Prep Batch:	680-146473	Lab File ID:	n3772.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	200 mL
Date Analyzed:	09/01/2009 1252			Final Weight/Volume:	1 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL
Date Leached:	08/26/2009 1800	Leachate Batch:	680-146456		

Analyte	Result	Qual	MDL	RL
Methyl Phenols,Total	0.10	U	0.10	0.10
1,4-Dichlorobenzene	0.050	U	0.050	0.050
2,4-Dinitrotoluene	0.050	U	0.050	0.050
Hexachlorobenzene	0.050	U	0.050	0.050
Hexachlorobutadiene	0.050	U	0.050	0.050
Hexachloroethane	0.050	U	0.050	0.050
Nitrobenzene	0.050	U	0.050	0.050
Pentachlorophenol	0.25	U	0.25	0.25
Pyridine	0.25	U	0.25	0.25
2,4,5-Trichlorophenol	0.050	U	0.050	0.050
2,4,6-Trichlorophenol	0.050	U	0.050	0.050

Surrogate	% Rec	Acceptance Limits
2,4,6-Tribromophenol	93	40 - 139
2-Fluorobiphenyl	80	50 - 113
2-Fluorophenol	81	38 - 116
Nitrobenzene-d5	99	45 - 112
Phenol-d5	79	38 - 116
Terphenyl-d14	89	10 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Lab Control Sample - Batch: 680-146473

Method: 8270C
Preparation: 3520C

Lab Sample ID:	LCS 680-146473/8-A	Analysis Batch:	680-146883	Instrument ID:	GC/MS SemiVolatiles - N
Client Matrix:	Water	Prep Batch:	680-146473	Lab File ID:	n3771.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	09/01/2009 1230			Final Weight/Volume:	1 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,4-Dichlorobenzene	0.100	0.0544	54	50 - 150	
2,4-Dinitrotoluene	0.100	0.0735	74	50 - 150	
Hexachlorobenzene	0.100	0.0763	76	50 - 150	
Hexachlorobutadiene	0.100	0.0620	62	50 - 150	
Hexachloroethane	0.100	0.0622	62	50 - 150	
Nitrobenzene	0.100	0.0778	78	50 - 150	
Pentachlorophenol	0.100	0.0808	81	50 - 150	
Pyridine	0.100	0.0629	63	50 - 150	
2,4,5-Trichlorophenol	0.100	0.0669	67	50 - 150	
2,4,6-Trichlorophenol	0.100	0.0628	63	50 - 150	

Surrogate	% Rec	Acceptance Limits
2,4,6-Tribromophenol	71	40 - 139
2-Fluorobiphenyl	65	50 - 113
2-Fluorophenol	75	38 - 116
Nitrobenzene-d5	92	45 - 112
Phenol-d5	80	38 - 116
Terphenyl-d14	82	10 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-146473

Method: 8270C
Preparation: 3520C
TCLP

MS Lab Sample ID:	680-50134-2	Analysis Batch:	680-146883	Instrument ID:	GC/MS SemiVolatiles - N
Client Matrix:	Solid	Prep Batch:	680-146473	Lab File ID:	n3775.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Date Analyzed:	09/01/2009 1429			Final Weight/Volume:	1 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL
Date Leached:	08/27/2009 0738	Leachate Batch:	680-146439		

MSD Lab Sample ID:	680-50134-2	Analysis Batch:	680-146883	Instrument ID:	GC/MS SemiVolatiles - N
Client Matrix:	Solid	Prep Batch:	680-146473	Lab File ID:	n3776.d
Dilution:	1.0			Initial Weight/Volume:	200 mL
Date Analyzed:	09/01/2009 1451			Final Weight/Volume:	1 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL
Date Leached:	08/27/2009 0738	Leachate Batch:	680-146439		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,4-Dichlorobenzene	65	61	50 - 150	5	30		
2,4-Dinitrotoluene	97	103	50 - 150	7	30		
Hexachlorobenzene	79	79	50 - 150	1	30		
Hexachlorobutadiene	69	67	50 - 150	3	30		
Hexachloroethane	71	65	50 - 150	9	30		
Nitrobenzene	93	90	50 - 150	3	30		
Pentachlorophenol	87	77	50 - 150	12	30		
Pyridine	76	70	50 - 150	9	30		
2,4,5-Trichlorophenol	87	89	50 - 150	2	30		
2,4,6-Trichlorophenol	84	85	50 - 150	1	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
2,4,6-Tribromophenol	87	88	40 - 139
2-Fluorobiphenyl	81	82	50 - 113
2-Fluorophenol	82	76	38 - 116
Nitrobenzene-d5	96	95	45 - 112
Phenol-d5	87	83	38 - 116
Terphenyl-d14	85	86	10 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Method Blank - Batch: 680-146720

Method: 8015B
Preparation: N/A

Lab Sample ID: MB 680-146720/19
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 1235
Date Prepared: N/A

Analysis Batch: 680-146720
Prep Batch: N/A
Units: mg/Kg

Instrument ID: GC Volatiles - W FID1
Lab File ID: WQ082806.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Gasoline Range Organics (GRO)-C6-C10	0.019	U	0.019	0.25

Surrogate	% Rec	Acceptance Limits
a,a,a-Trifluorotoluene	85	53 - 121

Lab Control Sample/
Lab Control Sample Duplicate Recovery Report - Batch: 680-146720

Method: 8015B
Preparation: N/A

LCS Lab Sample ID: LCS 680-146720/17
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 1145
Date Prepared: N/A

Analysis Batch: 680-146720
Prep Batch: N/A
Units: mg/Kg

Instrument ID: GC Volatiles - W FID1
Lab File ID: WQ082804.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

LCSD Lab Sample ID: LCSD 680-146720/18
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 1210
Date Prepared: N/A

Analysis Batch: 680-146720
Prep Batch: N/A
Units: mg/Kg

Instrument ID: GC Volatiles - W FID1
Lab File ID: WQ082805.D
Initial Weight/Volume: 5 g
Final Weight/Volume: 5 mL
Injection Volume:
Column ID: PRIMARY

Analyte	% Rec. LCS	% Rec. LCSD	Limit	RPD	RPD Limit	LCS Qual	LCSD Qual
Gasoline Range Organics (GRO)-C6-C10	116	117	40 - 140	0	40		

Surrogate	LCS % Rec	LCSD % Rec	Acceptance Limits
a,a,a-Trifluorotoluene	92	92	53 - 121

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Method Blank - Batch: 680-146151

Method: 8015B
Preparation: 3550B

Lab Sample ID: MB 680-146151/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 1514
Date Prepared: 08/24/2009 1340

Analysis Batch: 680-146200
Prep Batch: 680-146151
Units: mg/Kg

Instrument ID: GC SemiVolatiles - Q
Lab File ID: qh240008.d
Initial Weight/Volume: 30.00 g
Final Weight/Volume: 1 mL
Injection Volume: 2 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
Diesel Range Organics [C10-C28]	2.1	U	2.1	3.3

Surrogate	% Rec		Acceptance Limits
o-Terphenyl	94	M	39 - 140

Surrogate	% Rec		Acceptance Limits
o-Terphenyl	65	M	39 - 140

Lab Control Sample - Batch: 680-146151

Method: 8015B
Preparation: 3550B

Lab Sample ID: LCS 680-146151/7-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/24/2009 1535
Date Prepared: 08/24/2009 1340

Analysis Batch: 680-146200
Prep Batch: 680-146151
Units: mg/Kg

Instrument ID: GC SemiVolatiles - Q
Lab File ID: qh240010.d
Initial Weight/Volume: 30.02 g
Final Weight/Volume: 1 mL
Injection Volume: 2 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Diesel Range Organics [C10-C28]	33.3	30.9	93	40 - 140	M

Surrogate	% Rec		Acceptance Limits
o-Terphenyl	62	M	39 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Method Blank - Batch: 680-146150

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: MB 680-146150/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/25/2009 2014
Date Prepared: 08/24/2009 1646

Analysis Batch: 680-146368
Prep Batch: 680-146150
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mh24076.d
Initial Weight/Volume: 15.00 g
Final Weight/Volume: 5 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
PCB-1016	2.9	U	2.9	33
PCB-1221	4.8	U	4.8	67
PCB-1232	3.3	U	3.3	33
PCB-1242	2.8	U	2.8	33
PCB-1248	7.2	U	7.2	33
PCB-1254	2.3	U	2.3	33
PCB-1260	6.7	U	6.7	33

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	74	26 - 140
DCB Decachlorobiphenyl	100	50 - 129

Lab Control Sample - Batch: 680-146150

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: LCS 680-146150/7-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/25/2009 2053
Date Prepared: 08/24/2009 1646

Analysis Batch: 680-146368
Prep Batch: 680-146150
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mh24078.d
Initial Weight/Volume: 15.00 g
Final Weight/Volume: 5 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
PCB-1016	333	230	69	43 - 136	
PCB-1260	333	343	103	53 - 133	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	47	26 - 140
DCB Decachlorobiphenyl	113	50 - 129

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-146150

Method: 8081A_8082
Preparation: 3550B

MS Lab Sample ID:	680-50134-2	Analysis Batch:	680-146368	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch:	680-146150	Lab File ID:	mh24074.d
Dilution:	20			Initial Weight/Volume:	15.08 g
Date Analyzed:	08/25/2009 1934			Final Weight/Volume:	5 mL
Date Prepared:	08/24/2009 1646			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

MSD Lab Sample ID:	680-50134-2	Analysis Batch:	680-146368	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch:	680-146150	Lab File ID:	mh24075.d
Dilution:	20			Initial Weight/Volume:	15.08 g
Date Analyzed:	08/25/2009 1954			Final Weight/Volume:	5 mL
Date Prepared:	08/24/2009 1646			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
PCB-1016	0	0	43 - 136	NC	50	U J	U J
PCB-1016	0	0	43 - 136	NC	50	U J	U J
PCB-1260	0	0	53 - 133	NC	50	U J	U J
PCB-1260	0	0	53 - 133	NC	50	U J	U J

Surrogate	MS % Rec		MSD % Rec	Acceptance Limits
Tetrachloro-m-xylene	50		59	26 - 140
Tetrachloro-m-xylene	50		69	26 - 140
Tetrachloro-m-xylene	67		59	26 - 140
Tetrachloro-m-xylene	67		69	26 - 140
DCB Decachlorobiphenyl	109		103	50 - 129
DCB Decachlorobiphenyl	109		125	50 - 129
DCB Decachlorobiphenyl	137	J	103	50 - 129
DCB Decachlorobiphenyl	137	J	125	50 - 129

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

TCLP SPLPE Leachate Blank - Batch: 680-146477

Method: 8081A_8082
Preparation: 3520C
TCLP

Lab Sample ID:	LB 680-146456/8-E	Analysis Batch:	680-147132	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch:	680-146477	Lab File ID:	mi02008.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	20 mL
Date Analyzed:	09/02/2009 1751			Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL
Date Leached:	08/26/2009 1800	Leachate Batch:	680-146456	Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Chlordane (technical)	0.025	U	0.025	0.025
Endrin	0.0050	U	0.0050	0.0050
gamma-BHC (Lindane)	0.0025	U	0.0025	0.0025
Methoxychlor	0.025	U	0.025	0.025
Heptachlor	0.0025	U	0.0025	0.0025
Heptachlor epoxide	0.0025	U	0.0025	0.0025
Toxaphene	0.25	U	0.25	0.25

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	84	50 - 150
DCB Decachlorobiphenyl	84	50 - 150

Method Blank - Batch: 680-146477

Method: 8081A_8082
Preparation: 3520C

Lab Sample ID:	MB 680-146477/18-A	Analysis Batch:	680-147132	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Water	Prep Batch:	680-146477	Lab File ID:	mi02009.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	09/02/2009 1812			Final Weight/Volume:	10 mL
Date Prepared:	08/27/2009 1347			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
Chlordane (technical)	0.00050	U	0.00050	0.00050
Endrin	0.00010	U	0.00010	0.00010
gamma-BHC (Lindane)	0.000050	U	0.000050	0.000050
Methoxychlor	0.00050	U	0.00050	0.00050
Heptachlor	0.000050	U	0.000050	0.000050
Heptachlor epoxide	0.000050	U	0.000050	0.000050
Toxaphene	0.0050	U	0.0050	0.0050

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	76	50 - 150
DCB Decachlorobiphenyl	69	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Lab Control Sample - Batch: 680-146477

Method: 8081A_8082
Preparation: 3520C

Lab Sample ID: LCS 680-146477/19-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 09/02/2009 1832
Date Prepared: 08/27/2009 1347

Analysis Batch: 680-147132
Prep Batch: 680-146477
Units: mg/L

Instrument ID: GC SemiVolatiles - M
Lab File ID: mi02010.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Endrin	0.000200	0.000168	84	50 - 150	
gamma-BHC (Lindane)	0.000100	0.0000809	81	50 - 150	
Methoxychlor	0.000201	0.00050	87	50 - 150	U
Heptachlor	0.000100	0.0000865	87	50 - 150	
Heptachlor epoxide	0.000100	0.0000928	93	50 - 150	

Surrogate	% Rec	Acceptance Limits
Tetrachloro-m-xylene	74	50 - 150
DCB Decachlorobiphenyl	90	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

TCLP SPLPE Leachate Blank - Batch: 680-146571

Method: 8151A
Preparation: 8151A
TCLP

Lab Sample ID:	LB 680-146456/8-F	Analysis Batch:	680-146850	Instrument ID:	GC SemiVolatiles - S
Client Matrix:	Solid	Prep Batch:	680-146571	Lab File ID:	sh31005.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	10 mL
Date Analyzed:	08/31/2009 1410			Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0812			Injection Volume:	1.0 uL
Date Leached:	08/26/2009 1800	Leachate Batch:	680-146456	Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
2,4-D	0.050	U	0.050	0.050
Silvex (2,4,5-TP)	0.050	U	0.050	0.050

Surrogate	% Rec	Acceptance Limits
DCAA	85	50 - 150

Method Blank - Batch: 680-146571

Method: 8151A
Preparation: 8151A

Lab Sample ID:	MB 680-146571/22-A	Analysis Batch:	680-146850	Instrument ID:	GC SemiVolatiles - S
Client Matrix:	Water	Prep Batch:	680-146571	Lab File ID:	sh31006.d
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	1000 mL
Date Analyzed:	08/31/2009 1427			Final Weight/Volume:	10 mL
Date Prepared:	08/28/2009 0812			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

Analyte	Result	Qual	MDL	RL
2,4-D	0.00050	U	0.00050	0.00050
Silvex (2,4,5-TP)	0.00050	U	0.00050	0.00050

Surrogate	% Rec	Acceptance Limits
DCAA	83	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Lab Control Sample - Batch: 680-146571

Method: 8151A
Preparation: 8151A

Lab Sample ID: LCS 680-146571/23-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/31/2009 1444
Date Prepared: 08/28/2009 0812

Analysis Batch: 680-146850
Prep Batch: 680-146571
Units: mg/L

Instrument ID: GC SemiVolatiles - S
Lab File ID: sh31007.d
Initial Weight/Volume: 1000 mL
Final Weight/Volume: 10 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
2,4-D	0.00200	0.00224	112	50 - 150	
Silvex (2,4,5-TP)	0.00200	0.00173	87	50 - 150	

Surrogate	% Rec	Acceptance Limits
DCAA	85	50 - 150

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

TCLP SPLPE Leachate Blank - Batch: 680-146484

Method: 6010B
Preparation: 3010A
TCLP

Lab Sample ID: LB 680-146456/8-C
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/28/2009 0217
Date Prepared: 08/27/2009 1242
Date Leached: 08/26/2009 1800

Analysis Batch: 680-146615
Prep Batch: 680-146484
Units: mg/L

Leachate Batch: 680-146456

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 5 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Arsenic	0.20	U	0.20	0.20
Barium	1.0	U	1.0	1.0
Cadmium	0.10	U	0.10	0.10
Chromium	0.20	U	0.20	0.20
Lead	0.20	U	0.20	0.20
Selenium	0.50	U	0.50	0.50
Silver	0.10	U	0.10	0.10

Lab Control Sample - Batch: 680-146484

Method: 6010B
Preparation: 3010A

Lab Sample ID: LCS 680-146484/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/28/2009 0222
Date Prepared: 08/27/2009 1049

Analysis Batch: 680-146615
Prep Batch: 680-146484
Units: mg/L

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 5 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Arsenic	20.0	20.2	101	75 - 125	
Barium	20.0	21.2	106	75 - 125	
Cadmium	0.500	0.516	103	75 - 125	
Chromium	2.00	2.07	104	75 - 125	
Lead	5.00	5.11	102	75 - 125	
Selenium	20.0	20.1	101	75 - 125	
Silver	0.500	0.477	95	75 - 125	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

TCLP SPLPE Leachate Blank - Batch: 680-146510

Method: 7470A
Preparation: 7470A
TCLP

Lab Sample ID:	LB 680-146456/8-B	Analysis Batch:	680-146646	Instrument ID:	LEEMAN1
Client Matrix:	Solid	Prep Batch:	680-146510	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	0.50 mL
Date Analyzed:	08/27/2009 1914			Final Weight/Volume:	50 mL
Date Prepared:	08/27/2009 1235				
Date Leached:	08/26/2009 1800	Leachate Batch:	680-146456		

Analyte	Result	Qual	MDL	RL
Mercury	0.020	U	0.020	0.020

Lab Control Sample - Batch: 680-146510

Method: 7470A
Preparation: 7470A

Lab Sample ID:	LCS 680-146510/8-A	Analysis Batch:	680-146646	Instrument ID:	LEEMAN1
Client Matrix:	Water	Prep Batch:	680-146510	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/L	Initial Weight/Volume:	0.50 mL
Date Analyzed:	08/27/2009 1917			Final Weight/Volume:	50 mL
Date Prepared:	08/27/2009 1235				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Mercury	0.250	0.244	97	80 - 120	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-146510

Method: 7470A
Preparation: 7470A
TCLP

MS Lab Sample ID:	680-50134-2	Analysis Batch:	680-146646	Instrument ID:	LEEMAN1
Client Matrix:	Solid	Prep Batch:	680-146510	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.50 mL
Date Analyzed:	08/27/2009 1936			Final Weight/Volume:	50 mL
Date Prepared:	08/27/2009 1235				
Date Leached:	08/26/2009 1800	Leachate Batch:	680-146456		
MSD Lab Sample ID:	680-50134-2	Analysis Batch:	680-146646	Instrument ID:	LEEMAN1
Client Matrix:	Solid	Prep Batch:	680-146510	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	0.50 mL
Date Analyzed:	08/27/2009 1939			Final Weight/Volume:	50 mL
Date Prepared:	08/27/2009 1235				
Date Leached:	08/26/2009 1800	Leachate Batch:	680-146456		

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Mercury	102	97	80 - 120	5	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Method Blank - Batch: 680-146312

Method: 9012A
Preparation: 9012A

Lab Sample ID: MB 680-146312/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1043
Date Prepared: 08/26/2009 0650

Analysis Batch: 680-146480
Prep Batch: 680-146312
Units: mg/Kg

Instrument ID: QuickChem 8000
Lab File ID: N/A
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Cyanide, Total	0.21	U	0.21	5.0

Lab Control Sample - Batch: 680-146312

Method: 9012A
Preparation: 9012A

Lab Sample ID: LCS 680-146312/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1043
Date Prepared: 08/26/2009 0650

Analysis Batch: 680-146480
Prep Batch: 680-146312
Units: mg/Kg

Instrument ID: QuickChem 8000
Lab File ID: N/A
Initial Weight/Volume: 1.00 g
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Cyanide, Total	7.53	7.53	100	75 - 125	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc. Job Number: 680-50134-2

Method Blank - Batch: 680-146451

Method: 9034
Preparation: 9030B

Lab Sample ID: MB 680-146451/1-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1627
Date Prepared: 08/27/2009 0903

Analysis Batch: 680-146548
Prep Batch: 680-146451
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10.00 g
Final Weight/Volume: 250 mL

Analyte	Result	Qual	RL	RL
Sulfide	25	U	25	25

Lab Control Sample - Batch: 680-146451

Method: 9034
Preparation: 9030B

Lab Sample ID: LCS 680-146451/2-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1627
Date Prepared: 08/27/2009 0903

Analysis Batch: 680-146548
Prep Batch: 680-146451
Units: mg/Kg

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10.00 g
Final Weight/Volume: 250 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Sulfide	252	236	94	50 - 150	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-146451

Method: 9034
Preparation: 9030B

MS Lab Sample ID: 680-50134-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1627
Date Prepared: 08/27/2009 0903

Analysis Batch: 680-146548
Prep Batch: 680-146451

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10.01 g
Final Weight/Volume: 250 mL

MSD Lab Sample ID: 680-50134-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/27/2009 1627
Date Prepared: 08/27/2009 0903

Analysis Batch: 680-146548
Prep Batch: 680-146451

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 10.01 g
Final Weight/Volume: 250 mL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Sulfide	76	77	50 - 150	1	50		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Lab Control Sample - Batch: 680-146420

Method: 9045D
Preparation: N/A

Lab Sample ID: LCS 680-146420/1
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 1135
Date Prepared: N/A

Analysis Batch: 680-146420
Prep Batch: N/A
Units: SU

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 20 g
Final Weight/Volume: 20 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
pH	7.00	6.99	100	63 - 158	

Duplicate - Batch: 680-146420

Method: 9045D
Preparation: N/A

Lab Sample ID: 680-50134-2
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/26/2009 1135
Date Prepared: N/A

Analysis Batch: 680-146420
Prep Batch: N/A
Units: SU

Instrument ID: No Equipment Assigned
Lab File ID: N/A
Initial Weight/Volume: 20.01 g
Final Weight/Volume: 20 mL

Analyte	Sample Result/Qual	Result	RPD	Limit	Qual
pH	8.0	8.01	1	40	

Calculations are performed before rounding to avoid round-off errors in calculated results.

Serial Number 017524

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 soil delineation	PROJECT NO.: 431	PROJECT LOCATION (STATE): NC
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Erica Delattre	CLIENT PHONE: 412 724-443-4111	CLIENT FAX:
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL:	
CLIENT ADDRESS: 4975 William Flynn Hwy Suite 14 Gibsonia PA 15044		
COMPANY CONTRACTING THIS WORK (if applicable)		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	TCLP VOCs	TCLP SVOCs	TCLP Pests	TCLP Herbicides	TCLP Metals	TCLP Mercury	8015 B DRO	8015 B GRO	RCRA Characteristics	REMARKS
								REQUIRED ANALYSIS									
								1	1	1	1	1	1	1	1		
								PRESERVATIVE									
								NUMBER OF CONTAINERS SUBMITTED									
8/21/09	16:00	OUI-83-WC-S-1			S			1	←			2	→	3	1		GRO - Terracore kit methanol/DI preserved
																	Normal TAT

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A M Cole	8/21/09	17:30						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex	8/21/09	17:30						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
George Conner	8/22/09	0945	YES ◯ NO ◯		680-50134	4.8

TAL8240-680 (1207)

Login Sample Receipt Check List

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-2

Login Number: 50134

List Source: TestAmerica Savannah

Creator: Conner, Keaton

List Number: 1

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	N/A	
Sample Preservation Verified	True	

REPUBLIC SERVICES, INC.

NON-HAZARDOUS SPECIAL WASTE & ASBESTOS MANIFEST

If waste is asbestos waste, complete Sections I, II, III and IV
If waste is **NOT** asbestos waste, complete Sections I, II and III

I. GENERATOR (Generator completes Ia-r)

a. Generator's US EPA ID Number	b. Manifest Document Number	c. Page 1 of
N/A		

d. Generator's Name and Location:	e. Generator's Mailing Address:
MCAS Cherry Point Environmental Affairs Department Environmental Affairs Department, Bldg 4223 Cherry Point, NC 28533 f. Phone:252-466-4421	MCAS Cherry Point Environmental Affairs Department, PSC Box 8006 Cherry Point, NC 28533 g. Phone:252-466-4421
If owner of the generating facility differs from the generator, provide: h. Owner's Name:	i. Owner's Phone No.:

j. Waste Profile #	k. Exp. Date	l. Waste Shipping Name and Description	m. Containers No.	m. Containers Type	n. Total Quantity	o. Unit Wt/Vol
3026 Y9 13864	12/31/2009	IDW Drill Cuttings	2	Drums		

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if this waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions. I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR 268 and is no longer a hazardous waste as defined by 40 CFR 261.

p. Generator Authorized Agent Name (Print)	q. Signature	r. Date
William Potter	William Potter	10/27/2009

II. TRANSPORTER (Generator completes IIa-b and Transporter completes IIc-e)

a. Transporter's Name and Address:
Guy Shavender Trucking, Inc.
P.O. Box 206
Pantego, NC 27860
b. Phone: 252-943-3379

c. Driver Name (Print)	d. Signature	e. Date
Dexter Moore	Dexter Moore	10-28-09

III. DESTINATION (Generator complete IIIa-c and Destination Site completes IIId-g)

a. Disposal Facility and Site Address:	c. US EPA Number	d. Discrepancy Indication Space:
East Carolina Environmental Landfill 1922 Republican Road Aulander, NC 27805 b. Phone: 252-348-3322	N/A	

I herby certify that the above named material has been accepted and to the best of my knowledge the foregoing is true and accurate.

e. Name of Authorized Agent (Print)	f. Signature	g. Date
Lisa Martin	Lisa Martin	10/28/09

IV. ASBESTOS (Generator completes IVa-f and Operator complete IVg-i)

a. Operator's Name and Address:	c. Responsible Agency Name and Address:
b. Phone:	d. Phone:

e. Special Handling Instructions and Additional Information:

f. ☐ Friable ☐ Non-Friable ☐ Both % Friable % Non-Friable

OPERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked and labeled and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations.

g. Operator's Name and Title (Print)	h. Signature	i. Date

*Operator refers to the company which owns, leases, operates, controls, or supervises the facility being demolished or renovated, or the demolition or renovation operation or both

EAST CAROLINA ENV LANDFILL
1922 REPUBLICAN RD
AULANDER NC 27805

Ticket: 002461
Date: 10/28/09
Time In: 12:27 pm
Time Out: 12:27 pm

Customer: 000877 RHEA ENGINEERING & CONSUL

Vehicle: SHAVANDER License: Cont/Profile 3026Y913864

Container/Trailer

WO:

Comments:

Origin: CRAVEN Net Tons

Materials & Services	Quantity	
FEE-HAUL/TRANS/TRUCK	1.00	LD
SW-SOLIDIFICATION MAT	2.00	DR
ENVIRONMENTAL FEE	1.00	LD

Indemnification. Generator agrees to indemnify, hold harmless, and defend Republic Services of NC, LLC, its subsidiaries, affiliates, employees, officer and directors from and against any and all liabilities, claims, penalties, forfeitures, suits, and cost and expenses incident therto, including cost of defense, settlement and resonable attorney's fees, which may be incurred, as a result of death or injuries to any person, or damage to any property contamination of or adverse effect on the environment, caused in whole or in part by the generator, its employees, or subcontractors in disposing waste at this facility. In the event generator delivers UNACCEPTABLE WASTE (as determined by Republic) generator agrees to assume all expenses and obligation with the removal and/or resolution of any effects caused by the delivery of such acceptable waste. Generator agrees to abide by any and all Facility Safety protocols and procedures.

Net Amount:
Tared:

X Driver: Dexter Moore Weighmaster: .....

LISA M

Certificate of Destruction

REPUBLIC SERVICES, INC.

East Carolina Environmental ---A Republic Services Subtitle-D Regional Landfill

This is to certify destruction and/or disposal of specified solid waste.

This Certificate is being sent to :

RHEA Engineers and Consultants
Attn: Brad McCalla
4975 William Flynn Hwy, Suite 14
Gibsonia, PA 15044
Phone : 724-443-4111 Fax: 724-443-4187

Transporter Information:

Guy Shavender Trucking, Inc.
P.O. Box 206
Pantego, NC 27860
Phone: 800-682-2447

Generator and Waste Stream Information:

MCAS Cherry Point Environmental Affairs Department
PSC Box 8006, Building 4223
Cherry Point, NC 28533

Approval Number 3026-Y9-13864 : IDW Drill Cuttings

Disposal Date	TICKET #	Units	DISPOSAL FACILITY
10/28/2009	2461	2 Drums	EAST CAROLINA ENVIRONMENTAL

I hereby certify that the above referenced waste stream was received and securely disposed at Republic Services of NC, LLC d/b/a East Carolina Environmental, in accordance with state and federal solid waste regulations.

Signature: _____

Lucas A. Norris, Special Waste Representative
Republic Services of NC, LLC d/b/a EAST CAROLINA ENVIRONMENTAL
1922 Republican Rd.
Aulander, N.C., 27805

Phone: 252-348-3322 Fax: 252-348-3395

APPENDIX E

LABORATORY REPORTS

ECCS Onsite Laboratory Case Narrative

Report Date	September 18, 2009
Client	Rhea Engineers & Consultants, Inc.
Site/ Project Name	Operable Unit 1, Site 83 Soil Delineation Sampling
Location	MCAS Cherry Point, North Carolina
Dates of Service	24 July 2009 – 21 August 2009
Test Method References	PAHs by 8270C SIM Pesticides by 8081A
ECCS Project Number	2472
Client Project or PO Number	389

1. Introduction

Environmental Chemistry Consulting Services, Inc. (ECCS) was on site at the referenced facility with a mobile laboratory unit to provide analytical testing support during site investigation activities. The target analytes for this project were select PAHs and select Pesticides. The laboratory received 535 soils and 11 waters for PAH analysis. 158 soils and all 11 waters were analyzed for PAHs with the remaining 377 soil samples for PAHs on hold. The laboratory received 538 soils and 13 waters for pesticide analysis. 183 soils and all 13 waters were analyzed for Pesticides with the remaining 355 soil samples for Pesticides on hold. All soil and water samples, excluding the soil samples put on hold, were extracted and analyzed within method hold times. The ECCS Chemists were Robert Osmundson and Ben Claas and the ECCS project manager was Chris Altstaetter.

2. ECCS Method Summary

- PAH samples were analyzed by ECCS Standard Operating Procedure (SOP) method LAM-008 (Polynuclear Aromatic Hydrocarbons and their Alkylated Homologues by Selective Ion Monitoring SIM Gas Chromatography / Mass Spectrometry GC/MS), Revision No: 2.
- Pesticides samples were analyzed by ECCS Standard Operating Procedure (SOP) method LAM-003 (Organochlorine Pesticides by Gas Chromatography GC/ECD), Revision No: 5.
- % Solids for soil samples were analyzed by ECCS Standard Operating Procedure (SOP) method GEN-003 (Determination of Percent Sample Dry Weight (Total Solids)), Revision No: 4.
- Each soil sample was delivered in a 4 oz. amber glass jar.

- Each water sample was delivered in a 1000 ml and 500 ml amber glass jar.
- All soil and water samples were delivered by hand to the ECCS mobile laboratory on site.
- All soil and water samples were accompanied by a Chain of Custody (COC).
- All samples were extracted and analyzed within hold times.
- All GC/MS analyses were performed on a HP 5890 attached to a HP 5972 MS equipped with a LEAP A200S auto sampler. All equipment was connected to a data acquisition system using HP MSD Productivity Chemstation with Enviroquant software.
- All GC/ECD analyses were performed on three HP 5890 GCs equipped with an electron capture detectors (ECD). All instruments were equipped with a LEAP A200S autosampler connected to data acquisition systems using HP Chemstation software.
- All soil sample results are reported on a dry weight corrected basis.
- For GC/MS analysis, a laboratory blank, LCS, and matrix spike/matrix spike duplicate (MS/MSD) were analyzed with every batch of 20 or less samples.
- For GC/ECD analysis, a laboratory blank, LCS, and matrix spike/matrix spike duplicate (MS/MSD) were analyzed with every batch of 20 or less samples.

3. Quality Control Summary

Instrument Tuning	The tuning of the GC/MS was verified every twelve hours using DFTPP. All acceptance criteria were met.
Initial Calibration	GC/MS: An initial calibration (ICAL) using a minimum of six points was performed. The calibration curve was verified using a single-point second source standard. Method acceptance criteria were met except the low standard at 10 µg/mL (after Day 2) was used only to create the standard curve. Limits after Day 2 were based on the low standard at 20 µg/mL. GC/ECD: An initial calibration using 8 points was performed for all the pesticides except Chlordane on two GC/ECDs. An additional initial calibration using 6 points was performed for the multiple response compound Chlordane on a single GC/ECD. All standard curves were verified with a single point second source standard.

Continuing Calibration	GC/MS: The instrument calibration was verified every 10 injections or less and at the end of every run. Method criteria for continuing calibration verification (CCV) was met in all cases except where footnoted in the attached report. GC/ECD: The instrument calibrations were verified every 10 samples or less and at the end of the run. Instrunment performance for the analysis of 4,4'-DDT was also verified every 10 samples or less and at the end of the run by the analysis of a 4,4'-DDT breakdown standard.
Method Blanks	Method blanks that were analyzed with every data set were free of compounds of interest for both the GC/MS and GC/ECD.
Blank Spikes (LCS)	GC/MS: LCS samples were analyzed with every data set. LCS recovery data is listed in Attachment B. GC/ECD: LCS samples were analyzed with every data set. LCS recovery data is listed in Attachment B.
MS/MSD	GC/MS: MS/MSD samples were analyzed with every data set. MS/MSD recovery data is listed in Attachment B. GC/ECD: MS/MSD samples were analyzed with every data set. MS/MSD recovery data is listed in Attachment B.

4. Analytical Reports

4.1 GC/MS Analysis

Attachment A contains analytical reports for the PAH analysis for each sample on a dry weight basis. Surrogate recoveries for each sample are listed with each sample result. Quality Control Sample results are listed in Attachment B.

4.2 GC/ECD Analysis

Attachment A contains analytical reports for the Pesticide analysis for each sample on a dry weight basis. Surrogate recoveries for each sample are listed with each sample result. Quality Control Sample results are listed in Attachment B.

4.3 Total Solids Analysis

Attachments A contains the analytical reports for the % Solids analysis. The % Solids data is incorporated into the sample results for the PAH and Pesticide analyses to report compounds on a dry weight basis.

4.4 Reports

Attachment A contains a summary of sample results, while Attachment B contains detailed reports with full QC data. A copy of the chain of custody (COC) documentation is included in Attachment C.

During field activities, sample results in draft form were transferred to Brad McCalla of Rhea Engineers & Consultants to assist field activities and decisions. The final results presented in this report do not vary from the draft results delivered in the field by any significant degree.

5. Signature Approval

This document has been prepared by the under-signed:

09-18-2009

Robert Osmundson Date

Chemist

09-18-2009

Ben Claas Date

Chemist

This document has been reviewed by the under-signed:

09-18-2009

Chris Altstaetter Date

Project Manager

Attachment A: Sample Summary Results

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/28/2009 to 07/31/2009
RECEIVED: 07/28/2009 to 07/30/2009
REPORTED: 09/17/2009 22:00

LAB #		N093101-01	N093101-03	N093101-06	N093101-07	N093101-08	N093101-11
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-13E-S-0-1	OU1-83-13E-S-2-3	OU1-83-14E-S-0-1	OU1-83-14E-S-1-2	OU1-83-14E-S-2-3	OU1-83-14G-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	4.6	<2.3	2.5	<23	<2.3	<23
Heptachlor epoxide	2.0 ug/kg dry	<2.2	<2.3	<2.2	<23	<2.3	<23
4,4´-DDE	4.0 ug/kg dry	<4.4	<4.6	<4.4	<45	<4.6	<46
Dieldrin	4.0 ug/kg dry	4.8 [3]	<4.6	120 [3]	<45	<4.6	<46
4,4´-DDD	4.0 ug/kg dry	<4.4	<4.6	5.1	<45	<4.6	<46
4,4´-DDT	4.0 ug/kg dry	<4.4	<4.6	11	<45	<4.6	<46 [3]
Chlordane (tech)	40 ug/kg dry	450	<46	750	<45	<46	<46
Decachlorobiphenyl	140 [surr]	124%	97.7%	131%	96.9%	105%	122%
Tetrachloro-meta-xylene	140 [surr]	101%	128%	121%	88.1%	123%	113%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)							
Benzo (a) anthracene	10 ug/kg dry	24	<12 [7]	25	-	<12 [7]	<11 [7]
Benzo (a) pyrene	10 ug/kg dry	<11 [7]	<12 [7]	32	-	<12 [7]	<11 [7]
Benzo (b) fluoranthene	10 ug/kg dry	<11 [7]	<12 [7]	61	-	<12 [7]	<11 [7]
Dibenz (a,h) anthracene	10 ug/kg dry	<11 [7]	<12 [7]	40	-	<12 [7]	<11 [7]
Indeno (1,2,3-cd) pyrene	10 ug/kg dry	47	<12 [7]	41	-	<12 [7]	<11 [7]
p-Terphenyl-d14	130 [surr]	88.7%	102%	96.5%	-	96.3%	106%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	91.7	86.2	90.4	88.1	86.6	87.0

ECCS

Karl Olm For Chris Altstaetter
Sales Manager

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Madison, WI 53718
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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/28/2009 to 07/31/2009
RECEIVED: 07/28/2009 to 07/30/2009
REPORTED: 09/17/2009 22:00

LAB #		N093101-13	N093101-16	N093101-18	N093101-21	N093102-01	N093102-03
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-14G-S-2-3	OU1-83-13G-S-0-1	OU1-83-13G-S-2-3	OU1-83-13G-S-0-1-P	OU1-83-11E-S-0-1	OU1-83-11E-S-2-3
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	<24	10	<2.4	<2.3	<2.2	<2.3
Heptachlor epoxide	2.0 ug/kg dry	<24	<2.2	<2.4	<2.3	<2.2	<2.3
4,4´-DDE	4.0 ug/kg dry	<47	14	<4.8	<4.7	<4.4	<4.7
Dieldrin	4.0 ug/kg dry	<47	12 [3]	<4.8	<4.7	<4.4	<4.7
4,4´-DDD	4.0 ug/kg dry	<47	<4.5	<4.8	<4.7	<4.4	<4.7
4,4´-DDT	4.0 ug/kg dry	<47	<4.5	<4.8	<4.7	<4.4	<4.7
Chlordane (tech)	40 ug/kg dry	<47	1800	<48	320	<44	<47
Decachlorobiphenyl	140 [surr]	129%	108%	125%	130%	128%	92.8%
Tetrachloro-meta-xylene	140 [surr]	113%	139%	113%	121%	119%	109%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)							
Benzo (a) anthracene	10 ug/kg dry	<12 [7]	<11 [7]	<12 [7]	<12 [7]	<11 [7]	<12 [7]
Benzo (a) pyrene	10 ug/kg dry	<12 [7]	<11 [7]	<12 [7]	<12 [7]	<11 [7]	<12 [7]
Benzo (b) fluoranthene	10 ug/kg dry	<12 [7]	<11 [7]	<12 [7]	<12 [7]	<11 [7]	<12 [7]
Dibenz (a,h) anthracene	10 ug/kg dry	<12 [7]	<11 [7]	<12 [7]	<12 [7]	<11 [7]	<12 [7]
Indeno (1,2,3-cd) pyrene	10 ug/kg dry	<12 [7]	<11 [7]	<12 [7]	<12 [7]	<11 [7]	<12 [7]
p-Terphenyl-d14	130 [surr]	104%	95.3%	92.1%	91.8%	91.9%	89.2%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	85.0	88.9	83.5	85.3	91.6	85.2

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Karl Olm For Chris Altstaetter
Sales Manager

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/28/2009 to 07/31/2009
RECEIVED: 07/28/2009 to 07/30/2009
REPORTED: 09/17/2009 22:00

LAB #		N093102-06	N093102-08	N093102-11	N093102-12	N093102-13	N093102-16
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-11G-S-0-1	OU1-83-11G-S-2-3	OU1-83-11I-S-0-1	OU1-83-11I-S-1-2	OU1-83-11I-S-2-3	OU1-83-11I-S-2-3-P
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	<2.2	<2.3	12	<22	<2.2	<2.3
Heptachlor epoxide	2.0 ug/kg dry	<2.2	<2.3	<2.1	<22	<2.2	<2.3
4,4´-DDE	4.0 ug/kg dry	45	<4.6	150	<44	<4.5	<4.7
Dieldrin	4.0 ug/kg dry	9.4 [4]	<4.6	50 [4]	<44	<4.5	<4.7
4,4´-DDD	4.0 ug/kg dry	<4.4	<4.6	<4.2	<44	<4.5	<4.7
4,4´-DDT	4.0 ug/kg dry	47 [4]	<4.6	180	<44	<4.5	<4.7
Chlordane (tech)	40 ug/kg dry	280	<46	6700 [1]	220	<45	<47
Decachlorobiphenyl	140 [surr]	86.2%	97.5%	101%	97.4%	103%	109%
Tetrachloro-meta-xylene	140 [surr]	109%	112%	119%	87.3%	122%	118%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)							
Benzo (a) anthracene	10 ug/kg dry	30	<12 [7]	1600	<11 [7]	<11 [7]	<12 [7]
Benzo (a) pyrene	10 ug/kg dry	71	<12 [7]	2300	<11 [7]	<11 [7]	<12 [7]
Benzo (b) fluoranthene	10 ug/kg dry	64	<12 [7]	1800	<11 [7]	<11 [7]	<12 [7]
Dibenz (a,h) anthracene	10 ug/kg dry	<11 [7]	<12 [7]	740	<11 [7]	<11 [7]	<12 [7]
Indeno (1,2,3-cd) pyrene	10 ug/kg dry	61	<12 [7]	1600	<11 [7]	<11 [7]	<12 [7]
p-Terphenyl-d14	130 [surr]	118%	90.7%	117%	106%	89.8%	90.2%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	90.7	86.8	95.3	91.7	88.9	85.8

ECCS

Karl Olm For Chris Altstaetter
Sales Manager

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/28/2009 to 07/31/2009
RECEIVED: 07/28/2009 to 07/30/2009
REPORTED: 09/17/2009 22:00

LAB #			N093102-17	N093102-18	N093102-19	N093103-01	N093103-02	N093103-03
MATRIX	Minimum		Soil	Soil	Soil	Water	Water	Water
SAMPLE ID	Reporting Limit		OU1-83-11K-S-0-1	OU1-83-11K-S-1-2	OU1-83-11K-S-2-3	OU1-83-EB072809	OU1-83-EB072909	OU1-83-EB073009
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.2	<23	<2.2	-	-	-
Heptachlor epoxide	2.0	ug/kg dry	<2.2	<23	<2.2	-	-	-
4,4´-DDE	4.0	ug/kg dry	<4.3	<46	<4.5	-	-	-
Dieldrin	4.0	ug/kg dry	140	<46	<4.5	-	-	-
4,4´-DDD	4.0	ug/kg dry	<4.3	<46	<4.5	-	-	-
4,4´-DDT	4.0	ug/kg dry	<4.3	<46	<4.5	-	-	-
Chlordane (tech)	40	ug/kg dry	1600	110	<45	-	-	-
Decachlorobiphenyl	140	[surr]	104%	101%	90.2%	-	-	-
Tetrachloro-meta-xylene	140	[surr]	117%	89.9%	110%	-	-	-
Organochlorine Pesticides by EPA Method 8081A (Water)								
Heptachlor	0.010	ug/L	-	-	-	<0.020	<0.020	<0.020
Heptachlor epoxide	0.010	ug/L	-	-	-	<0.020	<0.020	<0.020
4,4´-DDE	0.020	ug/L	-	-	-	<0.040	<0.040	<0.040
Dieldrin	0.020	ug/L	-	-	-	<0.040	<0.040	<0.040
4,4´-DDD	0.020	ug/L	-	-	-	<0.040	<0.040	<0.040
4,4´-DDT	0.020	ug/L	-	-	-	<0.040	<0.040	<0.040
Chlordane (tech)	0.20	ug/L	-	-	-	<0.40	<0.40	<0.40
Decachlorobiphenyl	140	[surr]	-	-	-	20.0% [6]	26.7% [6]	28.9% [6]
Tetrachloro-meta-xylene	140	[surr]	-	-	-	50.2% [6]	68.0%	48.2% [6]
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	49	-	<11 [7]	-	-	-
Benzo (a) pyrene	10	ug/kg dry	80	-	<11 [7]	-	-	-
Benzo (b) fluoranthene	10	ug/kg dry	120	-	<11 [7]	-	-	-

ECCS

Karl Olm For Chris Altstaetter
Sales Manager

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608.221.4889 Fax

SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
RECEIVED:	07/28/2009 to 07/30/2009		

LAB #			N093102-17	N093102-18	N093102-19	N093103-01	N093103-02	N093103-03
MATRIX	Minimum		Soil	Soil	Soil	Water	Water	Water
SAMPLE ID	Reporting Limit		OU1-83-11K-S-0-1	OU1-83-11K-S-1-2	OU1-83-11K-S-2-3	OU1-83-EB072809	OU1-83-EB072909	OU1-83-EB073009
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (continued)								
Dibenz (a,h) anthracene	10	ug/kg dry	39	-	<11 [7]	-	-	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	100	-	<11 [7]	-	-	-
p-Terphenyl-d14	130	[surr]	107%	-	87.0%	-	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Water)								
Benzo (a) anthracene	0.010	ug/L	-	-	-	<0.010 [7]	<0.010 [7]	<0.010 [7]
Benzo (a) pyrene	0.010	ug/L	-	-	-	<0.010 [7]	<0.010 [7]	<0.010 [7]
Benzo (b) fluoranthene	0.010	ug/L	-	-	-	<0.040 [7]	<0.040 [7]	<0.040 [7]
Dibenz (a,h) anthracene	0.010	ug/L	-	-	-	<0.010 [7]	<0.010 [7]	<0.010 [7]
Indeno (1,2,3-cd) pyrene	0.010	ug/L	-	-	-	<0.010 [7]	<0.010 [7]	<0.010 [7]
p-Terphenyl-d14	130	[surr]	-	-	-	99.6%	61.2% [6]	65.6% [6]
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	93.0	86.6	88.9	-	-	-

ECCS

Karl Olm For Chris Altstaetter
Sales Manager

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
RECEIVED:	07/28/2009 to 07/30/2009		

LAB #		N093103-04	N093103-05	N093104-01	N093104-05	N093105-01	N093105-03
MATRIX	Minimum	Water	Water	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-FB073009	OU1-83-EB072909	OU1-83-6Q-S-0-1	OU1-83-6R-S-0-1	OU1-83-6P-S-0-1	OU1-83-6P-S-2-3
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	-	-	<2.5	<2.9	<2.3	<2.2
Heptachlor epoxide	2.0 ug/kg dry	-	-	<2.5	<2.9	<2.3	<2.2
4,4´-DDE	4.0 ug/kg dry	-	-	<4.9	<5.8	<4.6	12
Dieldrin	4.0 ug/kg dry	-	-	<4.9	<5.8	<4.6	<4.4
4,4´-DDD	4.0 ug/kg dry	-	-	8.8	<5.8	<4.6	<4.4
4,4´-DDT	4.0 ug/kg dry	-	-	<4.9	<5.8	<4.6	<4.4
Chlordane (tech)	40 ug/kg dry	-	-	59	<58	<46	510
Decachlorobiphenyl	140 [surr]	-	-	104%	78.6%	96.3%	108%
Tetrachloro-meta-xylene	140 [surr]	-	-	125%	104%	115%	127%
Organochlorine Pesticides by EPA Method 8081A (Water)							
Heptachlor	0.010 ug/L	<0.020	<0.040	-	-	-	-
Heptachlor epoxide	0.010 ug/L	<0.020	<0.040	-	-	-	-
4,4´-DDE	0.020 ug/L	<0.040	<0.080	-	-	-	-
Dieldrin	0.020 ug/L	<0.040	<0.080	-	-	-	-
4,4´-DDD	0.020 ug/L	<0.040	<0.080	-	-	-	-
4,4´-DDT	0.020 ug/L	<0.040	<0.080	-	-	-	-
Chlordane (tech)	0.20 ug/L	<0.40	<0.80	-	-	-	-
Decachlorobiphenyl	140 [surr]	29.5% [6]	40.2% [6]	-	-	-	-
Tetrachloro-meta-xylene	140 [surr]	61.8%	64.4%	-	-	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)							
Benzo (a) anthracene	10 ug/kg dry	-	-	<12 [7]	<15 [7]	<12 [7]	22
Benzo (a) pyrene	10 ug/kg dry	-	-	<12 [7]	<15 [7]	<12 [7]	28
Benzo (b) fluoranthene	10 ug/kg dry	-	-	18	<15 [7]	15	41

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
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LAB #			N093103-04	N093103-05	N093104-01	N093104-05	N093105-01	N093105-03
MATRIX	Minimum		Water	Water	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-FB073009	OU1-83-EB072909	OU1-83-6Q-S-0-1	OU1-83-6R-S-0-1	OU1-83-6P-S-0-1	OU1-83-6P-S-2-3
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (continued)								
Dibenz (a,h) anthracene	10	ug/kg dry	-	-	<12 [7]	<15 [7]	<12 [7]	<11 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	-	-	15	<15 [7]	<12 [7]	22
p-Terphenyl-d14	130	[surr]	-	-	112%	90.0%	95.9%	97.4%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Water)								
Benzo (a) anthracene	0.010	ug/L	<0.010 [7]	<0.010 [7]	-	-	-	-
Benzo (a) pyrene	0.010	ug/L	<0.010 [7]	<0.010 [7]	-	-	-	-
Benzo (b) fluoranthene	0.010	ug/L	<0.040 [7]	<0.040 [7]	-	-	-	-
Dibenz (a,h) anthracene	0.010	ug/L	<0.010 [7]	<0.010 [7]	-	-	-	-
Indeno (1,2,3-cd) pyrene	0.010	ug/L	<0.010 [7]	<0.010 [7]	-	-	-	-
p-Terphenyl-d14	130	[surr]	58.4% [6]	76.1%	-	-	-	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	-	-	81.5	68.6	86.4	91.8

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/28/2009 to 07/31/2009
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REPORTED: 09/17/2009 22:00

LAB #			N093105-04	N093105-06	N093105-08	N093105-09	N093105-11	N093105-12
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-6P-S-3-4	OU1-83-6O-S-0-1	OU1-83-6O-S-2-3	OU1-83-6O-S-3-4	OU1-83-6O-S-0-1-P	OU1-83-6N-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.4	<2.3	<3.0	<2.5	<2.3	<2.3
Heptachlor epoxide	2.0	ug/kg dry	<2.4	<2.3	<3.0	<2.5	<2.3	<2.3
4,4´-DDE	4.0	ug/kg dry	<4.7	<4.7	41	<5.0	4.7	<4.5
Dieldrin	4.0	ug/kg dry	<4.7	<4.7	<6.0	<5.0	<4.6	<4.5
4,4´-DDD	4.0	ug/kg dry	<4.7	<4.7	47	<5.0 [4]	<4.6	<4.5
4,4´-DDT	4.0	ug/kg dry	<4.7	<4.7	8.0 [4]	<5.0	<4.6	<4.5
Chlordane (tech)	40	ug/kg dry	<47	57	2500	130	490	<45
Decachlorobiphenyl	140	[surr]	93.4%	117%	109%	96.1%	96.6%	99.8%
Tetrachloro-meta-xylene	140	[surr]	112%	129%	126%	118%	115%	119%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<12 [7]	<12 [7]	130	<12 [7]	<12 [7]	<11 [7]
Benzo (a) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	150	<12 [7]	<12 [7]	<11 [7]
Benzo (b) fluoranthene	10	ug/kg dry	<12 [7]	<12 [7]	130	<12 [7]	20	<11 [7]
Dibenz (a,h) anthracene	10	ug/kg dry	<12 [7]	<12 [7]	49	<12 [7]	<12 [7]	<11 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	110	<12 [7]	12	<11 [7]
p-Terphenyl-d14	130	[surr]	91.8%	92.3%	99.7%	104%	109%	102%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	84.4	85.9	66.5	80.6	86.6	88.2

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SUMMARY REPORT

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
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LAB #			N093105-14	N093105-15	N093105-16	N093105-17	N093105-19	N093105-20
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-6N-S-2-3	OU1-83-6N-S-3-4	OU1-83-6N-S-4-5	OU1-83-7N-S-0-1	OU1-83-7N-S-2-3	OU1-83-7N-S-3-4
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.3	<2.4	-	<2.2	<2.3	<2.5
Heptachlor epoxide	2.0	ug/kg dry	<2.3	<2.4	-	<2.2	<2.3	<2.5
4,4´-DDE	4.0	ug/kg dry	<4.6	6.4	-	<4.5	<4.6 [3]	<5.0
Dieldrin	4.0	ug/kg dry	<4.6	<4.7	-	<4.5	<4.6	<5.0
4,4´-DDD	4.0	ug/kg dry	<4.6	28	-	<4.5	<4.6 [3]	13
4,4´-DDT	4.0	ug/kg dry	<4.6	<4.7	-	<4.5	<4.6 [3]	<5.0
Chlordane (tech)	40	ug/kg dry	<46	58 [3]	-	<45	67 [3]	<50
Decachlorobiphenyl	140	[surr]	96.9%	72.6%	-	74.9%	83.6%	103%
Tetrachloro-meta-xylene	140	[surr]	116%	90.9%	-	93.6%	90.5%	101%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<11 [7]	1500	<25 [7]	13	<12 [7]	<13 [7]
Benzo (a) pyrene	10	ug/kg dry	<11 [7]	1500	<25 [7]	<11 [7]	<12 [7]	<13 [7]
Benzo (b) fluoranthene	10	ug/kg dry	<11 [7]	840	<25 [7]	<11 [7]	<12 [7]	<13 [7]
Dibenz (a,h) anthracene	10	ug/kg dry	<11 [7]	340	<25 [7]	<11 [7]	<12 [7]	<13 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<11 [7]	710	<25 [7]	<11 [7]	<12 [7]	<13 [7]
p-Terphenyl-d14	130	[surr]	103%	99.8%	103%	109%	107%	105%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	87.3	84.5	81.4	89.2	86.6	79.9

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SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
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LAB #			N093106-01	N093106-03	N093106-04	N093106-06	N093106-07	N093106-08
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-7O-S-0-1	OU1-83-7O-S-2-3	OU1-83-7O-S-3-4	OU1-83-7O-S-2-3-P	OU1-83-7P-S-0-1	OU1-83-7P-S-1-3
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.3	<2.4 [3]	<2.5	<2.3 [3]	<2.5	<25
Heptachlor epoxide	2.0	ug/kg dry	<2.3	<2.4	<2.5	<2.3	<2.5	<25
4,4´-DDE	4.0	ug/kg dry	<4.6	12 [3]	<5.1	<4.7 [3]	<5.1 [3] [8]	<51
Dieldrin	4.0	ug/kg dry	<4.6	<4.8	<5.1	<4.7	<5.1 [3]	<51
4,4´-DDD	4.0	ug/kg dry	<4.6	25 [3]	15	<4.7 [3]	10 [3]	110 [1]
4,4´-DDT	4.0	ug/kg dry	<4.6 [4]	<4.8	<5.1	<4.7	6.9 [3]	<51
Chlordane (tech)	40	ug/kg dry	160 [3]	710 [3]	<51	200 [3]	290 [3]	980
Decachlorobiphenyl	140	[surr]	102%	115%	106%	84.5%	85.0%	127%
Tetrachloro-meta-xylene	140	[surr]	107%	109%	110%	90.7%	89.9%	112%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<11 [7]	<12 [7]	<13 [7]	<12 [7]	<13 [7]	<13 [7]
Benzo (a) pyrene	10	ug/kg dry	<11 [7]	<12 [7]	<13 [7]	<12 [7]	<13 [7]	<13 [7]
Benzo (b) fluoranthene	10	ug/kg dry	<11 [7]	<12 [7]	<13 [7]	<12 [7]	<13 [7]	<13 [7]
Dibenz (a,h) anthracene	10	ug/kg dry	<11 [7]	<12 [7]	<13 [7]	<12 [7]	<13 [7]	<13 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<11 [7]	<12 [7]	<13 [7]	<12 [7]	<13 [7]	<13 [7]
p-Terphenyl-d14	130	[surr]	112%	111%	105%	108%	99.5%	102%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	87.2	82.6	79.1	85.2	78.9	78.8

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SUMMARY REPORT

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
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LAB #			N093106-10	N093106-12	N093106-13	N093106-15	N093106-16	N093106-18
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-7Q-S-0-1	OU1-83-7Q-S-2-3	OU1-83-7Q-S-3-4	OU1-83-7R-S-0-1	OU1-83-7R-S-1-3	OU1-83-8R-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.3	<2.4	<2.7	<2.4	<23	<2.7
Heptachlor epoxide	2.0	ug/kg dry	<2.3	<2.4	<2.7	<2.4	<23	<2.7
4,4´-DDE	4.0	ug/kg dry	<4.6 [3]	<4.7	59	<4.8	<47	370
Dieldrin	4.0	ug/kg dry	<4.6	<4.7	<5.3	<4.8	<47	<5.4
4,4´-DDD	4.0	ug/kg dry	<4.6 [3]	<4.7	45 [4]	<4.8 [4]	<47	690 [2]
4,4´-DDT	4.0	ug/kg dry	<4.6	<4.7	8.2	<4.8 [4]	<47	120
Chlordane (tech)	40	ug/kg dry	<46	<47	660 [3]	<48	<47	490 [3]
Decachlorobiphenyl	140	[surr]	122%	80.7%	88.5%	102%	97.8%	87.7%
Tetrachloro-meta-xylene	140	[surr]	125%	90.5%	89.9%	93.7%	89.7%	90.3%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	13	<12 [7]	<13 [7]	<12 [7]	<12 [7]	120
Benzo (a) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	<13 [7]	<12 [7]	<12 [7]	150
Benzo (b) fluoranthene	10	ug/kg dry	<12 [7]	<12 [7]	<13 [7]	<12 [7]	<12 [7]	180
Dibenz (a,h) anthracene	10	ug/kg dry	<12 [7]	<12 [7]	<13 [7]	<12 [7]	<12 [7]	<13 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	<13 [7]	<12 [7]	<12 [7]	100
p-Terphenyl-d14	130	[surr]	102%	99.6%	109%	119%	101%	113%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	86.8	84.9	74.9	83.0	85.2	74.2

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/28/2009 to 07/31/2009
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REPORTED: 09/17/2009 22:00

LAB #			N093106-20	N093106-21	N093107-01	N093107-03	N093107-04	N093107-06
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-8R-S-2-3	OU1-83-8R-S-3-4	OU1-83-8Q-S-0-1	OU1-83-8Q-S-2-3	OU1-83-8Q-S-3-4	OU1-83-8Q-S-2-3-P
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.5	<2.4	<2.8	<2.5	<2.5	<2.5
Heptachlor epoxide	2.0	ug/kg dry	<2.5	<2.4	<2.8	<2.5	<2.5	<2.5
4,4´-DDE	4.0	ug/kg dry	<5.0	<4.9	<5.6	<5.0	5.2	<5.1
Dieldrin	4.0	ug/kg dry	<5.0	<4.9	<5.6	<5.0	<4.9	<5.1
4,4´-DDD	4.0	ug/kg dry	8.9	<4.9	8.6	7.0	44	8.0
4,4´-DDT	4.0	ug/kg dry	<5.0	<4.9	<5.6	<5.0	<4.9	<5.1
Chlordane (tech)	40	ug/kg dry	<50	<49	<56	<50	<49	<51
Decachlorobiphenyl	140	[surr]	87.3%	89.1%	90.2%	86.3%	89.7%	86.2%
Tetrachloro-meta-xylene	140	[surr]	91.2%	93.2%	92.2%	89.1%	88.9%	90.6%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<12 [7]	<12 [7]	<14 [7]	<12 [7]	<12 [7]	<13 [7]
Benzo (a) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	<14 [7]	18	<12 [7]	<13 [7]
Benzo (b) fluoranthene	10	ug/kg dry	<12 [7]	<12 [7]	<14 [7]	19	<12 [7]	<13 [7]
Dibenz (a,h) anthracene	10	ug/kg dry	<12 [7]	<12 [7]	<14 [7]	<12 [7]	<12 [7]	<13 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	<14 [7]	18	<12 [7]	<13 [7]
p-Terphenyl-d14	130	[surr]	114%	118%	105%	107%	112%	113%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	80.2	82.2	71.9	80.5	81.0	78.7

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/28/2009 to 07/31/2009
RECEIVED: 07/28/2009 to 07/30/2009
REPORTED: 09/17/2009 22:00

LAB #			N093107-07	N093107-09	N093107-10	N093107-12	N093107-14	N093107-15
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-8P-S-0-1	OU1-83-8P-S-2-3	OU1-83-8P-S-3-4	OU1-83-8O-S-0-1	OU1-83-8O-S-2-3	OU1-83-8O-S-3-4
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.6	<2.4	<2.4	<2.3	<2.3	<2.6
Heptachlor epoxide	2.0	ug/kg dry	<2.6	<2.4	<2.4	<2.3	<2.3	<2.6
4,4´-DDE	4.0	ug/kg dry	11	<4.7	<4.7	<4.6	8.3	<5.2
Dieldrin	4.0	ug/kg dry	<5.3	<4.7	<4.7	<4.6	<4.7	<5.2 [4]
4,4´-DDD	4.0	ug/kg dry	75	<4.7	<4.7	<4.6 [4]	40	<5.2
4,4´-DDT	4.0	ug/kg dry	5.5	<4.7	<4.7	<4.6	4.8	<5.2
Chlordane (tech)	40	ug/kg dry	130 [3]	<47	<47	<46 [3]	94 [3]	<52 [3]
Decachlorobiphenyl	140	[surr]	89.2%	89.7%	95.2%	111%	110%	108%
Tetrachloro-meta-xylene	140	[surr]	88.8%	90.0%	95.1%	111%	109%	110%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<13 [7]	<12 [7]	<12 [7]	21	<12 [7]	<13 [7]
Benzo (a) pyrene	10	ug/kg dry	22	<12 [7]	<12 [7]	19	<12 [7]	<13 [7]
Benzo (b) fluoranthene	10	ug/kg dry	23	<12 [7]	<12 [7]	22	<12 [7]	<13 [7]
Dibenz (a,h) anthracene	10	ug/kg dry	<13 [7]	<12 [7]	<12 [7]	<11 [7]	<12 [7]	<13 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	20	<12 [7]	<12 [7]	14	<12 [7]	<13 [7]
p-Terphenyl-d14	130	[surr]	109%	112%	107%	111%	104%	97.3%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	75.6	84.9	84.4	87.8	85.8	76.8

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Karl Olm For Chris Altstaetter
Sales Manager

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
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LAB #			N093107-17	N093107-19	N093107-20	N093108-01	N093108-03	N093108-04
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-9O-S-0-1	OU1-83-9O-S-2-3	OU1-83-9O-S-3-4	OU1-83-9Q-S-0-1	OU1-83-9Q-S-2-3	OU1-83-9Q-S-3-4
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<2.4	<2.3	<2.4	<2.4	<2.4	<23
Heptachlor epoxide	2.0	ug/kg dry	44	5.8 [4]	<2.4	<2.4	<2.4	<23
4,4´-DDE	4.0	ug/kg dry	18	5.0	<4.7	4200 [1]	<4.7	<46
Dieldrin	4.0	ug/kg dry	190	41	9.8	<4.9	<4.7	<46
4,4´-DDD	4.0	ug/kg dry	17	<4.5 [4]	<4.7	<97 [5]	<4.7	<46
4,4´-DDT	4.0	ug/kg dry	<4.9	<4.5	<4.7	6200 [1]	<4.7	<46
Chlordane (tech)	40	ug/kg dry	4000 [1] [3]	560 [3]	<47 [3]	990 [3]	<47	<46
Decachlorobiphenyl	140	[surr]	91.8%	121%	100%	94.0%	95.0%	126%
Tetrachloro-meta-xylene	140	[surr]	93.9%	117%	97.8%	88.5%	91.5%	99.3%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	130	<11 [7]	<12 [7]	120	<12 [7]	<12 [7]
Benzo (a) pyrene	10	ug/kg dry	160	<11 [7]	<12 [7]	170	<12 [7]	<12 [7]
Benzo (b) fluoranthene	10	ug/kg dry	190	<11 [7]	<12 [7]	200	<12 [7]	<12 [7]
Dibenz (a,h) anthracene	10	ug/kg dry	51	<11 [7]	<12 [7]	<12 [7]	<12 [7]	<12 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	130	<11 [7]	<12 [7]	140	<12 [7]	<12 [7]
p-Terphenyl-d14	130	[surr]	103%	118%	110%	113%	111%	105%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	82.4	88.7	84.3	82.3	85.1	86.4

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
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LAB #			N093108-06	N093108-08	N093108-09	N093108-11	N093108-13	N093108-14
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-9P-S-0-1	OU1-83-9P-S-2-3	OU1-83-9P-S-3-4	OU1-83-9R-S-0-1	OU1-83-9R-S-2-3	OU1-83-9R-S-3-4
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	<24	<24	<25	<24	<25
Heptachlor epoxide	2.0	ug/kg dry	<23	<24	<24	<25	<24	<25
4,4´-DDE	4.0	ug/kg dry	90 [1] [3]	<49 [3]	<47	1500 [1] [3]	<47 [3]	<50
Dieldrin	4.0	ug/kg dry	<46	<49	<47	<49	<47	<50
4,4´-DDD	4.0	ug/kg dry	<46 [3]	<49 [3]	<47	9300 [1]	330 [1] [3]	150 [1] [3]
4,4´-DDT	4.0	ug/kg dry	87 [1] [3]	<49 [3]	<47	6800 [1]	<47 [3]	<50
Chlordane (tech)	40	ug/kg dry	57	<49	<47	3500 [1]	51	<50
Decachlorobiphenyl	140	[surr]	127%	117%	136%	125%	122%	117%
Tetrachloro-meta-xylene	140	[surr]	114%	107%	118%	118%	98.2%	93.2%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<12 [7]	<12 [7]	<12 [7]	45	<12 [7]	<12 [7]
Benzo (a) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	<12 [7]	75	<12 [7]	<12 [7]
Benzo (b) fluoranthene	10	ug/kg dry	<12 [7]	<12 [7]	<12 [7]	86	<12 [7]	<12 [7]
Dibenz (a,h) anthracene	10	ug/kg dry	<12 [7]	<12 [7]	<12 [7]	<12 [7]	<12 [7]	<12 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<12 [7]	<12 [7]	<12 [7]	95	<12 [7]	<12 [7]
p-Terphenyl-d14	130	[surr]	103%	108%	109%	97.0%	95.1%	95.3%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	86.6	82.3	84.3	80.9	84.7	80.5

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
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LAB #			N093109-01	N093109-02	N093109-03	N093109-06	N093109-08	N093109-10
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-8K-S-0-1	OU1-83-8K-S-1-2	OU1-83-8K-S-2-3	OU1-83-8K-S-0-1-P	OU1-83-9K-S-0-1	OU1-83-9K-S-2-3
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<24 [3]	<22	<22	<23	<23	<22
Heptachlor epoxide	2.0	ug/kg dry	53 [1] [3]	<22	<22	53 [1]	<23 [4]	<22
4,4´-DDE	4.0	ug/kg dry	<47	<44	<45	<45	<46	<44
Dieldrin	4.0	ug/kg dry	240 [1] [3]	<44	<45	240 [1]	<46	<44
4,4´-DDD	4.0	ug/kg dry	300 [1] [3]	<44	<45	<45	<46	<44
4,4´-DDT	4.0	ug/kg dry	<47	<44	<45	<45	<46	<44
Chlordane (tech)	40	ug/kg dry	1900	<44	<45	3000 [1]	520	<44
Decachlorobiphenyl	140	[surr]	123%	107%	129%	127%	126%	138%
Tetrachloro-meta-xylene	140	[surr]	115%	119%	107%	117%	112%	125%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	13	-	<11 [7]	<11 [7]	17	29
Benzo (a) pyrene	10	ug/kg dry	21	-	<11 [7]	13	31	32
Benzo (b) fluoranthene	10	ug/kg dry	32	-	<11 [7]	<11 [7]	25	74
Dibenz (a,h) anthracene	10	ug/kg dry	<12 [7]	-	<11 [7]	<11 [7]	<12 [7]	<11 [7]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	18	-	<11 [7]	<11 [7]	21	<11 [7]
p-Terphenyl-d14	130	[surr]	110%	-	111%	110%	114%	109%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	84.5	91.4	89.2	88.2	86.5	90.9

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
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LAB #			N093109-13	N093109-14	N093109-15	N093109-16	N093109-19	-
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	-
SAMPLE ID	Reporting Limit		OU1-83-9K-S-2-3-P	OU1-83-8H-S-0-1	OU1-83-8H-S-1-2	OU1-83-8H-S-2-3	OU1-83-8H-S-0-1-P	-
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<22	<25	<23	<22	<25	-
Heptachlor epoxide	2.0	ug/kg dry	<22	<25	<23	<22	27 [1]	-
4,4´-DDE	4.0	ug/kg dry	<44	110 [1]	<46	<43	110 [1]	-
Dieldrin	4.0	ug/kg dry	<44	<50	<46	<43	<51	-
4,4´-DDD	4.0	ug/kg dry	<44 [4]	<50 [4]	<46	<43	<51 [4]	-
4,4´-DDT	4.0	ug/kg dry	<44	120 [1]	<46	<43	140 [1]	-
Chlordane (tech)	40	ug/kg dry	<44	730	<46	<43	850	-
Decachlorobiphenyl	140	[surr]	140%	124%	98.0%	126%	129%	-
Tetrachloro-meta-xylene	140	[surr]	122%	114%	88.8%	112%	108%	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<11 [7]	59	-	<11 [7]	110	-
Benzo (a) pyrene	10	ug/kg dry	<11 [7]	71	-	<11 [7]	160	-
Benzo (b) fluoranthene	10	ug/kg dry	<11 [7] [8]	270	-	<11 [7]	230	-
Dibenz (a,h) anthracene	10	ug/kg dry	<11 [7]	<25 [7]	-	<11 [7]	39	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<11 [7]	54	-	<11 [7]	110	-
p-Terphenyl-d14	130	[surr]	107%	103%	-	102%	108%	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	90.8	80.4	86.8	92.7	78.8	-

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Karl Olm For Chris Altstaetter
Sales Manager

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/28/2009 to 07/31/2009	**REPORTED:**	09/17/2009 22:00
RECEIVED:	07/28/2009 to 07/30/2009		

Special Notes

1 = Data reported from a dilution
2 = The concentration indicated is above the instrument calibration range. This value is an estimated concentration (CLP E-flag).
3 = Results may be biased high because of high continuing calibration verification (CCV).
4 = The difference in the concentrations between the primary and confirmation column was > 40%.
5 = See the sample narrative.
6 = Surrogate recovery was outside of laboratory control limits due to an apparent matrix effect.
7 = Analyte included in the analysis, but not detected
8 = Precision for the MS/MSD or lab duplicate was outside of control limits.

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/30/2009 to 08/06/2009
RECEIVED: 07/30/2009 to 08/06/2009
REPORTED: 09/17/2009 22:07

LAB #			N093110-01	N093110-02	N093110-03	N093110-06	N093110-07	N093110-08
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-9G-S-0-1	OU1-83-9G-S-1-2	OU1-83-9G-S-2-3	OU1-83-9G-S-2-3-P	OU1-83-9I-S-0-1	OU1-83-9I-S-1-2
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	<22	<23	<23	<23	-
Heptachlor epoxide	2.0	ug/kg dry	<23	<22	<23	<23	47 [1]	-
4,4´-DDE	4.0	ug/kg dry	<46	<44	<46	<46	<46	-
Dieldrin	4.0	ug/kg dry	180 [1]	<44	<46	<46	<46	-
4,4´-DDD	4.0	ug/kg dry	48 [1] [7]	76 [1]	<46	<46	97 [1]	-
4,4´-DDT	4.0	ug/kg dry	89 [1]	260 [1]	<46	<46	<46	-
Chlordane (tech)	40	ug/kg dry	3000 [1]	67	<93	<46	3500 [1]	-
Decachlorobiphenyl	140	[surr]	124%	101%	126%	96.3%	94.6%	-
Tetrachloro-meta-xylene	140	[surr]	112%	107%	123%	94.1%	85.4%	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	620	100 [5]	<23 [9]	<12 [9]	750	<11 [9]
Benzo (a) pyrene	10	ug/kg dry	880	95 [5]	<23 [9]	<12 [9]	610	<11 [9]
Benzo (b) fluoranthene	10	ug/kg dry	1300	160	<23 [9]	<12 [9]	680	<45 [9]
Dibenz (a,h) anthracene	10	ug/kg dry	220	37	<23 [9]	<12 [9]	150	<11 [9]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	810	86	<23 [9]	<12 [9]	480	<11 [9]
p-Terphenyl-d14	130	[surr]	102%	101%	106%	99.9%	96.5%	109%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	87.9	91.3	86.4	86.8	87.1	88.6

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/30/2009 to 08/06/2009	**REPORTED:**	09/17/2009 22:07
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LAB #			N093110-09	N093110-12	N093110-13	N093110-16	N093110-17	N093111-01
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-9I-S-2-3	OU1-83-9I-S-2-3-P	OU1-83-6R-S-1-3	OU1-83-6Q-S-2-3	OU1-83-6Q-S-3-4	OU1-83-14D-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	<23	<25	<23	<24	<22
Heptachlor epoxide	2.0	ug/kg dry	<23 [5] [10]	<23	<25	<23	<24	<22
4,4´-DDE	4.0	ug/kg dry	<47	<46	<49	<46 [3]	<48 [3]	<43
Dieldrin	4.0	ug/kg dry	<47	<46	<49	<46	<48	<43
4,4´-DDD	4.0	ug/kg dry	<47	<46	<49	<46 [3] [7]	<48 [3] [7]	<43
4,4´-DDT	4.0	ug/kg dry	<47	<46	<49	<46	<48 [3]	<43
Chlordane (tech)	40	ug/kg dry	260	220	<98	750	750	<43
Decachlorobiphenyl	140	[surr]	92.4%	135%	104%	113%	88.6%	126%
Tetrachloro-meta-xylene	140	[surr]	81.7%	113%	96.0%	106%	80.0%	116%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<12 [9]	<11 [9]	<25 [9]	560	41	-
Benzo (a) pyrene	10	ug/kg dry	<12 [9]	<11 [9]	<25 [9]	310	46	-
Benzo (b) fluoranthene	10	ug/kg dry	<12 [5] [9]	<11 [9]	<25 [9]	250	50	-
Dibenz (a,h) anthracene	10	ug/kg dry	<12 [9]	<11 [9]	<25 [9]	67	<12 [9]	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<12 [9]	<11 [9]	<25 [9]	170	33	-
p-Terphenyl-d14	130	[surr]	98.7%	101%	96.6%	104%	96.6%	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	85.8	87.9	81.6	87.0	84.2	92.2

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/30/2009 to 08/06/2009	**REPORTED:**	09/17/2009 22:07
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LAB #			N093111-06	N093111-07	N093112-01	N093112-06	N093112-10	N093112-16
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-14D-S-0-1-P	OU1-83-15E-S-0-1	OU1-83-12K-S-0-1	OU1-83-12K-S-0-1-P	OU1-83-6M-S-3-4	OU1-83-5M-S-3-4
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<21	<21 [3]	<21	<21	-	-
Heptachlor epoxide	2.0	ug/kg dry	<21	<21	<21	<21	-	-
4,4´-DDE	4.0	ug/kg dry	<43	<42	<42	<42	-	-
Dieldrin	4.0	ug/kg dry	<43	100 [1] [3]	<42	<42	-	-
4,4´-DDD	4.0	ug/kg dry	<43	<42	<42	<42 [3]	-	-
4,4´-DDT	4.0	ug/kg dry	<43	<42	<42	<42	-	-
Chlordane (tech)	40	ug/kg dry	<43	600	<42	66	-	-
Decachlorobiphenyl	140	[surr]	129%	121%	113%	94.4%	-	-
Tetrachloro-meta-xylene	140	[surr]	113%	108%	101%	90.0%	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	-	-	-	-	<85 [9]	<25 [9]
Benzo (a) pyrene	10	ug/kg dry	-	-	-	-	<85 [9]	<25 [9]
Benzo (b) fluoranthene	10	ug/kg dry	-	-	-	-	<85 [9]	<25 [9]
Dibenz (a,h) anthracene	10	ug/kg dry	-	-	-	-	<85 [9]	<25 [9]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	-	-	-	-	<85 [5] [9] [10]	<25 [9]
p-Terphenyl-d14	130	[surr]	-	-	-	-	101%	104%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	93.9	94.9	95.4	95.7	23.5	81.0

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
4951 Williams Flynn Highway, Suite 12
Gibsonia, PA 15044

Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/30/2009 to 08/06/2009
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REPORTED: 09/17/2009 22:07

LAB #		N093112-21	N093113-01	N093113-06	N093113-11	N093113-12	N093113-16
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-5N-S-3-4	OU1-83-11L-S-0-1	OU1-83-12I-S-0-1	OU1-83-10I-S-0-1	OU1-83-10I-S-1-2	OU1-83-10K-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	-	<22	<23	50 [1]	890 [1]	<22
Heptachlor epoxide	2.0 ug/kg dry	-	<22	<23	<22	<22	<22
4,4´-DDE	4.0 ug/kg dry	-	<44 [3]	<46	<44	90 [1] [7]	<45 [3]
Dieldrin	4.0 ug/kg dry	-	<44 [3]	<46	<44	<44	<45
4,4´-DDD	4.0 ug/kg dry	-	<44 [3] [7]	140 [1]	<44	<44	<45
4,4´-DDT	4.0 ug/kg dry	-	<44 [3]	<46	<44	63 [1]	<45 [3]
Chlordane (tech)	40 ug/kg dry	-	150	1500	26000 [1]	35000 [1]	85
Decachlorobiphenyl	140 [surr]	-	112%	90.8%	94.3%	117%	116%
Tetrachloro-meta-xylene	140 [surr]	-	106%	83.4%	84.3%	116%	108%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)							
Benzo (a) anthracene	10 ug/kg dry	<13 [9]	-	82	180	150	<45 [9]
Benzo (a) pyrene	10 ug/kg dry	<13 [9]	-	100	280	200	<45 [9]
Benzo (b) fluoranthene	10 ug/kg dry	<13 [9]	-	89	390	210	110 [9]
Dibenz (a,h) anthracene	10 ug/kg dry	<13 [9]	-	<11 [9]	130	90	<45 [9]
Indeno (1,2,3-cd) pyrene	10 ug/kg dry	<13 [9]	-	96	270	340	<45 [9]
p-Terphenyl-d14	130 [surr]	105%	-	97.1%	98.2%	108%	106%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	77.5	90.5	87.6	91.5	90.6	89.4

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/30/2009 to 08/06/2009	**REPORTED:**	09/17/2009 22:07
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LAB #			N093113-21	N093201-03	N093202-01	N093202-06	N093202-11	N093202-16
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-10K-S-0-1-P	OU1-83-5Q-S-2-3	OU1-83-9N-S-0-1	OU1-83-10N-S-0-1	OU1-83-10O-S-0-1	OU1-83-9F-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	-	<23	<23 [10]	<25 [7]	83 [1]
Heptachlor epoxide	2.0	ug/kg dry	<23	-	<23	<23 [10]	<25	<22
4,4´-DDE	4.0	ug/kg dry	<46 [3]	-	<46	<46 [10]	<49	<44
Dieldrin	4.0	ug/kg dry	<46	-	<46	<46 [10]	<49	78 [1]
4,4´-DDD	4.0	ug/kg dry	<46	-	<46	<46 [7] [10]	<49	<44
4,4´-DDT	4.0	ug/kg dry	<46 [3]	-	<46	47 [1] [5] [10]	<49	<44
Chlordane (tech)	40	ug/kg dry	110	-	49	66	<49	9500 [1]
Decachlorobiphenyl	140	[surr]	110%	-	96.6%	102%	95.2%	114%
Tetrachloro-meta-xylene	140	[surr]	100%	-	84.2%	91.5%	84.4%	103%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	-	<12 [9]	-	-	-	9800 [1]
Benzo (a) pyrene	10	ug/kg dry	-	<12 [9]	-	-	-	24000 [1]
Benzo (b) fluoranthene	10	ug/kg dry	-	<46 [9]	-	-	-	29000 [1]
Dibenz (a,h) anthracene	10	ug/kg dry	-	<12 [9]	-	-	-	6600 [1]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	-	<12 [9]	-	-	-	23000 [1]
p-Terphenyl-d14	130	[surr]	-	111%	-	-	-	110%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	87.1	86.1	86.3	87.7	81.2	90.3

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.
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Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/30/2009 to 08/06/2009
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LAB #		N093202-17	N093203-01	N093203-02	N093203-06	N093203-11	N093203-16
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-9F-S-1-2	OU1-83-9J-S-0-1	OU1-83-9J-S-1-2	OU1-83-8J-S-0-1	OU1-83-8I-S-0-1	OU1-83-8G-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	<22	-	-	<23	<23	950 [1]
Heptachlor epoxide	2.0 ug/kg dry	<22	-	-	<23	<23	5300 [1] [2]
4,4´-DDE	4.0 ug/kg dry	<43 [7]	-	-	<46	<47	1400 [1]
Dieldrin	4.0 ug/kg dry	<43	-	-	<46	<47	<47
4,4´-DDD	4.0 ug/kg dry	<43 [7]	-	-	<46	<47	330 [1]
4,4´-DDT	4.0 ug/kg dry	<43	-	-	<46	<47	<47
Chlordane (tech)	40 ug/kg dry	90	-	-	<46	<47	220000 [1]
Decachlorobiphenyl	140 [surr]	116%	-	-	119%	104%	132%
Tetrachloro-meta-xylene	140 [surr]	110%	-	-	107%	90.6%	111%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)							
Benzo (a) anthracene	10 ug/kg dry	<43 [9]	490 [5]	13	<11 [9]	<12 [9]	120
Benzo (a) pyrene	10 ug/kg dry	44	530	36	<11 [9]	<12 [9]	160
Benzo (b) fluoranthene	10 ug/kg dry	<110 [9]	720	76	<46 [9]	<47 [9]	280
Dibenz (a,h) anthracene	10 ug/kg dry	<43 [9]	160	<11 [9]	<11 [9]	<12 [9]	44
Indeno (1,2,3-cd) pyrene	10 ug/kg dry	<43 [9]	400	54	<11 [9]	<12 [9]	130
p-Terphenyl-d14	130 [surr]	73.3%	115%	112%	109%	106%	100%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	92.3	90.8	91.7	87.0	85.9	85.9

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
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Gibsonia, PA 15044		Project Manager:	Erica Dellattre
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LAB #			N093203-17	N093203-18	N093204-01	N093204-02	N093204-06	N093204-09
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-8G-S-1-2	OU1-83-8G-S-2-3	OU1-83-10G-S-0-1	OU1-83-10G-S-1-2	OU1-83-10G-S-0-1-P	OU1-83-5P-S-2-3
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	170 [1]	<22	67 [1]	<21 [6]	22 [1]	-
Heptachlor epoxide	2.0	ug/kg dry	360 [1]	<22	<21	<21 [6]	<21	-
4,4´-DDE	4.0	ug/kg dry	150 [1] [7]	<44	<42 [7]	91 [1] [6]	<42	-
Dieldrin	4.0	ug/kg dry	82 [1]	<44	63 [1]	<42 [6]	<42	-
4,4´-DDD	4.0	ug/kg dry	<46	<44	<42	<42 [6]	96 [1]	-
4,4´-DDT	4.0	ug/kg dry	150 [1]	<44	58 [1]	260 [1] [6]	<42	-
Chlordane (tech)	40	ug/kg dry	27000 [1]	<44	7700 [1]	2200 [1] [6]	1600	-
Decachlorobiphenyl	140	[surr]	110%	130%	121%	113%	98.4%	-
Tetrachloro-meta-xylene	140	[surr]	120%	128%	105%	101%	93.0%	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<46 [9]	-	71	<42 [9]	570	<13 [9]
Benzo (a) pyrene	10	ug/kg dry	<46 [9]	-	83	<42 [9]	490	<13 [9]
Benzo (b) fluoranthene	10	ug/kg dry	<120 [9]	-	100	<110 [9]	660	<51 [9]
Dibenz (a,h) anthracene	10	ug/kg dry	<46 [9]	-	<11 [9]	<42 [9]	150	<13 [9]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<46 [9]	-	87	45	400	<13 [9]
p-Terphenyl-d14	130	[surr]	97.6%	-	104%	96.7%	115%	125%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	86.1	90.0	94.2	94.2	94.6	79.0

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Sales Manager

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SUMMARY REPORT

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/30/2009 to 08/06/2009	**REPORTED:**	09/17/2009 22:07
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LAB #			N093204-13	N093205-01	N093205-02	N093205-03	N093206-01	N093206-06
MATRIX	Minimum		Soil	Water	Water	Water	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-14F-S-0-1	OU1-83-E080309	OU1-83-E080409	OU1-83-E080509	OU1-83-10S-S-0-1	OU1-83-10R-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<22	-	-	-	<24	<24
Heptachlor epoxide	2.0	ug/kg dry	<22	-	-	-	<24	<24
4,4´-DDE	4.0	ug/kg dry	<44	-	-	-	300 [1] [5] [10]	<47
Dieldrin	4.0	ug/kg dry	<44	-	-	-	<48	<47
4,4´-DDD	4.0	ug/kg dry	<44	-	-	-	67 [1] [5] [7] [10]	<47
4,4´-DDT	4.0	ug/kg dry	<44	-	-	-	1700 [1] [5] [10]	<47
Chlordane (tech)	40	ug/kg dry	<44	-	-	-	<48	<47
Decachlorobiphenyl	140	[surr]	85.8%	-	-	-	103%	113%
Tetrachloro-meta-xylene	140	[surr]	77.5%	-	-	-	101%	103%
Organochlorine Pesticides by EPA Method 8081A (Water)								
Heptachlor	0.010	ug/L	-	<0.020	<0.020	<0.020	-	-
Heptachlor epoxide	0.010	ug/L	-	<0.020	<0.020	<0.020	-	-
4,4´-DDE	0.020	ug/L	-	<0.040	<0.040	<0.040	-	-
Dieldrin	0.020	ug/L	-	<0.040	<0.040	<0.040	-	-
4,4´-DDD	0.020	ug/L	-	<0.040	<0.040	<0.040	-	-
4,4´-DDT	0.020	ug/L	-	<0.040	<0.040	<0.040	-	-
Chlordane (tech)	0.20	ug/L	-	<0.40	<0.40	<0.40	-	-
Decachlorobiphenyl	140	[surr]	-	53.9% [8]	81.2%	104%	-	-
Tetrachloro-meta-xylene	140	[surr]	-	103%	88.0%	104%	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Water)								
Benzo (a) anthracene	0.010	ug/L	-	<0.010 [9]	<0.010 [9]	<0.010 [9]	-	-
Benzo (a) pyrene	0.010	ug/L	-	<0.010 [9]	<0.010 [9]	<0.010 [9]	-	-
Benzo (b) fluoranthene	0.010	ug/L	-	<0.010 [9]	<0.010 [9]	<0.010 [9]	-	-

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SUMMARY REPORT

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
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LAB #			N093204-13	N093205-01	N093205-02	N093205-03	N093206-01	N093206-06
MATRIX	Minimum		Soil	Water	Water	Water	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-14F-S-0-1	OU1-83-E080309	OU1-83-E080409	OU1-83-E080509	OU1-83-10S-S-0-1	OU1-83-10R-S-0-1
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (continued)								
Dibenz (a,h) anthracene	0.010	ug/L	-	<0.010 [9]	<0.010 [9]	<0.010 [9]	-	-
Indeno (1,2,3-cd) pyrene	0.010	ug/L	-	<0.010 [9]	<0.010 [9]	<0.010 [9]	-	-
p-Terphenyl-d14	130	[surr]	-	49.1% [8]	72.1%	86.1%	-	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	91.3	-	-	-	83.8	84.9

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SUMMARY REPORT

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Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/30/2009 to 08/06/2009
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LAB #			N093206-11	N093207-01	N093207-02	N093207-03	N093207-05	N093207-06
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-5R-S-1-3	OU1-83-10F-S-0-1	OU1-83-10F-S-1-2	OU1-83-10F-S-2-3	OU1-83-10E-S-0-1	OU1-83-10E-S-1-2
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	-	<21	-	-	<21	-
Heptachlor epoxide	2.0	ug/kg dry	-	<21	-	-	<21	-
4,4´-DDE	4.0	ug/kg dry	-	43 [1]	-	-	<42	-
Dieldrin	4.0	ug/kg dry	-	120 [1]	-	-	57 [1]	-
4,4´-DDD	4.0	ug/kg dry	-	<42	-	-	<42	-
4,4´-DDT	4.0	ug/kg dry	-	62 [1]	-	-	<42	-
Chlordane (tech)	40	ug/kg dry	-	3900 [1]	-	-	930	-
Decachlorobiphenyl	140	[surr]	-	75.5%	-	-	111%	-
Tetrachloro-meta-xylene	140	[surr]	-	73.0%	-	-	102%	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<66 [9]	<42 [9]	<42 [9]	<46 [4] [9]	<42 [9]	<45 [9]
Benzo (a) pyrene	10	ug/kg dry	70	<42 [5] [9] [10]	<42 [9]	<46 [9]	<42 [9]	<45 [9]
Benzo (b) fluoranthene	10	ug/kg dry	200	110 [5] [10]	<110 [9]	<120 [9]	<100 [9]	<110 [9]
Dibenz (a,h) anthracene	10	ug/kg dry	<66 [9]	<42 [9]	<42 [9]	<46 [9]	<42 [9]	<45 [9]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	76	48 [5] [10]	<42 [9]	<46 [9]	<42 [9]	<45 [9]
p-Terphenyl-d14	130	[surr]	102%	104%	99.7%	97.3%	97.8%	89.3%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	60.5	95.6	94.7	86.4	95.3	89.3

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
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LAB #			N093207-09	N093207-10	N093207-11	N093207-13	N093207-14	N093207-15
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-8F-S-0-1	OU1-83-8F-S-1-2	OU1-83-8F-S-2-3	OU1-83-9E-S-0-1	OU1-83-9E-S-1-2	OU1-83-9E-S-2-3
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	<23	-	<22	-	-
Heptachlor epoxide	2.0	ug/kg dry	30 [1]	<23	-	<22	-	-
4,4´-DDE	4.0	ug/kg dry	<46	<45 [7]	-	<44 [7]	-	-
Dieldrin	4.0	ug/kg dry	170 [1]	<45	-	<44	-	-
4,4´-DDD	4.0	ug/kg dry	<46	<45 [7]	-	<44	-	-
4,4´-DDT	4.0	ug/kg dry	<46	<45	-	<44	-	-
Chlordane (tech)	40	ug/kg dry	1900	75	-	1700	-	-
Decachlorobiphenyl	140	[surr]	122%	125%	-	129%	-	-
Tetrachloro-meta-xylene	140	[surr]	103%	120%	-	111%	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	94	140	180	93	280	<48 [4] [9]
Benzo (a) pyrene	10	ug/kg dry	130	220	170	120	240	<48 [9]
Benzo (b) fluoranthene	10	ug/kg dry	510	590	260	400	300	<120 [9]
Dibenz (a,h) anthracene	10	ug/kg dry	<93 [9]	<90 [9]	51	<88 [9]	<43 [9]	<48 [9]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	170	210	130	130	160	<48 [9]
p-Terphenyl-d14	130	[surr]	107%	101%	108%	96.9%	106%	91.0%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	86.4	88.6	87.3	90.6	92.2	83.9

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Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/30/2009 to 08/06/2009	**REPORTED:**	09/17/2009 22:07
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LAB #			N093207-17	N093207-18	N093207-19	N093208-01	N093208-02	N093208-07
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-8E-S-0-1	OU1-83-8E-S-1-2	OU1-83-8E-S-1-2-P	OU1-83-9S-S-0-1	OU1-83-9S-S-0-1-P	OU1-83-7K-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	-	-	<23	<22	<23
Heptachlor epoxide	2.0	ug/kg dry	<23	-	-	<23	<22	<23
4,4´-DDE	4.0	ug/kg dry	<45 [7]	-	-	550 [1]	<44	<45
Dieldrin	4.0	ug/kg dry	<45	-	-	<46	<44	<45
4,4´-DDD	4.0	ug/kg dry	<45	-	-	86 [1] [7]	<44 [7]	<45
4,4´-DDT	4.0	ug/kg dry	<45	-	-	1400 [1]	180 [1]	<45
Chlordane (tech)	40	ug/kg dry	2100	-	-	270	76	250
Decachlorobiphenyl	140	[surr]	84.7%	-	-	121%	122%	112%
Tetrachloro-meta-xylene	140	[surr]	81.2%	-	-	113%	108%	103%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<45 [9]	<50 [9]	<48 [9]	-	-	-
Benzo (a) pyrene	10	ug/kg dry	<45 [9]	<50 [9]	<48 [9]	-	-	-
Benzo (b) fluoranthene	10	ug/kg dry	<110 [9]	<130 [9]	<120 [9]	-	-	-
Dibenz (a,h) anthracene	10	ug/kg dry	<45 [9]	<50 [9]	<48 [9]	-	-	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<45 [9]	<50 [9]	<48 [9]	-	-	-
p-Terphenyl-d14	130	[surr]	106%	102%	128%	-	-	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	88.3	79.4	83.5	87.4	91.7	88.2

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SUMMARY REPORT

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
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LAB #			N093208-11	N093208-15	N093208-19	N093209-01	N093209-02	N093209-05
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-7L-S-0-1	OU1-83-8L-S-0-1	OU1-83-9L-0-1	OU1-83-7F-S-0-1	OU1-83-7F-S-1-2	OU1-83-7G-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	<24	<24	<23	<23	<22
Heptachlor epoxide	2.0	ug/kg dry	<23	<24	<24	<23	<23	<22
4,4´-DDE	4.0	ug/kg dry	<46	<47	<47	<47	<46	<44
Dieldrin	4.0	ug/kg dry	<46	<47	<47	<47	<46	<44
4,4´-DDD	4.0	ug/kg dry	<46	<47	<47	<47	<46	<44
4,4´-DDT	4.0	ug/kg dry	<46	<47	<47	<47	<46	<44
Chlordane (tech)	40	ug/kg dry	<46	<47	84	66	<46	<44
Decachlorobiphenyl	140	[surr]	87.7%	87.2%	101%	81.7%	74.7%	80.1%
Tetrachloro-meta-xylene	140	[surr]	85.2%	83.6%	98.0%	77.4%	81.1%	74.9%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	-	-	-	<47 [9]	<46 [9]	<44 [9]
Benzo (a) pyrene	10	ug/kg dry	-	-	-	<47 [9]	<46 [9]	<44 [9]
Benzo (b) fluoranthene	10	ug/kg dry	-	-	-	120 [3]	130 [3]	<110 [9]
Dibenz (a,h) anthracene	10	ug/kg dry	-	-	-	<47 [9]	<46 [9]	<44 [9]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	-	-	-	<47 [9]	<46 [9]	<44 [9]
p-Terphenyl-d14	130	[surr]	-	-	-	104%	105%	104%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	86.7	85.0	84.7	85.6	87.1	90.0

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
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LAB #			N093209-06	N093209-09	N093209-10	N093209-13	N093209-14	N093209-17
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-7G-S-1-2	OU1-83-8D-S-0-1	OU1-83-8D-S-1-2	OU1-83-7E-S-0-1	OU1-83-7E-S-1-2	OU1-83-10D-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<23	-	-	-	-	-
Heptachlor epoxide	2.0	ug/kg dry	<23	-	-	-	-	-
4,4´-DDE	4.0	ug/kg dry	<46	-	-	-	-	-
Dieldrin	4.0	ug/kg dry	<46	-	-	-	-	-
4,4´-DDD	4.0	ug/kg dry	<46	-	-	-	-	-
4,4´-DDT	4.0	ug/kg dry	<46	-	-	-	-	-
Chlordane (tech)	40	ug/kg dry	<46	-	-	-	-	-
Decachlorobiphenyl	140	[surr]	124%	-	-	-	-	-
Tetrachloro-meta-xylene	140	[surr]	115%	-	-	-	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<46 [9]	1200	<46 [9]	<47 [9]	<47 [9]	260
Benzo (a) pyrene	10	ug/kg dry	<46 [9]	1300	<46 [9]	<47 [9]	<47 [9]	420
Benzo (b) fluoranthene	10	ug/kg dry	<110 [9]	2700 [3]	<110 [9]	<120 [9]	<120 [9]	500 [3]
Dibenz (a,h) anthracene	10	ug/kg dry	<46 [9]	360	<46 [9]	<47 [9]	<47 [9]	120
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<46 [9]	1200	<46 [9]	<47 [9]	<47 [9]	400
p-Terphenyl-d14	130	[surr]	101%	100%	107%	108%	103%	104%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	87.0	89.8	87.3	84.6	85.3	95.5

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LAB #			N093209-18	N093209-21	N093209-22	N093210-01	N093210-02	N093210-05
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-10D-S-1-2	OU1-83-9D-S-0-1	OU1-83-9D-S-1-2	OU1-83-10C-S-0-1	OU1-83-10C-S-1-2	OU1-83-11D-S-0-1
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<46 [9]	<45 [9]	<44 [9]	<11 [9]	<11 [9]	12
Benzo (a) pyrene	10	ug/kg dry	<46 [9]	<45 [9]	<44 [9]	<11 [9]	<11 [9]	15
Benzo (b) fluoranthene	10	ug/kg dry	<110 [9]	<110 [9]	<110 [9]	<11 [9]	<11 [9]	19
Dibenz (a,h) anthracene	10	ug/kg dry	<46 [9]	<45 [9]	<44 [9]	<11 [9]	<11 [9]	<11 [9]
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<46 [9]	<45 [9]	<44 [9]	13	<11 [9]	15
p-Terphenyl-d14	130	[surr]	103%	99.8%	101%	111%	118%	113%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	87.9	88.9	90.3	92.5	89.6	94.7

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LAB #			N093210-06	N093210-09	N093210-10	N093210-13	N093210-14	N093210-17
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-11D-S-1-2	OU1-83-9C-S-0-1	OU1-83-9C-S-1-2	OU1-83-11C-S-0-1	OU1-83-11C-S-1-2	OU1-83-8C-S-0-1
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<11 [9]	19	<11 [9]	<11 [9]	<11 [9]	52
Benzo (a) pyrene	10	ug/kg dry	<11 [9]	17	<11 [9]	<11 [9]	<11 [9]	81
Benzo (b) fluoranthene	10	ug/kg dry	<11 [9]	31	<11 [9]	<11 [9]	<11 [9]	100
Dibenz (a,h) anthracene	10	ug/kg dry	<11 [9]	<11 [9]	<11 [9]	<11 [9]	<11 [9]	34
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<11 [9]	16	<11 [9]	<11 [9]	<11 [9]	68
p-Terphenyl-d14	130	[surr]	115%	114%	113%	116%	119%	113%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	90.9	91.9	88.2	93.5	87.9	88.6

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LAB #			N093210-18	N093210-21	-	-	-	-
MATRIX	Minimum		Soil	Soil	-	-	-	-
SAMPLE ID	Reporting Limit		OU1-83-8C-S-1-2	OU1-83-8C-S-0-1-P	-	-	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<11 [9]	<11 [9]	-	-	-	-
Benzo (a) pyrene	10	ug/kg dry	<11 [9]	<11 [9]	-	-	-	-
Benzo (b) fluoranthene	10	ug/kg dry	<11 [9]	<11 [9]	-	-	-	-
Dibenz (a,h) anthracene	10	ug/kg dry	<11 [9]	<11 [9]	-	-	-	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<11 [9]	<11 [9]	-	-	-	-
p-Terphenyl-d14	130	[surr]	118%	114%	-	-	-	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	87.7	87.5	-	-	-	-

Special Notes

1 = Data reported from a dilution
2 = The concentration indicated is above the instrument calibration range. This value is an estimated concentration (CLP E-flag).
3 = Results may be biased high because of high continuing calibration verification (CCV).
4 = Resuts may be biased low because of low continuing calibration verification (CCV).
5 = The Matrix Spike and/or Matrix Spike Duplicate recovery was outside of the laboratory control limits.
6 = Spike recoveries were not evaluated because of elevated levels of the spiked analyte in the parent sample.
7 = The difference in the concentrations between the primary and confirmation column was > 40%.
8 = Surrogate recovery was outside of laboratory control limits due to an apparent matrix effect.
9 = Analyte included in the analysis, but not detected
10 = Precision for the MS/MSD or lab duplicate was outside of control limits.

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4951 Williams Flynn Highway, Suite 12
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Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

SAMPLED: 07/31/2008 to 08/21/2009
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LAB #			N093211-01	N093211-02	N093211-13	N093211-14	N093212-15	N093212-17
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-7D-S-0-1	OU1-83-7D-S-1-2	OU1-83-7H-S-0-1	OU1-83-7H-S-1-2	OU1-83-S-5O-S-3-4	OU1-83-S-10Q-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	-	-	<28	<22	-	<23
Heptachlor epoxide	2.0	ug/kg dry	-	-	<28	<22	-	<23 [6]
4,4´-DDE	4.0	ug/kg dry	-	-	<55	<45	-	3300 [1]
Dieldrin	4.0	ug/kg dry	-	-	<55	<45	-	<45
4,4´-DDD	4.0	ug/kg dry	-	-	<55	<45	-	920 [1]
4,4´-DDT	4.0	ug/kg dry	-	-	<55	<45	-	9700 [1] [2]
Chlordane (tech)	40	ug/kg dry	-	-	<55	<45	-	2200
Decachlorobiphenyl	140	[surr]	-	-	79.9%	122%	-	111%
Tetrachloro-meta-xylene	140	[surr]	-	-	88.0%	105%	-	103%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	120	<12 [8]	-	-	<11 [8]	-
Benzo (a) pyrene	10	ug/kg dry	150	<12 [8]	-	-	<11 [8]	-
Benzo (b) fluoranthene	10	ug/kg dry	260	<12 [8]	-	-	<11 [8]	-
Dibenz (a,h) anthracene	10	ug/kg dry	50	<12 [8]	-	-	<11 [8]	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	120	<12 [8]	-	-	<11 [8]	-
p-Terphenyl-d14	130	[surr]	115%	116%	-	-	112%	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	85.7	85.8	72.6	89.7	87.5	88.5

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LAB #			N093212-18	N093212-19	N093214-01	N093401-03	N093401-05	N093401-06
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-S-10Q-S-0-1-P	OU1-83-S-10Q-S-1-2	OU1-83-10P-S-0-1	OU1-83-10I-S-2-3	OU1-83-10I-S-2-3-P	OU1-83-11F-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<28 [6]	<22	<22	<22 [9]	<23	79 [1]
Heptachlor epoxide	2.0	ug/kg dry	<28 [6]	<22	<22	<22 [9]	<23	<21
4,4´-DDE	4.0	ug/kg dry	2900 [1]	470 [1]	<43	<45 [9]	<46	<43
Dieldrin	4.0	ug/kg dry	<56	<44	<43	<45 [9]	<46	1500 [1]
4,4´-DDD	4.0	ug/kg dry	2900 [1]	510 [1]	<43	<45 [9]	<46	120 [1]
4,4´-DDT	4.0	ug/kg dry	17000 [1] [2]	740 [1]	<43	<45 [9]	<46	130 [1]
Chlordane (tech)	40	ug/kg dry	2300	650	<43	<45	<46	26000 [1]
Decachlorobiphenyl	140	[surr]	116%	137%	120%	106%	84.3%	131%
Tetrachloro-meta-xylene	140	[surr]	113%	112%	109%	106%	86.3%	113%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	-	-	-	-	-	520
Benzo (a) pyrene	10	ug/kg dry	-	-	-	-	-	460
Benzo (b) fluoranthene	10	ug/kg dry	-	-	-	-	-	640
Dibenz (a,h) anthracene	10	ug/kg dry	-	-	-	-	-	170
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	-	-	-	-	-	330
p-Terphenyl-d14	130	[surr]	-	-	-	-	-	89.7%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	71.7	89.9	92.1	89.6	87.0	93.9

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Project: OU1, Site 83
Project Number: 389
Project Manager: Erica Dellattre

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LAB #			N093401-07	N093401-10	N093401-11	N093401-14	N093401-15	N093402-01
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-11F-S-1-2	OU1-83-11H-S-0-1	OU1-83-11H-S-1-2	OU1-83-12J-S-0-1	OU1-83-12J-S-1-2	OU1-83-8N-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<22	<22	<22	<21	<22	<22
Heptachlor epoxide	2.0	ug/kg dry	<22	<22	<22	<21	<22	<22
4,4´-DDE	4.0	ug/kg dry	<43	<43	<44	<43	<44	<45
Dieldrin	4.0	ug/kg dry	<43 [4]	<43	<44	250 [1]	<44	<45
4,4´-DDD	4.0	ug/kg dry	<43	<43	<44	<43	<44	<45
4,4´-DDT	4.0	ug/kg dry	<43	48 [1]	<44	<43	<44	<45
Chlordane (tech)	40	ug/kg dry	150	1200	<44	2900 [1]	<44	<45
Decachlorobiphenyl	140	[surr]	107%	90.4%	89.3%	122%	99.0%	103%
Tetrachloro-meta-xylene	140	[surr]	87.7%	91.3%	83.3%	124%	99.3%	82.2%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)								
Benzo (a) anthracene	10	ug/kg dry	<11 [8]	44	<11 [8]	<11 [8]	-	-
Benzo (a) pyrene	10	ug/kg dry	<11 [8]	48	<11 [8]	17	-	-
Benzo (b) fluoranthene	10	ug/kg dry	<11 [8]	73	<11 [8]	19	-	-
Dibenz (a,h) anthracene	10	ug/kg dry	<11 [8]	<11 [8]	<11 [8]	<11 [8]	-	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	<11 [8]	47	<11 [8]	17	-	-
p-Terphenyl-d14	130	[surr]	125%	98.4%	100%	98.8%	-	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	92.3	92.6	90.1	93.7	90.4	89.1

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Karl Olm For Chris Altstaetter
Sales Manager

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #			N093402-05	N093402-10	N093402-14	N093402-17	N093402-18	N093402-21
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-8S-S-0-1	OU1-83-9O-S-1-2	OU1-83-9R-S-1-2	OU1-83-11P-S-0-1	OU1-83-11P-S-1-2	OU1-83-11P-S-0-1-P
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<31	<22	<23	3300 [1]	<23 [6]	1900 [1]
Heptachlor epoxide	2.0	ug/kg dry	<31	<22	<23	<23	<23	<23
4,4´-DDE	4.0	ug/kg dry	<62	<45	110 [1]	4200 [1]	91 [1]	3600 [1]
Dieldrin	4.0	ug/kg dry	<62	<45 [4]	<47	<46	<46	<45
4,4´-DDD	4.0	ug/kg dry	120 [1]	<45	160 [1]	5400 [1]	<46	4500 [1]
4,4´-DDT	4.0	ug/kg dry	<62	<45	330 [1]	27000 [1]	110 [1]	28000 [1]
Chlordane (tech)	40	ug/kg dry	<62	610	220	200000 [1]	<46	95000 [1]
Decachlorobiphenyl	140	[surr]	104%	102%	105%	102%	107%	105%
Tetrachloro-meta-xylene	140	[surr]	84.7%	84.2%	80.8%	83.6%	115%	83.4%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	64.9	89.4	85.7	86.7	87.3	88.8

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #		N093402-22	N093402-26	N093403-01	N093403-02	N093403-03	N093403-04
MATRIX	Minimum	Soil	Soil	Water	Water	Water	Water
SAMPLE ID	Reporting Limit	OU1-83-11Q-S-0-1	OU1-83-11R-S-0-1	OU1-83-EB081809	OU1-83-EB081909	OU1-83-FB081909	OU1-83-EB082009
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	33 [1]	<22	-	-	-	-
Heptachlor epoxide	2.0 ug/kg dry	<23	<22	-	-	-	-
4,4´-DDE	4.0 ug/kg dry	110 [1]	<45	-	-	-	-
Dieldrin	4.0 ug/kg dry	<46	<45	-	-	-	-
4,4´-DDD	4.0 ug/kg dry	92 [1]	<45	-	-	-	-
4,4´-DDT	4.0 ug/kg dry	650 [1]	<45	-	-	-	-
Chlordane (tech)	40 ug/kg dry	<46	160	-	-	-	-
Decachlorobiphenyl	140 [surr]	105%	101%	-	-	-	-
Tetrachloro-meta-xylene	140 [surr]	86.3%	124%	-	-	-	-
Organochlorine Pesticides by EPA Method 8081A (Water)							
Heptachlor	0.010 ug/L	-	-	<0.020	<0.020	<0.020	<0.020
Heptachlor epoxide	0.010 ug/L	-	-	<0.020	<0.020	<0.020	<0.020
4,4´-DDE	0.020 ug/L	-	-	<0.040	<0.040	<0.040	<0.040
Dieldrin	0.020 ug/L	-	-	<0.040	<0.040	<0.040	<0.040
4,4´-DDD	0.020 ug/L	-	-	<0.040	<0.040	<0.040	<0.040
4,4´-DDT	0.020 ug/L	-	-	<0.040	<0.040	<0.040	<0.040
Chlordane (tech)	0.20 ug/L	-	-	<0.40	<0.40	<0.40	<0.40
Decachlorobiphenyl	140 [surr]	-	-	59.4% [7]	36.5% [7]	54.3% [7]	79.0%
Tetrachloro-meta-xylene	140 [surr]	-	-	69.3%	68.0%	67.4%	84.9%
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Water)							
Benzo (a) anthracene	0.010 ug/L	-	-	<0.010 [8]	<0.010 [8]	<0.010 [8]	-
Benzo (a) pyrene	0.010 ug/L	-	-	<0.010 [8]	<0.010 [8]	<0.010 [8]	-
Benzo (b) fluoranthene	0.010 ug/L	-	-	<0.010 [3] [8]	<0.010 [3] [8]	<0.010 [3] [8]	-

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #			N093402-22	N093402-26	N093403-01	N093403-02	N093403-03	N093403-04
MATRIX	Minimum		Soil	Soil	Water	Water	Water	Water
SAMPLE ID	Reporting Limit		OU1-83-11Q-S-0-1	OU1-83-11R-S-0-1	OU1-83-EB081809	OU1-83-EB081909	OU1-83-FB081909	OU1-83-EB082009
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (continued)								
Dibenz (a,h) anthracene	0.010	ug/L	-	-	<0.010 [8]	<0.010 [8]	<0.010 [8]	-
Indeno (1,2,3-cd) pyrene	0.010	ug/L	-	-	<0.010 [8]	<0.010 [8]	<0.010 [8]	-
p-Terphenyl-d14	130	[surr]	-	-	56.7% [7]	75.0%	79.2%	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	86.1	89.2	-	-	-	-

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Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #		N093403-05	N093404-01	N093404-02	N093404-05	N093404-09	N093404-10
MATRIX	Minimum	Water	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-EB082109	OU1-83-12F-S-0-1	OU1-83-12F-S-1-2	OU1-83-12O-S-0-1	OU1-83-12O-S-0-1-P	OU1-83-12P-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	-	<22 [6]	<23 [6]	<22	<22	<21 [6]
Heptachlor epoxide	2.0 ug/kg dry	-	<22	<23	<22	<22	<21
4,4´-DDE	4.0 ug/kg dry	-	<43	<45	44 [1]	<43	460 [1]
Dieldrin	4.0 ug/kg dry	-	230 [1] [5]	<45	<43	<43	<42
4,4´-DDD	4.0 ug/kg dry	-	<43	<45	<43	<43	560 [1]
4,4´-DDT	4.0 ug/kg dry	-	<43 [6]	<45	45 [1]	<43 [6]	1200 [1]
Chlordane (tech)	40 ug/kg dry	-	95	<45	<43	<43	180
Decachlorobiphenyl	140 [surr]	-	107%	96.5%	111%	102%	104%
Tetrachloro-meta-xylene	140 [surr]	-	114%	110%	120%	110%	111%
Organochlorine Pesticides by EPA Method 8081A (Water)							
Heptachlor	0.010 ug/L	<0.020	-	-	-	-	-
Heptachlor epoxide	0.010 ug/L	<0.020	-	-	-	-	-
4,4´-DDE	0.020 ug/L	<0.040	-	-	-	-	-
Dieldrin	0.020 ug/L	<0.040	-	-	-	-	-
4,4´-DDD	0.020 ug/L	<0.040	-	-	-	-	-
4,4´-DDT	0.020 ug/L	<0.040	-	-	-	-	-
Chlordane (tech)	0.20 ug/L	<0.40	-	-	-	-	-
Decachlorobiphenyl	140 [surr]	95.2%	-	-	-	-	-
Tetrachloro-meta-xylene	140 [surr]	107%	-	-	-	-	-
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (Soil)							
Benzo (a) anthracene	10 ug/kg dry	-	<11 [8]	-	-	-	-
Benzo (a) pyrene	10 ug/kg dry	-	<11 [8]	-	-	-	-
Benzo (b) fluoranthene	10 ug/kg dry	-	<11 [8]	-	-	-	-

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Sales Manager

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SUMMARY REPORT

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #			N093403-05	N093404-01	N093404-02	N093404-05	N093404-09	N093404-10
MATRIX	Minimum		Water	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-EB082109	OU1-83-12F-S-0-1	OU1-83-12F-S-1-2	OU1-83-12O-S-0-1	OU1-83-12O-S-0-1-P	OU1-83-12P-S-0-1
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring (continued)								
Dibenz (a,h) anthracene	10	ug/kg dry	-	<11 [8]	-	-	-	-
Indeno (1,2,3-cd) pyrene	10	ug/kg dry	-	<11 [8]	-	-	-	-
p-Terphenyl-d14	130	[surr]	-	122%	-	-	-	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	-	92.0	88.6	92.9	93.0	94.5

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #			N093404-14	N093405-01	N093405-02	N093405-05	N093405-10	N093405-13
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-12Q-S-0-1	OU1-83-12E-S-0-1	OU1-83-12E-S-1-2	OU1-83-12G-S-0-1	OU1-83-9I-S-1-2	OU1-83-9J-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<22 [6]	<21	<23	<21 [6]	<23	<23
Heptachlor epoxide	2.0	ug/kg dry	<22	28 [1]	<23	<21	<23	<23
4,4´-DDE	4.0	ug/kg dry	<43	<43	<46	<43	<46 [6]	<46 [6]
Dieldrin	4.0	ug/kg dry	<43	1500 [1]	<46 [6]	<43	<46	<46
4,4´-DDD	4.0	ug/kg dry	<43 [6]	<43	<46	<43	<46	<46
4,4´-DDT	4.0	ug/kg dry	51 [1]	<43	<46	<43	<46 [6]	<46
Chlordane (tech)	40	ug/kg dry	1000	1200	<46	<43	<46	83
Decachlorobiphenyl	140	[surr]	98.5%	124%	104%	94.9%	98.8%	96.6%
Tetrachloro-meta-xylene	140	[surr]	101%	127%	100%	101%	99.7%	99.3%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	92.2	93.5	87.2	93.9	86.4	87.9

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #		N093405-14	N093405-18	N093406-01	N093406-05	N093407-01	N093407-05
MATRIX	Minimum	Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit	OU1-83-9J-S-1-2	OU1-83-10K-S-1-2	OU1-83-11O-S-0-1	OU1-83-13J-S-0-1	OU1-83-13F-S-0-1	OU1-83-13F-S-0-1-P
Organochlorine Pesticides by EPA Method 8081A (Soil)							
Heptachlor	2.0 ug/kg dry	<22	<23	<21	<21 [6]	<23 [6]	<23 [6]
Heptachlor epoxide	2.0 ug/kg dry	<22	<23 [6]	<21	<21	<23	<23
4,4´-DDE	4.0 ug/kg dry	<45	<46	<43	<42	<46	<45
Dieldrin	4.0 ug/kg dry	<45	<46	<43	<42	<46	<45
4,4´-DDD	4.0 ug/kg dry	<45	<46	<43	<42	<46	<45
4,4´-DDT	4.0 ug/kg dry	<45	<46	<43 [6]	<42	<46 [6]	<45 [6]
Chlordane (tech)	40 ug/kg dry	<45	160	<43	5000 [1]	380	580
Decachlorobiphenyl	140 [surr]	87.2%	98.7%	86.6%	106%	104%	96.7%
Tetrachloro-meta-xylene	140 [surr]	89.8%	94.1%	84.0%	104%	101%	91.7%
Classical Chemistry Parameters (Soil)							
% Solids	0.00 % by Weight	88.9	86.3	93.2	95.3	87.0	88.5

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SUMMARY REPORT

Rhea Engineers & Consultants, Inc.		Project:	OU1, Site 83
4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #			N093407-06	N093407-07	N093407-10	N093408-01	N093408-05	N093408-09
MATRIX	Minimum		Soil	Soil	Soil	Soil	Soil	Soil
SAMPLE ID	Reporting Limit		OU1-83-12D-S-0-1	OU1-83-12D-S-1-2	OU1-83-13D-S-0-1	OU1-83-12C-S-0-1	OU1-83-13C-S-0-1	OU1-83-11D-S-0-1
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<22 [6]	<23	<22 [6]	<21	<22	<21 [6]
Heptachlor epoxide	2.0	ug/kg dry	<22	<23 [6]	<22	<21	<22	33 [1]
4,4´-DDE	4.0	ug/kg dry	<43	<45	<43	<42	<43	<42
Dieldrin	4.0	ug/kg dry	520 [1]	67 [1]	<43	<42 [6]	<43	80 [1]
4,4´-DDD	4.0	ug/kg dry	<43	<45	<43	<42	<43	<42
4,4´-DDT	4.0	ug/kg dry	<43	<45	<43	<42	<43	<42
Chlordane (tech)	40	ug/kg dry	3100 [1]	86	63	<42	<43	1800
Decachlorobiphenyl	140	[surr]	95.7%	125%	110%	94.4%	94.3%	99.8%
Tetrachloro-meta-xylene	140	[surr]	96.0%	116%	101%	103%	90.1%	96.6%
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	92.6	88.2	92.5	94.5	92.7	96.2

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4951 Williams Flynn Highway, Suite 12		Project Number:	389
Gibsonia, PA 15044		Project Manager:	Erica Dellattre
SAMPLED:	07/31/2008 to 08/21/2009	**REPORTED:**	09/17/2009 22:20
RECEIVED:	08/06/2009 to 08/21/2009		

LAB #			N093409-01	-	-	-	-	-
MATRIX	Minimum		Soil	-	-	-	-	-
SAMPLE ID	Reporting Limit		OU1-83-11C-S-0-1	-	-	-	-	-
Organochlorine Pesticides by EPA Method 8081A (Soil)								
Heptachlor	2.0	ug/kg dry	<21	-	-	-	-	-
Heptachlor epoxide	2.0	ug/kg dry	<21	-	-	-	-	-
4,4´-DDE	4.0	ug/kg dry	<43	-	-	-	-	-
Dieldrin	4.0	ug/kg dry	<43 [6]	-	-	-	-	-
4,4´-DDD	4.0	ug/kg dry	<43	-	-	-	-	-
4,4´-DDT	4.0	ug/kg dry	<43	-	-	-	-	-
Chlordane (tech)	40	ug/kg dry	69	-	-	-	-	-
Decachlorobiphenyl	140	[surr]	92.9%	-	-	-	-	-
Tetrachloro-meta-xylene	140	[surr]	90.0%	-	-	-	-	-
Classical Chemistry Parameters (Soil)								
% Solids	0.00	% by Weight	94.1	-	-	-	-	-

Special Notes

1 = Data reported from a dilution
2 = The concentration indicated is above the instrument calibration range. This value is an estimated concentration (CLP E-flag).
3 = Estimated value because of quality control sample exceedances.
4 = Results may be biased high because of high continuing calibration verification (CCV).
5 = Spike recoveries were not evaluated because of elevated levels of the spiked analyte in the parent sample.
6 = The difference in the concentrations between the primary and confirmation column was > 40%.
7 = Surrogate recovery was outside of laboratory control limits due to an apparent matrix effect.
8 = Analyte included in the analysis, but not detected
9 = Precision for the MS/MSD or lab duplicate was outside of control limits.

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Sales Manager

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Attachment B: Detailed Reports with QC Data

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-13E-S-0-1	N093101-01	Soil	07/28/2009	07/28/2009
OU1-83-13E-S-2-3	N093101-03	Soil	07/28/2009	07/28/2009
OU1-83-14E-S-0-1	N093101-06	Soil	07/28/2009	07/28/2009
OU1-83-14E-S-1-2	N093101-07	Soil	07/28/2009	07/28/2009
OU1-83-14E-S-2-3	N093101-08	Soil	07/28/2009	07/28/2009
OU1-83-14G-S-0-1	N093101-11	Soil	07/28/2009	07/28/2009
OU1-83-14G-S-2-3	N093101-13	Soil	07/28/2009	07/28/2009
OU1-83-13G-S-0-1	N093101-16	Soil	07/28/2009	07/28/2009
OU1-83-13G-S-2-3	N093101-18	Soil	07/28/2009	07/28/2009
OU1-83-13G-S-0-1-P	N093101-21	Soil	07/28/2009	07/28/2009
OU1-83-11E-S-0-1	N093102-01	Soil	07/28/2009	07/28/2009
OU1-83-11E-S-2-3	N093102-03	Soil	07/28/2009	07/28/2009
OU1-83-11G-S-0-1	N093102-06	Soil	07/28/2009	07/28/2009
OU1-83-11G-S-2-3	N093102-08	Soil	07/28/2009	07/28/2009
OU1-83-11I-S-0-1	N093102-11	Soil	07/28/2009	07/28/2009
OU1-83-11I-S-1-2	N093102-12	Soil	07/28/2009	07/28/2009
OU1-83-11I-S-2-3	N093102-13	Soil	07/28/2009	07/28/2009
OU1-83-11I-S-2-3-P	N093102-16	Soil	07/28/2009	07/28/2009
OU1-83-11K-S-0-1	N093102-17	Soil	07/28/2009	07/28/2009
OU1-83-11K-S-1-2	N093102-18	Soil	07/28/2009	07/28/2009
OU1-83-11K-S-2-3	N093102-19	Soil	07/28/2009	07/28/2009
OU1-83-EB072809	N093103-01	Water	07/28/2009	07/28/2009
OU1-83-EB072909	N093103-02	Water	07/29/2009	07/28/2009
OU1-83-EB073009	N093103-03	Water	07/30/2009	07/28/2009

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-FB073009	N093103-04	Water	07/30/2009	07/28/2009
OU1-83-EB072909	N093103-05	Water	07/31/2009	07/28/2009
OU1-83-6Q-S-0-1	N093104-01	Soil	07/28/2009	07/28/2009
OU1-83-6R-S-0-1	N093104-05	Soil	07/28/2009	07/28/2009
OU1-83-6P-S-0-1	N093105-01	Soil	07/29/2009	07/29/2009
OU1-83-6P-S-2-3	N093105-03	Soil	07/29/2009	07/29/2009
OU1-83-6P-S-3-4	N093105-04	Soil	07/29/2009	07/29/2009
OU1-83-6O-S-0-1	N093105-06	Soil	07/29/2009	07/29/2009
OU1-83-6O-S-2-3	N093105-08	Soil	07/29/2009	07/29/2009
OU1-83-6O-S-3-4	N093105-09	Soil	07/29/2009	07/29/2009
OU1-83-6O-S-0-1-P	N093105-11	Soil	07/29/2009	07/29/2009
OU1-83-6N-S-0-1	N093105-12	Soil	07/29/2009	07/29/2009
OU1-83-6N-S-2-3	N093105-14	Soil	07/29/2009	07/29/2009
OU1-83-6N-S-3-4	N093105-15	Soil	07/29/2009	07/29/2009
OU1-83-6N-S-4-5	N093105-16	Soil	07/29/2009	07/29/2009
OU1-83-7N-S-0-1	N093105-17	Soil	07/29/2009	07/29/2009
OU1-83-7N-S-2-3	N093105-19	Soil	07/29/2009	07/29/2009
OU1-83-7N-S-3-4	N093105-20	Soil	07/29/2009	07/29/2009
OU1-83-7O-S-0-1	N093106-01	Soil	07/29/2009	07/29/2009
OU1-83-7O-S-2-3	N093106-03	Soil	07/29/2009	07/29/2009
OU1-83-7O-S-3-4	N093106-04	Soil	07/29/2009	07/29/2009
OU1-83-7O-S-2-3-P	N093106-06	Soil	07/29/2009	07/29/2009
OU1-83-7P-S-0-1	N093106-07	Soil	07/29/2009	07/29/2009
OU1-83-7P-S-1-3	N093106-08	Soil	07/29/2009	07/29/2009

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NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-7Q-S-0-1	N093106-10	Soil	07/29/2009	07/29/2009
OU1-83-7Q-S-2-3	N093106-12	Soil	07/29/2009	07/29/2009
OU1-83-7Q-S-3-4	N093106-13	Soil	07/29/2009	07/29/2009
OU1-83-7R-S-0-1	N093106-15	Soil	07/29/2009	07/29/2009
OU1-83-7R-S-1-3	N093106-16	Soil	07/29/2009	07/29/2009
OU1-83-8R-S-0-1	N093106-18	Soil	07/29/2009	07/29/2009
OU1-83-8R-S-2-3	N093106-20	Soil	07/29/2009	07/29/2009
OU1-83-8R-S-3-4	N093106-21	Soil	07/29/2009	07/29/2009
OU1-83-8Q-S-0-1	N093107-01	Soil	07/28/2009	07/29/2009
OU1-83-8Q-S-2-3	N093107-03	Soil	07/28/2009	07/29/2009
OU1-83-8Q-S-3-4	N093107-04	Soil	07/28/2009	07/29/2009
OU1-83-8Q-S-2-3-P	N093107-06	Soil	07/28/2009	07/29/2009
OU1-83-8P-S-0-1	N093107-07	Soil	07/28/2009	07/29/2009
OU1-83-8P-S-2-3	N093107-09	Soil	07/28/2009	07/29/2009
OU1-83-8P-S-3-4	N093107-10	Soil	07/28/2009	07/29/2009
OU1-83-8O-S-0-1	N093107-12	Soil	07/28/2009	07/29/2009
OU1-83-8O-S-2-3	N093107-14	Soil	07/28/2009	07/29/2009
OU1-83-8O-S-3-4	N093107-15	Soil	07/28/2009	07/29/2009
OU1-83-9O-S-0-1	N093107-17	Soil	07/28/2009	07/29/2009
OU1-83-9O-S-2-3	N093107-19	Soil	07/28/2009	07/29/2009
OU1-83-9O-S-3-4	N093107-20	Soil	07/28/2009	07/29/2009
OU1-83-9Q-S-0-1	N093108-01	Soil	07/29/2009	07/29/2009
OU1-83-9Q-S-2-3	N093108-03	Soil	07/29/2009	07/29/2009
OU1-83-9Q-S-3-4	N093108-04	Soil	07/29/2009	07/29/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-9P-S-0-1	N093108-06	Soil	07/29/2009	07/29/2009
OU1-83-9P-S-2-3	N093108-08	Soil	07/29/2009	07/29/2009
OU1-83-9P-S-3-4	N093108-09	Soil	07/29/2009	07/29/2009
OU1-83-9R-S-0-1	N093108-11	Soil	07/29/2009	07/29/2009
OU1-83-9R-S-2-3	N093108-13	Soil	07/29/2009	07/29/2009
OU1-83-9R-S-3-4	N093108-14	Soil	07/29/2009	07/29/2009
OU1-83-8K-S-0-1	N093109-01	Soil	07/30/2009	07/30/2009
OU1-83-8K-S-1-2	N093109-02	Soil	07/30/2009	07/30/2009
OU1-83-8K-S-2-3	N093109-03	Soil	07/30/2009	07/30/2009
OU1-83-8K-S-0-1-P	N093109-06	Soil	07/30/2009	07/30/2009
OU1-83-9K-S-0-1	N093109-08	Soil	07/30/2009	07/30/2009
OU1-83-9K-S-2-3	N093109-10	Soil	07/30/2009	07/30/2009
OU1-83-9K-S-2-3-P	N093109-13	Soil	07/30/2009	07/30/2009
OU1-83-8H-S-0-1	N093109-14	Soil	07/30/2009	07/30/2009
OU1-83-8H-S-1-2	N093109-15	Soil	07/30/2009	07/30/2009
OU1-83-8H-S-2-3	N093109-16	Soil	07/30/2009	07/30/2009
OU1-83-8H-S-0-1-P	N093109-19	Soil	07/30/2009	07/30/2009
OU1-83-9G-S-0-1	N093110-01	Soil	07/30/2009	07/30/2009
OU1-83-9G-S-1-2	N093110-02	Soil	07/30/2009	07/30/2009
OU1-83-9G-S-2-3	N093110-03	Soil	07/30/2009	07/30/2009
OU1-83-9G-S-2-3-P	N093110-06	Soil	07/30/2009	07/30/2009
OU1-83-9I-S-0-1	N093110-07	Soil	07/30/2009	07/30/2009
OU1-83-9I-S-1-2	N093110-08	Soil	07/30/2009	07/30/2009
OU1-83-9I-S-2-3	N093110-09	Soil	07/30/2009	07/30/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-9I-S-2-3-P	N093110-12	Soil	07/30/2009	07/30/2009
OU1-83-6R-S-1-3	N093110-13	Soil	07/30/2009	07/30/2009
OU1-83-6Q-S-2-3	N093110-16	Soil	07/30/2009	07/30/2009
OU1-83-6Q-S-3-4	N093110-17	Soil	07/30/2009	07/30/2009
OU1-83-14D-S-0-1	N093111-01	Soil	07/31/2009	07/31/2009
OU1-83-14D-S-0-1-P	N093111-06	Soil	07/31/2009	07/31/2009
OU1-83-15E-S-0-1	N093111-07	Soil	07/31/2009	07/31/2009
OU1-83-12K-S-0-1	N093112-01	Soil	07/31/2009	08/01/2009
OU1-83-12K-S-0-1-P	N093112-06	Soil	07/31/2009	08/01/2009
OU1-83-6M-S-3-4	N093112-10	Soil	07/31/2009	08/01/2009
OU1-83-5M-S-3-4	N093112-16	Soil	07/31/2009	08/01/2009
OU1-83-5N-S-3-4	N093112-21	Soil	07/31/2009	08/01/2009
OU1-83-11L-S-0-1	N093113-01	Soil	07/31/2009	08/01/2009
OU1-83-12I-S-0-1	N093113-06	Soil	07/31/2009	08/01/2009
OU1-83-10I-S-0-1	N093113-11	Soil	07/31/2009	08/01/2009
OU1-83-10I-S-1-2	N093113-12	Soil	07/31/2009	08/01/2009
OU1-83-10K-S-0-1	N093113-16	Soil	07/31/2009	08/01/2009
OU1-83-10K-S-0-1-P	N093113-21	Soil	07/31/2009	08/01/2009
OU1-83-5Q-S-2-3	N093201-03	Soil	07/31/2009	08/02/2009
OU1-83-9N-S-0-1	N093202-01	Soil	08/03/2009	08/03/2009
OU1-83-10N-S-0-1	N093202-06	Soil	08/03/2009	08/03/2009
OU1-83-10O-S-0-1	N093202-11	Soil	08/03/2009	08/03/2009
OU1-83-9F-S-0-1	N093202-16	Soil	08/03/2009	08/03/2009
OU1-83-9F-S-1-2	N093202-17	Soil	08/03/2009	08/03/2009

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NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-9J-S-0-1	N093203-01	Soil	08/03/2009	08/03/2009
OU1-83-9J-S-1-2	N093203-02	Soil	08/03/2009	08/03/2009
OU1-83-8J-S-0-1	N093203-06	Soil	08/03/2009	08/03/2009
OU1-83-8I-S-0-1	N093203-11	Soil	08/03/2009	08/03/2009
OU1-83-8G-S-0-1	N093203-16	Soil	08/03/2009	08/03/2009
OU1-83-8G-S-1-2	N093203-17	Soil	08/03/2009	08/03/2009
OU1-83-8G-S-2-3	N093203-18	Soil	08/03/2009	08/03/2009
OU1-83-10G-S-0-1	N093204-01	Soil	08/03/2009	08/03/2009
OU1-83-10G-S-1-2	N093204-02	Soil	08/03/2009	08/03/2009
OU1-83-10G-S-0-1-P	N093204-06	Soil	08/03/2009	08/03/2009
OU1-83-5P-S-2-3	N093204-09	Soil	08/03/2009	08/03/2009
OU1-83-14F-S-0-1	N093204-13	Soil	08/03/2009	08/03/2009
OU1-83-E080309	N093205-01	Water	08/03/2009	08/03/2009
OU1-83-E080409	N093205-02	Water	08/04/2009	08/03/2009
OU1-83-E080509	N093205-03	Water	08/05/2009	08/03/2009
OU1-83-10S-S-0-1	N093206-01	Soil	08/04/2009	08/04/2009
OU1-83-10R-S-0-1	N093206-06	Soil	08/04/2009	08/04/2009
OU1-83-5R-S-1-3	N093206-11	Soil	08/04/2009	08/04/2009
OU1-83-10F-S-0-1	N093207-01	Soil	08/04/2009	08/04/2009
OU1-83-10F-S-1-2	N093207-02	Soil	08/04/2009	08/04/2009
OU1-83-10F-S-2-3	N093207-03	Soil	08/04/2009	08/04/2009
OU1-83-10E-S-0-1	N093207-05	Soil	08/04/2009	08/04/2009
OU1-83-10E-S-1-2	N093207-06	Soil	08/04/2009	08/04/2009
OU1-83-8F-S-0-1	N093207-09	Soil	08/04/2009	08/04/2009

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NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-8F-S-1-2	N093207-10	Soil	08/04/2009	08/04/2009
OU1-83-8F-S-2-3	N093207-11	Soil	08/04/2009	08/04/2009
OU1-83-9E-S-0-1	N093207-13	Soil	08/04/2009	08/04/2009
OU1-83-9E-S-1-2	N093207-14	Soil	08/04/2009	08/04/2009
OU1-83-9E-S-2-3	N093207-15	Soil	08/04/2009	08/04/2009
OU1-83-8E-S-0-1	N093207-17	Soil	08/04/2009	08/04/2009
OU1-83-8E-S-1-2	N093207-18	Soil	08/04/2009	08/04/2009
OU1-83-8E-S-1-2-P	N093207-19	Soil	08/04/2009	08/04/2009
OU1-83-9S-S-0-1	N093208-01	Soil	07/31/2009	08/05/2009
OU1-83-9S-S-0-1-P	N093208-02	Soil	07/31/2009	08/05/2009
OU1-83-7K-S-0-1	N093208-07	Soil	08/05/2009	08/05/2009
OU1-83-7L-S-0-1	N093208-11	Soil	08/05/2009	08/05/2009
OU1-83-8L-S-0-1	N093208-15	Soil	08/05/2009	08/05/2009
OU1-83-9L-0-1	N093208-19	Soil	08/05/2009	08/05/2009
OU1-83-7F-S-0-1	N093209-01	Soil	08/05/2009	08/05/2009
OU1-83-7F-S-1-2	N093209-02	Soil	08/05/2009	08/05/2009
OU1-83-7G-S-0-1	N093209-05	Soil	08/05/2009	08/05/2009
OU1-83-7G-S-1-2	N093209-06	Soil	08/05/2009	08/05/2009
OU1-83-8D-S-0-1	N093209-09	Soil	08/05/2009	08/05/2009
OU1-83-8D-S-1-2	N093209-10	Soil	08/05/2009	08/05/2009
OU1-83-7E-S-0-1	N093209-13	Soil	08/05/2009	08/05/2009
OU1-83-7E-S-1-2	N093209-14	Soil	08/05/2009	08/05/2009
OU1-83-10D-S-0-1	N093209-17	Soil	08/05/2009	08/05/2009
OU1-83-10D-S-1-2	N093209-18	Soil	08/05/2009	08/05/2009

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NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	Reported:
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-9D-S-0-1	N093209-21	Soil	08/05/2009	08/05/2009
OU1-83-9D-S-1-2	N093209-22	Soil	08/05/2009	08/05/2009
OU1-83-10C-S-0-1	N093210-01	Soil	08/05/2009	08/06/2009
OU1-83-10C-S-1-2	N093210-02	Soil	08/05/2009	08/06/2009
OU1-83-11D-S-0-1	N093210-05	Soil	08/05/2009	08/06/2009
OU1-83-11D-S-1-2	N093210-06	Soil	08/05/2009	08/06/2009
OU1-83-9C-S-0-1	N093210-09	Soil	08/05/2009	08/06/2009
OU1-83-9C-S-1-2	N093210-10	Soil	08/05/2009	08/06/2009
OU1-83-11C-S-0-1	N093210-13	Soil	08/06/2009	08/06/2009
OU1-83-11C-S-1-2	N093210-14	Soil	08/06/2009	08/06/2009
OU1-83-8C-S-0-1	N093210-17	Soil	08/06/2009	08/06/2009
OU1-83-8C-S-1-2	N093210-18	Soil	08/06/2009	08/06/2009
OU1-83-8C-S-0-1-P	N093210-21	Soil	08/06/2009	08/06/2009
OU1-83-7D-S-0-1	N093211-01	Soil	08/06/2009	08/06/2009
OU1-83-7D-S-1-2	N093211-02	Soil	08/06/2009	08/06/2009
OU1-83-7H-S-0-1	N093211-13	Soil	08/06/2009	08/06/2009
OU1-83-7H-S-1-2	N093211-14	Soil	08/06/2009	08/06/2009
OU1-83-S-5O-S-3-4	N093212-15	Soil	07/31/2008	08/07/2009
OU1-83-S-10Q-S-0-1	N093212-17	Soil	07/31/2009	08/07/2009
OU1-83-S-10Q-S-0-1-P	N093212-18	Soil	08/04/2009	08/07/2009
OU1-83-S-10Q-S-1-2	N093212-19	Soil	08/04/2009	08/07/2009
OU1-83-10P-S-0-1	N093214-01	Soil	08/04/2009	08/07/2009
OU1-83-10I-S-2-3	N093401-03	Soil	08/18/2009	08/18/2009
OU1-83-10I-S-2-3-P	N093401-05	Soil	08/18/2009	08/18/2009

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NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc. 4951 Williams Flynn Highway, Suite 12 Gibsonia PA, 15044	Project: OU1, Site 83 Project Number: 389 Project Manager: Erica Dellattre	**Reported:** 09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-11F-S-0-1	N093401-06	Soil	08/18/2009	08/18/2009
OU1-83-11F-S-1-2	N093401-07	Soil	08/18/2009	08/18/2009
OU1-83-11H-S-0-1	N093401-10	Soil	08/18/2009	08/18/2009
OU1-83-11H-S-1-2	N093401-11	Soil	08/18/2009	08/18/2009
OU1-83-12J-S-0-1	N093401-14	Soil	08/18/2009	08/18/2009
OU1-83-12J-S-1-2	N093401-15	Soil	08/18/2009	08/18/2009
OU1-83-8N-S-0-1	N093402-01	Soil	08/18/2009	08/18/2009
OU1-83-8S-S-0-1	N093402-05	Soil	08/18/2009	08/18/2009
OU1-83-9O-S-1-2	N093402-10	Soil	08/18/2009	08/18/2009
OU1-83-9R-S-1-2	N093402-14	Soil	08/18/2009	08/18/2009
OU1-83-11P-S-0-1	N093402-17	Soil	08/18/2009	08/18/2009
OU1-83-11P-S-1-2	N093402-18	Soil	08/18/2009	08/18/2009
OU1-83-11P-S-0-1-P	N093402-21	Soil	08/18/2009	08/18/2009
OU1-83-11Q-S-0-1	N093402-22	Soil	08/18/2009	08/18/2009
OU1-83-11R-S-0-1	N093402-26	Soil	08/18/2009	08/18/2009
OU1-83-EB081809	N093403-01	Water	08/18/2009	08/18/2009
OU1-83-EB081909	N093403-02	Water	08/19/2009	08/18/2009
OU1-83-FB081909	N093403-03	Water	08/19/2009	08/18/2009
OU1-83-EB082009	N093403-04	Water	08/20/2009	08/18/2009
OU1-83-EB082109	N093403-05	Water	08/21/2009	08/18/2009
OU1-83-12F-S-0-1	N093404-01	Soil	08/19/2009	08/19/2009
OU1-83-12F-S-1-2	N093404-02	Soil	08/19/2009	08/19/2009
OU1-83-12O-S-0-1	N093404-05	Soil	08/19/2009	08/19/2009
OU1-83-12O-S-0-1-P	N093404-09	Soil	08/19/2009	08/19/2009

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
OU1-83-12P-S-0-1	N093404-10	Soil	08/19/2009	08/19/2009
OU1-83-12Q-S-0-1	N093404-14	Soil	08/19/2009	08/19/2009
OU1-83-12E-S-0-1	N093405-01	Soil	08/19/2009	08/19/2009
OU1-83-12E-S-1-2	N093405-02	Soil	08/19/2009	08/19/2009
OU1-83-12G-S-0-1	N093405-05	Soil	08/19/2009	08/19/2009
OU1-83-9I-S-1-2	N093405-10	Soil	08/19/2009	08/19/2009
OU1-83-9J-S-0-1	N093405-13	Soil	08/19/2009	08/19/2009
OU1-83-9J-S-1-2	N093405-14	Soil	08/19/2009	08/19/2009
OU1-83-10K-S-1-2	N093405-18	Soil	08/19/2009	08/19/2009
OU1-83-11O-S-0-1	N093406-01	Soil	08/19/2009	08/19/2009
OU1-83-13J-S-0-1	N093406-05	Soil	08/19/2009	08/19/2009
OU1-83-13F-S-0-1	N093407-01	Soil	08/20/2009	08/20/2009
OU1-83-13F-S-0-1-P	N093407-05	Soil	08/20/2009	08/20/2009
OU1-83-12D-S-0-1	N093407-06	Soil	08/20/2009	08/20/2009
OU1-83-12D-S-1-2	N093407-07	Soil	08/20/2009	08/20/2009
OU1-83-13D-S-0-1	N093407-10	Soil	08/20/2009	08/20/2009
OU1-83-12C-S-0-1	N093408-01	Soil	08/20/2009	08/20/2009
OU1-83-13C-S-0-1	N093408-05	Soil	08/20/2009	08/20/2009
OU1-83-11D-S-0-1	N093408-09	Soil	08/20/2009	08/20/2009
OU1-83-11C-S-0-1	N093409-01	Soil	08/21/2009	08/21/2009

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13E-S-0-1

N093101-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**4.6**	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	**4.8**	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	HC
4,4´-DDD	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	**450**	44	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*124 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**24**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**47**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*88.7 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.7**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13E-S-2-3

N093101-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*97.7 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*128 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*07/28/2009*	*07/28/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.2**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14E-S-0-1

N093101-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**2.5**	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	**120**	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	HC
4,4´-DDD	**5.1**	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	**11**	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	**750**	44	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*131 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*121 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**25**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (a) pyrene	**32**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (b) fluoranthene	**61**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Dibenz (a,h) anthracene	**40**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**41**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*96.5 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.4**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14E-S-1-2

N093101-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	07/31/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.9 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*88.1 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.1**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14E-S-2-3

N093101-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*105 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*123 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*96.3 %*	*70-130*		*07/28/2009*	*07/28/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.6**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14G-S-0-1

N093101-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
Chlordane (tech)	ND	46	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*122 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*106 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.0**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14G-S-2-3

N093101-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*129 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.0**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13G-S-0-1

N093101-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**10**	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	**14**	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	**12**	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	HC
4,4´-DDD	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	**1800**	45	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*108 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*139 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*95.3 %*	*70-130*		*07/28/2009*	*07/28/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.9**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13G-S-2-3

N093101-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	48	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*125 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*92.1 %*	*70-130*		*07/28/2009*	*07/28/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**83.5**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13G-S-0-1-P

N093101-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	**320**	47	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*130 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*121 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*91.8 %*	*70-130*		*07/28/2009*	*07/28/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.3**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11E-S-0-1

N093102-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*128 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*119 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*91.9 %*	*70-130*		*07/28/2009*	*07/28/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.6**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11E-S-2-3

N093102-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*92.8 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*109 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/28/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*89.2 %*	*70-130*		*07/28/2009*	*07/28/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.2**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11G-S-0-1

N093102-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	**45**	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	**9.4**	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	P
4,4´-DDD	ND	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	**47**	4.4	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	P
Chlordane (tech)	**280**	44	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*86.2 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*109 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**30**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (a) pyrene	**71**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (b) fluoranthene	**64**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**61**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*118 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.7**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11G-S-2-3

N093102-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.6	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*97.5 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*90.7 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.8**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11I-S-0-1

N093102-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**12**	2.1	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.1	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	**150**	4.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	**50**	4.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	P
4,4´-DDD	ND	4.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	**180**	4.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	**6700**	420	ug/kg dry	10	07/28/2009	07/29/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*101 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*119 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**1600**	10	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (a) pyrene	**2300**	10	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (b) fluoranthene	**1800**	10	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Dibenz (a,h) anthracene	**740**	10	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**1600**	10	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*117 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**95.3**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11I-S-1-2

N093102-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	**220**	44	ug/kg dry	1	07/31/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*97.4 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*87.3 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*106 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.7**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11I-S-2-3

N093102-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*103 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*122 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*89.8 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.9**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11I-S-2-3-P

N093102-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*109 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*118 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*90.2 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.8**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11K-S-0-1

N093102-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	**140**	4.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.3	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	**1600**	43	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*117 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**49**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (a) pyrene	**80**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Benzo (b) fluoranthene	**120**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Dibenz (a,h) anthracene	**39**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**100**	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*107 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**93.0**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11K-S-1-2

N093102-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	**110**	46	ug/kg dry	1	07/31/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*101 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*89.9 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.6**	0.00	% by Weight	1	07/31/2009	08/01/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11K-S-2-3

N093102-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	4.5	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*90.2 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*87.0 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.9**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB072809

N093103-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*20.0 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*50.2 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	*S*
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.040	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*99.6 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB072909

N093103-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
ECCS								
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*26.7 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*68.0 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.040	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*61.2 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	*S*

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB073009

N093103-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
ECCS								
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*28.9 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*48.2 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	*S*
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.040	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*65.6 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	*S*

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-FB073009

N093103-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
ECCS								
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*29.5 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*61.8 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.040	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*58.4 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	*S*

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB072909

N093103-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	0.040	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	0.080	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	0.080	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	0.080	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	0.080	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	0.80	ug/L	1	08/02/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*40.2 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*64.4 %*	*60-140*		*08/02/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.040	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/02/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*76.1 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6Q-S-0-1

N093104-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/28/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/28/2009	07/30/2009	EPA 8081A	
4,4´-DDE	ND	4.9	ug/kg dry	1	07/28/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.9	ug/kg dry	1	07/28/2009	07/30/2009	EPA 8081A	
4,4´-DDD	**8.8**	4.9	ug/kg dry	1	07/28/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.9	ug/kg dry	1	07/28/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	**59**	49	ug/kg dry	1	07/28/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*07/28/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*125 %*	*60-140*		*07/28/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	**18**	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**15**	12	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*112 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**81.5**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6R-S-0-1

N093104-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.9	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Heptachlor epoxide	ND	2.9	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDE	ND	5.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Dieldrin	ND	5.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDD	ND	5.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
4,4´-DDT	ND	5.8	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Chlordane (tech)	ND	58	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*78.6 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*104 %*	*60-140*		*07/28/2009*	*07/29/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	15	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	15	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	15	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	15	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	15	ug/kg dry	1	07/28/2009	07/29/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*90.0 %*	*70-130*		*07/28/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**68.6**	0.00	% by Weight	1	07/28/2009	07/28/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6P-S-0-1

N093105-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.3 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*115 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	**15**	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*95.9 %*	*70-130*		*07/29/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.4**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6P-S-2-3

N093105-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.2	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	**12**	4.4	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.4	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	4.4	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.4	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	**510**	44	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*108 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*127 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**22**	11	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	
Benzo (a) pyrene	**28**	11	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	
Benzo (b) fluoranthene	**41**	11	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**22**	11	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*97.4 %*	*70-130*		*07/29/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.8**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6P-S-3-4

N093105-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*93.4 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/29/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*91.8 %*	*70-130*		*07/29/2009*	*07/29/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.4**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6O-S-0-1

N093105-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	**57**	47	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*117 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*129 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*92.3 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6O-S-2-3

N093105-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	3.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	3.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	**41**	6.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	6.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	**47**	6.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	**8.0**	6.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	P
Chlordane (tech)	**2500**	60	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*109 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*126 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**130**	15	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (a) pyrene	**150**	15	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (b) fluoranthene	**130**	15	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Dibenz (a,h) anthracene	**49**	15	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**110**	15	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*99.7 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**66.5**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6O-S-3-4

N093105-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	ND	5.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	5.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	5.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	P
4,4´-DDT	ND	5.0	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	**130**	50	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.1 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*118 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**80.6**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6O-S-0-1-P

N093105-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	**4.7**	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	**490**	46	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.6 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*115 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	**20**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**12**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.6**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6N-S-0-1

N093105-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	ND	4.5	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.5	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	4.5	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.5	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*99.8 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*119 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.2**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6N-S-2-3

N093105-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
4,4´-DDT	ND	4.6	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.9 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*60-140*		*07/29/2009*	*07/30/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*103 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.3**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6N-S-3-4

N093105-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	**6.4**	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**28**	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	**58**	47	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*72.6 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.9 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**1500**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (a) pyrene	**1500**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (b) fluoranthene	**840**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Dibenz (a,h) anthracene	**340**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**710**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*99.8 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.5**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6N-S-4-5

N093105-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*103 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**81.4**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7N-S-0-1

N093105-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.2	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.2	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	4.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	4.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*74.9 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*93.6 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**13**	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**89.2**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7N-S-2-3

N093105-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Dieldrin	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
4,4´-DDT	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Chlordane (tech)	**67**	46	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*83.6 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.5 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*107 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.6**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7N-S-3-4

N093105-20 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**13**	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	50	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*103 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*105 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**79.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7O-S-0-1

N093106-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	P
Chlordane (tech)	**160**	46	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*102 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*112 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.2**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7O-S-2-3

N093106-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	**12**	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Dieldrin	ND	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**25**	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
4,4´-DDT	ND	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	**710**	48	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*115 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*109 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*111 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**82.6**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7O-S-3-4

N093106-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**15**	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	51	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*106 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*105 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**79.1**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7O-S-2-3-P

N093106-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	**200**	47	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*84.5 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.7 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*108 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.2**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7P-S-0-1

N093106-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	ND	5.1	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	X, HC
Dieldrin	ND	5.1	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
4,4´-DDD	**10**	5.1	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
4,4´-DDT	**6.9**	5.1	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Chlordane (tech)	**290**	51	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*85.0 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*89.9 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*99.5 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**78.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7P-S-1-3

N093106-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	25	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	25	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	51	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	51	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDD	**110**	51	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	D
4,4´-DDT	ND	51	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	**980**	51	ug/kg dry	1	07/31/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*127 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**78.8**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7Q-S-0-1

N093106-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Dieldrin	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
4,4´-DDT	ND	4.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*122 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*125 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**13**	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.8**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7Q-S-2-3

N093106-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*80.7 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.5 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*99.6 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7Q-S-3-4

N093106-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	**59**	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**45**	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	P
4,4´-DDT	**8.2**	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	**660**	53	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*88.5 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*89.9 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**74.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7R-S-0-1

N093106-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	P
4,4´-DDT	ND	4.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	P
Chlordane (tech)	ND	48	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*102 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*93.7 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*119 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**83.0**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7R-S-1-3

N093106-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/31/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*97.8 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*89.7 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*101 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.2**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
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OU1-83-8R-S-0-1

N093106-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.7	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	**370**	5.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**690**	5.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	E
4,4´-DDT	**120**	5.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	**490**	54	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*87.7 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.3 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**120**	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (a) pyrene	**150**	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Benzo (b) fluoranthene	**180**	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**100**	13	ug/kg dry	1	07/29/2009	07/30/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*113 %*	*70-130*		*07/29/2009*	*07/30/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**74.2**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8R-S-2-3

N093106-20 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**8.9**	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	50	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*87.3 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*91.2 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*114 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**80.2**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8R-S-3-4

N093106-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	ND	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	49	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*89.1 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*93.2 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*118 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**82.2**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8Q-S-0-1

N093107-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.8	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	5.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**8.6**	5.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	5.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	56	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*90.2 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*92.2 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	14	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	14	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	14	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	14	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	14	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*105 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**71.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8Q-S-2-3

N093107-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**7.0**	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	5.0	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	50	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*86.3 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*89.1 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	**18**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (b) fluoranthene	**19**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**18**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*107 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**80.5**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8Q-S-3-4

N093107-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	**5.2**	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**44**	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	4.9	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	49	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*89.7 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*88.9 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*112 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**81.0**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8Q-S-2-3-P

N093107-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.5	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	ND	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**8.0**	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	ND	5.1	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	ND	51	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*86.2 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.6 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*113 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**78.7**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8P-S-0-1

N093107-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Heptachlor epoxide	ND	2.6	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDE	**11**	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Dieldrin	ND	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDD	**75**	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
4,4´-DDT	**5.5**	5.3	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	
Chlordane (tech)	**130**	53	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*89.2 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*88.8 %*	*60-140*		*07/29/2009*	*07/31/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	**22**	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (b) fluoranthene	**23**	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**20**	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**75.6**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8P-S-2-3

N093107-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*89.7 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.0 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*112 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8P-S-3-4

N093107-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*95.2 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*95.1 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*107 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.4**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8O-S-0-1

N093107-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	ND	4.6	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	ND	4.6	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	ND	4.6	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	P
4,4´-DDT	ND	4.6	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*111 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*111 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**21**	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (a) pyrene	**19**	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (b) fluoranthene	**22**	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**14**	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*111 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.8**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8O-S-2-3

N093107-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.3	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	**8.3**	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	**40**	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDT	**4.8**	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	**94**	47	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*110 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*109 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.8**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8O-S-3-4

N093107-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.6	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.6	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	ND	5.2	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	ND	5.2	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	P
4,4´-DDD	ND	5.2	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDT	ND	5.2	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	ND	52	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*108 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*97.3 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**76.8**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9O-S-0-1

N093107-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	**44**	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	**18**	4.9	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	**190**	4.9	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	**17**	4.9	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDT	ND	4.9	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	**4000**	490	ug/kg dry	10	07/29/2009	08/01/2009	EPA 8081A	HC, D
Surrogate: Decachlorobiphenyl		*91.8 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*93.9 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**130**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (a) pyrene	**160**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (b) fluoranthene	**190**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Dibenz (a,h) anthracene	**51**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**130**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*103 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**82.4**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9O-S-2-3

N093107-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.3	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	**5.8**	2.3	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	P
4,4´-DDE	**5.0**	4.5	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	**41**	4.5	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	ND	4.5	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	P
4,4´-DDT	ND	4.5	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	**560**	45	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*121 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*117 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*118 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.7**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9O-S-3-4

N093107-20 (Soil)

ECCS

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	**9.8**	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*100 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*97.8 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*110 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.3**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9Q-S-0-1

N093108-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	**4200**	97	ug/kg dry	20	07/29/2009	08/01/2009	EPA 8081A	D
Dieldrin	ND	4.9	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	ND	97	ug/kg dry	20	07/29/2009	08/01/2009	EPA 8081A	R
4,4´-DDT	**6200**	97	ug/kg dry	20	07/29/2009	08/01/2009	EPA 8081A	D
Chlordane (tech)	**990**	49	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	HC
Surrogate: Decachlorobiphenyl		*94.0 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*88.5 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**120**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (a) pyrene	**170**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Benzo (b) fluoranthene	**200**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**140**	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*113 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**82.3**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9Q-S-2-3

N093108-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Heptachlor epoxide	ND	2.4	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDE	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Dieldrin	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDD	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
4,4´-DDT	ND	4.7	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/29/2009	08/01/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*95.0 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*91.5 %*	*60-140*		*07/29/2009*	*08/01/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/29/2009	07/31/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*111 %*	*70-130*		*07/29/2009*	*07/31/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.1**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9Q-S-3-4

N093108-04 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*126 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*99.3 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*105 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.4**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9P-S-0-1

N093108-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	**90**	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
Dieldrin	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
4,4´-DDT	**87**	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
Chlordane (tech)	**57**	46	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*127 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*114 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*103 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.6**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9P-S-2-3

N093108-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	49	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
Dieldrin	ND	49	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	49	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
4,4´-DDT	ND	49	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
Chlordane (tech)	ND	49	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*117 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*108 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**82.3**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9P-S-3-4

N093108-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*136 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*118 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.3**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9R-S-0-1

N093108-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	**1500**	49	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
Dieldrin	ND	49	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	**9300**	490	ug/kg dry	100	07/30/2009	08/03/2009	EPA 8081A	D
4,4´-DDT	**6800**	490	ug/kg dry	100	07/30/2009	08/03/2009	EPA 8081A	D
Chlordane (tech)	**3500**	490	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*125 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*118 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**45**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (a) pyrene	**75**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	**86**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**95**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*97.0 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**80.9**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9R-S-2-3

N093108-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
Dieldrin	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	**330**	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
4,4´-DDT	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
Chlordane (tech)	**51**	47	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*122 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*98.2 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*95.1 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.7**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9R-S-3-4

N093108-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	**150**	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
4,4´-DDT	ND	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	50	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*117 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*93.2 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*95.3 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**80.5**	0.00	% by Weight	1	07/29/2009	07/30/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8K-S-0-1

N093109-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC
Heptachlor epoxide	**53**	24	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
4,4´-DDE	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	**240**	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
4,4´-DDD	**300**	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	HC, D
4,4´-DDT	ND	47	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	**1900**	47	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*123 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*115 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**13**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (a) pyrene	**21**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	**32**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**18**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*110 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.5**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8K-S-1-2

N093109-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*107 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*119 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**91.4**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8K-S-2-3

N093109-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*129 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*111 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**89.2**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8K-S-0-1-P

N093109-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	**53**	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
4,4´-DDE	ND	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	**240**	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
4,4´-DDD	ND	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	**3000**	450	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*127 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*117 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	**13**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*110 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.2**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9K-S-0-1

N093109-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	P
4,4´-DDE	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	**520**	46	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*126 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**17**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (a) pyrene	**31**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	**25**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**21**	12	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*114 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.5**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9K-S-2-3

N093109-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*138 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*125 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**29**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (a) pyrene	**32**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	**74**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.9**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9K-S-2-3-P

N093109-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	P
4,4´-DDT	ND	44	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*140 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*122 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	X, U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*107 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.8**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8H-S-0-1

N093109-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	**110**	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Dieldrin	ND	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	P
4,4´-DDT	**120**	50	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Chlordane (tech)	**730**	50	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*124 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*114 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**59**	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (a) pyrene	**71**	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	**270**	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**54**	25	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*103 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**80.4**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8H-S-1-2

N093109-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*98.0 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*88.8 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.8**	0.00	% by Weight	1	08/07/2009	08/08/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8H-S-2-3

N093109-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	43	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*126 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**92.7**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8H-S-0-1-P

N093109-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	**27**	25	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
4,4´-DDE	**110**	51	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Dieldrin	ND	51	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	51	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	P
4,4´-DDT	**140**	51	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Chlordane (tech)	**850**	51	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*129 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**110**	13	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (a) pyrene	**160**	13	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	**230**	13	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Dibenz (a,h) anthracene	**39**	13	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**110**	13	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*108 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**78.8**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9G-S-0-1

N093110-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	**180**	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
4,4´-DDD	**48**	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	P, D
4,4´-DDT	**89**	46	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Chlordane (tech)	**3000**	460	ug/kg dry	10	07/30/2009	08/03/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*124 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**620**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (a) pyrene	**880**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Benzo (b) fluoranthene	**1300**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Dibenz (a,h) anthracene	**220**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**810**	11	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.9**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9G-S-1-2

N093110-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	**76**	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDT	**260**	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Chlordane (tech)	**67**	44	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*101 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**100**	11	ug/kg dry	1	08/02/2009	08/03/2009	EPA 8270C	M
Benzo (a) pyrene	**95**	11	ug/kg dry	1	08/02/2009	08/03/2009	EPA 8270C	M
Benzo (b) fluoranthene	**160**	44	ug/kg dry	1	08/02/2009	08/03/2009	EPA 8270C	
Dibenz (a,h) anthracene	**37**	11	ug/kg dry	1	08/02/2009	08/03/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**86**	11	ug/kg dry	1	08/02/2009	08/03/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*101 %*	*70-130*		*08/02/2009*	*08/03/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.3**	0.00	% by Weight	1	08/02/2009	08/03/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9G-S-2-3

N093110-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	5	07/30/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	5	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	5	07/30/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	5	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	5	07/30/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	5	07/30/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	93	ug/kg dry	1	07/30/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*126 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*123 %*	*60-140*		*07/30/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	23	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	23	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	23	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	23	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	23	ug/kg dry	1	07/30/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*106 %*	*70-130*		*07/30/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.4**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9G-S-2-3-P

N093110-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	07/31/2009	08/03/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.3 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*94.1 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*99.9 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.8**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9I-S-0-1

N093110-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Heptachlor epoxide	**47**	23	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	D
4,4´-DDE	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
4,4´-DDD	**97**	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	D
4,4´-DDT	ND	46	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	
Chlordane (tech)	**3500**	460	ug/kg dry	10	07/31/2009	08/03/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*94.6 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*85.4 %*	*60-140*		*07/31/2009*	*08/03/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**750**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Benzo (a) pyrene	**610**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Benzo (b) fluoranthene	**680**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Dibenz (a,h) anthracene	**150**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**480**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*96.5 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.1**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9I-S-1-2

N093110-08 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	45	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.6**	0.00	% by Weight	1	08/02/2009	08/03/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9I-S-2-3

N093110-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	M, X
4,4´-DDE	ND	47	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	**260**	47	ug/kg dry	1	07/31/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*92.4 %*	*60-140*		*07/31/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*81.7 %*	*60-140*		*07/31/2009*	*08/04/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	M, U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*98.7 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.8**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9I-S-2-3-P

N093110-12 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	07/31/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	**220**	46	ug/kg dry	1	07/31/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*135 %*	*60-140*		*07/31/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*07/31/2009*	*08/04/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*101 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.9**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6R-S-1-3

N093110-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	25	ug/kg dry	5	07/31/2009	08/04/2009	EPA 8081A	
Heptachlor epoxide	ND	25	ug/kg dry	5	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDE	ND	49	ug/kg dry	5	07/31/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	49	ug/kg dry	5	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDD	ND	49	ug/kg dry	5	07/31/2009	08/04/2009	EPA 8081A	
4,4´-DDT	ND	49	ug/kg dry	5	07/31/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	ND	98	ug/kg dry	1	07/31/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*07/31/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*96.0 %*	*60-140*		*07/31/2009*	*08/04/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	25	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	25	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	25	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	25	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	25	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*96.6 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**81.6**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6Q-S-2-3

N093110-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	HC
Dieldrin	ND	46	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	P, HC
4,4´-DDT	ND	46	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Chlordane (tech)	**750**	46	ug/kg dry	1	07/31/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*113 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**560**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Benzo (a) pyrene	**310**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Benzo (b) fluoranthene	**250**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Dibenz (a,h) anthracene	**67**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**170**	11	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.0**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6Q-S-3-4

N093110-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	48	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	HC
Dieldrin	ND	48	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	48	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	HC, P
4,4´-DDT	ND	48	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	HC
Chlordane (tech)	**750**	48	ug/kg dry	1	07/31/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*88.6 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*80.0 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**41**	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Benzo (a) pyrene	**46**	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Benzo (b) fluoranthene	**50**	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**33**	12	ug/kg dry	1	07/30/2009	08/02/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*96.6 %*	*70-130*		*07/30/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.2**	0.00	% by Weight	1	07/30/2009	07/31/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14D-S-0-1

N093111-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Chlordane (tech)	ND	43	ug/kg dry	1	07/31/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*126 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**92.2**	0.00	% by Weight	1	07/31/2009	08/01/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14D-S-0-1-P

N093111-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Chlordane (tech)	ND	43	ug/kg dry	1	07/31/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*129 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**93.9**	0.00	% by Weight	1	07/31/2009	08/01/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-15E-S-0-1

N093111-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	HC
Heptachlor epoxide	ND	21	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Dieldrin	**100**	42	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	HC, D
4,4´-DDD	ND	42	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
4,4´-DDT	ND	42	ug/kg dry	10	07/31/2009	08/02/2009	EPA 8081A	
Chlordane (tech)	**600**	42	ug/kg dry	1	07/31/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*121 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*60-140*		*07/31/2009*	*08/02/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**94.9**	0.00	% by Weight	1	07/31/2009	08/01/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12K-S-0-1

N093112-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Dieldrin	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDT	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Chlordane (tech)	ND	42	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*113 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**95.4**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12K-S-0-1-P

N093112-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Dieldrin	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
4,4´-DDT	ND	42	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Chlordane (tech)	**66**	42	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*94.4 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.0 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**95.7**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-6M-S-3-4

N093112-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	85	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	85	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	85	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	85	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	85	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	M, X, U
Surrogate: p-Terphenyl-d14		*101 %*	*70-130*		*08/01/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**23.5**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-5M-S-3-4

N093112-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	25	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Benzo (a) pyrene	ND	25	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	25	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	25	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	25	ug/kg dry	1	08/01/2009	08/01/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*08/01/2009*	*08/01/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**81.0**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-5N-S-3-4

N093112-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
ECCS								
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	13	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*105 %*	*70-130*		*08/01/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**77.5**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11L-S-0-1

N093113-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
Dieldrin	ND	44	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
4,4´-DDD	ND	44	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC, P
4,4´-DDT	ND	44	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
Chlordane (tech)	**150**	44	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*112 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**90.5**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12I-S-0-1

N093113-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDD	**140**	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	D
4,4´-DDT	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	**1500**	46	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*90.8 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*83.4 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**82**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Benzo (a) pyrene	**100**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Benzo (b) fluoranthene	**89**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**96**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*97.1 %*	*70-130*		*08/01/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.6**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10I-S-0-1

N093113-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**50**	22	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	D
Heptachlor epoxide	ND	22	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	**26000**	2200	ug/kg dry	50	08/03/2009	08/04/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*94.3 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*84.3 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**180**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Benzo (a) pyrene	**280**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Benzo (b) fluoranthene	**390**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Dibenz (a,h) anthracene	**130**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**270**	11	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*98.2 %*	*70-130*		*08/01/2009*	*08/02/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.5**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10I-S-1-2

N093113-12 (Soil)

ECCS

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**890**	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Heptachlor epoxide	ND	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	**90**	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	P, D
Dieldrin	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	**63**	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Chlordane (tech)	**35000**	2200	ug/kg dry	50	08/05/2009	08/05/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*117 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**150**	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	
Benzo (a) pyrene	**200**	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	
Benzo (b) fluoranthene	**210**	44	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	
Dibenz (a,h) anthracene	**90**	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**340**	11	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*108 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.6**	0.00	% by Weight	1	08/02/2009	08/03/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10K-S-0-1

N093113-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
Dieldrin	ND	45	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
Chlordane (tech)	**85**	45	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*116 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	45	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	45	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	**110**	110	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	45	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	45	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*106 %*	*70-130*		*08/05/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**89.4**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10K-S-0-1-P

N093113-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
Dieldrin	ND	46	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/01/2009	08/02/2009	EPA 8081A	HC
Chlordane (tech)	**110**	46	ug/kg dry	1	08/01/2009	08/02/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*110 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*100 %*	*60-140*		*08/01/2009*	*08/02/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.1**	0.00	% by Weight	1	08/01/2009	08/02/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-5Q-S-2-3

N093201-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	46	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	08/02/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*111 %*	*70-130*		*08/02/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.1**	0.00	% by Weight	1	08/02/2009	08/03/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9N-S-0-1

N093202-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	**49**	46	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.6 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*84.2 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.3**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10N-S-0-1

N093202-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	X
Heptachlor epoxide	ND	23	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	X
4,4´-DDE	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	X
Dieldrin	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	X
4,4´-DDD	ND	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	X, P
4,4´-DDT	**47**	46	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	M, X, D
Chlordane (tech)	**66**	46	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*102 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*91.5 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.7**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10O-S-0-1

N093202-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	25	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	P
Heptachlor epoxide	ND	25	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDE	ND	49	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	49	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDD	ND	49	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDT	ND	49	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	ND	49	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*95.2 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*84.4 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**81.2**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9F-S-0-1

N093202-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**83**	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Heptachlor epoxide	ND	22	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	**78**	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDD	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	**9500**	440	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*114 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**9800**	110	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8270C	D
Benzo (a) pyrene	**24000**	110	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8270C	D
Benzo (b) fluoranthene	**29000**	440	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8270C	D
Dibenz (a,h) anthracene	**6600**	110	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8270C	D
Indeno (1,2,3-cd) pyrene	**23000**	110	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8270C	D
Surrogate: p-Terphenyl-d14		*110 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.3**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9F-S-1-2

N093202-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	P
Dieldrin	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	P
4,4´-DDT	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	**90**	43	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*116 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	**44**	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*73.3 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**92.3**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9J-S-0-1

N093203-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**490**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	M
Benzo (a) pyrene	**530**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Benzo (b) fluoranthene	**720**	44	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Dibenz (a,h) anthracene	**160**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**400**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*115 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.8**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9J-S-1-2

N093203-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**13**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Benzo (a) pyrene	**36**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Benzo (b) fluoranthene	**76**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**54**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*112 %*	*70-130*		*08/17/2009*	*08/19/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.7**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8J-S-0-1

N093203-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*119 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	46	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*109 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.0**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8I-S-0-1

N093203-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.6 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	47	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*106 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.9**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8G-S-0-1

N093203-16 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**950**	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Heptachlor epoxide	**5300**	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D, E
4,4´-DDE	**1400**	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Dieldrin	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	**330**	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDT	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	**220000**	9300	ug/kg dry	200	08/05/2009	08/05/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*132 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*111 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**120**	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Benzo (a) pyrene	**160**	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Benzo (b) fluoranthene	**280**	47	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Dibenz (a,h) anthracene	**44**	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**130**	12	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*100 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.9**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8G-S-1-2

N093203-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**170**	23	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	D
Heptachlor epoxide	**360**	23	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	D
4,4´-DDE	**150**	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	P, D
Dieldrin	**82**	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	D
4,4´-DDD	ND	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
4,4´-DDT	**150**	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	D
Chlordane (tech)	**27000**	930	ug/kg dry	20	08/06/2009	08/07/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*110 %*	*60-140*		*08/06/2009*	*08/07/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*120 %*	*60-140*		*08/06/2009*	*08/07/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	46	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	46	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	120	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	46	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	46	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*97.6 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.1**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8G-S-2-3

N093203-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*130 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*128 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**90.0**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10G-S-0-1

N093204-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**67**	21	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Heptachlor epoxide	ND	21	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	P
Dieldrin	**63**	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDD	ND	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	**58**	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Chlordane (tech)	**7700**	420	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*121 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*105 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**71**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Benzo (a) pyrene	**83**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Benzo (b) fluoranthene	**100**	42	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**87**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**94.2**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10G-S-1-2

N093204-02 (Soil)

ECCS

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	M1
Heptachlor epoxide	ND	21	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	M1
4,4´-DDE	**91**	42	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	M1, D
Dieldrin	ND	42	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	M1
4,4´-DDD	ND	42	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	M1
4,4´-DDT	**260**	42	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	M1, D
Chlordane (tech)	**2200**	420	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	M1, D
Surrogate: Decachlorobiphenyl		*113 %*	*60-140*		*08/17/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*08/17/2009*	*08/18/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**45**	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*96.7 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**94.2**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10G-S-0-1-P

N093204-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**22**	21	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	D
Heptachlor epoxide	ND	21	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	42	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	**96**	42	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	D
4,4´-DDT	ND	42	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	**1600**	42	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*98.4 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*93.0 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**570**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Benzo (a) pyrene	**490**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Benzo (b) fluoranthene	**660**	42	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Dibenz (a,h) anthracene	**150**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**400**	11	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*115 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**94.6**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-5P-S-2-3

N093204-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	13	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Benzo (a) pyrene	ND	13	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	51	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	13	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	13	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*125 %*	*70-130*		*08/03/2009*	*08/04/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**79.0**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-14F-S-0-1

N093204-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/03/2009	08/04/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	08/03/2009	08/04/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*85.8 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*77.5 %*	*60-140*		*08/03/2009*	*08/04/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**91.3**	0.00	% by Weight	1	08/03/2009	08/04/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-E080309

N093205-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*53.9 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*103 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*49.1 %*	*70-130*		*08/07/2009*	*08/07/2009*	*EPA 8270C*	*S*

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-E080409

N093205-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*81.2 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*88.0 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*72.1 %*	*70-130*		*08/07/2009*	*08/07/2009*	*EPA 8270C*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-E080509

N093205-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*104 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/07/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*86.1 %*	*70-130*		*08/07/2009*	*08/07/2009*	*EPA 8270C*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10S-S-0-1

N093206-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	**300**	48	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	M, X, D
Dieldrin	ND	48	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	**67**	48	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	M, X, P, D
4,4´-DDT	**1700**	48	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	M, X, D
Chlordane (tech)	ND	48	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*103 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**83.8**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10R-S-0-1

N093206-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*113 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**84.9**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-5R-S-1-3

N093206-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	66	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	**70**	66	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (b) fluoranthene	**200**	170	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	66	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**76**	66	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**60.5**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10F-S-0-1

N093207-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	**43**	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Dieldrin	**120**	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDD	ND	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	**62**	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Chlordane (tech)	**3900**	420	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*75.5 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*73.0 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	X, M, U
Benzo (b) fluoranthene	**110**	100	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	M, X
Dibenz (a,h) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**48**	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	M, X
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**95.6**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10F-S-1-2

N093207-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*99.7 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**94.7**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10F-S-2-3

N093207-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	LC, U
Benzo (a) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	120	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*97.3 %*	*70-130*		*08/05/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.4**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10E-S-0-1

N093207-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	**57**	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDD	ND	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	42	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	**930**	42	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*111 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*102 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	100	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	42	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*97.8 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**95.3**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10E-S-1-2

N093207-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*89.3 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**89.3**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8F-S-0-1

N093207-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Heptachlor epoxide	**30**	23	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDE	ND	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Dieldrin	**170**	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	D
4,4´-DDD	ND	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/05/2009	08/05/2009	EPA 8081A	
Chlordane (tech)	**1900**	46	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*122 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*60-140*		*08/05/2009*	*08/05/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**94**	93	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (a) pyrene	**130**	93	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (b) fluoranthene	**510**	230	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	93	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**170**	93	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*107 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**86.4**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8F-S-1-2

N093207-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	P
Dieldrin	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	P
4,4´-DDT	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	**75**	45	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*125 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*120 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**140**	90	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (a) pyrene	**220**	90	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (b) fluoranthene	**590**	230	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	90	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**210**	90	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*101 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.6**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8F-S-2-3

N093207-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**180**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Benzo (a) pyrene	**170**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Benzo (b) fluoranthene	**260**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Dibenz (a,h) anthracene	**51**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**130**	11	ug/kg dry	1	08/17/2009	08/19/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*108 %*	*70-130*		*08/17/2009*	*08/19/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.3**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9E-S-0-1

N093207-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	P
Dieldrin	ND	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	**1700**	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*129 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*111 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**93**	88	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (a) pyrene	**120**	88	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (b) fluoranthene	**400**	220	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	88	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**130**	88	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*96.9 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.6**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9E-S-1-2

N093207-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**280**	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (a) pyrene	**240**	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Benzo (b) fluoranthene	**300**	110	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**160**	43	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*106 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**92.2**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9E-S-2-3

N093207-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	48	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	LC, U
Benzo (a) pyrene	ND	48	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	120	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	48	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	48	ug/kg dry	1	08/05/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*91.0 %*	*70-130*		*08/05/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**83.9**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8E-S-0-1

N093207-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	P
Dieldrin	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	**2100**	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*84.7 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*81.2 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	45	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*106 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.3**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8E-S-1-2

N093207-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	50	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	50	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	130	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	50	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	50	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*102 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**79.4**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8E-S-1-2-P

N093207-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	48	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (a) pyrene	ND	48	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	120	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	48	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	48	ug/kg dry	1	08/04/2009	08/05/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*128 %*	*70-130*		*08/04/2009*	*08/05/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**83.5**	0.00	% by Weight	1	08/04/2009	08/05/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9S-S-0-1

N093208-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDE	**550**	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	D
Dieldrin	ND	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDD	**86**	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	P, D
4,4´-DDT	**1400**	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	D
Chlordane (tech)	**270**	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*121 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.4**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9S-S-0-1-P

N093208-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	P
4,4´-DDT	**180**	44	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	D
Chlordane (tech)	**76**	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*122 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*108 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**91.7**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7K-S-0-1

N093208-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	**250**	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*112 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.2**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7L-S-0-1

N093208-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*87.7 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*85.2 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.7**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8L-S-0-1

N093208-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	08/05/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*87.2 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*83.6 %*	*60-140*		*08/05/2009*	*08/06/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**85.0**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9L-0-1

N093208-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	24	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	24	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	**84**	47	ug/kg dry	1	08/06/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*101 %*	*60-140*		*08/06/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*98.0 %*	*60-140*		*08/06/2009*	*08/06/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**84.7**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7F-S-0-1

N093209-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Dieldrin	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	47	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	**66**	47	ug/kg dry	1	08/06/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*81.7 %*	*60-140*		*08/06/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*77.4 %*	*60-140*		*08/06/2009*	*08/06/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	**120**	120	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	HC
Dibenz (a,h) anthracene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.6**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7F-S-1-2

N093209-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*74.7 %*	*60-140*		*08/06/2009*	*08/07/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*81.1 %*	*60-140*		*08/06/2009*	*08/07/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	**130**	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	HC
Dibenz (a,h) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*105 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.1**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7G-S-0-1

N093209-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/06/2009	08/06/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	08/06/2009	08/06/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*80.1 %*	*60-140*		*08/06/2009*	*08/06/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*74.9 %*	*60-140*		*08/06/2009*	*08/06/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.0**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7G-S-1-2

N093209-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*124 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*115 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*101 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.0**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8D-S-0-1

N093209-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**1200**	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Benzo (a) pyrene	**1300**	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Benzo (b) fluoranthene	**2700**	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	HC
Dibenz (a,h) anthracene	**360**	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**1200**	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*100 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**89.8**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8D-S-1-2

N093209-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*107 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.3**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7E-S-0-1

N093209-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	120	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*108 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**84.6**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7E-S-1-2

N093209-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	120	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	47	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*103 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.3**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10D-S-0-1

N093209-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**260**	42	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Benzo (a) pyrene	**420**	42	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Benzo (b) fluoranthene	**500**	100	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	HC
Dibenz (a,h) anthracene	**120**	42	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**400**	42	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*104 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**95.5**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10D-S-1-2

N093209-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	46	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*103 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.9**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9D-S-0-1

N093209-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	45	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*99.8 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.9**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9D-S-1-2

N093209-22 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (a) pyrene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	110	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	44	ug/kg dry	1	08/05/2009	08/06/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*101 %*	*70-130*		*08/05/2009*	*08/06/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.3**	0.00	% by Weight	1	08/05/2009	08/06/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10C-S-0-1

N093210-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**13**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*111 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**92.5**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10C-S-1-2

N093210-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*118 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**89.6**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11D-S-0-1

N093210-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**12**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (a) pyrene	**15**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (b) fluoranthene	**19**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**15**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*113 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**94.7**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11D-S-1-2

N093210-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*115 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.9**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9C-S-0-1

N093210-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**19**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (a) pyrene	**17**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (b) fluoranthene	**31**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**16**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*114 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**91.9**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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OU1-83-9C-S-1-2

N093210-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*113 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.2**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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OU1-83-11C-S-0-1

N093210-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*116 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**93.5**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11C-S-1-2

N093210-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*119 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.9**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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OU1-83-8C-S-0-1

N093210-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**52**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (a) pyrene	**81**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (b) fluoranthene	**100**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Dibenz (a,h) anthracene	**34**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**68**	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*113 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**88.6**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8C-S-1-2

N093210-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*118 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.7**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8C-S-0-1-P

N093210-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*114 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.5**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7D-S-0-1

N093211-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**120**	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (a) pyrene	**150**	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Benzo (b) fluoranthene	**260**	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Dibenz (a,h) anthracene	**50**	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**120**	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*115 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.7**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7D-S-1-2

N093211-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	12	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*116 %*	*70-130*		*08/06/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**85.8**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7H-S-0-1

N093211-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	28	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
Heptachlor epoxide	ND	28	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
4,4´-DDE	ND	55	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
Dieldrin	ND	55	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
4,4´-DDD	ND	55	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
4,4´-DDT	ND	55	ug/kg dry	10	08/06/2009	08/07/2009	EPA 8081A	
Chlordane (tech)	ND	55	ug/kg dry	1	08/06/2009	08/07/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*79.9 %*	*60-140*		*08/06/2009*	*08/07/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*88.0 %*	*60-140*		*08/06/2009*	*08/07/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**72.6**	0.00	% by Weight	1	08/06/2009	08/07/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-7H-S-1-2

N093211-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*122 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*105 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**89.7**	0.00	% by Weight	1	08/07/2009	08/08/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-S-5O-S-3-4

N093212-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/07/2009	08/07/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/07/2009	08/07/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/07/2009	08/07/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/07/2009	08/07/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*112 %*	*70-130*		*08/07/2009*	*08/07/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**87.5**	0.00	% by Weight	1	08/07/2009	08/08/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-S-10Q-S-0-1

N093212-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	P
4,4´-DDE	**3300**	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	D
Dieldrin	ND	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	**920**	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	D
4,4´-DDT	**9700**	45	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	E, D
Chlordane (tech)	**2200**	45	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*111 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.5**	0.00	% by Weight	1	08/07/2009	08/08/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-S-10Q-S-0-1-P

N093212-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	28	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	P
Heptachlor epoxide	ND	28	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	P
4,4´-DDE	**2900**	56	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	D
Dieldrin	ND	56	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	**2900**	56	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	D
4,4´-DDT	**17000**	56	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	E, D
Chlordane (tech)	**2300**	56	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*116 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**71.7**	0.00	% by Weight	1	08/07/2009	08/08/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-S-10Q-S-1-2

N093212-19 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	
4,4´-DDE	**470**	44	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	D
Dieldrin	ND	44	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	
4,4´-DDD	**510**	44	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	D
4,4´-DDT	**740**	44	ug/kg dry	10	08/17/2009	08/18/2009	EPA 8081A	D
Chlordane (tech)	**650**	44	ug/kg dry	1	08/17/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*137 %*	*60-140*		*08/17/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*60-140*		*08/17/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**89.9**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10P-S-0-1

N093214-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/07/2009	08/08/2009	EPA 8081A	
Chlordane (tech)	ND	43	ug/kg dry	1	08/07/2009	08/08/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*120 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*109 %*	*60-140*		*08/07/2009*	*08/08/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**92.1**	0.00	% by Weight	1	08/07/2009	08/08/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10I-S-2-3

N093401-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	X
Heptachlor epoxide	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	X
4,4´-DDE	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	X
Dieldrin	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	X
4,4´-DDD	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	X
4,4´-DDT	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	X
Chlordane (tech)	ND	45	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*106 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*106 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**89.6**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10I-S-2-3-P

N093401-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*84.3 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*86.3 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.0**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11F-S-0-1

N093401-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**79**	21	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
Heptachlor epoxide	ND	21	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	**1500**	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
4,4´-DDD	**120**	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
4,4´-DDT	**130**	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
Chlordane (tech)	**26000**	850	ug/kg dry	20	08/18/2009	08/18/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*131 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*113 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**520**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Benzo (a) pyrene	**460**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Benzo (b) fluoranthene	**640**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Dibenz (a,h) anthracene	**170**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Indeno (1,2,3-cd) pyrene	**330**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*89.7 %*	*70-130*		*08/18/2009*	*08/18/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**93.9**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11F-S-1-2

N093401-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	HC
4,4´-DDD	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Chlordane (tech)	**150**	43	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*107 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*87.7 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*125 %*	*70-130*		*08/19/2009*	*08/21/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**92.3**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11H-S-0-1

N093401-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDT	**48**	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
Chlordane (tech)	**1200**	43	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*90.4 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*91.3 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	**44**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Benzo (a) pyrene	**48**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Benzo (b) fluoranthene	**73**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**47**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*98.4 %*	*70-130*		*08/18/2009*	*08/18/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**92.6**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11H-S-1-2

N093401-11 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*89.3 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*83.3 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*100 %*	*70-130*		*08/18/2009*	*08/18/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**90.1**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12J-S-0-1

N093401-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	**250**	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
4,4´-DDD	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Chlordane (tech)	**2900**	430	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*122 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*124 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Benzo (a) pyrene	**17**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Benzo (b) fluoranthene	**19**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	**17**	11	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8270C	
Surrogate: p-Terphenyl-d14		*98.8 %*	*70-130*		*08/18/2009*	*08/18/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**93.7**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12J-S-1-2

N093401-15 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	44	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	44	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDD	ND	44	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	44	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	44	ug/kg dry	1	08/21/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*99.0 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*99.3 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**90.4**	0.00	% by Weight	1	08/21/2009	08/25/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8N-S-0-1

N093402-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*103 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*82.2 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**89.1**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-8S-S-0-1

N093402-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	31	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	31	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	62	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	ND	62	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDD	**120**	62	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
4,4´-DDT	ND	62	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Chlordane (tech)	ND	62	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*84.7 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**64.9**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9O-S-1-2

N093402-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	HC
4,4´-DDD	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Chlordane (tech)	**610**	45	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*102 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*84.2 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**89.4**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9R-S-1-2

N093402-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	**110**	47	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
Dieldrin	ND	47	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDD	**160**	47	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
4,4´-DDT	**330**	47	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	D
Chlordane (tech)	**220**	47	ug/kg dry	1	08/18/2009	08/18/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*105 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*80.8 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**85.7**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11P-S-0-1

N093402-17 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**3300**	460	ug/kg dry	200	08/18/2009	08/18/2009	EPA 8081A	D
Heptachlor epoxide	ND	23	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDE	**4200**	920	ug/kg dry	200	08/18/2009	08/18/2009	EPA 8081A	D
Dieldrin	ND	46	ug/kg dry	10	08/18/2009	08/18/2009	EPA 8081A	
4,4´-DDD	**5400**	920	ug/kg dry	200	08/18/2009	08/18/2009	EPA 8081A	D
4,4´-DDT	**27000**	920	ug/kg dry	200	08/18/2009	08/18/2009	EPA 8081A	D
Chlordane (tech)	**200000**	4600	ug/kg dry	100	08/18/2009	08/18/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*102 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*83.6 %*	*60-140*		*08/18/2009*	*08/18/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.7**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11P-S-1-2

N093402-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	P
Heptachlor epoxide	ND	23	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDE	**91**	46	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	D
Dieldrin	ND	46	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDT	**110**	46	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	D
Chlordane (tech)	ND	46	ug/kg dry	1	08/19/2009	08/19/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*107 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*115 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.3**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11P-S-0-1-P

N093402-21 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**1900**	450	ug/kg dry	200	08/18/2009	08/19/2009	EPA 8081A	D
Heptachlor epoxide	ND	23	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
4,4´-DDE	**3600**	900	ug/kg dry	200	08/18/2009	08/19/2009	EPA 8081A	D
Dieldrin	ND	45	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
4,4´-DDD	**4500**	900	ug/kg dry	200	08/18/2009	08/19/2009	EPA 8081A	D
4,4´-DDT	**28000**	900	ug/kg dry	200	08/18/2009	08/19/2009	EPA 8081A	D
Chlordane (tech)	**95000**	4500	ug/kg dry	100	08/18/2009	08/19/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*105 %*	*60-140*		*08/18/2009*	*08/19/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*83.4 %*	*60-140*		*08/18/2009*	*08/19/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.8**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11Q-S-0-1

N093402-22 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	**33**	23	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	D
Heptachlor epoxide	ND	23	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
4,4´-DDE	**110**	46	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	D
Dieldrin	ND	46	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
4,4´-DDD	**92**	46	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	D
4,4´-DDT	**650**	46	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	D
Chlordane (tech)	ND	46	ug/kg dry	1	08/18/2009	08/19/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*105 %*	*60-140*		*08/18/2009*	*08/19/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*86.3 %*	*60-140*		*08/18/2009*	*08/19/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.1**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11R-S-0-1

N093402-26 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/18/2009	08/19/2009	EPA 8081A	
Chlordane (tech)	**160**	45	ug/kg dry	1	08/18/2009	08/19/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*101 %*	*60-140*		*08/18/2009*	*08/19/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*124 %*	*60-140*		*08/18/2009*	*08/19/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**89.2**	0.00	% by Weight	1	08/18/2009	08/19/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB081809

N093403-01 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*59.4 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*69.3 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/20/2009	08/20/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/20/2009	08/20/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.010	ug/L	1	08/20/2009	08/20/2009	EPA 8270C	E1, U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/20/2009	08/20/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/20/2009	08/20/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*56.7 %*	*70-130*		*08/20/2009*	*08/20/2009*	*EPA 8270C*	*S*

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB081909

N093403-02 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*36.5 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*68.0 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	E1, U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*75.0 %*	*70-130*		*08/20/2009*	*08/21/2009*	*EPA 8270C*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-FB081909

N093403-03 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*54.3 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	*S*
Surrogate: Tetrachloro-meta-xylene		*67.4 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Benzo (a) pyrene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	E1, U
Dibenz (a,h) anthracene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	0.010	ug/L	1	08/20/2009	08/21/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*79.2 %*	*70-130*		*08/20/2009*	*08/21/2009*	*EPA 8270C*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB082009

N093403-04 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/20/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*79.0 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*84.9 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-EB082109

N093403-05 (Water)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	0.020	ug/L	1	08/21/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	0.020	ug/L	1	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	0.040	ug/L	1	08/21/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	0.040	ug/L	1	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDD	ND	0.040	ug/L	1	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	0.040	ug/L	1	08/21/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	0.40	ug/L	1	08/21/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*95.2 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*107 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12F-S-0-1

N093404-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	P
Heptachlor epoxide	ND	22	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
Dieldrin	**230**	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	M1, D
4,4´-DDD	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	P
Chlordane (tech)	**95**	43	ug/kg dry	1	08/19/2009	08/19/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*107 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*114 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring								
Benzo (a) anthracene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Benzo (a) pyrene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Benzo (b) fluoranthene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Dibenz (a,h) anthracene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Indeno (1,2,3-cd) pyrene	ND	11	ug/kg dry	1	08/19/2009	08/21/2009	EPA 8270C	U
Surrogate: p-Terphenyl-d14		*122 %*	*70-130*		*08/19/2009*	*08/21/2009*	*EPA 8270C*	
Classical Chemistry Parameters								
% Solids	**92.0**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12F-S-1-2

N093404-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	08/20/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.5 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.6**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12O-S-0-1

N093404-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDE	**44**	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	D
Dieldrin	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDT	**45**	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	D
Chlordane (tech)	ND	43	ug/kg dry	1	08/19/2009	08/19/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*111 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*120 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**92.9**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12O-S-0-1-P

N093404-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/19/2009	08/19/2009	EPA 8081A	P
Chlordane (tech)	ND	43	ug/kg dry	1	08/19/2009	08/19/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*102 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*110 %*	*60-140*		*08/19/2009*	*08/19/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**93.0**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12P-S-0-1

N093404-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	21	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDE	**460**	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	D
Dieldrin	ND	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	**560**	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	D
4,4´-DDT	**1200**	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	D
Chlordane (tech)	**180**	42	ug/kg dry	1	08/19/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*111 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**94.5**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12Q-S-0-1

N093404-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	22	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
4,4´-DDT	**51**	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	D
Chlordane (tech)	**1000**	43	ug/kg dry	1	08/19/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*98.5 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**92.2**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12E-S-0-1

N093405-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Heptachlor epoxide	**28**	21	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	D
4,4´-DDE	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	**1500**	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	D
4,4´-DDD	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	**1200**	43	ug/kg dry	1	08/20/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*124 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*127 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**93.5**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12E-S-1-2

N093405-02 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
4,4´-DDD	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	ND	46	ug/kg dry	1	08/20/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*100 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.2**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12G-S-0-1

N093405-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	21	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	ND	43	ug/kg dry	1	08/20/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*94.9 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**93.9**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9I-S-1-2

N093405-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
Dieldrin	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
Chlordane (tech)	ND	46	ug/kg dry	1	08/19/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*98.8 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*99.7 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.4**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9J-S-0-1

N093405-13 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
Dieldrin	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	**83**	46	ug/kg dry	1	08/19/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.6 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*99.3 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.9**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-9J-S-1-2

N093405-14 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	ND	45	ug/kg dry	1	08/19/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*87.2 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*89.8 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.9**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-10K-S-1-2

N093405-18 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
4,4´-DDE	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	**160**	46	ug/kg dry	1	08/19/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*98.7 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*94.1 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**86.3**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11O-S-0-1

N093406-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
Chlordane (tech)	ND	43	ug/kg dry	1	08/19/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*86.6 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*84.0 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**93.2**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13J-S-0-1

N093406-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	21	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	42	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	**5000**	420	ug/kg dry	10	08/19/2009	08/20/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*106 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*104 %*	*60-140*		*08/19/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**95.3**	0.00	% by Weight	1	08/19/2009	08/20/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13F-S-0-1

N093407-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	46	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Chlordane (tech)	**380**	46	ug/kg dry	1	08/20/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*104 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**87.0**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13F-S-0-1-P

N093407-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	23	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Chlordane (tech)	**580**	45	ug/kg dry	1	08/20/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*96.7 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*91.7 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.5**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12D-S-0-1

N093407-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	22	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	**520**	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	D
4,4´-DDD	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	**3100**	430	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	D
Surrogate: Decachlorobiphenyl		*95.7 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*96.0 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**92.6**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12D-S-1-2

N093407-07 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	23	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	23	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	P
4,4´-DDE	ND	45	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Dieldrin	**67**	45	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	D
4,4´-DDD	ND	45	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	45	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	**86**	45	ug/kg dry	1	08/21/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*125 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*116 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**88.2**	0.00	% by Weight	1	08/21/2009	08/25/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13D-S-0-1

N093407-10 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	P
Heptachlor epoxide	ND	22	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/20/2009	08/20/2009	EPA 8081A	
Chlordane (tech)	**63**	43	ug/kg dry	1	08/20/2009	08/20/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*110 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*60-140*		*08/20/2009*	*08/20/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**92.5**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-12C-S-0-1

N093408-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	42	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	42	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	P
4,4´-DDD	ND	42	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	42	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	42	ug/kg dry	1	08/21/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*94.4 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*103 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**94.5**	0.00	% by Weight	1	08/21/2009	08/25/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-13C-S-0-1

N093408-05 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	22	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	22	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDD	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	ND	43	ug/kg dry	1	08/21/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*94.3 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.1 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**92.7**	0.00	% by Weight	1	08/21/2009	08/25/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11D-S-0-1

N093408-09 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/20/2009	08/21/2009	EPA 8081A	P
Heptachlor epoxide	**33**	21	ug/kg dry	10	08/20/2009	08/21/2009	EPA 8081A	D
4,4´-DDE	ND	42	ug/kg dry	10	08/20/2009	08/21/2009	EPA 8081A	
Dieldrin	**80**	42	ug/kg dry	10	08/20/2009	08/21/2009	EPA 8081A	D
4,4´-DDD	ND	42	ug/kg dry	10	08/20/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	42	ug/kg dry	10	08/20/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	**1800**	42	ug/kg dry	1	08/20/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*99.8 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*96.6 %*	*60-140*		*08/20/2009*	*08/21/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**96.2**	0.00	% by Weight	1	08/20/2009	08/21/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

OU1-83-11C-S-0-1

N093409-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Prepared	Analyzed	Method	Qualifiers
			ECCS					
Organochlorine Pesticides by EPA Method 8081A								
Heptachlor	ND	21	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Heptachlor epoxide	ND	21	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDE	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Dieldrin	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	P
4,4´-DDD	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
4,4´-DDT	ND	43	ug/kg dry	10	08/21/2009	08/21/2009	EPA 8081A	
Chlordane (tech)	**69**	43	ug/kg dry	1	08/21/2009	08/21/2009	EPA 8081A	
Surrogate: Decachlorobiphenyl		*92.9 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Surrogate: Tetrachloro-meta-xylene		*90.0 %*	*60-140*		*08/21/2009*	*08/21/2009*	*EPA 8081A*	
Classical Chemistry Parameters								
% Solids	**94.1**	0.00	% by Weight	1	08/21/2009	08/25/2009	% Calculation	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907004 - EPA 3570										
Blank (N907004-BLK1)				Prepared: 07/28/2009 Analyzed: 07/30/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*116*		*"*	*120.0*		*96.4*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*120*		*"*	*120.0*		*100*	*60-140*			
LCS (N907004-BS1)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	24.8	2.0	ug/kg wet	32.26		76.9	60-140			
Heptachlor epoxide	24.3	2.0	"	32.03		75.8	60-140			
4,4´-DDE	48.6	4.0	"	64.24		75.7	60-140			
Dieldrin	52.0	4.0	"	64.20		81.0	60-140			
4,4´-DDD	50.8	4.0	"	64.08		79.2	60-140			
4,4´-DDT	47.4	4.0	"	64.08		74.0	60-140			
Surrogate: Decachlorobiphenyl	*49.8*		*"*	*64.24*		*77.5*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*27.4*		*"*	*32.06*		*85.3*	*60-140*			
LCS (N907004-BS2)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	744	40	"	800.0		93.0	0-200			
Surrogate: Decachlorobiphenyl	*112*		*"*	*120.0*		*93.0*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*125*		*"*	*120.0*		*104*	*60-140*			

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907004 - EPA 3570										
LCS (N907004-BS3)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	32.9	2.0	ug/kg wet	32.26		102	60-140			
Heptachlor epoxide	28.2	2.0	"	32.03		88.1	60-140			
4,4´-DDE	55.9	4.0	"	64.24		87.0	60-140			
Dieldrin	58.2	4.0	"	64.20		90.6	60-140			
4,4´-DDD	59.0	4.0	"	64.08		92.1	60-140			
4,4´-DDT	64.6	4.0	"	64.08		101	60-140			
Surrogate: Decachlorobiphenyl	*54.0*		*"*	*64.24*		*84.1*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*26.8*		*"*	*32.06*		*83.4*	*60-140*			
LCS (N907004-BS4)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	33.3	2.0	ug/kg wet	32.26		103	60-140			
Heptachlor epoxide	28.6	2.0	"	32.03		89.2	60-140			
4,4´-DDE	56.8	4.0	"	64.24		88.4	60-140			
Dieldrin	58.6	4.0	"	64.20		91.3	60-140			
4,4´-DDD	60.2	4.0	"	64.08		94.0	60-140			
4,4´-DDT	65.1	4.0	"	64.08		102	60-140			
Surrogate: Decachlorobiphenyl	*55.2*		*"*	*64.24*		*86.0*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*27.0*		*"*	*32.06*		*84.2*	*60-140*			
LCS (N907004-BS5)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	34.6	2.0	ug/kg wet	32.26		107	60-140			
Heptachlor epoxide	29.3	2.0	"	32.03		91.5	60-140			
4,4´-DDE	58.8	4.0	"	64.24		91.5	60-140			
Dieldrin	60.7	4.0	"	64.20		94.5	60-140			
4,4´-DDD	62.8	4.0	"	64.08		98.0	60-140			
4,4´-DDT	68.3	4.0	"	64.08		107	60-140			
Surrogate: Decachlorobiphenyl	*58.0*		*"*	*64.24*		*90.4*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*28.0*		*"*	*32.06*		*87.3*	*60-140*			

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907004 - EPA 3570										
LCS (N907004-BS6)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	731	40	"	800.0		91.4	0-200			
Surrogate: Decachlorobiphenyl	*106*		*"*	*120.0*		*88.2*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*96.9*		*"*	*120.0*		*80.8*	*60-140*			
LCS (N907004-BS7)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	775	40	"	800.0		96.9	0-200			
Surrogate: Decachlorobiphenyl	*108*		*"*	*120.0*		*90.2*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*101*		*"*	*120.0*		*83.9*	*60-140*			
LCS (N907004-BS8)				Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	965	40	"	800.0		121	0-200			
Surrogate: Decachlorobiphenyl	*140*		*"*	*120.0*		*117*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*117*		*"*	*120.0*		*97.3*	*60-140*			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907004 - EPA 3570										
Matrix Spike (N907004-MS1)		**Source: N093102-19**		Prepared: 07/28/2009 Analyzed: 07/29/2009						
Heptachlor	34.2	2.2	ug/kg dry	36.28	ND	94.2	60-140			
Heptachlor epoxide	34.6	2.2	"	36.03	ND	96.0	60-140			
4,4´-DDE	68.8	4.5	"	72.26	ND	95.2	60-140			
Dieldrin	75.6	4.5	"	72.22	ND	105	60-140			
4,4´-DDD	70.7	4.5	"	72.08	ND	98.2	60-140			
4,4´-DDT	53.4	4.5	"	72.08	ND	74.1	60-140			
Surrogate: Decachlorobiphenyl	*70.1*		*"*	*72.26*		*97.0*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*40.3*		*"*	*36.07*		*112*	*60-140*			
Matrix Spike (N907004-MS2)		**Source: N093102-19**		Prepared: 07/28/2009 Analyzed: 07/30/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.2	"		ND		60-140			
4,4´-DDE	ND	4.5	"		ND		60-140			
Dieldrin	ND	4.5	"		ND		60-140			
4,4´-DDD	ND	4.5	"		ND		60-140			
4,4´-DDT	ND	4.5	"		ND		60-140			
Chlordane (tech)	837	45	"	899.9	ND	93.0	0-200			
Surrogate: Decachlorobiphenyl	*131*		*"*	*135.0*		*96.9*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*152*		*"*	*135.0*		*113*	*60-140*			
Matrix Spike Dup (N907004-MSD1)		**Source: N093102-19**		Prepared: 07/28/2009 Analyzed: 07/30/2009						
Heptachlor	32.6	2.2	ug/kg dry	36.28	ND	89.8	60-140	4.77	20	
Heptachlor epoxide	32.6	2.2	"	36.03	ND	90.4	60-140	6.00	20	
4,4´-DDE	65.1	4.5	"	72.26	ND	90.2	60-140	5.42	20	
Dieldrin	72.0	4.5	"	72.22	ND	99.7	60-140	4.95	20	
4,4´-DDD	66.6	4.5	"	72.08	ND	92.4	60-140	6.01	20	
4,4´-DDT	51.0	4.5	"	72.08	ND	70.8	60-140	4.63	20	
Surrogate: Decachlorobiphenyl	*65.8*		*"*	*72.26*		*91.1*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*39.6*		*"*	*36.07*		*110*	*60-140*			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907004 - EPA 3570										
Matrix Spike Dup (N907004-MSD2)		**Source: N093102-19**		Prepared: 07/28/2009 Analyzed: 07/30/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.2	"		ND		60-140		20	
4,4´-DDE	ND	4.5	"		ND		60-140		20	
Dieldrin	ND	4.5	"		ND		60-140		20	
4,4´-DDD	ND	4.5	"		ND		60-140		20	
4,4´-DDT	ND	4.5	"		ND		60-140		20	
Chlordane (tech)	846	45	"	899.9	ND	94.1	0-200	1.15	200	
Surrogate: Decachlorobiphenyl	*124*		*"*	*135.0*		*91.9*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*149*		*"*	*135.0*		*110*	*60-140*			
Batch N907006 - EPA 3570										
Blank (N907006-BLK1)				Prepared: 07/29/2009 Analyzed: 07/31/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*103*		*"*	*120.0*		*85.6*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*112*		*"*	*120.0*		*93.7*	*60-140*			
LCS (N907006-BS1)				Prepared: 07/29/2009 Analyzed: 07/31/2009						
Heptachlor	31.2	2.0	ug/kg wet	32.26		96.6	60-140			
Heptachlor epoxide	31.6	2.0	"	32.03		98.6	60-140			
4,4´-DDE	63.2	4.0	"	64.24		98.4	60-140			
Dieldrin	63.8	4.0	"	64.20		99.3	60-140			
4,4´-DDD	58.8	4.0	"	64.08		91.7	60-140			
4,4´-DDT	55.1	4.0	"	64.08		86.0	60-140			
Surrogate: Decachlorobiphenyl	*48.4*		*"*	*64.24*		*75.3*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*29.0*		*"*	*32.06*		*90.5*	*60-140*			

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907006 - EPA 3570										
LCS (N907006-BS2)				Prepared: 07/29/2009 Analyzed: 07/31/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	726	40	"	800.0		90.7	0-200			
Surrogate: Decachlorobiphenyl	*102*		*"*	*120.0*		*85.0*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*101*		*"*	*120.0*		*83.8*	*60-140*			
Matrix Spike (N907006-MS1)		**Source: N093106-07**		Prepared: 07/29/2009 Analyzed: 07/31/2009						
Heptachlor	41.7	2.5	ug/kg dry	40.88	ND	102	60-140			
Heptachlor epoxide	41.1	2.5	"	40.60	ND	101	60-140			
4,4´-DDE	82.1	5.1	"	81.42	4.52	95.3	60-140			
Dieldrin	86.8	5.1	"	81.37	3.45	102	60-140			
4,4´-DDD	85.2	5.1	"	81.22	10.5	91.9	60-140			
4,4´-DDT	71.9	5.1	"	81.22	6.92	80.0	60-140			
Surrogate: Decachlorobiphenyl	*70.6*		*"*	*81.42*		*86.7*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*43.5*		*"*	*40.64*		*107*	*60-140*			
Matrix Spike (N907006-MS2)		**Source: N093106-07**		Prepared: 07/29/2009 Analyzed: 07/31/2009						
Heptachlor	ND	2.5	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.5	"		ND		60-140			
4,4´-DDE	ND	5.1	"		4.52		60-140			
Dieldrin	ND	5.1	"		3.45		60-140			
4,4´-DDD	ND	5.1	"		10.5		60-140			
4,4´-DDT	ND	5.1	"		6.92		60-140			
Chlordane (tech)	1170	51	"	1014	290	86.4	0-200			
Surrogate: Decachlorobiphenyl	*0.00*		*"*				*60-140*			*R*
Surrogate: Tetrachloro-meta-xylene	*0.00*		*"*				*60-140*			*R*

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907006 - EPA 3570										
Matrix Spike Dup (N907006-MSD1)		**Source: N093106-07**		Prepared: 07/29/2009 Analyzed: 07/31/2009						
Heptachlor	43.6	2.5	ug/kg dry	40.88	ND	107	60-140	4.47	20	
Heptachlor epoxide	41.8	2.5	"	40.60	ND	103	60-140	1.67	20	
4,4´-DDE	101	5.1	"	81.42	4.52	118	60-140	21.5	20	
Dieldrin	105	5.1	"	81.37	3.45	125	60-140	19.6	20	
4,4´-DDD	93.1	5.1	"	81.22	10.5	102	60-140	10.1	20	
4,4´-DDT	84.1	5.1	"	81.22	6.92	95.0	60-140	17.1	20	
Surrogate: Decachlorobiphenyl	*94.8*		*"*	*81.42*		*116*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*52.9*		*"*	*40.64*		*130*	*60-140*			
Matrix Spike Dup (N907006-MSD2)		**Source: N093106-07**		Prepared: 07/29/2009 Analyzed: 07/31/2009						
Heptachlor	ND	2.5	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.5	"		ND		60-140		20	
4,4´-DDE	ND	5.1	"		4.52		60-140		20	
Dieldrin	ND	5.1	"		3.45		60-140		20	
4,4´-DDD	ND	5.1	"		10.5		60-140		20	
4,4´-DDT	ND	5.1	"		6.92		60-140		20	
Chlordane (tech)	1110	51	"	1014	290	80.7	0-200	6.83	200	
Surrogate: Decachlorobiphenyl	*0.00*		*"*				*60-140*			*R*
Surrogate: Tetrachloro-meta-xylene	*0.00*		*"*				*60-140*			*R*
Batch N907008 - EPA 3570										
Blank (N907008-BLK1)				Prepared: 07/29/2009 Analyzed: 08/01/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*129*		*"*	*120.0*		*107*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*154*		*"*	*120.0*		*129*	*60-140*			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907008 - EPA 3570										
LCS (N907008-BS1)				Prepared: 07/29/2009 Analyzed: 08/01/2009						
Heptachlor	38.8	2.0	ug/kg wet	32.26		120	60-140			
Heptachlor epoxide	37.2	2.0	"	32.03		116	60-140			
4,4´-DDE	75.3	4.0	"	64.24		117	60-140			
Dieldrin	72.7	4.0	"	64.20		113	60-140			
4,4´-DDD	87.7	4.0	"	64.08		137	60-140			
4,4´-DDT	53.5	4.0	"	64.08		83.5	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*72.3*		*"*	*64.24*		*113*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*37.4*		*"*	*32.06*		*117*	*60-140*			
LCS (N907008-BS2)				Prepared: 07/30/2009 Analyzed: 08/01/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	886	40	"	800.0		111	0-200			
Surrogate: Decachlorobiphenyl	*130*		*"*	*120.0*		*108*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*136*		*"*	*120.0*		*113*	*60-140*			
Matrix Spike (N907008-MS1)		**Source: N093108-03**		Prepared: 07/29/2009 Analyzed: 08/01/2009						
Heptachlor	44.3	2.4	ug/kg dry	37.90	ND	117	60-140			
Heptachlor epoxide	43.1	2.4	"	37.64	ND	114	60-140			
4,4´-DDE	87.9	4.7	"	75.49	0.932	115	60-140			
Dieldrin	84.1	4.7	"	75.44	ND	111	60-140			
4,4´-DDD	101	4.7	"	75.30	1.21	132	60-140			
4,4´-DDT	66.0	4.7	"	75.30	2.99	83.7	60-140			
Chlordane (tech)	ND	47	"		ND		0-200			
Surrogate: Decachlorobiphenyl	*80.5*		*"*	*75.49*		*107*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*42.1*		*"*	*37.68*		*112*	*60-140*			

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907008 - EPA 3570										
Matrix Spike (N907008-MS2)		**Source: N093108-03**		Prepared: 07/29/2009 Analyzed: 08/01/2009						
Heptachlor	ND	2.4	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.4	"		ND		60-140			
4,4´-DDE	ND	4.7	"		0.932		60-140			
Dieldrin	ND	4.7	"		ND		60-140			
4,4´-DDD	ND	4.7	"		1.21		60-140			
4,4´-DDT	ND	4.7	"		2.99		60-140			
Chlordane (tech)	1010	47	"	940.1	ND	107	0-200			
Surrogate: Decachlorobiphenyl	*148*		*"*	*141.0*		*105*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*151*		*"*	*141.0*		*107*	*60-140*			
Matrix Spike Dup (N907008-MSD1)		**Source: N093108-03**		Prepared: 07/29/2009 Analyzed: 08/01/2009						
Heptachlor	43.0	2.4	ug/kg dry	37.90	ND	113	60-140	3.10	20	
Heptachlor epoxide	41.3	2.4	"	37.64	ND	110	60-140	4.09	20	
4,4´-DDE	85.5	4.7	"	75.49	0.932	112	60-140	2.83	20	
Dieldrin	81.4	4.7	"	75.44	ND	108	60-140	3.22	20	
4,4´-DDD	96.7	4.7	"	75.30	1.21	127	60-140	4.39	20	
4,4´-DDT	65.0	4.7	"	75.30	2.99	82.3	60-140	1.60	20	
Chlordane (tech)	ND	47	"		ND		0-200		200	
Surrogate: Decachlorobiphenyl	*77.5*		*"*	*75.49*		*103*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*39.9*		*"*	*37.68*		*106*	*60-140*			
Matrix Spike Dup (N907008-MSD2)		**Source: N093108-03**		Prepared: 07/29/2009 Analyzed: 08/01/2009						
Heptachlor	ND	2.4	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.4	"		ND		60-140		20	
4,4´-DDE	ND	4.7	"		0.932		60-140		20	
Dieldrin	ND	4.7	"		ND		60-140		20	
4,4´-DDD	ND	4.7	"		1.21		60-140		20	
4,4´-DDT	ND	4.7	"		2.99		60-140		20	
Chlordane (tech)	1060	47	"	940.1	ND	113	0-200	5.53	200	
Surrogate: Decachlorobiphenyl	*155*		*"*	*141.0*		*110*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*159*		*"*	*141.0*		*113*	*60-140*			

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907013 - EPA 3570										
Blank (N907013-BLK1)				Prepared: 07/30/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*117*		*"*	*120.0*		*97.2*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*108*		*"*	*120.0*		*89.7*	*60-140*			
LCS (N907013-BS1)				Prepared: 07/30/2009 Analyzed: 08/04/2009						
Heptachlor	30.4	2.0	ug/kg wet	32.26		94.3	60-140			
Heptachlor epoxide	30.5	2.0	"	32.03		95.1	60-140			
4,4´-DDE	58.8	4.0	"	64.24		91.6	60-140			
Dieldrin	60.7	4.0	"	64.20		94.6	60-140			
4,4´-DDD	59.2	4.0	"	64.08		92.4	60-140			
4,4´-DDT	55.0	4.0	"	64.08		85.8	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*57.5*		*"*	*64.24*		*89.6*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*27.1*		*"*	*32.06*		*84.6*	*60-140*			
LCS (N907013-BS2)				Prepared: 08/01/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	834	40	"	800.0		104	0-200			
Surrogate: Decachlorobiphenyl	*132*		*"*	*120.0*		*110*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*127*		*"*	*120.0*		*106*	*60-140*			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907013 - EPA 3570										
Matrix Spike (N907013-MS1)		**Source: N093109-13**		Prepared: 07/30/2009 Analyzed: 08/04/2009						
Heptachlor	35.5	2.2	ug/kg dry	35.52	ND	99.8	60-140			
Heptachlor epoxide	36.0	2.2	"	35.28	ND	102	60-140			
4,4´-DDE	72.2	4.4	"	70.75	ND	102	60-140			
Dieldrin	73.9	4.4	"	70.70	ND	104	60-140			
4,4´-DDD	74.7	4.4	"	70.57	ND	106	60-140			
4,4´-DDT	74.9	4.4	"	70.57	ND	106	60-140			
Chlordane (tech)	ND	44	"		35.0		0-200			
Surrogate: Decachlorobiphenyl	*69.6*		*"*	*70.75*		*98.3*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*32.9*		*"*	*35.31*		*93.1*	*60-140*			
Matrix Spike (N907013-MS2)		**Source: N093109-13**		Prepared: 07/30/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.2	"		ND		60-140			
4,4´-DDE	ND	4.4	"		ND		60-140			
Dieldrin	ND	4.4	"		ND		60-140			
4,4´-DDD	ND	4.4	"		ND		60-140			
4,4´-DDT	ND	4.4	"		ND		60-140			
Chlordane (tech)	828	44	"	881.1	35.0	90.0	0-200			
Surrogate: Decachlorobiphenyl	*118*		*"*	*132.2*		*89.2*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*137*		*"*	*132.2*		*104*	*60-140*			
Matrix Spike Dup (N907013-MSD1)		**Source: N093109-13**		Prepared: 07/30/2009 Analyzed: 08/04/2009						
Heptachlor	32.6	2.2	ug/kg dry	35.52	ND	91.7	60-140	8.48	20	
Heptachlor epoxide	31.6	2.2	"	35.28	ND	89.6	60-140	13.0	20	
4,4´-DDE	61.9	4.4	"	70.75	ND	87.5	60-140	15.4	20	
Dieldrin	64.3	4.4	"	70.70	ND	90.9	60-140	13.9	20	
4,4´-DDD	62.8	4.4	"	70.57	ND	89.0	60-140	17.3	20	
4,4´-DDT	63.4	4.4	"	70.57	ND	89.9	60-140	16.6	20	
Chlordane (tech)	ND	44	"		35.0		0-200		200	
Surrogate: Decachlorobiphenyl	*60.2*		*"*	*70.75*		*85.1*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*29.5*		*"*	*35.31*		*83.6*	*60-140*			

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NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907013 - EPA 3570										
Matrix Spike Dup (N907013-MSD2)		**Source: N093109-13**		Prepared: 07/30/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.2	"		ND		60-140		20	
4,4´-DDE	ND	4.4	"		ND		60-140		20	
Dieldrin	ND	4.4	"		ND		60-140		20	
4,4´-DDD	ND	4.4	"		ND		60-140		20	
4,4´-DDT	ND	4.4	"		ND		60-140		20	
Chlordane (tech)	902	44	"	881.1	35.0	98.4	0-200	8.97	200	
Surrogate: Decachlorobiphenyl	*143*		*"*	*132.2*		*108*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*140*		*"*	*132.2*		*106*	*60-140*			
Batch N907014 - EPA 3570										
Blank (N907014-BLK1)				Prepared: 07/31/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*132*		*"*	*120.0*		*110*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*116*		*"*	*120.0*		*97.0*	*60-140*			
LCS (N907014-BS1)				Prepared: 07/31/2009 Analyzed: 08/04/2009						
Heptachlor	39.5	2.0	ug/kg wet	32.26		122	60-140			
Heptachlor epoxide	39.4	2.0	"	32.03		123	60-140			
4,4´-DDE	77.8	4.0	"	64.24		121	60-140			
Dieldrin	80.6	4.0	"	64.20		125	60-140			
4,4´-DDD	79.1	4.0	"	64.08		123	60-140			
4,4´-DDT	70.6	4.0	"	64.08		110	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*74.9*		*"*	*64.24*		*117*	*60-140*			

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907014 - EPA 3570										
LCS (N907014-BS1)				Prepared: 07/31/2009 Analyzed: 08/04/2009						
Surrogate: Tetrachloro-meta-xylene	*36.2*		*ug/kg wet*	*32.06*		*113*	*60-140*			
LCS (N907014-BS2)				Prepared: 07/31/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	880	40	"	800.0		110	0-200			
Surrogate: Decachlorobiphenyl	*143*		*"*	*120.0*		*119*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*134*		*"*	*120.0*		*112*	*60-140*			
Matrix Spike (N907014-MS1)		**Source: N093110-09**		Prepared: 07/31/2009 Analyzed: 08/04/2009						
Heptachlor	40.9	2.3	ug/kg dry	37.59	ND	109	60-140			
Heptachlor epoxide	64.6	2.3	"	37.33	11.1	143	60-140			
4,4´-DDE	77.9	4.7	"	74.87	ND	104	60-140			
Dieldrin	79.9	4.7	"	74.83	ND	107	60-140			
4,4´-DDD	75.8	4.7	"	74.69	ND	102	60-140			
4,4´-DDT	73.0	4.7	"	74.69	ND	97.7	60-140			
Chlordane (tech)	ND	47	"		258		0-200			
Surrogate: Decachlorobiphenyl	*69.1*		*"*	*74.87*		*92.3*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*35.5*		*"*	*37.37*		*94.9*	*60-140*			
Matrix Spike (N907014-MS2)		**Source: N093110-09**		Prepared: 07/31/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.3	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.3	"		11.1		60-140			
4,4´-DDE	ND	4.7	"		ND		60-140			
Dieldrin	ND	4.7	"		ND		60-140			
4,4´-DDD	ND	4.7	"		ND		60-140			
4,4´-DDT	ND	4.7	"		ND		60-140			
Chlordane (tech)	1410	47	"	932.4	258	124	0-200			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907014 - EPA 3570										
Matrix Spike (N907014-MS2)		**Source: N093110-09**		Prepared: 07/31/2009 Analyzed: 08/04/2009						
Surrogate: Decachlorobiphenyl	*157*		*ug/kg dry*	*139.9*		*112*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*154*		*"*	*139.9*		*110*	*60-140*			
Matrix Spike Dup (N907014-MSD1)		**Source: N093110-09**		Prepared: 07/31/2009 Analyzed: 08/04/2009						
Heptachlor	43.5	2.3	ug/kg dry	37.59	ND	116	60-140	6.05	20	
Heptachlor epoxide	94.9	2.3	"	37.33	11.1	224	60-140	44.2	20	
4,4´-DDE	82.4	4.7	"	74.87	ND	110	60-140	5.57	20	
Dieldrin	83.2	4.7	"	74.83	ND	111	60-140	3.98	20	
4,4´-DDD	77.6	4.7	"	74.69	ND	104	60-140	2.31	20	
4,4´-DDT	77.1	4.7	"	74.69	ND	103	60-140	5.43	20	
Chlordane (tech)	ND	47	"		258		0-200		200	
Surrogate: Decachlorobiphenyl	*70.2*		*"*	*74.87*		*93.7*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*36.1*		*"*	*37.37*		*96.5*	*60-140*			
Matrix Spike Dup (N907014-MSD2)		**Source: N093110-09**		Prepared: 07/31/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.3	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.3	"		11.1		60-140		20	
4,4´-DDE	ND	4.7	"		ND		60-140		20	
Dieldrin	ND	4.7	"		ND		60-140		20	
4,4´-DDD	ND	4.7	"		ND		60-140		20	
4,4´-DDT	ND	4.7	"		ND		60-140		20	
Chlordane (tech)	1490	47	"	932.4	258	132	0-200	6.57	200	
Surrogate: Decachlorobiphenyl	*163*		*"*	*139.9*		*116*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*156*		*"*	*139.9*		*112*	*60-140*			
Batch N908004 - EPA 3510C										
Blank (N908004-BLK1)				Prepared: 08/02/2009 Analyzed: 08/05/2009						
Heptachlor	ND	0.020	ug/L							
Heptachlor epoxide	ND	0.020	"							
4,4´-DDE	ND	0.040	"							
Dieldrin	ND	0.040	"							
4,4´-DDD	ND	0.040	"							

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908004 - EPA 3510C										
Blank (N908004-BLK1)				Prepared: 08/02/2009 Analyzed: 08/05/2009						
4,4´-DDT	ND	0.040	ug/L							
Chlordane (tech)	ND	0.40	"							
Surrogate: Decachlorobiphenyl	*0.315*		*"*	*1.500*		*21.0*	*60-140*			*S*
Surrogate: Tetrachloro-meta-xylene	*0.828*		*"*	*1.500*		*55.2*	*60-140*			*S*
LCS (N908004-BS1)				Prepared: 08/02/2009 Analyzed: 08/05/2009						
Heptachlor	0.324	0.020	ug/L	0.4032		80.4	49-115			
Heptachlor epoxide	0.329	0.020	"	0.4004		82.1	59-121			
4,4´-DDE	0.670	0.040	"	0.8030		83.4	57-132			
Dieldrin	0.671	0.040	"	0.8025		83.6	64-121			
4,4´-DDD	0.651	0.040	"	0.8010		81.3	63-142			
4,4´-DDT	0.665	0.040	"	0.8010		83.0	62-127			
Chlordane (tech)	ND	0.40	"				0-200			
Surrogate: Decachlorobiphenyl	*0.390*		*"*	*0.8030*		*48.6*	*60-140*			*S*
Surrogate: Tetrachloro-meta-xylene	*0.262*		*"*	*0.4008*		*65.4*	*60-140*			
LCS (N908004-BS2)				Prepared: 08/02/2009 Analyzed: 08/05/2009						
Heptachlor	ND	0.020	ug/L				49-115			
Heptachlor epoxide	ND	0.020	"				59-121			
4,4´-DDE	ND	0.040	"				57-132			
Dieldrin	ND	0.040	"				64-121			
4,4´-DDD	ND	0.040	"				63-142			
4,4´-DDT	ND	0.040	"				62-127			
Chlordane (tech)	10.5	0.40	"	10.00		105	0-200			
Surrogate: Decachlorobiphenyl	*0.529*		*"*	*1.500*		*35.3*	*60-140*			*S*
Surrogate: Tetrachloro-meta-xylene	*1.19*		*"*	*1.500*		*79.0*	*60-140*			

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908007 - EPA 3570										
Blank (N908007-BLK1)				Prepared: 08/03/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*114*		*"*	*120.0*		*95.2*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*102*		*"*	*120.0*		*84.8*	*60-140*			
LCS (N908007-BS1)				Prepared: 08/03/2009 Analyzed: 08/04/2009						
Heptachlor	39.5	2.0	ug/kg wet	32.26		123	60-140			
Heptachlor epoxide	36.4	2.0	"	32.03		114	60-140			
4,4´-DDE	78.3	4.0	"	64.24		122	60-140			
Dieldrin	74.8	4.0	"	64.20		117	60-140			
4,4´-DDD	85.1	4.0	"	64.08		133	60-140			
4,4´-DDT	81.0	4.0	"	64.08		126	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*81.3*		*"*	*64.24*		*127*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*35.2*		*"*	*32.06*		*110*	*60-140*			
LCS (N908007-BS2)				Prepared: 08/03/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	897	40	"	800.0		112	0-200			
Surrogate: Decachlorobiphenyl	*134*		*"*	*120.0*		*111*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*132*		*"*	*120.0*		*110*	*60-140*			

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908007 - EPA 3570										
Matrix Spike (N908007-MS1)		**Source: N093202-06**		Prepared: 08/03/2009 Analyzed: 08/04/2009						
Heptachlor	34.9	2.3	ug/kg dry	36.78	ND	94.8	60-140			
Heptachlor epoxide	32.3	2.3	"	36.52	ND	88.4	60-140			
4,4´-DDE	107	4.6	"	73.25	42.8	87.5	60-140			
Dieldrin	64.7	4.6	"	73.20	ND	88.4	60-140			
4,4´-DDD	80.3	4.6	"	73.07	6.94	100	60-140			
4,4´-DDT	120	4.6	"	73.07	47.4	98.7	60-140			
Chlordane (tech)	ND	46	"		66.1		0-200			
Surrogate: Decachlorobiphenyl	*67.7*		*"*	*73.25*		*92.5*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*31.5*		*"*	*36.56*		*86.0*	*60-140*			
Matrix Spike (N908007-MS2)		**Source: N093202-06**		Prepared: 08/03/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.3	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.3	"		ND		60-140			
4,4´-DDE	ND	4.6	"		42.8		60-140			
Dieldrin	ND	4.6	"		ND		60-140			
4,4´-DDD	ND	4.6	"		6.94		60-140			
4,4´-DDT	ND	4.6	"		47.4		60-140			
Chlordane (tech)	1130	46	"	912.2	66.1	116	0-200			
Surrogate: Decachlorobiphenyl	*165*		*"*	*136.8*		*121*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*162*		*"*	*136.8*		*118*	*60-140*			
Matrix Spike Dup (N908007-MSD1)		**Source: N093202-06**		Prepared: 08/03/2009 Analyzed: 08/04/2009						
Heptachlor	44.2	2.3	ug/kg dry	36.78	ND	120	60-140	23.6	20	
Heptachlor epoxide	40.4	2.3	"	36.52	ND	111	60-140	22.2	20	
4,4´-DDE	133	4.6	"	73.25	42.8	124	60-140	34.3	20	
Dieldrin	82.5	4.6	"	73.20	ND	113	60-140	24.2	20	
4,4´-DDD	105	4.6	"	73.07	6.94	134	60-140	28.3	20	
4,4´-DDT	158	4.6	"	73.07	47.4	151	60-140	42.0	20	
Chlordane (tech)	ND	46	"		66.1		0-200		200	
Surrogate: Decachlorobiphenyl	*84.7*		*"*	*73.25*		*116*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*37.9*		*"*	*36.56*		*104*	*60-140*			

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NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908007 - EPA 3570										
Matrix Spike Dup (N908007-MSD2)		**Source: N093202-06**		Prepared: 08/03/2009 Analyzed: 08/04/2009						
Heptachlor	ND	2.3	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.3	"		ND		60-140		20	
4,4´-DDE	ND	4.6	"		42.8		60-140		20	
Dieldrin	ND	4.6	"		ND		60-140		20	
4,4´-DDD	ND	4.6	"		6.94		60-140		20	
4,4´-DDT	ND	4.6	"		47.4		60-140		20	
Chlordane (tech)	842	46	"	912.2	66.1	85.1	0-200	31.2	200	
Surrogate: Decachlorobiphenyl	*117*		*"*	*136.8*		*85.4*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*130*		*"*	*136.8*		*95.3*	*60-140*			
Batch N908010 - EPA 3570										
Blank (N908010-BLK1)				Prepared: 08/05/2009 Analyzed: 08/06/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*95.4*		*"*	*120.0*		*79.5*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*93.7*		*"*	*120.0*		*78.1*	*60-140*			
LCS (N908010-BS1)				Prepared: 08/05/2009 Analyzed: 08/06/2009						
Heptachlor	28.0	2.0	ug/kg wet	32.26		86.9	60-140			
Heptachlor epoxide	28.3	2.0	"	32.03		88.2	60-140			
4,4´-DDE	55.0	4.0	"	64.24		85.6	60-140			
Dieldrin	56.0	4.0	"	64.20		87.2	60-140			
4,4´-DDD	52.1	4.0	"	64.08		81.3	60-140			
4,4´-DDT	51.5	4.0	"	64.08		80.4	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*48.2*		*"*	*64.24*		*75.0*	*60-140*			

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NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908010 - EPA 3570										
LCS (N908010-BS1)				Prepared: 08/05/2009 Analyzed: 08/06/2009						
Surrogate: Tetrachloro-meta-xylene	*25.2*		*ug/kg wet*	*32.06*		*78.5*	*60-140*			
LCS (N908010-BS2)				Prepared: 08/05/2009 Analyzed: 08/06/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	679	40	"	800.0		84.9	0-200			
Surrogate: Decachlorobiphenyl	*97.6*		*"*	*120.0*		*81.4*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*102*		*"*	*120.0*		*85.4*	*60-140*			
Matrix Spike (N908010-MS1)		**Source: N093206-01**		Prepared: 08/05/2009 Analyzed: 08/06/2009						
Heptachlor	35.6	2.4	ug/kg dry	38.49	ND	92.4	60-140			
Heptachlor epoxide	35.9	2.4	"	38.22	ND	93.8	60-140			
4,4´-DDE	222	4.8	"	76.66	303	NR	60-140			
Dieldrin	72.9	4.8	"	76.61	ND	95.2	60-140			
4,4´-DDD	110	4.8	"	76.47	67.1	56.5	60-140			
4,4´-DDT	2260	4.8	"	76.47	1730	692	60-140			E
Chlordane (tech)	ND	48	"		18.6		0-200			
Surrogate: Decachlorobiphenyl	*66.1*		*"*	*76.66*		*86.3*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*32.8*		*"*	*38.26*		*85.6*	*60-140*			
Matrix Spike (N908010-MS2)		**Source: N093206-01**		Prepared: 08/05/2009 Analyzed: 08/06/2009						
Heptachlor	ND	2.4	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.4	"		ND		60-140			
4,4´-DDE	ND	4.8	"		303		60-140			
Dieldrin	ND	4.8	"		ND		60-140			
4,4´-DDD	ND	4.8	"		67.1		60-140			
4,4´-DDT	ND	4.8	"		1730		60-140			
Chlordane (tech)	819	48	"	954.7	18.6	83.8	0-200			

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908010 - EPA 3570										
Matrix Spike (N908010-MS2)		**Source: N093206-01**		Prepared: 08/05/2009 Analyzed: 08/06/2009						
Surrogate: Decachlorobiphenyl	*116*		*ug/kg dry*	*143.2*		*81.2*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*123*		*"*	*143.2*		*86.0*	*60-140*			
Matrix Spike Dup (N908010-MSD1)		**Source: N093206-01**		Prepared: 08/05/2009 Analyzed: 08/06/2009						
Heptachlor	33.7	2.4	ug/kg dry	38.49	ND	87.5	60-140	5.50	20	
Heptachlor epoxide	33.7	2.4	"	38.22	ND	88.1	60-140	6.32	20	
4,4´-DDE	420	4.8	"	76.66	303	152	60-140	NR	20	
Dieldrin	69.1	4.8	"	76.61	ND	90.1	60-140	5.43	20	
4,4´-DDD	225	4.8	"	76.47	67.1	207	60-140	114	20	
4,4´-DDT	3220	4.8	"	76.47	1730	NR	60-140	94.8	20	E
Chlordane (tech)	ND	48	"		18.6		0-200		200	
Surrogate: Decachlorobiphenyl	*64.2*		*"*	*76.66*		*83.7*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*31.7*		*"*	*38.26*		*82.7*	*60-140*			
Matrix Spike Dup (N908010-MSD2)		**Source: N093206-01**		Prepared: 08/05/2009 Analyzed: 08/06/2009						
Heptachlor	ND	2.4	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.4	"		ND		60-140		20	
4,4´-DDE	ND	4.8	"		303		60-140		20	
Dieldrin	ND	4.8	"		ND		60-140		20	
4,4´-DDD	ND	4.8	"		67.1		60-140		20	
4,4´-DDT	ND	4.8	"		1730		60-140		20	
Chlordane (tech)	923	48	"	954.7	18.6	94.7	0-200	12.2	200	
Surrogate: Decachlorobiphenyl	*123*		*"*	*143.2*		*85.6*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*138*		*"*	*143.2*		*96.7*	*60-140*			
Batch N908016 - EPA 3570										
Blank (N908016-BLK1)				Prepared & Analyzed: 08/06/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908016 - EPA 3570										
Blank (N908016-BLK1)				Prepared & Analyzed: 08/06/2009						
4,4´-DDT	ND	4.0	ug/kg wet							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*119*		*"*	*120.0*		*99.4*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*109*		*"*	*120.0*		*91.0*	*60-140*			
LCS (N908016-BS1)				Prepared & Analyzed: 08/06/2009						
Heptachlor	32.3	2.0	ug/kg wet	32.26		100	60-140			
Heptachlor epoxide	32.2	2.0	"	32.03		100	60-140			
4,4´-DDE	65.1	4.0	"	64.24		101	60-140			
Dieldrin	65.2	4.0	"	64.20		102	60-140			
4,4´-DDD	64.5	4.0	"	64.08		101	60-140			
4,4´-DDT	63.6	4.0	"	64.08		99.2	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*62.6*		*"*	*64.24*		*97.4*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*29.4*		*"*	*32.06*		*91.8*	*60-140*			
LCS (N908016-BS2)				Prepared & Analyzed: 08/06/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	845	40	"	800.0		106	0-200			
Surrogate: Decachlorobiphenyl	*126*		*"*	*120.0*		*105*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*119*		*"*	*120.0*		*98.9*	*60-140*			
Matrix Spike (N908016-MS1)		**Source: N093209-05**		Prepared & Analyzed: 08/06/2009						
Heptachlor	29.6	2.2	ug/kg dry	35.84	ND	82.7	60-140			
Heptachlor epoxide	29.6	2.2	"	35.59	ND	83.1	60-140			
4,4´-DDE	58.7	4.4	"	71.38	ND	82.3	60-140			
Dieldrin	58.9	4.4	"	71.33	ND	82.6	60-140			
4,4´-DDD	56.0	4.4	"	71.20	ND	78.7	60-140			

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908016 - EPA 3570										
Matrix Spike (N908016-MS1)		**Source: N093209-05**		Prepared & Analyzed: 08/06/2009						
4,4´-DDT	55.6	4.4	"	71.20	ND	78.1	60-140			
Chlordane (tech)	ND	44	"		ND		0-200			
Surrogate: Decachlorobiphenyl	*52.8*		*"*	*71.38*		*73.9*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*27.1*		*"*	*35.63*		*76.1*	*60-140*			
Matrix Spike (N908016-MS2)		**Source: N093209-05**		Prepared & Analyzed: 08/06/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.2	"		ND		60-140			
4,4´-DDE	ND	4.4	"		ND		60-140			
Dieldrin	ND	4.4	"		ND		60-140			
4,4´-DDD	ND	4.4	"		ND		60-140			
4,4´-DDT	ND	4.4	"		ND		60-140			
Chlordane (tech)	903	44	"	888.9	ND	102	0-200			
Surrogate: Decachlorobiphenyl	*132*		*"*	*133.3*		*98.7*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*126*		*"*	*133.3*		*94.4*	*60-140*			
Matrix Spike Dup (N908016-MSD1)		**Source: N093209-05**		Prepared & Analyzed: 08/06/2009						
Heptachlor	28.7	2.2	ug/kg dry	35.84	ND	80.1	60-140	3.24	20	
Heptachlor epoxide	28.2	2.2	"	35.59	ND	79.2	60-140	4.92	20	
4,4´-DDE	57.3	4.4	"	71.38	ND	80.3	60-140	2.42	20	
Dieldrin	56.4	4.4	"	71.33	ND	79.1	60-140	4.31	20	
4,4´-DDD	55.5	4.4	"	71.20	ND	78.0	60-140	0.847	20	
4,4´-DDT	54.2	4.4	"	71.20	ND	76.1	60-140	2.66	20	
Chlordane (tech)	ND	44	"		ND		0-200		200	
Surrogate: Decachlorobiphenyl	*53.0*		*"*	*71.38*		*74.2*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*26.3*		*"*	*35.63*		*74.0*	*60-140*			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908016 - EPA 3570										
Matrix Spike Dup (N908016-MSD2)		**Source: N093209-05**		Prepared & Analyzed: 08/06/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.2	"		ND		60-140		20	
4,4´-DDE	ND	4.4	"		ND		60-140		20	
Dieldrin	ND	4.4	"		ND		60-140		20	
4,4´-DDD	ND	4.4	"		ND		60-140		20	
4,4´-DDT	ND	4.4	"		ND		60-140		20	
Chlordane (tech)	926	44	"	888.9	ND	104	0-200	2.44	200	
Surrogate: Decachlorobiphenyl	*134*		*"*	*133.3*		*100*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*139*		*"*	*133.3*		*104*	*60-140*			
Batch N908019 - EPA 3570										
Blank (N908019-BLK1)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*114*		*"*	*120.0*		*95.4*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*112*		*"*	*120.0*		*92.9*	*60-140*			
LCS (N908019-BS1)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	34.7	2.0	ug/kg wet	32.26		108	60-140			
Heptachlor epoxide	33.5	2.0	"	32.03		105	60-140			
4,4´-DDE	71.7	4.0	"	64.24		112	60-140			
Dieldrin	69.5	4.0	"	64.20		108	60-140			
4,4´-DDD	73.3	4.0	"	64.08		114	60-140			
4,4´-DDT	71.7	4.0	"	64.08		112	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*69.8*		*"*	*64.24*		*109*	*60-140*			

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Karl Olm For Chris Altstaetter, Project Manager

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908019 - EPA 3570										
LCS (N908019-BS1)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
Surrogate: Tetrachloro-meta-xylene	*33.9*		*ug/kg wet*	*32.06*		*106*	*60-140*			
LCS (N908019-BS2)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	892	40	"	800.0		111	0-200			
Surrogate: Decachlorobiphenyl	*130*		*"*	*120.0*		*108*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*126*		*"*	*120.0*		*105*	*60-140*			
Matrix Spike (N908019-MS1)		**Source: N093203-18**		Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	39.1	2.2	ug/kg dry	35.84	ND	109	60-140			
Heptachlor epoxide	38.7	2.2	"	35.59	ND	109	60-140			
4,4´-DDE	79.2	4.4	"	71.38	ND	111	60-140			
Dieldrin	77.1	4.4	"	71.33	ND	108	60-140			
4,4´-DDD	80.4	4.4	"	71.20	ND	113	60-140			
4,4´-DDT	80.5	4.4	"	71.20	ND	113	60-140			
Chlordane (tech)	ND	44	"		11.5		0-200			
Surrogate: Decachlorobiphenyl	*75.4*		*"*	*71.38*		*106*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*37.3*		*"*	*35.63*		*105*	*60-140*			
Matrix Spike (N908019-MS2)		**Source: N093203-18**		Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.2	"		ND		60-140			
4,4´-DDE	ND	4.4	"		ND		60-140			
Dieldrin	ND	4.4	"		ND		60-140			
4,4´-DDD	ND	4.4	"		ND		60-140			
4,4´-DDT	ND	4.4	"		ND		60-140			
Chlordane (tech)	959	44	"	888.9	11.5	107	0-200			

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908019 - EPA 3570										
Matrix Spike (N908019-MS2)		**Source: N093203-18**		Prepared: 08/07/2009 Analyzed: 08/08/2009						
Surrogate: Decachlorobiphenyl	*137*		*ug/kg dry*	*133.3*		*103*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*141*		*"*	*133.3*		*106*	*60-140*			
Matrix Spike Dup (N908019-MSD1)		**Source: N093203-18**		Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	34.1	2.2	ug/kg dry	35.84	ND	95.0	60-140	13.7	20	
Heptachlor epoxide	35.5	2.2	"	35.59	ND	99.8	60-140	8.45	20	
4,4´-DDE	68.0	4.4	"	71.38	ND	95.3	60-140	15.2	20	
Dieldrin	66.5	4.4	"	71.33	ND	93.2	60-140	14.8	20	
4,4´-DDD	68.5	4.4	"	71.20	ND	96.2	60-140	16.0	20	
4,4´-DDT	67.7	4.4	"	71.20	ND	95.0	60-140	17.3	20	
Chlordane (tech)	ND	44	"		11.5		0-200		200	
Surrogate: Decachlorobiphenyl	*64.7*		*"*	*71.38*		*90.7*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*32.7*		*"*	*35.63*		*91.8*	*60-140*			
Matrix Spike Dup (N908019-MSD2)		**Source: N093203-18**		Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.2	"		ND		60-140		20	
4,4´-DDE	ND	4.4	"		ND		60-140		20	
Dieldrin	ND	4.4	"		ND		60-140		20	
4,4´-DDD	ND	4.4	"		ND		60-140		20	
4,4´-DDT	ND	4.4	"		ND		60-140		20	
Chlordane (tech)	979	44	"	888.9	11.5	109	0-200	2.05	200	
Surrogate: Decachlorobiphenyl	*137*		*"*	*133.3*		*103*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*136*		*"*	*133.3*		*102*	*60-140*			
Batch N908022 - EPA 3510C										
Blank (N908022-BLK1)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	ND	0.020	ug/L							
Heptachlor epoxide	ND	0.020	"							
4,4´-DDE	ND	0.040	"							
Dieldrin	ND	0.040	"							
4,4´-DDD	ND	0.040	"							

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908022 - EPA 3510C										
Blank (N908022-BLK1)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
4,4´-DDT	ND	0.040	ug/L							
Chlordane (tech)	ND	0.40	"							
Surrogate: Decachlorobiphenyl	*1.17*		*"*	*1.500*		*77.9*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*1.43*		*"*	*1.500*		*95.4*	*60-140*			
LCS (N908022-BS1)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	0.418	0.020	ug/L	0.4032		104	49-115			
Heptachlor epoxide	0.398	0.020	"	0.4004		99.4	59-121			
4,4´-DDE	0.871	0.040	"	0.8030		108	57-132			
Dieldrin	0.834	0.040	"	0.8025		104	64-121			
4,4´-DDD	0.881	0.040	"	0.8010		110	63-142			
4,4´-DDT	0.902	0.040	"	0.8010		113	62-127			
Chlordane (tech)	ND	0.40	"				0-200			
Surrogate: Decachlorobiphenyl	*0.816*		*"*	*0.8030*		*102*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.452*		*"*	*0.4008*		*113*	*60-140*			
LCS (N908022-BS2)				Prepared: 08/07/2009 Analyzed: 08/08/2009						
Heptachlor	ND	0.020	ug/L				49-115			
Heptachlor epoxide	ND	0.020	"				59-121			
4,4´-DDE	ND	0.040	"				57-132			
Dieldrin	ND	0.040	"				64-121			
4,4´-DDD	ND	0.040	"				63-142			
4,4´-DDT	ND	0.040	"				62-127			
Chlordane (tech)	9.84	0.40	"	10.00		98.4	0-200			
Surrogate: Decachlorobiphenyl	*0.964*		*"*	*1.500*		*64.3*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*1.44*		*"*	*1.500*		*95.9*	*60-140*			

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908024 - EPA 3570										
Blank (N908024-BLK1)				Prepared: 08/17/2009 Analyzed: 08/18/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*156*		*"*	*120.0*		*130*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*128*		*"*	*120.0*		*107*	*60-140*			
LCS (N908024-BS1)				Prepared: 08/17/2009 Analyzed: 08/18/2009						
Heptachlor	36.4	2.0	ug/kg wet	32.26		113	60-140			
Heptachlor epoxide	37.5	2.0	"	32.03		117	60-140			
4,4´-DDE	77.5	4.0	"	64.24		121	60-140			
Dieldrin	79.7	4.0	"	64.20		124	60-140			
4,4´-DDD	73.4	4.0	"	64.08		115	60-140			
4,4´-DDT	76.6	4.0	"	64.08		120	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*95.4*		*"*	*64.24*		*148*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*36.2*		*"*	*32.06*		*113*	*60-140*			
LCS (N908024-BS2)				Prepared: 08/17/2009 Analyzed: 08/18/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	917	40	"	800.0		115	70-130			
Surrogate: Decachlorobiphenyl	*129*		*"*	*120.0*		*108*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*135*		*"*	*120.0*		*112*	*60-140*			

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NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908024 - EPA 3570										
Matrix Spike (N908024-MS1)		**Source: N093204-02**		Prepared: 08/17/2009 Analyzed: 08/18/2009						
Heptachlor	62.9	2.1	ug/kg dry	34.24	17.8	132	60-140			
Heptachlor epoxide	69.0	2.1	"	34.00	ND	203	60-140			
4,4´-DDE	227	4.2	"	68.20	91.2	199	60-140			
Dieldrin	117	4.2	"	68.15	21.8	140	60-140			
4,4´-DDD	118	4.2	"	68.03	ND	173	60-140			
4,4´-DDT	477	4.2	"	68.03	261	317	60-140			E
Chlordane (tech)	ND	42	"		2170		0-200			
Surrogate: Decachlorobiphenyl	*93.1*		*"*	*68.20*		*136*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*37.0*		*"*	*34.04*		*109*	*60-140*			
Matrix Spike (N908024-MS2)		**Source: N093204-02**		Prepared: 08/17/2009 Analyzed: 08/18/2009						
Heptachlor	ND	2.1	ug/kg dry		17.8		60-140			
Heptachlor epoxide	ND	2.1	"		ND		60-140			
4,4´-DDE	ND	4.2	"		91.2		60-140			
Dieldrin	ND	4.2	"		21.8		60-140			
4,4´-DDD	ND	4.2	"		ND		60-140			
4,4´-DDT	ND	4.2	"		261		60-140			
Chlordane (tech)	3320	420	"	849.3	2170	134	70-130			D
Surrogate: Decachlorobiphenyl	*140*		*"*	*127.4*		*110*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*130*		*"*	*127.4*		*102*	*60-140*			
Matrix Spike Dup (N908024-MSD1)		**Source: N093204-02**		Prepared: 08/17/2009 Analyzed: 08/18/2009						
Heptachlor	56.8	2.1	ug/kg dry	34.24	17.8	114	60-140	14.7	20	
Heptachlor epoxide	60.7	2.1	"	34.00	ND	178	60-140	12.8	20	
4,4´-DDE	189	4.2	"	68.20	91.2	143	60-140	32.8	20	
Dieldrin	105	4.2	"	68.15	21.8	123	60-140	13.0	20	
4,4´-DDD	103	4.2	"	68.03	ND	151	60-140	13.7	20	
4,4´-DDT	382	4.2	"	68.03	261	177	60-140	56.6	20	E
Chlordane (tech)	ND	42	"		2170		0-200		200	
Surrogate: Decachlorobiphenyl	*85.6*		*"*	*68.20*		*126*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*37.0*		*"*	*34.04*		*109*	*60-140*			

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908024 - EPA 3570										
Matrix Spike Dup (N908024-MSD2)		**Source: N093204-02**		Prepared: 08/17/2009 Analyzed: 08/18/2009						
Heptachlor	ND	2.1	ug/kg dry		17.8		60-140		20	
Heptachlor epoxide	ND	2.1	"		ND		60-140		20	
4,4´-DDE	ND	4.2	"		91.2		60-140		20	
Dieldrin	ND	4.2	"		21.8		60-140		20	
4,4´-DDD	ND	4.2	"		ND		60-140		20	
4,4´-DDT	ND	4.2	"		261		60-140		20	
Chlordane (tech)	3420	420	"	849.3	2170	147	70-130	9.05	200	D
Surrogate: Decachlorobiphenyl	*145*		*"*	*127.4*		*114*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*137*		*"*	*127.4*		*107*	*60-140*			
Batch N908026 - EPA 3570										
Blank (N908026-BLK1)				Prepared & Analyzed: 08/18/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*125*		*"*	*120.0*		*104*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*107*		*"*	*120.0*		*89.3*	*60-140*			
LCS (N908026-BS1)				Prepared & Analyzed: 08/18/2009						
Heptachlor	27.7	2.0	ug/kg wet	32.26		85.9	60-140			
Heptachlor epoxide	29.1	2.0	"	32.03		91.0	60-140			
4,4´-DDE	59.4	4.0	"	64.24		92.5	60-140			
Dieldrin	60.9	4.0	"	64.20		94.9	60-140			
4,4´-DDD	54.2	4.0	"	64.08		84.5	60-140			
4,4´-DDT	54.0	4.0	"	64.08		84.3	60-140			
Chlordane (tech)	955	40	"				0-200			
Surrogate: Decachlorobiphenyl	*71.0*		*"*	*64.24*		*111*	*60-140*			

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908026 - EPA 3570										
LCS (N908026-BS1)				Prepared & Analyzed: 08/18/2009						
Surrogate: Tetrachloro-meta-xylene	*28.5*		*ug/kg wet*	*32.06*		*89.0*	*60-140*			
LCS (N908026-BS2)				Prepared & Analyzed: 08/18/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	955	40	"	800.0		119	70-130			
Surrogate: Decachlorobiphenyl	*155*		*"*	*120.0*		*129*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*133*		*"*	*120.0*		*111*	*60-140*			
Matrix Spike (N908026-MS1)		**Source: N093401-03**		Prepared & Analyzed: 08/18/2009						
Heptachlor	29.6	2.2	ug/kg dry	36.00	ND	82.3	60-140			
Heptachlor epoxide	31.3	2.2	"	35.75	ND	87.6	60-140			
4,4´-DDE	63.7	4.5	"	71.70	ND	88.8	60-140			
Dieldrin	66.5	4.5	"	71.65	ND	92.9	60-140			
4,4´-DDD	59.1	4.5	"	71.52	ND	82.6	60-140			
4,4´-DDT	59.2	4.5	"	71.52	ND	82.8	60-140			
Chlordane (tech)	1080	45	"		ND		0-200			
Surrogate: Decachlorobiphenyl	*75.7*		*"*	*71.70*		*106*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*31.8*		*"*	*35.79*		*88.8*	*60-140*			
Matrix Spike (N908026-MS2)		**Source: N093401-03**		Prepared & Analyzed: 08/18/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.2	"		ND		60-140			
4,4´-DDE	ND	4.5	"		ND		60-140			
Dieldrin	ND	4.5	"		ND		60-140			
4,4´-DDD	ND	4.5	"		ND		60-140			
4,4´-DDT	ND	4.5	"		ND		60-140			
Chlordane (tech)	1080	45	"	892.9	ND	121	70-130			

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908026 - EPA 3570										
Matrix Spike (N908026-MS2)		**Source: N093401-03**		Prepared & Analyzed: 08/18/2009						
Surrogate: Decachlorobiphenyl	*175*		*ug/kg dry*	*133.9*		*131*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*153*		*"*	*133.9*		*114*	*60-140*			
Matrix Spike Dup (N908026-MSD1)		**Source: N093401-03**		Prepared & Analyzed: 08/18/2009						
Heptachlor	38.0	2.2	ug/kg dry	36.00	ND	106	60-140	24.7	20	
Heptachlor epoxide	41.9	2.2	"	35.75	ND	117	60-140	28.8	20	
4,4´-DDE	86.7	4.5	"	71.70	ND	121	60-140	30.7	20	
Dieldrin	91.9	4.5	"	71.65	ND	128	60-140	32.0	20	
4,4´-DDD	82.2	4.5	"	71.52	ND	115	60-140	32.7	20	
4,4´-DDT	82.7	4.5	"	71.52	ND	116	60-140	33.1	20	
Chlordane (tech)	1100	45	"		ND		0-200		200	
Surrogate: Decachlorobiphenyl	*115*		*"*	*71.70*		*160*	*60-140*			*S*
Surrogate: Tetrachloro-meta-xylene	*40.7*		*"*	*35.79*		*114*	*60-140*			
Matrix Spike Dup (N908026-MSD2)		**Source: N093401-03**		Prepared & Analyzed: 08/18/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.2	"		ND		60-140		20	
4,4´-DDE	ND	4.5	"		ND		60-140		20	
Dieldrin	ND	4.5	"		ND		60-140		20	
4,4´-DDD	ND	4.5	"		ND		60-140		20	
4,4´-DDT	ND	4.5	"		ND		60-140		20	
Chlordane (tech)	1100	45	"	892.9	ND	124	70-130	2.22	200	
Surrogate: Decachlorobiphenyl	*168*		*"*	*133.9*		*125*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*159*		*"*	*133.9*		*119*	*60-140*			
Batch N908029 - EPA 3570										
Blank (N908029-BLK1)				Prepared: 08/19/2009 Analyzed: 08/20/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908029 - EPA 3570										
Blank (N908029-BLK1)				Prepared: 08/19/2009 Analyzed: 08/20/2009						
4,4´-DDT	ND	4.0	ug/kg wet							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*119*		*"*	*120.0*		*99.1*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*121*		*"*	*120.0*		*101*	*60-140*			
LCS (N908029-BS1)				Prepared: 08/19/2009 Analyzed: 08/20/2009						
Heptachlor	44.2	2.0	ug/kg wet	32.26		137	60-140			
Heptachlor epoxide	36.6	2.0	"	32.03		114	60-140			
4,4´-DDE	72.5	4.0	"	64.24		113	60-140			
Dieldrin	75.2	4.0	"	64.20		117	60-140			
4,4´-DDD	80.8	4.0	"	64.08		126	60-140			
4,4´-DDT	85.4	4.0	"	64.08		133	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*65.9*		*"*	*64.24*		*103*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*33.6*		*"*	*32.06*		*105*	*60-140*			
LCS (N908029-BS2)				Prepared: 08/19/2009 Analyzed: 08/20/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	730	40	"	800.0		91.2	0-200			
Surrogate: Decachlorobiphenyl	*110*		*"*	*120.0*		*91.8*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*117*		*"*	*120.0*		*97.2*	*60-140*			
Matrix Spike (N908029-MS1)		**Source: N093404-01**		Prepared: 08/19/2009 Analyzed: 08/20/2009						
Heptachlor	44.3	2.2	ug/kg dry	35.06	ND	126	60-140			
Heptachlor epoxide	36.1	2.2	"	34.82	ND	104	60-140			
4,4´-DDE	67.3	4.3	"	69.83	ND	96.4	60-140			
Dieldrin	329	4.3	"	69.78	227	146	60-140			
4,4´-DDD	80.8	4.3	"	69.65	ND	116	60-140			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908029 - EPA 3570										
Matrix Spike (N908029-MS1)		**Source: N093404-01**		Prepared: 08/19/2009 Analyzed: 08/20/2009						
4,4´-DDT	90.4	4.3	"	69.65	ND	130	60-140			
Chlordane (tech)	ND	43	"		94.7		0-200			
Surrogate: Decachlorobiphenyl	*62.7*		*"*	*69.83*		*89.9*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*33.9*		*"*	*34.85*		*97.3*	*60-140*			
Matrix Spike (N908029-MS2)		**Source: N093404-01**		Prepared: 08/19/2009 Analyzed: 08/20/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.2	"		ND		60-140			
4,4´-DDE	ND	4.3	"		ND		60-140			
Dieldrin	ND	4.3	"		227		60-140			
4,4´-DDD	ND	4.3	"		ND		60-140			
4,4´-DDT	ND	4.3	"		ND		60-140			
Chlordane (tech)	911	43	"	869.6	94.7	93.8	0-200			E
Surrogate: Decachlorobiphenyl	*133*		*"*	*130.4*		*102*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*135*		*"*	*130.4*		*103*	*60-140*			
Matrix Spike Dup (N908029-MSD1)		**Source: N093404-01**		Prepared: 08/19/2009 Analyzed: 08/20/2009						
Heptachlor	44.4	2.2	ug/kg dry	35.06	ND	127	60-140	0.0750	20	
Heptachlor epoxide	33.5	2.2	"	34.82	ND	96.1	60-140	7.74	20	
4,4´-DDE	66.6	4.3	"	69.83	ND	95.3	60-140	1.13	20	
Dieldrin	253	4.3	"	69.78	227	37.9	60-140	118	20	
4,4´-DDD	79.5	4.3	"	69.65	ND	114	60-140	1.61	20	
4,4´-DDT	89.8	4.3	"	69.65	ND	129	60-140	0.590	20	
Chlordane (tech)	ND	43	"		94.7		0-200		200	
Surrogate: Decachlorobiphenyl	*62.5*		*"*	*69.83*		*89.6*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*33.2*		*"*	*34.85*		*95.3*	*60-140*			

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NCWLC	North Carolina Certification	660	12/31/2009

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908029 - EPA 3570										
Matrix Spike Dup (N908029-MSD2)		**Source: N093404-01**		Prepared: 08/19/2009 Analyzed: 08/20/2009						
Heptachlor	ND	2.2	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.2	"		ND		60-140		20	
4,4´-DDE	ND	4.3	"		ND		60-140		20	
Dieldrin	ND	4.3	"		227		60-140		20	
4,4´-DDD	ND	4.3	"		ND		60-140		20	
4,4´-DDT	ND	4.3	"		ND		60-140		20	
Chlordane (tech)	1110	43	"	869.6	94.7	117	0-200	21.7	200	E
Surrogate: Decachlorobiphenyl	*163*		*"*	*130.4*		*125*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*156*		*"*	*130.4*		*120*	*60-140*			
Batch N908032 - EPA 3570										
Blank (N908032-BLK1)				Prepared & Analyzed: 08/20/2009						
Heptachlor	ND	2.0	ug/kg wet							
Heptachlor epoxide	ND	2.0	"							
4,4´-DDE	ND	4.0	"							
Dieldrin	ND	4.0	"							
4,4´-DDD	ND	4.0	"							
4,4´-DDT	ND	4.0	"							
Chlordane (tech)	ND	40	"							
Surrogate: Decachlorobiphenyl	*154*		*"*	*120.0*		*128*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*148*		*"*	*120.0*		*123*	*60-140*			
LCS (N908032-BS1)				Prepared & Analyzed: 08/20/2009						
Heptachlor	36.4	2.0	ug/kg wet	32.26		113	60-140			
Heptachlor epoxide	34.7	2.0	"	32.03		108	60-140			
4,4´-DDE	67.5	4.0	"	64.24		105	60-140			
Dieldrin	70.5	4.0	"	64.20		110	60-140			
4,4´-DDD	82.5	4.0	"	64.08		129	60-140			
4,4´-DDT	73.5	4.0	"	64.08		115	60-140			
Chlordane (tech)	ND	40	"				0-200			
Surrogate: Decachlorobiphenyl	*65.3*		*"*	*64.24*		*102*	*60-140*			

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NCWLC	North Carolina Certification	660	12/31/2009

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908032 - EPA 3570										
LCS (N908032-BS1)				Prepared & Analyzed: 08/20/2009						
Surrogate: Tetrachloro-meta-xylene	*33.6*		*ug/kg wet*	*32.06*		*105*	*60-140*			
LCS (N908032-BS2)				Prepared & Analyzed: 08/20/2009						
Heptachlor	ND	2.0	ug/kg wet				60-140			
Heptachlor epoxide	ND	2.0	"				60-140			
4,4´-DDE	ND	4.0	"				60-140			
Dieldrin	ND	4.0	"				60-140			
4,4´-DDD	ND	4.0	"				60-140			
4,4´-DDT	ND	4.0	"				60-140			
Chlordane (tech)	851	40	"	800.0		106	0-200			E
Surrogate: Decachlorobiphenyl	*132*		*"*	*120.0*		*110*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*142*		*"*	*120.0*		*119*	*60-140*			
Matrix Spike (N908032-MS1)		**Source: N093404-02**		Prepared & Analyzed: 08/20/2009						
Heptachlor	38.2	2.3	ug/kg dry	36.41	ND	105	60-140			
Heptachlor epoxide	47.0	2.3	"	36.15	ND	130	60-140			
4,4´-DDE	80.7	4.5	"	72.51	ND	111	60-140			
Dieldrin	77.7	4.5	"	72.46	ND	107	60-140			
4,4´-DDD	80.6	4.5	"	72.33	ND	111	60-140			
4,4´-DDT	69.5	4.5	"	72.33	ND	96.1	60-140			
Chlordane (tech)	ND	45	"		ND		0-200			
Surrogate: Decachlorobiphenyl	*92.5*		*"*	*72.51*		*128*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*42.3*		*"*	*36.19*		*117*	*60-140*			
Matrix Spike (N908032-MS2)		**Source: N093404-02**		Prepared & Analyzed: 08/20/2009						
Heptachlor	ND	2.3	ug/kg dry		ND		60-140			
Heptachlor epoxide	ND	2.3	"		ND		60-140			
4,4´-DDE	ND	4.5	"		ND		60-140			
Dieldrin	ND	4.5	"		ND		60-140			
4,4´-DDD	ND	4.5	"		ND		60-140			
4,4´-DDT	ND	4.5	"		ND		60-140			
Chlordane (tech)	962	45	"	902.9	ND	107	0-200			E

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908032 - EPA 3570										
Matrix Spike (N908032-MS2)		**Source: N093404-02**		Prepared & Analyzed: 08/20/2009						
Surrogate: Decachlorobiphenyl	*157*		*ug/kg dry*	*135.4*		*116*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*147*		*"*	*135.4*		*109*	*60-140*			
Matrix Spike Dup (N908032-MSD1)		**Source: N093404-02**		Prepared & Analyzed: 08/20/2009						
Heptachlor	38.3	2.3	ug/kg dry	36.41	ND	105	60-140	0.299	20	
Heptachlor epoxide	42.1	2.3	"	36.15	ND	116	60-140	10.9	20	
4,4´-DDE	82.3	4.5	"	72.51	ND	114	60-140	1.98	20	
Dieldrin	87.1	4.5	"	72.46	ND	120	60-140	11.4	20	
4,4´-DDD	80.0	4.5	"	72.33	ND	111	60-140	0.741	20	
4,4´-DDT	68.0	4.5	"	72.33	ND	94.0	60-140	2.18	20	
Chlordane (tech)	ND	45	"		ND		0-200		200	
Surrogate: Decachlorobiphenyl	*78.7*		*"*	*72.51*		*109*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*39.4*		*"*	*36.19*		*109*	*60-140*			
Matrix Spike Dup (N908032-MSD2)		**Source: N093404-02**		Prepared & Analyzed: 08/20/2009						
Heptachlor	ND	2.3	ug/kg dry		ND		60-140		20	
Heptachlor epoxide	ND	2.3	"		ND		60-140		20	
4,4´-DDE	ND	4.5	"		ND		60-140		20	
Dieldrin	ND	4.5	"		ND		60-140		20	
4,4´-DDD	ND	4.5	"		ND		60-140		20	
4,4´-DDT	ND	4.5	"		ND		60-140		20	
Chlordane (tech)	949	45	"	902.9	ND	105	0-200	1.39	200	E
Surrogate: Decachlorobiphenyl	*150*		*"*	*135.4*		*111*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*143*		*"*	*135.4*		*105*	*60-140*			
Batch N908033 - EPA 3510C										
Blank (N908033-BLK1)				Prepared & Analyzed: 08/20/2009						
Heptachlor	ND	0.020	ug/L							
Heptachlor epoxide	ND	0.020	"							
4,4´-DDE	ND	0.040	"							
Dieldrin	ND	0.040	"							
4,4´-DDD	ND	0.040	"							

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Organochlorine Pesticides by EPA Method 8081A - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908033 - EPA 3510C										
Blank (N908033-BLK1)				Prepared & Analyzed: 08/20/2009						
4,4´-DDT	ND	0.040	ug/L							
Chlordane (tech)	ND	0.40	"							
Surrogate: Decachlorobiphenyl	*1.69*		*"*	*1.500*		*113*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*1.79*		*"*	*1.500*		*120*	*60-140*			
LCS (N908033-BS1)				Prepared & Analyzed: 08/20/2009						
Heptachlor	0.389	0.020	ug/L	0.4032		96.5	49-115			
Heptachlor epoxide	0.464	0.020	"	0.4004		116	59-121			
4,4´-DDE	0.931	0.040	"	0.8030		116	57-132			
Dieldrin	0.967	0.040	"	0.8025		121	64-121			
4,4´-DDD	0.799	0.040	"	0.8010		99.8	63-142			
4,4´-DDT	0.766	0.040	"	0.8010		95.6	62-127			
Chlordane (tech)	ND	0.40	"				0-200			
Surrogate: Decachlorobiphenyl	*0.880*		*"*	*0.8030*		*110*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*0.480*		*"*	*0.4008*		*120*	*60-140*			
LCS (N908033-BS2)				Prepared & Analyzed: 08/20/2009						
Heptachlor	ND	0.020	ug/L				49-115			
Heptachlor epoxide	ND	0.020	"				59-121			
4,4´-DDE	ND	0.040	"				57-132			
Dieldrin	ND	0.040	"				64-121			
4,4´-DDD	ND	0.040	"				63-142			
4,4´-DDT	ND	0.040	"				62-127			
Chlordane (tech)	11.8	0.40	"	10.00		118	0-200			E
Surrogate: Decachlorobiphenyl	*1.55*		*"*	*1.500*		*103*	*60-140*			
Surrogate: Tetrachloro-meta-xylene	*1.89*		*"*	*1.500*		*126*	*60-140*			

Code	Description	Number	Expires
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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907002 - EPA 3570										
Blank (N907002-BLK1)				Prepared & Analyzed: 07/28/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*495*		*"*	*500.0*		*99.0*	*70-130*			
LCS (N907002-BS1)				Prepared & Analyzed: 07/28/2009						
Benzo (a) anthracene	412	10	ug/kg wet	400.0		103	70-130			
Benzo (a) pyrene	408	10	"	400.0		102	70-130			
Benzo (b) fluoranthene	381	10	"	400.0		95.3	70-130			
Dibenz (a,h) anthracene	436	10	"	400.0		109	70-130			
Indeno (1,2,3-cd) pyrene	441	10	"	400.0		110	70-130			
Surrogate: p-Terphenyl-d14	*468*		*"*	*500.0*		*93.7*	*70-130*			
LCS (N907002-BS2)				Prepared & Analyzed: 07/28/2009						
Benzo (a) anthracene	383	10	ug/kg wet	400.0		95.7	70-130			
Benzo (a) pyrene	383	10	"	400.0		95.8	70-130			
Benzo (b) fluoranthene	346	10	"	400.0		86.6	70-130			
Dibenz (a,h) anthracene	402	10	"	400.0		100	70-130			
Indeno (1,2,3-cd) pyrene	421	10	"	400.0		105	70-130			
Surrogate: p-Terphenyl-d14	*456*		*"*	*500.0*		*91.2*	*70-130*			
LCS (N907002-BS3)				Prepared & Analyzed: 07/28/2009						
Benzo (a) anthracene	398	10	ug/kg wet	400.0		99.6	70-130			
Benzo (a) pyrene	399	10	"	400.0		99.7	70-130			
Benzo (b) fluoranthene	366	10	"	400.0		91.6	70-130			
Dibenz (a,h) anthracene	434	10	"	400.0		109	70-130			
Indeno (1,2,3-cd) pyrene	436	10	"	400.0		109	70-130			
Surrogate: p-Terphenyl-d14	*495*		*"*	*500.0*		*98.9*	*70-130*			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907002 - EPA 3570										
LCS (N907002-BS4)				Prepared & Analyzed: 07/28/2009						
Benzo (a) anthracene	416	10	ug/kg wet	400.0		104	70-130			
Benzo (a) pyrene	408	10	"	400.0		102	70-130			
Benzo (b) fluoranthene	393	10	"	400.0		98.3	70-130			
Dibenz (a,h) anthracene	436	10	"	400.0		109	70-130			
Indeno (1,2,3-cd) pyrene	444	10	"	400.0		111	70-130			
Surrogate: p-Terphenyl-d14	*502*		*"*	*500.0*		*100*	*70-130*			
Matrix Spike (N907002-MS1)		**Source: N093102-19**		Prepared: 07/28/2009 Analyzed: 07/29/2009						
Benzo (a) anthracene	512	11	ug/kg dry	449.9	ND	114	70-130			
Benzo (a) pyrene	517	11	"	449.9	ND	115	70-130			
Benzo (b) fluoranthene	537	11	"	449.9	ND	119	70-130			
Dibenz (a,h) anthracene	474	11	"	449.9	ND	105	70-130			
Indeno (1,2,3-cd) pyrene	486	11	"	449.9	ND	108	70-130			
Surrogate: p-Terphenyl-d14	*613*		*"*	*562.4*		*109*	*70-130*			
Matrix Spike Dup (N907002-MSD1)		**Source: N093102-19**		Prepared: 07/28/2009 Analyzed: 07/29/2009						
Benzo (a) anthracene	505	11	ug/kg dry	449.9	ND	112	70-130	1.46	20	
Benzo (a) pyrene	509	11	"	449.9	ND	113	70-130	1.57	20	
Benzo (b) fluoranthene	511	11	"	449.9	ND	114	70-130	4.95	20	
Dibenz (a,h) anthracene	488	11	"	449.9	ND	109	70-130	3.00	20	
Indeno (1,2,3-cd) pyrene	492	11	"	449.9	ND	109	70-130	1.25	20	
Surrogate: p-Terphenyl-d14	*586*		*"*	*562.4*		*104*	*70-130*			
Batch N907005 - EPA 3570										
Blank (N907005-BLK1)				Prepared & Analyzed: 07/29/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*522*		*"*	*500.0*		*104*	*70-130*			

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907005 - EPA 3570										
LCS (N907005-BS1)				Prepared & Analyzed: 07/29/2009						
Benzo (a) anthracene	454	10	ug/kg wet	400.0		113	70-130			
Benzo (a) pyrene	456	10	"	400.0		114	70-130			
Benzo (b) fluoranthene	460	10	"	400.0		115	70-130			
Dibenz (a,h) anthracene	461	10	"	400.0		115	70-130			
Indeno (1,2,3-cd) pyrene	452	10	"	400.0		113	70-130			
Surrogate: p-Terphenyl-d14	*518*		*"*	*500.0*		*104*	*70-130*			
Matrix Spike (N907005-MS1)		**Source: N093106-07**		Prepared: 07/29/2009 Analyzed: 07/30/2009						
Benzo (a) anthracene	580	13	ug/kg dry	507.0	ND	114	70-130			
Benzo (a) pyrene	578	13	"	507.0	ND	114	70-130			
Benzo (b) fluoranthene	540	13	"	507.0	ND	107	70-130			
Dibenz (a,h) anthracene	555	13	"	507.0	ND	110	70-130			
Indeno (1,2,3-cd) pyrene	597	13	"	507.0	ND	118	70-130			
Surrogate: p-Terphenyl-d14	*612*		*"*	*633.7*		*96.6*	*70-130*			
Matrix Spike Dup (N907005-MSD1)		**Source: N093106-07**		Prepared: 07/29/2009 Analyzed: 07/30/2009						
Benzo (a) anthracene	556	13	ug/kg dry	507.0	ND	110	70-130	4.14	20	
Benzo (a) pyrene	588	13	"	507.0	ND	116	70-130	1.73	20	
Benzo (b) fluoranthene	521	13	"	507.0	ND	103	70-130	3.51	20	
Dibenz (a,h) anthracene	541	13	"	507.0	ND	107	70-130	2.61	20	
Indeno (1,2,3-cd) pyrene	572	13	"	507.0	ND	113	70-130	4.29	20	
Surrogate: p-Terphenyl-d14	*637*		*"*	*633.7*		*100*	*70-130*			
Batch N907007 - EPA 3570										
Blank (N907007-BLK1)				Prepared: 07/29/2009 Analyzed: 07/31/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*545*		*"*	*500.0*		*109*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907007 - EPA 3570										
LCS (N907007-BS1)				Prepared: 07/29/2009 Analyzed: 07/31/2009						
Benzo (a) anthracene	402	10	ug/kg wet	400.0		101	70-130			
Benzo (a) pyrene	457	10	"	400.0		114	70-130			
Benzo (b) fluoranthene	381	10	"	400.0		95.4	70-130			
Dibenz (a,h) anthracene	331	10	"	400.0		82.7	70-130			
Indeno (1,2,3-cd) pyrene	348	10	"	400.0		87.1	70-130			
Surrogate: p-Terphenyl-d14	*555*		*"*	*500.0*		*111*	*70-130*			
Matrix Spike (N907007-MS1)		**Source: N093108-03**		Prepared: 07/29/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	416	12	ug/kg dry	470.0	ND	88.5	70-130			
Benzo (a) pyrene	489	12	"	470.0	ND	104	70-130			
Benzo (b) fluoranthene	398	12	"	470.0	ND	84.7	70-130			
Dibenz (a,h) anthracene	436	12	"	470.0	ND	92.8	70-130			
Indeno (1,2,3-cd) pyrene	435	12	"	470.0	ND	92.5	70-130			
Surrogate: p-Terphenyl-d14	*495*		*"*	*587.5*		*84.2*	*70-130*			
Matrix Spike Dup (N907007-MSD1)		**Source: N093108-03**		Prepared: 07/29/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	401	12	ug/kg dry	470.0	ND	85.3	70-130	3.69	20	
Benzo (a) pyrene	493	12	"	470.0	ND	105	70-130	0.881	20	
Benzo (b) fluoranthene	377	12	"	470.0	ND	80.1	70-130	5.58	20	
Dibenz (a,h) anthracene	419	12	"	470.0	ND	89.1	70-130	4.12	20	
Indeno (1,2,3-cd) pyrene	427	12	"	470.0	ND	90.9	70-130	1.72	20	
Surrogate: p-Terphenyl-d14	*517*		*"*	*587.5*		*88.0*	*70-130*			
Batch N907012 - EPA 3570										
Blank (N907012-BLK1)				Prepared: 07/30/2009 Analyzed: 08/01/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*535*		*"*	*500.0*		*107*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907012 - EPA 3570										
LCS (N907012-BS1)				Prepared: 07/30/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	351	10	ug/kg wet	400.0		87.8	70-130			
Benzo (a) pyrene	440	10	"	400.0		110	70-130			
Benzo (b) fluoranthene	352	10	"	400.0		88.1	70-130			
Dibenz (a,h) anthracene	398	10	"	400.0		99.4	70-130			
Indeno (1,2,3-cd) pyrene	393	10	"	400.0		98.2	70-130			
Surrogate: p-Terphenyl-d14	*460*		*"*	*500.0*		*92.1*	*70-130*			
Matrix Spike (N907012-MS1)		**Source: N093109-13**		Prepared: 07/30/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	467	11	ug/kg dry	440.5	ND	106	70-130			
Benzo (a) pyrene	544	11	"	440.5	ND	123	70-130			
Benzo (b) fluoranthene	468	11	"	440.5	ND	106	70-130			
Dibenz (a,h) anthracene	543	11	"	440.5	ND	123	70-130			
Indeno (1,2,3-cd) pyrene	548	11	"	440.5	ND	124	70-130			
Surrogate: p-Terphenyl-d14	*512*		*"*	*550.7*		*93.0*	*70-130*			
Matrix Spike Dup (N907012-MSD1)		**Source: N093109-13**		Prepared: 07/30/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	441	11	ug/kg dry	440.5	ND	100	70-130	5.74	20	
Benzo (a) pyrene	513	11	"	440.5	ND	116	70-130	5.81	20	
Benzo (b) fluoranthene	351	11	"	440.5	ND	79.7	70-130	28.5	20	
Dibenz (a,h) anthracene	484	11	"	440.5	ND	110	70-130	11.6	20	
Indeno (1,2,3-cd) pyrene	498	11	"	440.5	ND	113	70-130	9.58	20	
Surrogate: p-Terphenyl-d14	*530*		*"*	*550.7*		*96.2*	*70-130*			
Batch N907015 - EPA 3570										
Blank (N907015-BLK1)				Prepared: 07/30/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*465*		*"*	*500.0*		*92.9*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907015 - EPA 3570										
LCS (N907015-BS1)				Prepared: 07/30/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	370	10	ug/kg wet	400.0		92.4	70-130			
Benzo (a) pyrene	444	10	"	400.0		111	70-130			
Benzo (b) fluoranthene	329	10	"	400.0		82.3	70-130			
Dibenz (a,h) anthracene	403	10	"	400.0		101	70-130			
Indeno (1,2,3-cd) pyrene	395	10	"	400.0		98.7	70-130			
Surrogate: p-Terphenyl-d14	*488*		*"*	*500.0*		*97.7*	*70-130*			
Matrix Spike (N907015-MS1)		**Source: N093110-09**		Prepared: 07/30/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	451	12	ug/kg dry	466.2	ND	96.8	70-130			
Benzo (a) pyrene	514	12	"	466.2	ND	110	70-130			
Benzo (b) fluoranthene	398	12	"	466.2	ND	85.3	70-130			
Dibenz (a,h) anthracene	519	12	"	466.2	ND	111	70-130			
Indeno (1,2,3-cd) pyrene	524	12	"	466.2	ND	112	70-130			
Surrogate: p-Terphenyl-d14	*551*		*"*	*582.8*		*94.6*	*70-130*			
Matrix Spike Dup (N907015-MSD1)		**Source: N093110-09**		Prepared: 07/30/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	478	12	ug/kg dry	466.2	ND	102	70-130	5.68	20	
Benzo (a) pyrene	513	12	"	466.2	ND	110	70-130	0.173	20	
Benzo (b) fluoranthene	493	12	"	466.2	ND	106	70-130	21.5	20	
Dibenz (a,h) anthracene	563	12	"	466.2	ND	121	70-130	8.05	20	
Indeno (1,2,3-cd) pyrene	569	12	"	466.2	ND	122	70-130	8.18	20	
Surrogate: p-Terphenyl-d14	*543*		*"*	*582.8*		*93.3*	*70-130*			
Batch N908001 - EPA 3570										
Blank (N908001-BLK1)				Prepared: 08/01/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*439*		*"*	*500.0*		*87.8*	*70-130*			

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Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908001 - EPA 3570										
LCS (N908001-BS1)				Prepared: 08/01/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	349	10	ug/kg wet	400.0		87.4	70-130			
Benzo (a) pyrene	423	10	"	400.0		106	70-130			
Benzo (b) fluoranthene	406	10	"	400.0		102	70-130			
Dibenz (a,h) anthracene	334	10	"	400.0		83.5	70-130			
Indeno (1,2,3-cd) pyrene	369	10	"	400.0		92.3	70-130			
Surrogate: p-Terphenyl-d14	*463*		*"*	*500.0*		*92.5*	*70-130*			
Matrix Spike (N908001-MS1)		**Source: N093112-10**		Prepared: 08/01/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	2110	43	ug/kg dry	1702	ND	124	70-130			
Benzo (a) pyrene	2090	43	"	1702	ND	123	70-130			
Benzo (b) fluoranthene	1980	43	"	1702	ND	116	70-130			
Dibenz (a,h) anthracene	1950	43	"	1702	ND	114	70-130			
Indeno (1,2,3-cd) pyrene	2420	43	"	1702	ND	142	70-130			
Surrogate: p-Terphenyl-d14	*1840*		*"*	*2128*		*86.6*	*70-130*			
Matrix Spike Dup (N908001-MSD1)		**Source: N093112-10**		Prepared: 08/01/2009 Analyzed: 08/02/2009						
Benzo (a) anthracene	1880	43	ug/kg dry	1702	ND	111	70-130	11.2	20	
Benzo (a) pyrene	1720	43	"	1702	ND	101	70-130	18.9	20	
Benzo (b) fluoranthene	1640	43	"	1702	ND	96.2	70-130	18.7	20	
Dibenz (a,h) anthracene	1490	43	"	1702	ND	87.6	70-130	26.4	20	
Indeno (1,2,3-cd) pyrene	1840	43	"	1702	ND	108	70-130	27.2	20	
Surrogate: p-Terphenyl-d14	*1970*		*"*	*2128*		*92.7*	*70-130*			
Batch N908003 - EPA 3511										
Blank (N908003-BLK1)				Prepared: 08/02/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	ND	0.010	ug/L							U
Benzo (a) pyrene	ND	0.010	"							U
Benzo (b) fluoranthene	ND	0.010	"							U
Dibenz (a,h) anthracene	ND	0.010	"							U
Indeno (1,2,3-cd) pyrene	ND	0.010	"							U
Surrogate: p-Terphenyl-d14	*1.78*		*"*	*3.125*		*56.9*	*70-130*			

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Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908003 - EPA 3511										
LCS (N908003-BS1)				Prepared: 08/02/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	1.28	0.010	ug/L	1.250		102	70-130			
Benzo (a) pyrene	1.30	0.010	"	1.250		104	70-130			
Benzo (b) fluoranthene	1.07	0.010	"	1.250		85.5	70-130			
Dibenz (a,h) anthracene	1.20	0.010	"	1.250		95.7	70-130			
Indeno (1,2,3-cd) pyrene	1.18	0.010	"	1.250		94.3	70-130			
Surrogate: p-Terphenyl-d14	*2.63*		*"*	*3.125*		*84.2*	*70-130*			
LCS (N908003-BS2)				Prepared: 08/02/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	1.29	0.010	ug/L	1.250		103	70-130			
Benzo (a) pyrene	1.34	0.010	"	1.250		107	70-130			
Benzo (b) fluoranthene	1.16	0.010	"	1.250		92.6	70-130			
Dibenz (a,h) anthracene	1.32	0.010	"	1.250		105	70-130			
Indeno (1,2,3-cd) pyrene	1.30	0.010	"	1.250		104	70-130			
Surrogate: p-Terphenyl-d14	*2.28*		*"*	*3.125*		*72.8*	*70-130*			
LCS (N908003-BS3)				Prepared: 08/02/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	0.946	0.020	ug/L	1.250		75.7	70-130			
Benzo (a) pyrene	0.853	0.020	"	1.250		68.3	70-130			
Benzo (b) fluoranthene	0.743	0.020	"	1.250		59.4	70-130			
Dibenz (a,h) anthracene	0.766	0.020	"	1.250		61.3	70-130			
Indeno (1,2,3-cd) pyrene	0.821	0.020	"	1.250		65.6	70-130			
Surrogate: p-Terphenyl-d14	*1.61*		*"*	*3.125*		*51.6*	*70-130*			
LCS (N908003-BS4)				Prepared: 08/02/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	1.36	0.010	ug/L	1.250		109	70-130			
Benzo (a) pyrene	1.44	0.010	"	1.250		115	70-130			
Benzo (b) fluoranthene	1.16	0.010	"	1.250		92.5	70-130			
Dibenz (a,h) anthracene	1.28	0.010	"	1.250		103	70-130			
Indeno (1,2,3-cd) pyrene	1.28	0.010	"	1.250		102	70-130			
Surrogate: p-Terphenyl-d14	*2.46*		*"*	*3.125*		*78.6*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908005 - EPA 3570										
Blank (N908005-BLK1)				Prepared: 08/02/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	40	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*535*		*"*	*500.0*		*107*	*70-130*			
LCS (N908005-BS1)				Prepared: 08/02/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	375	10	ug/kg wet	400.0		93.8	70-130			
Benzo (a) pyrene	429	10	"	400.0		107	70-130			
Benzo (b) fluoranthene	363	40	"	400.0		90.9	70-130			
Dibenz (a,h) anthracene	406	10	"	400.0		101	70-130			
Indeno (1,2,3-cd) pyrene	396	10	"	400.0		99.0	70-130			
Surrogate: p-Terphenyl-d14	*498*		*"*	*500.0*		*99.6*	*70-130*			
Matrix Spike (N908005-MS1)		**Source: N093110-02**		Prepared: 08/02/2009 Analyzed: 08/03/2009						
Benzo (a) anthracene	574	11	ug/kg dry	438.1	105	107	70-130			
Benzo (a) pyrene	636	11	"	438.1	94.6	124	70-130			
Benzo (b) fluoranthene	607	44	"	438.1	162	102	70-130			
Dibenz (a,h) anthracene	489	11	"	438.1	37.1	103	70-130			
Indeno (1,2,3-cd) pyrene	569	11	"	438.1	85.9	110	70-130			
Surrogate: p-Terphenyl-d14	*602*		*"*	*547.6*		*110*	*70-130*			
Matrix Spike Dup (N908005-MSD1)		**Source: N093110-02**		Prepared: 08/02/2009 Analyzed: 08/03/2009						
Benzo (a) anthracene	692	11	ug/kg dry	438.1	105	134	70-130	22.3	20	
Benzo (a) pyrene	667	11	"	438.1	94.6	131	70-130	5.56	20	
Benzo (b) fluoranthene	683	44	"	438.1	162	119	70-130	15.6	20	
Dibenz (a,h) anthracene	499	11	"	438.1	37.1	106	70-130	2.33	20	
Indeno (1,2,3-cd) pyrene	600	11	"	438.1	85.9	117	70-130	6.21	20	
Surrogate: p-Terphenyl-d14	*599*		*"*	*547.6*		*109*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908008 - EPA 3570										
Blank (N908008-BLK1)				Prepared: 08/03/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*514*		*"*	*500.0*		*103*	*70-130*			
LCS (N908008-BS1)				Prepared: 08/03/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	382	10	ug/kg wet	400.0		95.5	70-130			
Benzo (a) pyrene	413	10	"	400.0		103	70-130			
Benzo (b) fluoranthene	353	10	"	400.0		88.3	70-130			
Dibenz (a,h) anthracene	416	10	"	400.0		104	70-130			
Indeno (1,2,3-cd) pyrene	411	10	"	400.0		103	70-130			
Surrogate: p-Terphenyl-d14	*495*		*"*	*500.0*		*99.1*	*70-130*			
Matrix Spike (N908008-MS1)		**Source: N093203-01**		Prepared: 08/03/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	866	11	ug/kg dry	440.5	492	85.1	70-130			
Benzo (a) pyrene	1030	11	"	440.5	534	113	70-130			
Benzo (b) fluoranthene	1230	11	"	440.5	724	114	70-130			
Dibenz (a,h) anthracene	610	11	"	440.5	162	102	70-130			
Indeno (1,2,3-cd) pyrene	964	11	"	440.5	397	129	70-130			
Surrogate: p-Terphenyl-d14	*593*		*"*	*550.7*		*108*	*70-130*			
Matrix Spike Dup (N908008-MSD1)		**Source: N093203-01**		Prepared: 08/03/2009 Analyzed: 08/04/2009						
Benzo (a) anthracene	783	11	ug/kg dry	440.5	492	66.2	70-130	25.1	20	
Benzo (a) pyrene	843	11	"	440.5	534	70.1	70-130	46.8	20	
Benzo (b) fluoranthene	1170	11	"	440.5	724	100	70-130	12.8	20	
Dibenz (a,h) anthracene	650	11	"	440.5	162	111	70-130	8.51	20	
Indeno (1,2,3-cd) pyrene	1080	11	"	440.5	397	155	70-130	18.5	20	
Surrogate: p-Terphenyl-d14	*581*		*"*	*550.7*		*105*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908011 - EPA 3570										
Blank (N908011-BLK1)				Prepared: 08/04/2009 Analyzed: 08/05/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	100	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*515*		*"*	*500.0*		*103*	*70-130*			
LCS (N908011-BS1)				Prepared: 08/04/2009 Analyzed: 08/05/2009						
Benzo (a) anthracene	387	10	ug/kg wet	400.0		96.9	70-130			
Benzo (a) pyrene	442	10	"	400.0		110	70-130			
Benzo (b) fluoranthene	407	10	"	400.0		102	70-130			
Dibenz (a,h) anthracene	412	10	"	400.0		103	70-130			
Indeno (1,2,3-cd) pyrene	419	10	"	400.0		105	70-130			
Surrogate: p-Terphenyl-d14	*478*		*"*	*500.0*		*95.6*	*70-130*			
Matrix Spike (N908011-MS1)		**Source: N093207-01**		Prepared: 08/04/2009 Analyzed: 08/05/2009						
Benzo (a) anthracene	455	10	ug/kg dry	418.4	20.5	104	70-130			
Benzo (a) pyrene	518	10	"	418.4	28.7	117	70-130			
Benzo (b) fluoranthene	491	10	"	418.4	110	91.2	70-130			
Dibenz (a,h) anthracene	494	10	"	418.4	ND	118	70-130			
Indeno (1,2,3-cd) pyrene	531	10	"	418.4	47.6	116	70-130			
Surrogate: p-Terphenyl-d14	*544*		*"*	*523.0*		*104*	*70-130*			
Matrix Spike Dup (N908011-MSD1)		**Source: N093207-01**		Prepared: 08/04/2009 Analyzed: 08/05/2009						
Benzo (a) anthracene	478	10	ug/kg dry	418.4	20.5	109	70-130	5.01	20	
Benzo (a) pyrene	701	10	"	418.4	28.7	161	70-130	31.6	20	
Benzo (b) fluoranthene	761	10	"	418.4	110	156	70-130	52.2	20	
Dibenz (a,h) anthracene	405	10	"	418.4	ND	96.8	70-130	19.8	20	
Indeno (1,2,3-cd) pyrene	712	10	"	418.4	47.6	159	70-130	31.6	20	
Surrogate: p-Terphenyl-d14	*532*		*"*	*523.0*		*102*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908013 - EPA 3570										
Blank (N908013-BLK1)				Prepared & Analyzed: 08/05/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*449*		*"*	*500.0*		*89.9*	*70-130*			
LCS (N908013-BS1)				Prepared & Analyzed: 08/05/2009						
Benzo (a) anthracene	329	40	ug/kg wet	400.0		82.3	70-130			
Benzo (a) pyrene	381	40	"	400.0		95.3	70-130			
Benzo (b) fluoranthene	335	40	"	400.0		83.7	70-130			
Dibenz (a,h) anthracene	357	40	"	400.0		89.2	70-130			
Indeno (1,2,3-cd) pyrene	375	40	"	400.0		93.7	70-130			
Surrogate: p-Terphenyl-d14	*408*		*"*	*500.0*		*81.7*	*70-130*			
Matrix Spike (N908013-MS1)		**Source: N093113-16**		Prepared & Analyzed: 08/05/2009						
Benzo (a) anthracene	401	11	ug/kg dry	447.4	21.3	84.9	70-130			
Benzo (a) pyrene	485	11	"	447.4	39.1	99.6	70-130			
Benzo (b) fluoranthene	492	11	"	447.4	111	85.2	70-130			
Dibenz (a,h) anthracene	452	11	"	447.4	ND	101	70-130			
Indeno (1,2,3-cd) pyrene	472	11	"	447.4	36.8	97.3	70-130			
Surrogate: p-Terphenyl-d14	*528*		*"*	*559.3*		*94.4*	*70-130*			
Matrix Spike Dup (N908013-MSD1)		**Source: N093113-16**		Prepared & Analyzed: 08/05/2009						
Benzo (a) anthracene	410	11	ug/kg dry	447.4	21.3	87.0	70-130	2.43	20	
Benzo (a) pyrene	456	11	"	447.4	39.1	93.1	70-130	6.72	20	
Benzo (b) fluoranthene	409	11	"	447.4	111	66.7	70-130	24.4	20	
Dibenz (a,h) anthracene	444	11	"	447.4	ND	99.2	70-130	1.91	20	
Indeno (1,2,3-cd) pyrene	457	11	"	447.4	36.8	93.9	70-130	3.54	20	
Surrogate: p-Terphenyl-d14	*518*		*"*	*559.3*		*92.6*	*70-130*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908015 - EPA 3570										
Blank (N908015-BLK1)				Prepared: 08/06/2009 Analyzed: 08/07/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*595*		*"*	*500.0*		*119*	*70-130*			
LCS (N908015-BS1)				Prepared: 08/06/2009 Analyzed: 08/07/2009						
Benzo (a) anthracene	441	10	ug/kg wet	400.0		110	70-130			
Benzo (a) pyrene	418	10	"	400.0		105	70-130			
Benzo (b) fluoranthene	428	10	"	400.0		107	70-130			
Dibenz (a,h) anthracene	428	10	"	400.0		107	70-130			
Indeno (1,2,3-cd) pyrene	434	10	"	400.0		108	70-130			
Surrogate: p-Terphenyl-d14	*568*		*"*	*500.0*		*114*	*70-130*			
Matrix Spike (N908015-MS1)		**Source: N093210-01**		Prepared: 08/06/2009 Analyzed: 08/07/2009						
Benzo (a) anthracene	491	11	ug/kg dry	432.4	ND	114	70-130			
Benzo (a) pyrene	462	11	"	432.4	ND	107	70-130			
Benzo (b) fluoranthene	476	11	"	432.4	ND	110	70-130			
Dibenz (a,h) anthracene	448	11	"	432.4	ND	104	70-130			
Indeno (1,2,3-cd) pyrene	459	11	"	432.4	12.5	103	70-130			
Surrogate: p-Terphenyl-d14	*579*		*"*	*540.5*		*107*	*70-130*			
Matrix Spike Dup (N908015-MSD1)		**Source: N093210-01**		Prepared: 08/06/2009 Analyzed: 08/07/2009						
Benzo (a) anthracene	496	11	ug/kg dry	432.4	ND	115	70-130	1.03	20	
Benzo (a) pyrene	460	11	"	432.4	ND	106	70-130	0.286	20	
Benzo (b) fluoranthene	488	11	"	432.4	ND	113	70-130	2.39	20	
Dibenz (a,h) anthracene	436	11	"	432.4	ND	101	70-130	2.80	20	
Indeno (1,2,3-cd) pyrene	442	11	"	432.4	12.5	99.3	70-130	3.89	20	
Surrogate: p-Terphenyl-d14	*606*		*"*	*540.5*		*112*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908018 - EPA 3570										
Blank (N908018-BLK1)				Prepared & Analyzed: 08/07/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*557*		*"*	*500.0*		*111*	*70-130*			
LCS (N908018-BS1)				Prepared & Analyzed: 08/07/2009						
Benzo (a) anthracene	436	10	ug/kg wet	400.0		109	70-130			
Benzo (a) pyrene	409	10	"	400.0		102	70-130			
Benzo (b) fluoranthene	424	10	"	400.0		106	70-130			
Dibenz (a,h) anthracene	397	10	"	400.0		99.2	70-130			
Indeno (1,2,3-cd) pyrene	413	10	"	400.0		103	70-130			
Surrogate: p-Terphenyl-d14	*535*		*"*	*500.0*		*107*	*70-130*			
Matrix Spike (N908018-MS1)		**Source: N093212-15**		Prepared & Analyzed: 08/07/2009						
Benzo (a) anthracene	509	11	ug/kg dry	457.1	ND	111	70-130			
Benzo (a) pyrene	484	11	"	457.1	ND	106	70-130			
Benzo (b) fluoranthene	522	11	"	457.1	ND	114	70-130			
Dibenz (a,h) anthracene	454	11	"	457.1	ND	99.4	70-130			
Indeno (1,2,3-cd) pyrene	469	11	"	457.1	ND	103	70-130			
Surrogate: p-Terphenyl-d14	*619*		*"*	*571.4*		*108*	*70-130*			
Matrix Spike Dup (N908018-MSD1)		**Source: N093212-15**		Prepared & Analyzed: 08/07/2009						
Benzo (a) anthracene	499	11	ug/kg dry	457.1	ND	109	70-130	2.01	20	
Benzo (a) pyrene	474	11	"	457.1	ND	104	70-130	2.20	20	
Benzo (b) fluoranthene	461	11	"	457.1	ND	101	70-130	12.4	20	
Dibenz (a,h) anthracene	444	11	"	457.1	ND	97.1	70-130	2.33	20	
Indeno (1,2,3-cd) pyrene	459	11	"	457.1	ND	100	70-130	2.13	20	
Surrogate: p-Terphenyl-d14	*622*		*"*	*571.4*		*109*	*70-130*			

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4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908021 - EPA 3511										
Blank (N908021-BLK1)				Prepared & Analyzed: 08/07/2009						
Benzo (a) anthracene	ND	0.010	ug/L							U
Benzo (a) pyrene	ND	0.010	"							U
Benzo (b) fluoranthene	ND	0.010	"							U
Dibenz (a,h) anthracene	ND	0.010	"							U
Indeno (1,2,3-cd) pyrene	ND	0.010	"							U
Surrogate: p-Terphenyl-d14	*2.27*		*"*	*3.125*		*72.7*	*70-130*			
LCS (N908021-BS1)				Prepared & Analyzed: 08/07/2009						
Benzo (a) anthracene	1.08	0.010	ug/L	1.250		86.7	70-130			
Benzo (a) pyrene	1.01	0.010	"	1.250		80.8	70-130			
Benzo (b) fluoranthene	0.987	0.010	"	1.250		79.0	70-130			
Dibenz (a,h) anthracene	1.02	0.010	"	1.250		82.0	70-130			
Indeno (1,2,3-cd) pyrene	1.03	0.010	"	1.250		82.4	70-130			
Surrogate: p-Terphenyl-d14	*1.87*		*"*	*3.125*		*60.0*	*70-130*			
Batch N908023 - EPA 3570										
Blank (N908023-BLK1)				Prepared: 08/17/2009 Analyzed: 08/18/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*480*		*"*	*500.0*		*96.0*	*70-130*			
LCS (N908023-BS1)				Prepared: 08/17/2009 Analyzed: 08/18/2009						
Benzo (a) anthracene	396	10	ug/kg wet	400.0		99.1	70-130			
Benzo (a) pyrene	324	10	"	400.0		80.9	70-130			
Benzo (b) fluoranthene	386	10	"	400.0		96.4	70-130			
Dibenz (a,h) anthracene	316	10	"	400.0		79.0	70-130			
Indeno (1,2,3-cd) pyrene	365	10	"	400.0		91.3	70-130			
Surrogate: p-Terphenyl-d14	*511*		*"*	*500.0*		*102*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908023 - EPA 3570										
Matrix Spike (N908023-MS1)		**Source: N093207-11**		Prepared: 08/17/2009 Analyzed: 08/19/2009						
Benzo (a) anthracene	744	11	ug/kg dry	458.2	181	123	70-130			
Benzo (a) pyrene	648	11	"	458.2	171	104	70-130			
Benzo (b) fluoranthene	802	11	"	458.2	262	118	70-130			
Dibenz (a,h) anthracene	475	11	"	458.2	50.7	92.7	70-130			
Indeno (1,2,3-cd) pyrene	592	11	"	458.2	132	100	70-130			
Surrogate: p-Terphenyl-d14	*616*		*"*	*572.7*		*107*	*70-130*			
Matrix Spike Dup (N908023-MSD1)		**Source: N093207-11**		Prepared: 08/17/2009 Analyzed: 08/19/2009						
Benzo (a) anthracene	769	11	ug/kg dry	458.2	181	128	70-130	4.47	20	
Benzo (a) pyrene	664	11	"	458.2	171	108	70-130	3.31	20	
Benzo (b) fluoranthene	811	11	"	458.2	262	120	70-130	1.71	20	
Dibenz (a,h) anthracene	470	11	"	458.2	50.7	91.6	70-130	1.25	20	
Indeno (1,2,3-cd) pyrene	606	11	"	458.2	132	103	70-130	2.93	20	
Surrogate: p-Terphenyl-d14	*639*		*"*	*572.7*		*112*	*70-130*			
Batch N908025 - EPA 3570										
Blank (N908025-BLK1)				Prepared & Analyzed: 08/18/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*473*		*"*	*500.0*		*94.6*	*70-130*			
LCS (N908025-BS1)				Prepared & Analyzed: 08/18/2009						
Benzo (a) anthracene	362	10	ug/kg wet	400.0		90.6	70-130			
Benzo (a) pyrene	311	10	"	400.0		77.8	70-130			
Benzo (b) fluoranthene	362	10	"	400.0		90.4	70-130			
Dibenz (a,h) anthracene	352	10	"	400.0		87.9	70-130			
Indeno (1,2,3-cd) pyrene	374	10	"	400.0		93.5	70-130			
Surrogate: p-Terphenyl-d14	*482*		*"*	*500.0*		*96.4*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908025 - EPA 3570										
Matrix Spike (N908025-MS1)		**Source: N093401-14**		Prepared & Analyzed: 08/18/2009						
Benzo (a) anthracene	463	11	ug/kg dry	426.9	10.3	106	70-130			
Benzo (a) pyrene	409	11	"	426.9	17.1	91.8	70-130			
Benzo (b) fluoranthene	468	11	"	426.9	19.1	105	70-130			
Dibenz (a,h) anthracene	368	11	"	426.9	ND	86.2	70-130			
Indeno (1,2,3-cd) pyrene	420	11	"	426.9	16.9	94.5	70-130			
Surrogate: p-Terphenyl-d14	*451*		*"*	*533.6*		*84.5*	*70-130*			
Matrix Spike Dup (N908025-MSD1)		**Source: N093401-14**		Prepared & Analyzed: 08/18/2009						
Benzo (a) anthracene	444	11	ug/kg dry	426.9	10.3	102	70-130	4.30	20	
Benzo (a) pyrene	399	11	"	426.9	17.1	89.5	70-130	2.55	20	
Benzo (b) fluoranthene	434	11	"	426.9	19.1	97.1	70-130	8.02	20	
Dibenz (a,h) anthracene	349	11	"	426.9	ND	81.8	70-130	5.23	20	
Indeno (1,2,3-cd) pyrene	389	11	"	426.9	16.9	87.1	70-130	8.19	20	
Surrogate: p-Terphenyl-d14	*487*		*"*	*533.6*		*91.4*	*70-130*			
Batch N908028 - EPA 3570										
Blank (N908028-BLK1)				Prepared: 08/19/2009 Analyzed: 08/21/2009						
Benzo (a) anthracene	ND	10	ug/kg wet							U
Benzo (a) pyrene	ND	10	"							U
Benzo (b) fluoranthene	ND	10	"							U
Dibenz (a,h) anthracene	ND	10	"							U
Indeno (1,2,3-cd) pyrene	ND	10	"							U
Surrogate: p-Terphenyl-d14	*555*		*"*	*500.0*		*111*	*70-130*			
LCS (N908028-BS1)				Prepared: 08/19/2009 Analyzed: 08/21/2009						
Benzo (a) anthracene	367	10	ug/kg wet	400.0		91.8	70-130			
Benzo (a) pyrene	363	10	"	400.0		90.6	70-130			
Benzo (b) fluoranthene	351	10	"	400.0		87.7	70-130			
Dibenz (a,h) anthracene	361	10	"	400.0		90.1	70-130			
Indeno (1,2,3-cd) pyrene	354	10	"	400.0		88.6	70-130			
Surrogate: p-Terphenyl-d14	*576*		*"*	*500.0*		*115*	*70-130*			

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Polynuclear Aromatic Compounds by GC/MS with Selected Ion Monitoring - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908028 - EPA 3570										
Matrix Spike (N908028-MS1)		**Source: N093401-07**		Prepared: 08/19/2009 Analyzed: 08/21/2009						
Benzo (a) anthracene	424	11	ug/kg dry	433.4	ND	97.9	70-130			
Benzo (a) pyrene	420	11	"	433.4	ND	97.0	70-130			
Benzo (b) fluoranthene	385	11	"	433.4	ND	88.8	70-130			
Dibenz (a,h) anthracene	431	11	"	433.4	ND	99.5	70-130			
Indeno (1,2,3-cd) pyrene	418	11	"	433.4	ND	96.4	70-130			
Surrogate: p-Terphenyl-d14	*612*		*"*	*541.7*		*113*	*70-130*			
Matrix Spike Dup (N908028-MSD1)		**Source: N093401-07**		Prepared: 08/19/2009 Analyzed: 08/21/2009						
Benzo (a) anthracene	448	11	ug/kg dry	433.4	ND	103	70-130	5.48	20	
Benzo (a) pyrene	437	11	"	433.4	ND	101	70-130	3.95	20	
Benzo (b) fluoranthene	414	11	"	433.4	ND	95.6	70-130	7.44	20	
Dibenz (a,h) anthracene	462	11	"	433.4	ND	107	70-130	6.81	20	
Indeno (1,2,3-cd) pyrene	450	11	"	433.4	ND	104	70-130	7.32	20	
Surrogate: p-Terphenyl-d14	*639*		*"*	*541.7*		*118*	*70-130*			
Batch N908031 - EPA 3511										
Blank (N908031-BLK1)				Prepared & Analyzed: 08/20/2009						
Benzo (a) anthracene	ND	0.010	ug/L							U
Benzo (a) pyrene	ND	0.010	"							U
Benzo (b) fluoranthene	ND	0.010	"							U
Dibenz (a,h) anthracene	ND	0.010	"							U
Indeno (1,2,3-cd) pyrene	ND	0.010	"							U
Surrogate: p-Terphenyl-d14	*4.99*		*"*	*6.250*		*79.9*	*70-130*			
LCS (N908031-BS1)				Prepared & Analyzed: 08/20/2009						
Benzo (a) anthracene	2.35	0.010	ug/L	2.500		93.8	70-130			
Benzo (a) pyrene	2.36	0.010	"	2.500		94.3	70-130			
Benzo (b) fluoranthene	2.06	0.010	"	2.500		82.4	70-130			
Dibenz (a,h) anthracene	2.43	0.010	"	2.500		97.3	70-130			
Indeno (1,2,3-cd) pyrene	2.37	0.010	"	2.500		94.9	70-130			
Surrogate: p-Terphenyl-d14	*5.16*		*"*	*6.250*		*82.5*	*70-130*			

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908031 - EPA 3511										
LCS Dup (N908031-BSD1)				Prepared & Analyzed: 08/20/2009						
Benzo (a) anthracene	2.04	0.010	ug/L	2.500		81.7	70-130	13.8	20	
Benzo (a) pyrene	2.03	0.010	"	2.500		81.4	70-130	14.8	20	
Benzo (b) fluoranthene	1.74	0.010	"	2.500		69.4	70-130	17.2	20	
Dibenz (a,h) anthracene	2.06	0.010	"	2.500		82.4	70-130	16.6	20	
Indeno (1,2,3-cd) pyrene	1.99	0.010	"	2.500		79.8	70-130	17.3	20	
Surrogate: p-Terphenyl-d14	*4.62*		*"*	*6.250*		*73.9*	*70-130*			

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Classical Chemistry Parameters - Quality Control

ECCS

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907003 - % Solids										
Duplicate (N907003-DUP1)		**Source: N093101-01**		Prepared & Analyzed: 07/28/2009						
% Solids	92.2	0.00	% by Weight		91.7			0.544	20	
Batch N907009 - % Solids										
Duplicate (N907009-DUP1)		**Source: N093105-01**		Prepared: 07/29/2009 Analyzed: 07/30/2009						
% Solids	86.5	0.00	% by Weight		86.4			0.116	20	
Batch N907010 - % Solids										
Duplicate (N907010-DUP1)		**Source: N093106-13**		Prepared: 07/29/2009 Analyzed: 07/30/2009						
% Solids	71.0	0.00	% by Weight		74.9			5.35	20	
Batch N907011 - % Solids										
Duplicate (N907011-DUP1)		**Source: N093108-04**		Prepared: 07/29/2009 Analyzed: 07/30/2009						
% Solids	82.1	0.00	% by Weight		86.4			5.10	20	
Batch N907016 - % Solids										
Duplicate (N907016-DUP1)		**Source: N093110-07**		Prepared: 07/30/2009 Analyzed: 07/31/2009						
% Solids	88.8	0.00	% by Weight		87.1			1.93	20	
Batch N907017 - % Solids										
Duplicate (N907017-DUP1)		**Source: N093110-09**		Prepared: 07/30/2009 Analyzed: 07/31/2009						
% Solids	86.8	0.00	% by Weight		85.8			1.16	20	

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Classical Chemistry Parameters - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N907018 - % Solids										
Duplicate (N907018-DUP1)		**Source: N093102-18**		Prepared: 07/31/2009 Analyzed: 08/01/2009						
% Solids	87.2	0.00	% by Weight		86.6			0.690	20	
Batch N908002 - % Solids										
Duplicate (N908002-DUP1)		**Source: N093112-01**		Prepared: 08/01/2009 Analyzed: 08/02/2009						
% Solids	95.7	0.00	% by Weight		95.4			0.314	20	
Batch N908006 - % Solids										
Duplicate (N908006-DUP1)		**Source: N093201-03**		Prepared: 08/02/2009 Analyzed: 08/03/2009						
% Solids	85.1	0.00	% by Weight		86.1			1.17	20	
Batch N908009 - % Solids										
Duplicate (N908009-DUP1)		**Source: N093204-13**		Prepared: 08/03/2009 Analyzed: 08/04/2009						
% Solids	92.3	0.00	% by Weight		91.3			1.09	20	
Batch N908012 - % Solids										
Duplicate (N908012-DUP1)		**Source: N093207-19**		Prepared: 08/04/2009 Analyzed: 08/05/2009						
% Solids	84.1	0.00	% by Weight		83.5			0.716	20	
Batch N908014 - % Solids										
Duplicate (N908014-DUP1)		**Source: N093208-19**		Prepared: 08/05/2009 Analyzed: 08/06/2009						
% Solids	85.0	0.00	% by Weight		84.7			0.354	20	

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Classical Chemistry Parameters - Quality Control

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Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch N908017 - % Solids										
Duplicate (N908017-DUP1)		**Source: N093210-01**		Prepared: 08/06/2009 Analyzed: 08/07/2009						
% Solids	92.6	0.00	% by Weight		92.5			0.108	20	
Batch N908020 - % Solids										
Duplicate (N908020-DUP1)		**Source: N093109-15**		Prepared: 08/07/2009 Analyzed: 08/08/2009						
% Solids	87.4	0.00	% by Weight		86.8			0.689	20	
Batch N908027 - % Solids										
Duplicate (N908027-DUP1)		**Source: N093402-26**		Prepared: 08/18/2009 Analyzed: 08/19/2009						
% Solids	84.4	0.00	% by Weight		89.2			5.53	20	
Batch N908030 - % Solids										
Duplicate (N908030-DUP1)		**Source: N093402-18**		Prepared: 08/19/2009 Analyzed: 08/20/2009						
% Solids	87.1	0.00	% by Weight		87.3			0.229	20	
Batch N908034 - % Solids										
Duplicate (N908034-DUP1)		**Source: N093407-10**		Prepared: 08/20/2009 Analyzed: 08/21/2009						
% Solids	91.6	0.00	% by Weight		92.5			0.978	20	
Batch N908035 - % Solids										
Duplicate (N908035-DUP1)		**Source: N093408-05**		Prepared: 08/21/2009 Analyzed: 08/25/2009						
% Solids	93.6	0.00	% by Weight		92.7			0.966	20	

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karl Olm For Chris Altstaetter, Project Manager

2525 Advance Road
Madison, WI 53718
608.221.8700 Phone
608.221.4889 Fax

Rhea Engineers & Consultants, Inc.	Project: OU1, Site 83	
4951 Williams Flynn Highway, Suite 12	Project Number: 389	**Reported:**
Gibsonia PA, 15044	Project Manager: Erica Dellattre	09/18/2009

Notes and Definitions

X	Precision for the MS/MSD or lab duplicate was outside of control limits.
U	Analyte included in the analysis, but not detected
S	Surrogate recovery was outside of laboratory control limits due to an apparent matrix effect.
R	See the sample narrative.
P	The difference in the concentrations between the primary and confirmation column was > 40%.
M1	Spike recoveries were not evaluated because of elevated levels of the spiked analyte in the parent sample.
M	The Matrix Spike and/or Matrix Spike Duplicate recovery was outside of the laboratory control limits.
LC	Resuts may be biased low because of low continuing calibration verification (CCV).
HC	Results may be biased high because of high continuing calibration verification (CCV).
E1	Estimated value because of quality control sample exceedances.
E	The concentration indicated is above the instrument calibration range. This value is an estimated concentration (CLP E-flag).
D	Data reported from a dilution
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

Code	Description	Number	Expires
NCWLC	North Carolina Certification	660	12/31/2009

ECCS

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Karl Olm For Chris Altstaetter, Project Manager

Attachment C: Chain-of-Custody Documentation

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093101

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-13E-S-0-1	7-28-09	10:45	S	1	X	X						01	12:00
OU1-83-13E-S-1-2	7-28-09	10:55	S								Hold	02	
OU1-83-13E-S-2-3	7-28-09	10:57	S	1	X	X						03	
OU1-83-13E-S-3-4	7-28-09	11:00	S								Hold	04	
OU1-83-13E-S-4-5	7-28-09	11:02	S								Hold	05	

RMO 07/28/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Brad A McCalla	7/28/09	12:00	Robert Clark	07/28/09	12:00

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093101

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-14E-S-0-1	7-28-09	11:15	S	1	X	X						06	1200
OU1-83-14E-S-1-2	7-28-09	11:18	S	1		X					~~Hold~~ Analyze - dieldrin only BAM 7/30/09	07	
OU1-83-14E-S-2-3	7-28-09	11:20	S	1	X	X						08	
OU1-83-14E-S-3-4	7-28-09	11:23	S								Hold	09	
OU1-83-14E-S-4-5	7-28-09	11:25	S								Hold	10	

RMO 07/28/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/28/09	12:00	Rachel Ouch	07/28/09	1200
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093101

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-14G-S-0-1	7/28/09	11:45	S	1	X	X					~~Hold~~ Analyze BAM 7/30/09	11	1200
OU1-83-14G-S-1-2	7/28/09	11:50	S								Hold	12	↓
OU1-83-14G-S-2-3	7/28/09	11:52	S	1	X	X					~~Hold~~ Analyze BAM 7/30/09	13	
OU1-83-14G-S-3-4	7/28/09	11:55	S								Hold	14	
OU1-83-14G-S-4-5	7/28/09	11:58	S								Hold	15	

RMO 07/28/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A. McCalla	7/28/09	12:00	[illegible]	07/28/09	12:00
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093101

Mail Report To: RMTA Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-13G-S-0-1	7/28/09	1200	S	1	X	X						N093101-16	1245
OU1-83-13G-S-1-2	7/28/09	1205	S								Hold	-17	↓
OU1-83-13G-S-2-3	7/28/09	1207	S	1	X	X						-18	↓
OU1-83-13G-S-3-4	7/28/09	1208	S								Hold	-19	↓
OU1-83-13G-S-4-5	7/28/09	1210	S								Hold	-20	↓
OU1-83-13G-S-0-1-P	7/28/09	1212	S	1	X	X					Duplicate	-21	✓
RMO 07/28/09													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

	Date	Time
Relinquished By: [signature]	7-28-09	12:45
Relinquished By:		

	Date	Time
Received By: [signature]	07/28/09	12:45
Received By:		

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N 093102

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla / Zach D Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-11E-S-0-1	7/28/09	1220	S	1	X	X						-01	1255
OU1-83-11E-S-1-2	7/28/09	1225	S								HOLD	-02	
OU1-83-11E-S-2-3	7/28/09	1227	S	1	X	X						-03	
OU1-83-11E-S-3-4	7/28/09	1229	S								HOLD	-04	
OU1-83-11E-S-4-5	7/28/09	1230	S								HOLD	-05	✓
RBO 07/28/09													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[illegible]	7-28-09	12:55	Rahul Ouch	07/28/09	12:55

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093102

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-116-S-01	7/28/09	1245	S	1	X	X						-06	1255
OU1-83-116-S-1-2	7/28/09	1248	S								Hold	-07	
OU1-83-116-S-2-3	7/28/09	1250	S	1	X	X						-08	
OU1-83-116-S-3-4	7/28/09	1252	S								Hold	-09	
OU1-83-116-S-4-5	7/28/09	1255	S								Hold	-10	

RMO 07/28/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-28-09	12:55	[signature]	07/28/09	12:55

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093102

Mail Report To: RLia Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-11I-S-0-1	7/28/09	1345	S	1	X	X					1	11	1455
OU1-83-11I-S-1-2	7/28/09	1350	S	1	X	X	Analyze pests - report chlordane				~~Hold~~ Analyze - report benzo(a) pyrene + dibenz... BAM 7/30/09	12	
OU1-83-11I-S-2-3	7/28/09	1352	S	1	X	X					BAM 7/31/09	13	
OU1-83-11I-S-3-4	7/28/09	1354	S								Hold	14	
OU1-83-11I-S-4-5	7/28/09	1355	S								Hold	15	
OU1-83-11I-S-2-3-P	7/28/09	1353	S	1	X	X					Duplicate	16	

RPro 07/28/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Zach Wicks	7-28-09	2:55pm	Robert Oculer	07/28/09	1455
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093102

Mail Report To: RMA Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-11K-S-0-1	7/28/09	~~1405~~ 1400 ZDW	S	1	X	X						17	1455
OU1-83-11K-S-1-2	7/28/09	1405	S			X					~~Hold~~ ~~chlordane~~ Analyze pests - report dieldrin BAM 7/31/09	18	
OU1-83-11K-S-2-3	7/28/09	1407	S	1	X	X					MS/MSD	19	
OU1-83-11K-S-3-4	7/28/09	1408	S								Hold	20	
OU1-83-11K-S-4-5	7/28/09	1410	S								Hold	21	
OU1-83-11K-S-2-3/MS	7/28/09	1407	S	1	X	X							
OU1-83-11K-S-2-3/MSD ZDW	7/28/09	1407	S	1	X	X							
RBO 07/28/09													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-28-09	2:55 pm	[signature]	07/28/09	1455
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093103

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name:
Project Location: Site 83 soil delineation
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-EB072809	7/28/09	16:45	water	2	X	X					equipment blank	-01	1700
OU1-83-EB073009	7/30/09	13:35	water	2	X	X					" "	-03	07/30/09 1400
OU1-83-FB073009	7/30/09	13:25	water	2	X	X					field blank	-04	↓
OU1-83-EB73109	7/31/09	15:20	water	2	X	X					equipment blank	05	073109 1610 BC

07/31/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/28/09	17:00	Rachel Chinn	07/28/09	1700

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093103

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print):

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-EB072909	7/29/09	1605	W	2	X	X						-02	1615
~~OU1-83-EB072909~~ 2DW 7/29/09	~~7/29/09~~	~~1605~~	~~W~~										

RBO 07/29/09

Preservation Codes	Relinquished By:	Date:	Time:	Received By:	Date:	Time:
A=None B=HCL C=H_2SO_4 D=HNO_3 E=EnCore F=Methanol G=NaOH O=Other (Indicate)	[signature]	7-29-09	1615	[signature]	07/29/09	1615
	Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Matrix Codes		
A=Air S=Soil W=Water O=Other	Custody Seal: Present/Absent Intact/Not Intact Seal #'s	Receipt Temp:
	Shipped Via:	Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093104

Mail Report To: Phan Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla / Zach D Wicks

Analyses Requested / Preservation Codes: Select Perfs, Select pAHs

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select Perfs	Select pAHs					Comments	Lab ID	Lab Receipt Time
OU1-83-6Q-S-0-1	7/28/09	16:35	S	1	X	X						01	1707
OU1-83-6Q-S-1-3	7/28/09	16:37	S	1							HOLD	02	
OU1-83-6Q-S-3-5	7/28/09	16:39	S	1							HOLD	03	
OU1-83-6Q-S-3-5-P	—	—	S	1							HOLD	04	

7/28/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/28/09	17:05	[illegible]	07/28/09	1707

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Download this form at www.eccsmobilelab.com.

WHITE - REPORT COPY YELLOW - LABORATORY COPY PINK - SAMPLER/SUBMITTER

Rev. 11/08

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093104

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla / Zach D Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Parts					Comments	Lab ID	Lab Receipt Time
OU1-83-6R-S-0-1	7/28/09	1545	S	1	X	X						05	1708
OU1-83-6R-S-1-2	7/28/09	1547	S	1							HOLD	06	
OU1-83-6R-S-2-5	7/28/09	1615	S	1							HOLD	07	

7/28/09 [illegible]

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/28/09	17:08	[illegible]	07/28/09	1708
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093105

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-6P-S-01	7/29/09	7:40	S	1	X	X						01	0825
OU1-83-6P-S-1-2	7/29/09	7:45	S								Hold	02	
OU1-83-6P-S-2-3	7/29/09	7:47	S	1	X	X						03	
OU1-83-6P-S-3-4	7/29/09	7:48	S	1	X	X						04	
OU1-83-6P-S-4-5	7/29/09	7:50	S								Hold	05	

07/29/09 BC

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/29/09	08:20	[illegible]	07/29/09	0825
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
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608-221-4889 (fax)

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CHAIN OF CUSTODY

Lab Work Order #: N093105

Mail Report To: Rhea Engineers
Company:
Address:
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Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83_60-S-0-1	7/29/09	7:55	S	1	X	X						06	0825
OU1-83-60-S-1-2	7/29/09	8:00	S								Hold	07	
OU1-83-60-S-2-3	7/29/09	8:02	S	1	X	X						08	
OU1-83-60-S-3-4	7/29/09	8:03	S	1	X	X						09	
OU1-83-60-S-4-5	7/29/09	8:05	S								Hold	10	
OU1-83-60-S-0-1-P	7/29/09	7:55	S	1	X	X					Duplicate	11	

07/29/09 RC

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/29/09	08:20	[illegible]	07/29/09	0825
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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CHAIN OF CUSTODY

Lab Work Order #: N093105

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-6N-S-0-1	7/29/09	8:30	S	1	X	X						12	0930
OU1-83-6N-S-1-2	7/29/09	8:35	S								Hold	13	
OU1-83-6N-S-2-3	7/29/09	8:37	S	1	X	X						14	
OU1-83-6N-S-3-4	7/29/09	8:39	S	1	X	X						15	
OU1-83-6N-S-4-5	7/29/09	8:40	S	1	X						~~Hold~~ Analyze pahs - report benzo(a)pyrene + dibenz...	16	

RBO 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-29-09	9:30	[signature]	07/29/09	0930
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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CHAIN OF CUSTODY

Lab Work Order #: N093105

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-7N-S-0-1	7/29/09	8:53	S	1	X	X						17	0930
OU1-83-7N-S-1-2	7/29/09	8:55	S								Hold	18	↓
OU1-83-7N-S-2-3	7/29/09	8:56	S	1	X	X						19	↓
OU1-83-7N-S-3-4	7/29/09	8:57	S	1	X	X						20	↓
OU1-83-7N-S-4-5	7/29/09	8:59	S								Hold	21	↓

RBO 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-29-09	09:30	[signature]	07/29/09	0930
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093106-~~06~~ 07/29/09 BC

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Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCall / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-70-S-0-1	7/29/09	9:05	S	1	X	X						01	0930
OU1-83-70-S-1-2	7/29/09	9:10	S								Hold	02	
OU1-83-70-S-2-3	7/29/09	9:12	S	1	X	X						03	
OU1-83-70-S-3-4	7/29/09	9:13	S	1	X	X						04	
OU1-83-70-S-4-5	7/29/09	9:15	S								Hold	05	
OU1-83-70-S-2-3-P	7/29/09	9:12	S	1	X	X					Duplicate	06	

RBO 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-29-09	09:30	[signature]	07/29/09	0930
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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CHAIN OF CUSTODY

Lab Work Order #: N093106

Mail Report To: Rhea Engineers
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Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-TP-5-0-1	7/29/09	9:20	S	1	X	X					MS/MSD	-07	1005
OU1-83-TP-5-1-3	7/29/09	9:25	S	1	X	X					~~Hold~~ Analyze BAM 7/30/09	-08	↓
OU1-83-TP-5-3-5	7/29/09	9:29	S	1	X	X					~~Hold~~ Analyze BAM 8/7/09	-09	↓

RBo 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Zachary	7/29/09	10:05	Rachel Ocuna	07/29/09	1005

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CHAIN OF CUSTODY

Lab Work Order #: N093106

Mail Report To: Rhea Engineers
Company:
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Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-7Q-S-0-1	7/29/09	10:10	S	1	X	X						10	1140
OU1-83-7Q-S-1-2	7/29/09	10:15	S								Hold	11	↓
OU1-83-7Q-S-2-3	7/29/09	10:16	S	1	X	X						12	↓
OU1-83-7Q-S-3-4	7/29/09	10:18	S	1	X	X						13	↓
OU1-83-7Q-S-4-5	7/29/09	10:20	S								Hold	14	↓
RBO 07/29/09													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
[signature]	7/29/09	11:40	[signature]	07/29/09	1140
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-7R-S-0-1	7/29/09	10:30	S	1	X	X						15	1140
OU1-83-7R-S-~~1~~ 2DW 2 1-3	7/29/09	10:46	S	1	X	X					~~Hold~~ Analyze BAM 7/30/09	16	
~~OU1-83-7R-S-2-3 2DW~~			~~S~~	~~1~~	~~X~~	~~X~~							
~~OU1-83-7R-S-3-4 2DW~~			~~S~~	~~1~~	~~X~~	~~X~~							
OU1-83-7R-S-~~4~~ 2DW ~~5~~ 3-5	7/29/09	~~10:46~~ 10:45 BAM	S	1	X	X					~~Hold~~ Analyze 8/7/09	17	

RBO 07/29/09

Preservation Codes	Relinquished By:	Date:	Time:	Received By:	Date:	Time:
A=None B=HCL C=H_2SO_4 D=HNO_3 E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Zach Wicks	7/29/09	11:40	Rachel Crouch	07/29/09	1140
	Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Matrix Codes		
A=Air S=Soil W=Water O=Other	Custody Seal: Present/Absent Intact/Not Intact Seal #'s	Receipt Temp:
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Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8R-S-0-1	7/29/09	11:00	S	1	X	X						18	1140
OU1-83-8R-S-1-2	7/29/09	11:05	S								Hold	19	↓
OU1-83-8R-S-2-3	7/29/09	11:06	S	1	X	X						20	
OU1-83-8R-S-3-4	7/29/09	11:08	S	1	X	X						21	
OU1-83-8R-S-4-5	7/29/09	11:10	S								Hold	22	✓

RBo 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7/29/09	11:40	[signature]	07/29/09	1140
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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Lab Work Order #: N093107

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Company:
Address:
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Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8Q-S-0-1	7/29/09	1130	S	1	X	X						01	1435
OU1-83-8Q-S-1-2	7/29/09	1135	S								Hold	02	
OU1-83-8Q-S-2-3	7/29/09	1330	S	1	X	X						03	
OU1-83-8Q-S-3-4	7/29/09	1332	S	1	X	X						04	
OU1-83-8Q-S-4-5	7/29/09	1333	S								Hold	05	
OU1-83-8Q-S-2-3-P	7/29/09	1332	S	1	X	X					Duplicate	06	

RBO 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-29-09	1435	[signature]	07/29/09	1435
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8P-S-0-1	7/29/09	1340	S	1	X	X						07	1435
OU1-83-8P-S-1-2	7/29/09	1345	S								Hold	08	↓
OU1-83-8P-S-2-3	7/29/09	1347	S	1	X	X						09	↓
OU1-83-8P-S-3-4	7/29/09	1348	S	1	X	X						10	↓
OU1-83-8P-S-4-5	7/29/09	1350	S								Hold	11	↓

RBO 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Bal Wail	7-29-09	1435	Robert Ouch	07/29/09	1435

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CHAIN OF CUSTODY

Lab Work Order #: N093107

Mail Report To: Rhea Engineers
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Address:
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Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-80-S-0-1	7/29/09	1355	S	1	X	X						12	1435
OU1-83-80-S-1-2	7/29/09	1357	S								Hold	13	↓
OU1-83-80-S-2-3	7/29/09	1359	S	1	X	X						14	↓
OU1-83-80-S-3-4	7/29/09	1400	S	1	X	X						15	↓
OU1-83-80-S-4-5	7/29/09	1401	S								Hold	16	↓

RBo 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Zach Wicks	7-29-09	1435	Rachel Crouch	07/29/09	1435
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093107

Mail Report To: Rhea Engineers
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Company:
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Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-90-S-0-1	7/29/09	1425	S	1	X	X						17	1435
OU1-83-90-S-1-2	7/29/09	1430	S								Hold	18	
OU1-83-90-S-2-3	7/29/09	1431	S	1	X	X						19	
OU1-83-90-S-3-4	7/29/09	1432	S	1	X	X						20	
OU1-83-90-S-4-5	7/29/09	1433	S								Hold	21	

RBO 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-29-09	1435	[signature]	07/29/09	1435
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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CHAIN OF CUSTODY

Lab Work Order #: N093108

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Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9Q-S-0-1	7/29/09	1455	S	1	X	X						-01	1610
OU1-83-9Q-S-1-2	7/29/09	1458	S								Hold	-02	↓
OU1-83-9Q-S-2-3	7/29/09	1500	S	1	X	X					MS/MSD	-03	↓
OU1-83-9Q-S-3-4	7/29/09	1502	S	1	X	X						-04	↓
OU1-83-9Q-S-4-5	7/29/09	1504	S								Hold	-05	↓

RBO 07/29/09

RBO 07/29/09 1610

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-29-09	~~1635~~	[signature]	07/29/09	1610
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Rev. 11/08

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093108

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9P-S-0-1	7/29/09	1515	S	1	X	X						-06	1610
OU1-83-9P-S-1-2	7/29/09	1517	S								Hold	-07	↓
OU1-83-9P-S-2-3	7/29/09	1519	S	1	X	X						-08	
OU1-83-9P-S-3-4	7/29/09	1520	S	1	X	X						-09	
OU1-83-9P-S-4-5	7/29/09	1522	S								Hold	-10	↓

RBO 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By: [signature]	Date: 7-29-09	Time: 1610	Received By: [signature]	Date: 07/29/09	Time: 1610
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
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2525 Advance Road
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CHAIN OF CUSTODY

Lab Work Order #: N093108

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9R-S-0-1	7/29/09	1535	S	1	X	X						-11	1610
OU1-83-9R-S-1-2	7/29/09	1600	S								Hold	-12	
OU1-83-9R-S-2-3	7/29/09	1602	S	1	X	X						-13	
OU1-83-9R-S-3-4	7/29/09	1603	S	1	X	X						-14	
OU1-83-9R-S-4-5	7/29/09	1605	S								Hold	-15	

RMo 07/29/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-29-09	1610	[signature]	07/29/09	1610
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093109

Mail Report To: Rhem Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8K-S-0-1	7/30/09	0825	S	1	X	X						-01	0853
OU1-83-8K-S-1-2	7/30/09	0830	S			X					Hold BAM 8/4/09	-02	
OU1-83-8K-S-2-3	7/30/09	0831	S	1	X	X						-03	
OU1-83-8K-S-3-4	7/30/09	0832	S								Hold	-04	
OU1-83-8K-S-4-5	7/30/09	0833	S								Hold	-05	
OU1-83-8K-S-0-1-P	7/30/09	0825	S	1	X	X					Duplicate	-06	
OU1-83-8K-S-2-3-P	7/30/09	0831									Hold-duplicate	-07	

RMO 07/30/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/30/09	08:53	Rachel Clark	07/30/09	0853
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

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CHAIN OF CUSTODY

Lab Work Order #: N093109

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla/Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9K-S-0-1	7/30/09	0850	S	1	X	X					~~AS/MSD~~ ZDW 7-30-09	-08	0925
OU1-83-9K-S-1-2	7/30/09	0910	S								Hold	-09	↓
OU1-83-9K-S-2-3	7/30/09	0911	S	1	X	X						-10	↓
OU1-83-9K-S-3-4	7/30/09	0912	S								Hold	-11	↓
OU1-83-9K-S-4-5	7/30/09	0913	S								Hold	-12	↓
OU1-83-9K-S-2-3-P	7/30/09	0911	S	1	X	X					Duplicate	-13	↓

RBO 07/30/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7-30-09	0925	[signature]	07/30/09	0925
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093109

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1_83-8H-S-0-1	7/30/09	0950	S	1	X	X						14	1140
OU1-83_8H-S-1-2	7/30/09	0951	S			X					~~Hold~~ BAM 8/7/09 pesticides off hold	15	↓
OU1-83-8H-S-2-3	7/30/09	0952	S	1	X	X						16	↓
OU1-83-8H-S-3-4	7/30/09	0953	S								Hold	17	↓
OU1-83-8H-S-4-5	7/30/09	0954	S								Hold	18	↓
OU1-83-8H-S-0-1-P	7/30/09	0950	S	1	X	X					Duplicate	19	↓

RMo 07/30/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7/30/09	1140	[signature]	07/30/09	1140
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

0730 BC

Lab Work Order #: N093109 10 (0730 BC)

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9G-S-0-1	7/30/09	1030	S	1	X	X						01	1140
OU1-83-9G-S-1-2	7/30/09	1031	S	1	X	X					~~Hold~~ Analyze, report benzo(a) pyrene dibenz.. BAM 8/2/09	02	
OU1-83-9G-S-2-3	7/30/09	1032	S	1	X	X					↳ off hold for pests 8/4/09	03	
OU1-83-9G-S-3-4	7/30/09	1033	S								Hold	04	
OU1-83-9G-S-4-5	7/30/09	1034	S								Hold 07/30-09 BC	05	
OU1-83-9G-S-2-3-P	7/30/09	1032	S	1	X	X					~~Hold~~ Duplicate	D6	

RMO 07/30/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	7/30/09	1140	[signature]	07/30/09	1140
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

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CHAIN OF CUSTODY

Lab Work Order #: N093110

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla/Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9I-S-0-1	7/30/09	1045	S	1	X	X						07	1140
OU1-83-9I-S-1-2	7/30/09	1046	S	1	X						~~Hold~~ BAM 8/2/09 - Analyze	08	
OU1-83-9I-S-2-3	7/30/09	1047	S	1	X	X						09	
OU1-83-9I-S-3-4	7/30/09	1048	S								Hold	10	
OU1-83-9I-S-4-5	7/30/09	1049	S								Hold 07/30/09 BC	11	
OU1-83-9I-S-2-3-P	7/30/09	1047	S	1	X	X					~~Hold~~ Duplicate	12	
RBO 07/30/09													

Preservation Codes	Relinquished By:	Date:	Time:	Received By:	Date:	Time:
A=None B=HCL C=H_2SO_4 D=HNO_3 E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Zach Wicks	7/30/09	1140	Rachel Crouch	07/30/09	1140
	Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Matrix Codes: A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093110

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-6R-S-1-3	7/30/09	1250	S	1	X	X						13	1437
OU1-83-6R-S-3-5	7/30/09	1253	S	1							Hold	14	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Brad A McCalla	7/30/09	14:36	[illegible]	07/30/09	1437

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

Shipped Via:

Receipt Temp:

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CHAIN OF CUSTODY

Lab Work Order #: N093110

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-6Q-S-1-2	7/30/09	1310	S	1							Hold	15	1438
OU1-83-6Q-S-2-3	7/30/09	1311	S	1	X	X						16	
OU1-83-6Q-S-3-4	7/30/09	1312	S	1	X	X						17	
OU1-83-6Q-S-4-5	7/30/09	1313	S	1							Hold	18	

073009 BC

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/30/09	14:37	[illegible]	073009	1438
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

Shipped Via:

Receipt Temp:

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2525 Advance Road
Madison, WI 53718
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608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093111

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-14D-S-0-1	7/31/09	0810	S	1		X					Dieldrin only	01	1330
OU1-83-14D-S-1-2		0812	S								Hold	02	
OU1-83-14D-S-2-3		0813	S								Hold	03	
OU1-83-14D-S-3-4		0814	S								Hold	04	
OU1-83-14D-S-4-5		0815	S								Hold	05	
OU1-83-14D-S-0-1-P		0810	S			X					Dieldrin only	06	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	7/31/09	13:00	[illegible]	07/31/09	1330
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093110

Mail Report To: Rhea Engineers

Company:

Address:

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Invoice To:

Company:

Address:

Project Number: 7/31/09

Project Name: Site 83 ~~Chem~~ 20W Soil Delineation

Project Location: Cherry Point, NC

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCallo / Zach D. Wicks

Analyses Requested

Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-15E-S-0-1	7/31/09	0825	S	1		X					Dieldrin only	07	1330
OU1-83-15E-S-1-2	7/31/09	0826	S								Hold	08	
OU1-83-15E-S-2-3	7/31/09	0827	S								Hold	09	
OU1-83-15E-S-3-4	7/31/09	0828	S								Hold	10	
OU1-83-15E-S-4-5	7/31/09	0829	S								Hold	11	

07/31/09 BC

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brad A. McCallo Date: 7/31/09 Time: 13:00 Received By: Date: 073109 Time: 1330

Relinquished By: Date: Time: Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

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CHAIN OF CUSTODY

Lab Work Order #: N093112

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil delineation
Project Location:
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla/Zach D Wicks

Analyses Requested / Preservation Codes: Select Pests; Select PAHs

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select Pests	Select PAHs					Comments	Lab ID	Lab Receipt Time
OU1-83-12K-S-0-1	7/31/09	0930	S	1	X						dieldrin only	01	1000
OU1-83-12K-S-1-2	↓	0931	S	1							HOLD	02	↓
OU1-83-12K-S-2-3	↓	0932	S	1							HOLD	03	↓
OU1-83-~~14K~~ 12K-S-3-4 BAm 7/31/09	↓	0933	S	1							HOLD	04	↓
OU1-83-12K-S-4-~~5~~	↓	0934	S	1							HOLD	05	✓
OU1-83-12K-S-0-1-P	—	—	S	1	X						dieldrin only	06	✓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/1/09	09:55	[illegible]	080109	1050

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093112

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Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-6M-S-0-1	7/31/09	1030	S	1							Hold	07	1020
OU1-83-6M-S-1-2		1031		1							Hold	08	
OU1-83-6M-S-2-3		1032		1							Hold	09	
OU1-83-6M-S-3-4		1033		1	X			~~MS/MSD~~ 08/01/09			Benzo(a)pyrene, dibenz... only	10	
OU1-83-6M-S-4-5		1034		1							Hold	11	
OU1-83-6M-S-0-1-P		1030		1							Hold	12	
~~08/01/09~~													

Preservation Codes	Relinquished By	Date	Time	Received By	Date	Time
A=None B=HCL C=H_2SO_4 D=HNO_3 E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Relinquished By:	8-1-09	1015	Received By:	08/01/09	1020
	Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Matrix Codes		
A=Air S=Soil W=Water O=Other	Custody Seal: Present/Absent Intact/Not Intact Seal #'s	Receipt Temp:
	Shipped Via:	Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093112

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla/Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-5M-S-0-1	7/31/09	1045	S	1							Hold	13	1020
OU1-83-5M-S-1-2		1046		1							Hold	14	
OU1-83-5M-S-2-3		1047		1							Hold	15	
OU1-83-5M-S-3-4		1048		1	X						Benzo(a)pyrene, dibenz... only	16	
OU1-83-5M-S-4-5		1049		1							Hold	17	
OU1-83-5N-S-0-1		1105		1							Hold	18	
OU1-83-5N-S-1-2		1125		1							Hold	19	
OU1-83-5N-S-2-3		1127		1							Hold	20	
OU1-83-5N-S-3-4		1129		1	X						Benzo(a)pyrene, dibenz... only	21	
OU1-83-5N-S-4-5		1131		1							Hold	22	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-1-09 Time: 1015
Received By: [signature] Date: 08/01/09 Time: 1020
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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Madison, WI 53718
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CHAIN OF CUSTODY

Lab Work Order #: N093113

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil delineation
Project Location:
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla / Zach D Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PesTs	Select pAHs					Comments	Lab ID	Lab Receipt Time
OU1-83-11L-S-0-1	7/31/09	0955	S	1	X						dieldrin only	01	1000
OU1-83-11L-S-1-2	↓	0956	↓	1							HOLD	02	↓
OU1-83-11L-S-2-3	↓	0957	↓	1							HOLD	03	↓
OU1-83-11L-S-3-4	↓	0958	↓	1							HOLD	04	↓
OU1-83-11L-S-4-5	↓	0959	↓	1							HOLD	05	↓
OU1-83-~~10I~~ 12I-S-0-1 BAM 8/1/09	7/31/09	0915	S	1	X	X			ms/msD		benzo(a)pyrene, dibenzo(a,h)... only	06	↓
OU1-83-12I-S-1-2	↓	0916	↓	1							HOLD	07	↓
OU1-83-12I-S-2-3	↓	0917	↓	1							HOLD chlordane BAM 8/2/09	08	↓
OU1-83-12I-S-3-4	↓	0918	↓	1							HOLD	09	↓
OU1-83-12I-S-4-5	↓	0919	↓	1							HOLD	10	↓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Brad A McCalla	8/1/09	09:55	B Oas	8/6/09	1000

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093113

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-10I-S-0-1	7/31/09	1540	S	1	X	X					Benzo(a)pyrene, dibenz...	11	
OU1-83-10I-S-1-2	↓	1545	↓	1	X	X					~~Hold~~ BAM 8/2/09 - analyze only	12	
OU1-83-10I-S-2-3	↓	1547	↓	1							Hold	13	
OU1-83-10I-S-3-4	↓	1549	↓	1							Hold	14	
OU1-83-10I-S-4-5	↓	1551	↓	1							Hold	15	
											↓		
											pest: chlordane only		
											BAM 8/2/09		
											BAM - analyze pests		
											BAM 8/5/09		

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Zach Wicks	8-1-09	1015	[illegible]	080109	1020

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

Shipped Via:

Receipt Temp:

Temp Blank Y N

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CHAIN OF CUSTODY

Lab Work Order #: N093113

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location:
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla / Zach D Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests					Comments (BAM 8/5/09)	Lab ID	Lab Receipt Time
OU1-83-10K-S-0-1	7/31/09	1600	S	1	X	X					~~dieldrin~~ pests only, Analyze PAHs BAM 8/5/09	16	1630
OU1-83-10K-S-1-2		1605		1							HOLD	17	
OU1-83-10K-S-2-3		1607		1							HOLD	18	
OU1-83-10K-S-3-4		1609		1							HOLD	19	
OU1-83-10K-S-4-5		1611		1							HOLD	20	
OU1-83-10K-S-0-1-P	—	—		1		X					dieldrin only	21	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Brad A McCalla	8/1/09	10:25	[signature]	08/05	1630

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093201

Mail Report To: Rhea Engineers
Company:
Address:
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Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-5Q-5-0-1	7/31/09	1330	S	1							Hold	01	1155
OU1-83-5Q-5-1-2		1334		1							Hold	02	
OU1-83-5Q-5-2-3		1340		1	X						Benzo(a) pyrene only	03	
OU1-83-5Q-5-3-4		1341		1							Hold	04	
OU1-83-5Q-5-4-5		1342		1							Hold	05	
OU1-83-5Q-5-0-1-P		1330		1							Hold	06	

08/12/09 BC

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Zach D. Wicks	8-2-09	11:55	Thalia Ocando	08/04/09	1155
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #:

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9N-S-0-1	8/3/09	0840	S	1		X						01	1120
OU1-83-9N-S-1-2		0845		1							Hold	02	
OU1-83-9N-S-2-3		0847		1							Hold	03	
OU1-83-9N-S-3-4		0849		1							Hold	04	
OU1-83-9N-S-4-5		0851		1							Hold	05	
OU1-83-10N-S-0-1	8/3/09	0900	S	1		X						06	
OU1-83-10N-S-1-2		0905		1							Hold	07	
OU1-83-10N-S-2-3		0907		1							Hold	08	
OU1-83-10N-S-3-4		0909		1							Hold	09	
OU1-83-10N-S-4-5		0911		1							Hold	10	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-3-09	1115	[signature]	08/03/09	1120
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093202

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-100-S-0-1	8/3/09	0820	S	1		X						11	1125
OU1-83-100-S-1-2		0830		1							Hold	12	
OU1-83-100-S-2-3		0832		1							Hold	13	
OU1-83-100-S-3-4		0834		1							Hold	14	
OU1-83-100-S-4-5		0836		1							Hold	15	
OU1-83-9F-S-0-1	8/3/09	0920	S	1	X	X					Analyze pests - 8/5/09 BAM	16	
OU1-83-9F-S-1-2		0925		1	X	X					~~Hold~~ BAM 8/4/09 - Analyze PAHs	17	
OU1-83-9F-S-2-3		0927		1							Hold 8/7/09 - Analyze pests	18	
OU1-83-9F-S-3-4		0929		1							Hold	19	
OU1-83-9F-S-4-5		0931		1							Hold	20	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-3-09 Time: 1115
Received By: [signature] Date: 080309 Time: 1120
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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CHAIN OF CUSTODY

Lab Work Order #: N093203

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides	Comments	Lab ID	Lab Receipt Time
OU1-83-9J-S-0-1	8/3/09	0945	S	1	X			01	1330
OU1-83-9J-S-1-2		0947		1	X		~~Hold~~ Analyze BAM 8/17/09	02	
OU1-83-9J-S-2-3		0949		1			Hold	03	
OU1-83-9J-S-3-4		0951		1			Hold	04	
OU1-83-9J-S-4-5		0953		1			Hold	05	
OU1-83-8J-S-0-1	8/3/09	1000	S	1	X	X	Analyze for pests - BAM 8/5/09	06	
OU1-83-8J-S-1-2		1005		1			Hold	07	
OU1-83-8J-S-2-3		1008		1			Hold	08	
OU1-83-8J-S-3-4		1010		1			Hold	09	
OU1-83-8J-S-4-5		1012		1			Hold	10	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-3-09 Time: 1330
Relinquished By: Date: Time:

Received By: [signature] Date: 080309 Time: 1330
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
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CHAIN OF CUSTODY

Lab Work Order #: N093208

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8I-S-0-1	8/3/09	1035	S	1	X	X					Analyze pests - BAM 8/5/09	11	1330
OU1-83-8I-S-1-2		1055		1							Hold	12	
OU1-83-8I-S-2-3		1058		1							Hold	13	
OU1-83-8I-S-3-4		1100		1							Hold	14	
OU1-83-8I-S-4-5		ZDW 8-3-09 ~~10~~ 1102		1							Hold	15	
OU1-83-8G-S-0-1	8/3/09	1245		1	X	X					Analyze pests - BAM 8/5/09	16	
OU1-83-8G-S-1-2 ZDW 8/3/09		1250		1	X	X					~~Hold~~ analyze PAHs + pests BAM 8/4/09	17	
OU1-83-8G-S-2-~~8~~3		1252		1		X					~~Hold~~ analyze pests ZDW 8/6/09	18	
OU1-83-8G-S-3-4		1254		1							Hold BAM 8/7/09	19	
OU1-83-8G-S-4-5		1256		1							Hold	20	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-3-09	1330	[signature]	8/3/09	1330
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093204

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-10G-S-0-1	8/3/09	1230	S	1	X	X					Analyze pests BAM 8/5/09	01	1330
OU1-83-10G-S-1-2		1235		1	X	X					~~Hold~~ BAM - 8/4/09 - PAH off pests off hold 8/17/09 BAM	02	
OU1-83-10G-S-2-3		1237		1							Hold	03	
OU1-83-10G-S-3-4		1239		1							Hold	04	
OU1-83-10G-S-4-5		1241		1							Hold	05	
OU1-83-10G-S-0-1-P		1230		1	X	X					Analyze pests 8/7/09	06	1330

08/03/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date: 8-3-09	Time: 1330	Received By:
Relinquished By:	Date:	Time:	Received By:

Date: 080309 Time: 1330
Date: Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093204

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla/Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-5P-S-0-1	8/3/09	1325	S	1							Hold	07	1330
OU1-83-5P-S-1-2		1327		1							Hold	08	
OU1-83-5P-S-2-3		1329		1	X							09	
OU1-83-5P-S-3-4		1331		1							Hold	10	
OU1-83-5P-S-4-5		1333		1							Hold	11	
OU1-83-5R-S-0-1	~~8/3/09~~ 08/03/09	~~1355~~ 1355	S	1							Hold	12	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-3-09	1355	[signature]	080309	1330
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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2525 Advance Road
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CHAIN OF CUSTODY

Lab Work Order #: N093204

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-14F-S-0-1	8/3/09	1405	S	1		X						13	1530
OU1-83-14F-S-1-2		1410		1							Hold	14	
OU1-83-14F-S-2-3		1412		1							Hold	15	
OU1-83-14F-S-3-4		1414		1							Hold	16	
OU1-83-14F-S-4-5		1415		1							Hold	17	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-3-09	1530	[signature]	08/03/09	1530
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093205

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-EB080309	8/3/09	1530	W	2	X	X						01	080309 1535 B
OU1-83-EB080409	8/4/09	1500	W	2	X	X						02	
OU1-83-EB080509	8/5/09	~~1520~~ 1530 ZDW 8/5/09	W	2	X	X						03	

RMO 08/03/09
RMO 08/05/09

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Zachary Wicks	8-3-09	1535	Rachel Clark	080309	1535
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

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CHAIN OF CUSTODY

Lab Work Order #: N093206

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides	Comments	Lab ID	Lab Receipt Time
OU1-83-10S-S-0-1	8/4/09	0740	S	1		X		01	0930
OU1-83-10S-S-1-2		0745		1			Hold	02	
OU1-83-10S-S-2-3		0747		1			Hold	03	
OU1-83-10S-S-3-4		0749		1			Hold	04	
OU1-83-10S-S-4-5		0751		1			Hold	05	
OU1-83-10R-S-0-1	8/4/09	0805	S	1		X		06	
OU1-83-10R-S-1-2		0810		1			Hold	07	
OU1-83-10R-S-2-3		0812		1			Hold	08	
OU1-83-10R-S-3-4		0814		1			Hold	09	
OU1-83-10R-S-4-5		0816		1			Hold	10	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-4-09 Time: 0930
Received By: [signature] Date: 080409 Time: ✓
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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CHAIN OF CUSTODY

08/04/09 RC

Lab Work Order #: N093206

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Analyses Requested

Preservation Codes

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-5R-S-1-3	8/4/09	0910	S	1	X							11	14:00
OU1-83-5R-S-3-5	8/4/09	0912	S	1							Hold	12	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Zach Wicks Date: 8-4-09 Time: 1345

Relinquished By: Date: Time:

Received By: Date: 080409 Time:

Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

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Receipt Temp:

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CHAIN OF CUSTODY

Lab Work Order #: N093207

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCallum/Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-10F-S-0-1	8/4/09	1105	S	1	X	X					BAM Analyze pests 8/5/09	01	1325
OU1-83-10F-S-1-2	↓	1107	↓	1	X							02	↓
OU1-83-10F-S-2-3	↓	1109	↓	1							Hold	03	↓
OU1-83-10F-S-3-4	↓	1111	↓	1							Hold	04	↓
OU1-83-10E-S-0-1	8/4/09	1120	S	1	X	X					BAM Analyze pests 8/5/09	05	↓
OU1-83-10E-S-~~0~~ 1-2 ZDW 8/4/09	↓	1122	↓	1	X							06	↓
OU1-83-10E-S-2-3	↓	1124	↓	1							Hold	07	↓
OU1-83-10E-S-3-4	↓	1126	↓	1							Hold	08	↓
~~Overnight~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-4-09	1320	[signature]	08-04-09	✓
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093207

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach O. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8F-S-0-1	8/4/09	1140	S	1	X	X					Analyze pests-BAM 8/5/09	09	1325
OU1-83-8F-S-1-2		1142		1	X	X					Analyze pests - BAM 8/7/09	10	
OU1-83-8F-S-2-3		1144		1	X	X					~~Hold~~ Analyze PAHs BAM 8/5/09	11	
OU1-83-8F-S-3-4		1146		1							Hold	12	
											analyze pests BAM 8/17/09 8F-S-2-3		

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-4-09	1320	[signature]	080409	1325
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093207

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9E-S-0-1	8/4/09	1215	S	1	X	X					Analyze pests BAM 8/5/09	13	1325
OU1-83-9E-S-1-2		1217		1	X							14	
OU1-83-9E-S-2-3		1219		1	X						~~Hold~~ Analyze PAHs BAM 8/5/09	15	
OU1-83-9E-S-3-4		1220		1							Hold	16	
OU1-83-8E-S-0-1	8/4/09	1130		1	X	X					Analyze pests BAM 8/5/09	17	
OU1-83-8E-S-1-2		1132		1	X							18	
OU1-83-8E-S-1-2-P		1134		1	X							19	
OU1-83-8E-S-2-3		1136		1							Hold	20	
OU1-83-8E-S-3-4		1132		1							Hold	21	
~~[illegible]~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-4-09	1320	[signature]	080409	1325
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093208

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-95-S-0-1	7/31/09	1500	S	1		X						01	1030
OU1-83-95-S-0-1-P		1500		1		X						02	
OU1-83-95-S-1-2		1505		1							Hold	03	
OU1-83-95-S-2-3		1507		1							Hold	04	
OU1-83-95-S-3-4		1509		1							Hold	05	
OU1-83-95-S-4-5		1511		1							Hold	06	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-5-09	1030	[signature]	08/05/09	1030
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093208

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-7K-S-0-1	8/5/09	0740	S	1		X						07	1000
OU1-83-7K-S-1-2	↓	0742	↓	1							Hold	08	↓
OU1-83-7K-S-2-3	↓	0744	↓	1							Hold	09	↓
OU1-83-7K-S-3-4	↓	0745	↓	1							Hold	10	↓
OU1-83-7L-S-0-1	8/5/09	0755	↓	1		X						11	↓
OU1-83-7L-S-1-2	↓	0757	↓	1							Hold	12	↓
OU1-83-7L-S-2-3	↓	0759	↓	1							Hold	13	↓
OU1-83-7L-S-3-4	↓	0801	↓	1							Hold	14	↓
~~08/05/09~~												RBO	08/05/09
												08/05/09	1000

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-5-09 Time: 1000
Received By: [signature] Date: ~~08/09/09~~ Time: ~~1100~~
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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CHAIN OF CUSTODY

Lab Work Order #: N093208

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8L-S-0-1	8/5/09	0810	S	1		X						15	1000
OU1-83-8L-S-1-2	↓	0812	↓	1							Hold	16	↓
OU1-83-8L-S-2-3	↓	0813	↓	1							Hold	17	↓
OU1-83-8L-S-3-4	↓	0815	↓	1							Hold	18	↓
OU1-83-9L-S-0-1	8/5/09	0830	↓	1		X						19	↓
OU1-83-9L-S-1-2	↓	0832	↓	1							Hold	20	↓
OU1-83-9L-S-2-3	↓	0834	↓	1							Hold	21	↓
OU1-83-9L-S-3-4	↓	0835	↓	1							Hold	22	↓
~~0800 1750~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-5-09 Time: 1000
Relinquished By: Date: Time:

Received By: [signature] Date: 08/05/09 Time: 1000
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
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Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093209

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-7F-S-0-1	8/5/09	1635	S	1	X	X					pests off hold BAM 8/6/09	01	1730
OU1-83-7F-S-1-2	↓	1637	S	1	X	X					pests off hold ZDW 8/6/09	02	↓
OU1-83-7F-S-2-3	↓	1639	S	1							Hold	03	↓
OU1-83-7F-S-3-4	↓	1640	S	1							Hold	04	↓
OU1-83-7G-S-0-1	8/5/09	1650	S	1	X	X					pests off hold BAM 8/6/09	05	↓
OU1-83-7G-S-1-2	↓	1652	S	1	X	X					analyze pests - BAM 8/7/09	06	↓
OU1-83-7G-S-2-3	↓	1653	S	1							Hold	07	↓
OU1-83-7G-S-3-4	↓	1655	S	1							Hold	08	↓
~~08/05/09~~												~~09~~	
												↑	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-5-09 Time: 1730
Received By: [signature] Date: 080509 Time: 1730
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093209

Mail Report To: Rhee Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8D-S-0-1	8/5/09	1700	S	1	X							09	
OU1-83-8D-S-1-2	↓	1702	↓	1	X							10	
OU1-83-8D-S-2-3	↓	1704	↓	1							Hold	11	
OU1-83-8D-S-3-4	↓	1706	↓	1							Hold	12	
OU1-83-7E-S-0-1	8/5/09	1620	↓	1	X							13	
OU1-83-7E-S-~~0~~ 1-2 ZDW 8/5/09	↓	1622	↓	1	X							14	
OU1-83-7E-S-2-3	↓	1624	↓	1							Hold	15	
OU1-83-7E-S-3-4	↓	1626	↓	1							Hold	16	
~~08/05/09 RC~~													

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-5-09	1730	[signature]	08/05/09	1730
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

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608-221-4889 (fax)

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CHAIN OF CUSTODY

Lab Work Order #: N093209

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla/ Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests					Comments	Lab ID	Lab Receipt Time
OU1-83-10D-S-0-1	8/5/09	1720	S	1	X							17	1730
OU1-83-10D-S-1-2		1722			X							18	
OU1-83-10D-S-2-3		1724									Hold	19	
OU1-83-10D-S-3-4		1725									Hold	20	
OU1-83-9D-S-0-1	8/5/09	1710			X							21	
OU1-83-9D-S-1-2		1712			X							22	
OU1-83-9D-S-2-3		1714									Hold	23	
OU1-83-9D-S-3-4		1715									Hold	24	
8/5/09 SC													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8-5-09 Time: 1730
Relinquished By: Date: Time:

Received By: [signature] Date: 080509 Time: 1730
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

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Rev. 11/08

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093210

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-10C-S-0-1	8/5/09	0910	S	1	X							01	1630
OU1-83-10C-S-1-2		0912		1	X							02	
OU1-83-10C-S-2-3		0914		1							Hold	03	
OU1-83-10C-S-3-4		0916		1							Hold	04	
OU1-83-11D-S-0-1	8/5/09	0920		1	X							05	
OU1-83-11D-S-1-2		0922		1	X							06	
OU1-83-11D-S-2-3		0924		1							Hold	07	
OU1-83-11D-S-3-4		0926		1							Hold	08	
~~8/6/09~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

	Date	Time		Date	Time
Relinquished By: [signature]	8-6-09	1430	Received By: [signature]	08/06/09	1630
Relinquished By:			Received By:		

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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Madison, WI 53718
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608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093210

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Tum Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested

Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-9C-S-0-1	8/5/09	0855	S	1	X							09	1630
OU1-83-9C-S-1-2	↓	0857	↓	1	X							10	↓
OU1-83-9C-S-2-3	↓	0859	↓	1							Hold	11	↓
OU1-83-9C-S-3-4	↓	0900	↓	1							Hold	12	↓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-6-09	1430	[signature]	08/06/09	1630

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

Shipped Via:

Receipt Temp:

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608-221-8700 (phone)
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CHAIN OF CUSTODY

Lab Work Order #: N093210

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla/Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-11C-5-0-1	8/6/09	1045	S	1	X							13	1600
OU1-83-11C-5-1-2		1047		1	X							14	
OU1-83-11C-5-2-3		1048		1							Hold	15	
OU1-83-11C-5-3-4		1050		1							Hold	16	
OU1-83-8C-5-0-1		1025		1	X							17	
OU1-83-8C-5-1-2		1027		1	X							18	
OU1-83-8C-5-2-3		1028		1							Hold	19	
OU1-83-8C-5-3-4		1030		1							Hold	20	
OU1-83-8C-5-1-2-P	8/6/09	1027	S	1	X							21	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-6-09	1550	[signature]	080609	1600

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Receipt Temp:
Temp Blank Y N

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2525 Advance Road
Madison, WI 53718
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CHAIN OF CUSTODY

Lab Work Order #: N093211

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach P. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-7D-S-0-1	8/6/09	1055	S	1	X							01	1600
OU1-83-7D-S-1-2		1057		1	X							02	
OU1-83-7D-S-2-3		1059		1							Hold	03	
OU1-83-7D-S-3-4		1100		1							Hold	04	
OU1-83-6E-S-0-1		1120		1							Hold	05	
OU1-83-6E-S-1-2		1122		1							Hold	06	
OU1-83-6E-S-2-3		1124		1							Hold	07	
OU1-83-6E-S-3-4		1125		1							Hold	08	
~~08/06/09~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-6-09	1600	[signature]	080609	16:00

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

Shipped Via:

Receipt Temp:

Temp Blank Y N

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Madison, WI 53718
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CHAIN OF CUSTODY

Lab Work Order #: N093211

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla/Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-6H-S-0-1	8/6/09	1333	S	1							Hold	09	1615
OU1-83-6H-S-1-2	↓	1335	↓	1							Hold	10	↓
OU1-83-6H-S-2-3	↓	1337	↓	1							Hold	11	↓
OU1-83-6H-S-3-4	↓	1338	↓	1							Hold	12	↓
OU1-83-7H-S-0-1	8/6/09	1340	S	1		X						13	↓
OU1-83-7H-S-1-2	↓	1342	↓	1		X					~~Hold~~ BAM 8/7/09 perts-off hold	14	↓
OU1-83-7H-S-2-3	↓	1344	↓	1							Hold	15	↓
OU1-83-7H-S-3-4	↓	1345	↓	1							Hold	16	↓
RMS 08/06/09													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Zachary D. Wicks — Date: 8-6-09 — Time: 1615
Relinquished By: — Date: — Time:

Received By: Rahul Omkar — Date: 08/06/09 — Time: 1615
Received By: — Date: — Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
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CHAIN OF CUSTODY

08/05/09

Lab Work Order #: N093212

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides	Comments	Lab ID	Lab Receipt Time
OU1-83-85-S-0-1	7/31/09	1450	S	1				01	1700
OU1-83-85-S-1-2	↓	1455	↓	1				02	↓
OU1-83-85-S-2-3	↓	1457	↓	1				03	↓
OU1-83-85-S-3-4	↓	1459	↓	1				04	↓
OU1-83-85-S-4-5	↓	1501	↓	1				05	↓
OU1-83-7M-S-0-1	7/31/09	1430	S	1				06	↓
OU1-83-7M-S-1-2	↓	1434	↓	1				07	↓
OU1-83-7M-S-2-3	↓	1435	↓	1				08	↓
OU1-83-7M-S-3-4	↓	1436	↓	1				09	↓
OU1-83-7M-S-45	↓	1437	↓	1				10	↓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date: 8/5/09	Time: 1700	Received By:
Relinquished By:	Date:	Time:	Received By:

Date: 08/05/09 Time: 17:05

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

08/07/09 BC

Lab Work Order #: N093212

Mail Report To: Rhea Engineers

Company:

Address:

E-mail Address:

Invoice To:

Company:

Address:

Project Number:

Project Name: Site 83 Soil Delineation

Project Location: Cherry Point, NC

Turn Around (circle one): Normal Rush

If Rush, Report Due Date:

Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-50-5-0-1	7/31/09	1310	S	1								11	1000
OU1-83-50-5-0-1-P		1310		1								12	
OU1-83-50-5-1-2		1312		1								13	
OU1-83-50-5-2-3		1313		1								14	
OU1-83-50-5-3-4		1314		1	X						Analyze ~~tests~~ PAHs 8/7/09 BAM	15	
OU1-83-50-5-4-5		1315		1							BAM 8/7/09	16	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
[signature]	8-7-09	0945	[signature]	08/07/09	10:00
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s

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Receipt Temp:

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CHAIN OF CUSTODY

Lab Work Order #: N093212

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-10Q-5-0-1	8/4/09	0835	S	1		X						17	1500
OU1-83-10Q-5-0-1-P		0835		1		X						18	
OU1-83-10Q-5-1-2		0840		1		X					HOLD - Analyze pests BAM 8/17/09	19	
OU1-83-10Q-5-2-3		0842		1							HOLD	20	
OU1-83-10Q-5-3-4		0844		1								21	
OU1-83-10Q-5-4-5		0846		1								22	

08/07/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date: 8-7-09	Time: 1500	Received By:	Date: 080709	Time: 1500
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093213

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides	Comments	Lab ID	Lab Receipt Time
OU1-83-6F-S-0-1	8/6/09	1130	S	1				01	1700
OU1-83-6F-S-1-2		1132		1				02	
OU1-83-6F-S-1-2-P	2DW 8/6/09	~~1134~~ 1133		1				03	
OU1-83-6F-S-2-3		1134		1				04	
OU1-83-6F-S-3-4		1135		1				05	
OU1-83-6G-S-0-1		1320		1				06	
OU1-83-6G-S-1-2		1322		1				07	
OU1-83-6G-S-2-3		1324		1				08	
OU1-83-6G-S-3-4		1325		1				09	
08/07/09 BC									

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8/6/09 Time: 1700
Received By: [signature] Date: 08/06/09 Time: 1700
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093213

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested: Select PAHs; Select Pests.
Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests.					Comments	Lab ID	Lab Receipt Time
OU1-83-6I-S-0-1	8/6/09	1350	S	1								10	1700
OU1-83-6I-S-1-2		1352		1								11	
OU1-83-6I-S-2-3		1354		1								12	
OU1-83-6I-S-3-4		1356		1								13	
OU1-83-7I-S-0-1	8/6/09	1405	S	1								14	
OU1-83-7I-S-0-1-P		1405		1								15	
OU1-83-7I-S-1-2		1407		1								16	
OU1-83-7I-S-2-3		1409		1								17	
OU1-83-7I-S-3-4		1410		1								18	
08/07/09													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: [signature] Date: 8/6/09 Time: 1700
Received By: [signature] Date: 8/6/09 Time: ✓
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093214

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A. McCalla / Zach D. Wicks

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-10P-S-0-1	8/4/09	0850	S	1		X						01	1500
OU1-83-10P-S-1-2	↓	0855	↓	1								02	↓
OU1-83-10P-S-2-3	↓	0857	↓	1								03	↓
OU1-83-10P-S-3-4	↓	0859	↓	1								04	↓
OU1-83-10P-S-4-5	↓	0901	↓	1								05	✓
												~~0~~	
												58/67/78	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By: [signature]	Date: 8-7-09	Time: 1500	Received By: [signature]
Relinquished By:	Date:	Time:	Received By:

Date: 080709 Time: 1500
Date: Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
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CHAIN OF CUSTODY

Lab Work Order #: N093401

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print):

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-10I-S-0-1	8/18/09	09:20	S	1							HOLD	01	10:00
OU1-83-10I-S-1-2		09:22									HOLD	02	
OU1-83-10I-S-2-3		09:24				X						03	
OU1-83-10I-S-3-4		09:26									HOLD	04	
OU1-83-10I-S-2-3-P	—	—	S	1		X						05	
OU1-83-11F-S-0-1	8/18/09	08:50	S	1	X	X						06	
OU1-83-11F-S-1-2		08:52			X	X					~~HOLD~~ RAM-Analyze pests 8/18/09, analyze PAHs 8/19/09	07	
OU1-83-11F-S-2-3		08:54									HOLD	08	
OU1-83-11F-S-3-4		08:56									HOLD	09	
~~08/18/09~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/18/09	1000	[illegible]	08/18/09	10:00

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093461

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print):

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-11H-5-0-1	8/18/09	09:06	S	1	X	X						10	1500
OU1-83-11H-5-1-2		09:08		1	X	X						11	
OU1-83-11H-5-2-3		09:10		1							HOLD	12	
OU1-83-11H-5-3-4		09:12		1							HOLD	13	
08/18/09 JC													
OU1-83-12J-5-0-1	8/18/09	09:50		1	X	X						14	1500
OU1-83-12J-5-1-2		09:52		1		X					~~HOLD~~ BAM-Analyze pests 8/21/09	15	
OU1-83-12J-5-2-3		09:54		1							HOLD	16	
OU1-83-12J-5-3-4		09:56		1							HOLD	17	
08/18/09 JC													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/18/09	1000	[illegible]	08/18/09	1500

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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Madison, WI 53718
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608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093402

Mail Report To:
Company: Rhea Engineers
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print):

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-8N-5-0-1	8/18/09	13:35	S	1		X						01	1350
OU1-83-8N-5-1-2	↓	13:37	↓	↓							HOLD	02	↓
OU1-83-8N-5-2-3	↓	13:39	↓	↓							HOLD	03	↓
OU1-83-8N-5-3-4	↓	13:41	↓	↓							HOLD	04	↓
~~08/18/09 BC~~													
OU1-83-85-5-0-1	8/18/09	10:40	↓	1		X						05	1350
OU1-83-85-5-1-2	↓	10:42	↓	↓							HOLD	06	↓
OU1-83-85-5-2-3	↓	10:44	↓	↓							HOLD	07	↓
OU1-83-85-5-3-4	↓	10:46	↓	↓							HOLD	08	↓
~~08/18/09 BC~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brad A McCalla Date: 8/18/09 Time: 13:50
Received By: [illegible] Date: 08/18/09 Time: 1350
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093402

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print):

Analyses Requested / Preservation Codes: Select Perfs, Select PAHs

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select Perfs	Select PAHs					Comments	Lab ID	Lab Receipt Time
OU1-83-90-S-0-1	8/18/09	11:30	S	1							HOLD	09	1355
OU1-83-90-S-1-2	↓	11:32	↓	↓	X							10	↓
OU1-83-90-S-2-3	↓	11:34	↓	↓							HOLD	11	↓
OU1-83-90-S-3-4	↓	11:36	↓	↓							HOLD	12	↓
08/18/09 SC													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Brad A M Calla	8/18/09	13:55	[illegible]	13:55 8/18/09	

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093402

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print):

Analyses Requested / Preservation Codes: Select PAHs; Select Pesticides

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides	Comments	Lab ID	Lab Receipt Time
OU1-83-9R-5-0-1	8/18/09	11:00	S	1			HOLD	13	1520
OU1-83-9R-5-1-2		11:02				X		14	
OU1-83-9R-5-2-3		11:04					HOLD	15	
OU1-83-9R-5-3-4		11:06					HOLD	16	
08/18/09 BC									
OU1-83-11P-5-0-1	8/18/09	14:15		1		X		17	1520
OU1-83-11P-5-1-2		14:17				X	~~HOLD~~ analyze pests - BAM 8/19/09	18	
OU1-83-11P-5-2-3		14:19					HOLD	19	
OU1-83-11P-5-3-4		14:21					HOLD	20	
OU1-83-11P-5-0-1-P		—	S			X		21	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/18/09	15:20	[illegible]	08/18/09	1520
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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CHAIN OF CUSTODY

Lab Work Order #: N093402

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print):

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pesticides					Comments	Lab ID	Lab Receipt Time
OU1-83-11Q-S-0-1	8/18/09	14:40	S	1		X						22	1520
OU1-83-11Q-S-1-2		14:42									HOLD	23	
OU1-83-11Q-S-2-3		14:44									HOLD	24	
OU1-83-11Q-S-3-4		14:46									HOLD	25	
~~08/18/09~~													
OU1-83-11R-S-0-1	8/18/09	15:00	S	1		X						26	1520
OU1-83-11R-S-1-2		15:02									HOLD	27	
OU1-83-11R-S-2-3		15:04									HOLD	28	
OU1-83-11R-S-3-4		15:06									HOLD	29	
~~08/18/09~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brian A McGill — Date: 8/18/09 — Time: 15:20
Relinquished By: — Date: — Time:

Received By: [illegible] — Date: 08/18/09 — Time: 15:20
Received By: — Date: — Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093403

Mail Report To: Rhea Engineers
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla BAM 8/19/09

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Pesticides (select)	PAHs (select)					Comments	Lab ID	Lab Receipt Time
OU1-83-EB081809	8/18/09	15:30	W	2	X	X						01	15:45
OU1-83-EB081909	8/19/09	15:55	↓	↓	X	X					BU 08/19/09	02 ~~02~~	1600
OU1-83-FB081909	8/19/09	16:00	↓	↓	X	X						03 ~~03~~	↓
08/21/09													
OU1-83-EB082009	8/20/09	11:50	W	1	X							04	1200
OU1-83-EB082109	8/21/09	13:45	W	1	X							05	13:45
08/21/09													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/18/09	15:40	[illegible]	08/18/09	1540
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093404

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): BAM

Analyses Requested / Preservation Codes: Select PAHs, Select Pests

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests	Comments	Lab ID	Lab Receipt Time
OU1-83-12F-S-0-1	8/19/09	08:25	S	1	X	X		01	0835
OU1-83-12F-S-1-2	↓	08:27	↓	↓		X	HOLD Analyze pests - BAM 8/20/09	02	↓
OU1-83-12F-S-2-3	↓	08:29	↓	↓			HOLD	03	↓
OU1-83-12F-S-3-4	↓	08:31	↓	↓			HOLD	04	↓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Fred A McCalla	8/19/09	08:35	[illegible]	08/19/09	0835

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093404

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil delineation
Project Location: Cherry pt, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested / Preservation Codes: Select PAH; Select Pests

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAH	Select Pests					Comments	Lab ID	Lab Receipt Time
OU1-83-120-S-0-1	8/19/09	10:45	S	1		X						05	1135
OU1-83-120-S-1-2		10:47									HOLD	06	
OU1-83-120-S-2-3		10:49									HOLD	07	
OU1-83-120-S-3-4		10:51									HOLD	08	
OU1-83-120-S-0-1-P		—				X						09	
~~08/19/09 3C~~													
OU1-83-12P-S-0-1	8/19/09	11:00	S	1		X						10	1135
OU1-83-12P-S-1-2		11:02									HOLD	11	
OU1-83-12P-S-2-3		11:04									HOLD	12	
OU1-83-12P-S-3-4		11:06									HOLD	13	

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brad A McCalla — Date: 8/19/09 — Time: 11:35
Relinquished By: — Date: — Time:

Received By: [signature] — Date: 08/19/09 — Time: 1135
Received By: — Date: — Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
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Receipt Temp:
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CHAIN OF CUSTODY

Lab Work Order #: N093404

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Pt, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): BAM

Analyses Requested / Preservation Codes: Select PAHs; Select Pests

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests					Comments	Lab ID	Lab Receipt Time
OU1-83-12Q-S-0-1	8/19/09	11:15	S	1		X					~~HOLD~~ Analyze pests BAM 8/19/09	14	1135
OU1-83-12Q-S-1-2	↓	11:17	↓	↓							HOLD	15	↓
OU1-83-12Q-S-2-3	↓	11:19	↓	↓							HOLD	16	↓
OU1-83-12Q-S-3-4	↓	11:21	↓	↓							HOLD	17	✓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Brad A McCole	8/19/09	11:40	[illegible]	08/19/09	1135

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093405

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested / Preservation Codes: Select PAHs; Select Pests

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests					Comments	Lab ID	Lab Receipt Time
OU1-83-12E-S-0-1	8/19/09	08:45	S	1		X					~~HOLD~~ Analyze pests - BAM 8/20/09	01	1140
OU1-83-12E-S-1-2	↓	08:47	↓	↓		X					~~HOLD~~ Analyze pests BAM 8/20/09	02	↓
OU1-83-12E-S-2-3	↓	08:49	↓	↓							HOLD	03	↓
OU1-83-12E-S-3-4	↓	08:51	↓	↓							HOLD	04	↓
08/19/09 BC													
OU1-83-12G-S-0-1	8/19/09	09:00	S	1		X					~~HOLD~~ Analyze pests - BAM 8/20/09	05	↓
OU1-83-12G-S-1-2	↓	09:02	↓	↓							HOLD	06	↓
OU1-83-12G-S-2-3	↓	09:04	↓	↓							HOLD	07	↓
OU1-83-12G-S-3-4	↓	09:06	↓	↓							HOLD	08	↓
08/19/09 BC													✓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brad A McCalla — Date: 8/19/09 — Time: 11:40
Relinquished By: — Date: — Time:

Received By: [signature] — Date: 08/19/09 — Time: 1140
Received By: — Date: — Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

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2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093405

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested / Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests					Comments	Lab ID	Lab Receipt Time
OU1-83-9I-S-0-1	8/19/09	09:20	S	1							HOLD	09	1145
OU1-83-9I-S-1-2		09:22				X					Off hold - BAM - pests 8/19/09	10	
OU1-83-9I-S-2-3		09:24									HOLD	11	
OU1-83-9I-S-3-4		09:26									HOLD	12	
08/19/09 BC													
OU1-83-9J-S-0-1	8/19/09	09:30	S	1		X					Off hold BAM-pests 8/19/09	13	
OU1-83-9J-S-1-2		09:32				X					Off hold BAM-pests 8/19/09	14	
OU1-83-9J-S-2-3		09:34									HOLD	15	
OU1-83-9J-S-3-4		09:36									HOLD	16	
08/19/09 BC													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brad A McCalla Date: 8/19/09 Time: 11:45
Received By: [signature] Date: 08/19/09 Time: 1145
Relinquished By: Date: Time:
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
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608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093405

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested / Preservation Codes: Select PAHs; Select Parts

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Parts					Comments	Lab ID	Lab Receipt Time
OU1-83-10K-S-0-1	8/19/09	10:15	S	1							HOLD	17	1145
OU1-83-10K-S-1-2	↓	10:17	↓	↓		X					Analyze - BAM - 8/19/09 parts	18	↓
OU1-83-10K-S-2-3	↓	10:19	↓	↓							↓	19	↓
OU1-83-10K-S-3-4	↓	10:21	↓	↓							↓	20	↓
8/19/09 BC													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/19/09	11:45	Rhea	08/19/09	1145

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093406

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested / Preservation Codes: Select PAHs; Select Pest's

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pest's					Comments	Lab ID	Lab Receipt Time
OU1-83-110-S-0-1	8/19/09	12:45	S	1		X						01	1315
OU1-83-110-S-1-2	↓	12:47	↓	↓							HOLD	02	↓
OU1-83-110-S-2-3	↓	12:49	↓	↓							HOLD	03	↓
OU1-83-110-S-3-4	↓	12:51	↓	↓							HOLD	04	↓

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By	Date	Time	Received By	Date	Time
Brad A McCalla	8/19/09	13:15	[illegible]	08/19/09	1315

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093406

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested / Preservation Codes: Select PAHs; Select Pests

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select PAHs	Select Pests					Comments	Lab ID	Lab Receipt Time
OU1-83-13J-S-0-1	8/19/09	15:10	S	1		X						05	1530
OU1-83-13J-S-1-2	↓	15:12	↓	↓							HOLD	06	↓
OU1-83-13J-S-2-3	↓	15:14	↓	↓							HOLD	07	↓
OU1-83-13J-S-3-4	↓	15:16	↓	↓							HOLD	08	✓

08/19/09 BC

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/19/09	15:30	[illegible]	08/19/09	1530
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093407

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested: Select tests
Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select tests						Comments	Lab ID	Lab Receipt Time
OU1-83-13F-S-0-1	8/20/09	11:15	S	1	X							01	1145
OU1-83-13F-S-~~0-1~~ 1-2 BAM 8/20/09		11:17									HOLD	02	
OU1-83-13F-S-2-3		11:19									HOLD	03	
OU1-83-13F-S-3-4		11:21									HOLD	04	
OU1-83-13F-S-0-1-P		—			X							05	
08/20/09 BC													

Preservation Codes	Relinquished By:	Date:	Time:	Received By:	Date:	Time:
A=None B=HCL C=H_2SO_4 D=HNO_3 E=EnCore F=Methanol G=NaOH O=Other (Indicate)	Brad A McCalla	8/20/09	11:45	BC CCS	08/20/09	1145
	Relinquished By:	Date:	Time:	Received By:	Date:	Time:

Matrix Codes		
A=Air S=Soil W=Water O=Other	Custody Seal: Present/Absent Intact/Not Intact Seal #'s	Receipt Temp:
	Shipped Via:	Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

EST. 1991

CHAIN OF CUSTODY

Lab Work Order #: N093407

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Chemy Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested: Select Rerts
Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select Rerts						Comments	Lab ID	Lab Receipt Time
OU1-83-12D-S-0-1	8/20/09	14:56	S	1	X							06	1506
OU1-83-12D-S-1-2	↓	14:58	↓	↓	X						~~HOLD~~ Rerts off hold - BAM 8/21/09	07	↓
OU1-83-12D-S-2-3	↓	15:00	↓	↓							HOLD	08	↓
OU1-83-12D-S-3-4	↓	15:02	↓	↓							HOLD	09	↓
~~08/20/09 BC~~													
OU1-83-13D-S-0-1	8/20/09	15:12	S	1								10	15:20
OU1-83-13D-S-1-2	↓	15:14	↓	↓							HOLD	~~11~~ 12 BC 08/20/09	↓
OU1-83-13D-S-2-3	↓	15:16	↓	↓							HOLD	~~12~~ 13 BC 08/20/09	↓
OU1-83-13D-S-3-4	↓	15:18	↓	↓							HOLD	~~13~~ 14 BC 08/20/09	↓
~~08/20/09 BC~~													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brad A McCalla — Date: 8/20/09 — Time: 15:20
Relinquished By: — Date: — Time:

Received By: [signature] — Date: 08/21/09 — Time: 1520
Received By: — Date: — Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

Environmental Chemistry Consulting Services, Inc.
2525 Advance Road
Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093408

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested: Select Pests
Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select Pests						Comments	Lab ID	Lab Receipt Time
OU1-83-12C-S-0-1	8/20/09	15:47	S	1	X						~~HOLD~~ Pests off hold BAM 8/21/09	01	1650
OU1-83-12C-S-1-2		15:49									HOLD	02	
OU1-83-12C-S-2-3		15:51									HOLD	03	
OU1-83-12C-S-3-4		15:53									HOLD	04	
08/20/09 BC													
OU1-83-13C-S-0-1	8/20/09	16:25	S	1	X						~~HOLD~~ Pests off hold BAM 8/21/09	05	1650
OU1-83-13C-S-1-2		16:27									HOLD	06	
OU1-83-13C-S-2-3		16:29									HOLD	07	
OU1-83-13C-S-3-4		16:31									HOLD	08	
08/20/09 BC													

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Relinquished By: Brad A McCalla Date: 8/20/09 Time: 16:50
Relinquished By: Date: Time:

Received By: B Owens Date: 08/20/09 Time: 1650
Received By: Date: Time:

Matrix Codes
A=Air S=Soil W=Water O=Other

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:

Receipt Temp:
Temp Blank Y N

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Madison, WI 53718
608-221-8700 (phone)
608-221-4889 (fax)

CHAIN OF CUSTODY

Lab Work Order #: N093408

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil Delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested: Select Peaks
Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select Peaks						Comments	Lab ID	Lab Receipt Time
OU1-83-11D-S-0-1	8/20/09	16:40	S	1	X							09	1655
OU1-83-11D-S-1-2	↓	16:42	↓	↓							HOLD	10	1655
OU1-83-11D-S-2-3	↓	16:44	↓	↓							HOLD	11	1655
OU1-83-11D-S-3-4	↓	16:46	↓	↓							HOLD	12	1655

08/20/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/20/09	16:55	[illegible]	08/20/09	1655

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
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Madison, WI 53718
608-221-8700 (phone)
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CHAIN OF CUSTODY

Lab Work Order #: N093409

Mail Report To: Rhea
Company:
Address:
E-mail Address:
Invoice To:
Company:
Address:

Project Number:
Project Name: Site 83 Soil delineation
Project Location: Cherry Point, NC
Turn Around (circle one): Normal Rush
If Rush, Report Due Date:
Sampled By (Print): Brad A McCalla

Analyses Requested: Select Tests
Preservation Codes

Sample Description	Collection Date	Collection Time	Matrix	Total # of Containers	Select Tests	Comments	Lab ID	Lab Receipt Time
OU1-83-11C-S-0-1	8/21/09	08:30	S	1	X		01	0845
OU1-83-11C-S-1-2	↓	08:32	↓	↓		HOLD	02	↓
OU1-83-11C-S-2-3	↓	08:34	↓	↓		HOLD	03	↓
OU1-83-11C-S-3-4	↓	08:36	↓	↓		HOLD	04	↓

08/21/09

Preservation Codes
A=None B=HCL C=H_2SO_4
D=HNO_3 E=EnCore F=Methanol
G=NaOH O=Other (Indicate)

Matrix Codes
A=Air S=Soil W=Water O=Other

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
Brad A McCalla	8/21/09	08:45	[illegible]	08/21/09	0845

Custody Seal: Present/Absent Intact/Not Intact Seal #'s
Shipped Via:
Receipt Temp:
Temp Blank Y N

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Rev. 11/08

ANALYTICAL REPORT

Job Number: 680-49366-1

SDG Number: CHP49366

Job Description: MCAS - Cherry Point, North Carolina

For:
Rhea Engineers & Consultants, Inc.
4975 William Flynn Hwy
Suite 14
Gibsonia, PA 15044

Attention: Mr. Brad McCalla

Kathryn Smith

Approved for release.
Kathryn Smith
Project Manager I
7/30/2009 3:57 PM

Kathryn Smith
Project Manager I
kathye.smith@testamericainc.com
07/30/2009

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager who signed this report.

METHOD SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Semivolatile Organic Compounds by GCMS - Low Levels	TAL SAV	SW846 8270C LL	
Ultrasonic Extraction	TAL SAV		SW846 3550B
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081A_8082	
Ultrasonic Extraction	TAL SAV		SW846 3550B

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Method	Analyst	Analyst ID
SW846 8270C LL	Haynes, Carion	CRH
SW846 8081A_8082	Kellar, Joshua	JK

SAMPLE SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-49366-1	OU1-83-11I-S-0-1	Solid	07/28/2009 1345	07/29/2009 0937
680-49366-2	OU1-83-11K-S-0-1	Solid	07/28/2009 1400	07/29/2009 0937
680-49366-3	OU1-83-14E-S-2-3	Solid	07/28/2009 1120	07/29/2009 0937

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Client Sample ID: **OU1-83-11I-S-0-1**

Lab Sample ID: 680-49366-1
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 07/28/2009 1345
Date Received: 07/29/2009 0937

8270C LL Semivolatile Organic Compounds by GCMS - Low Levels

Method:	8270C LL	Analysis Batch: 680-144014		Instrument ID:	MSY
Preparation:	3550B	Prep Batch: 680-144020		Lab File ID:	y0206.d
Dilution:	1.0			Initial Weight/Volume:	15.00 g
Date Analyzed:	07/29/2009 1809			Final Weight/Volume:	0.5 mL
Date Prepared:	07/29/2009 1408			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		710	M J	1.8	7.0
Benzo[a]pyrene		570		1.8	7.0
Benzo[b]fluoranthene		560	M	1.8	7.0
Dibenz(a,h)anthracene		39		0.60	7.0
Indeno[1,2,3-cd]pyrene		150		3.5	7.0

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	71		29 - 122

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Client Sample ID: **OU1-83-11K-S-0-1**

Lab Sample ID: 680-49366-2
Client Matrix: Solid
% Moisture: 13.7

Date Sampled: 07/28/2009 1400
Date Received: 07/29/2009 0937

8270C LL Semivolatile Organic Compounds by GCMS - Low Levels

Method:	8270C LL	Analysis Batch: 680-144014		Instrument ID:	MSY
Preparation:	3550B	Prep Batch: 680-144020		Lab File ID:	y0207.d
Dilution:	1.0			Initial Weight/Volume:	15.12 g
Date Analyzed:	07/29/2009 1836			Final Weight/Volume:	0.5 mL
Date Prepared:	07/29/2009 1408			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		52	M	2.0	7.7
Benzo[a]pyrene		49		2.0	7.7
Benzo[b]fluoranthene		70	M	2.0	7.7
Dibenz(a,h)anthracene		0.66	U	0.66	7.7
Indeno[1,2,3-cd]pyrene		66		3.8	7.7

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	81		29 - 122

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Client Sample ID: **OU1-83-14E-S-2-3**

Lab Sample ID: 680-49366-3
Client Matrix: Solid
% Moisture: 12.5

Date Sampled: 07/28/2009 1120
Date Received: 07/29/2009 0937

8270C LL Semivolatile Organic Compounds by GCMS - Low Levels

Method:	8270C LL	Analysis Batch: 680-144014		Instrument ID:	MSY
Preparation:	3550B	Prep Batch: 680-144020		Lab File ID:	y0208.d
Dilution:	1.0			Initial Weight/Volume:	15.03 g
Date Analyzed:	07/29/2009 1903			Final Weight/Volume:	0.5 mL
Date Prepared:	07/29/2009 1408			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		1.9	U	1.9	7.6
Benzo[a]pyrene		1.9	U	1.9	7.6
Benzo[b]fluoranthene		1.9	U	1.9	7.6
Dibenz(a,h)anthracene		0.65	U	0.65	7.6
Indeno[1,2,3-cd]pyrene		3.8	U	3.8	7.6

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	63		29 - 122

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Client Sample ID: **OU1-83-11I-S-0-1**

Lab Sample ID: 680-49366-1
Client Matrix: Solid
% Moisture: 4.6

Date Sampled: 07/28/2009 1345
Date Received: 07/29/2009 0937

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-144110		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-144023		Initial Weight/Volume:	15.00 g
Dilution:	5.0			Final Weight/Volume:	5.0 mL
Date Analyzed:	07/30/2009 0135			Injection Volume:	1.0 uL
Date Prepared:	07/29/2009 1335			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		1.3	U	1.3	17
4,4'-DDE		41		1.0	17
4,4'-DDT		180		1.2	17
Chlordane (technical)		3900		15	89
Dieldrin		63		1.5	17
Heptachlor		8.1	J J	0.43	8.9
Heptachlor epoxide		0.73	U	0.73	8.9

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	120		50 - 129
Tetrachloro-m-xylene	112		26 - 140

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Client Sample ID: **OU1-83-11K-S-0-1**

Lab Sample ID: 680-49366-2
Client Matrix: Solid
% Moisture: 13.7

Date Sampled: 07/28/2009 1400
Date Received: 07/29/2009 0937

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-144110		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-144023		Initial Weight/Volume:	15.05 g
Dilution:	5.0			Final Weight/Volume:	5.0 mL
Date Analyzed:	07/30/2009 0214			Injection Volume:	1.0 uL
Date Prepared:	07/29/2009 1335			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		1.4	U	1.4	19
4,4'-DDE		3.0	J J	1.1	19
4,4'-DDT		5.6	J J	1.3	19
Chlordane (technical)		780		17	98
Dieldrin		73		1.6	19
Heptachlor		0.48	U	0.48	9.8
Heptachlor epoxide		0.81	U	0.81	9.8

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	55		50 - 129
Tetrachloro-m-xylene	52		26 - 140

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Client Sample ID: **OU1-83-14E-S-2-3**

Lab Sample ID: 680-49366-3
Client Matrix: Solid
% Moisture: 12.5

Date Sampled: 07/28/2009 1120
Date Received: 07/29/2009 0937

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-144110		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-144023		Initial Weight/Volume:	15.25 g
Dilution:	1.0			Final Weight/Volume:	5.0 mL
Date Analyzed:	07/30/2009 0411			Injection Volume:	1.0 uL
Date Prepared:	07/29/2009 1335			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.27	U	0.27	3.7
4,4'-DDE		0.21	U	0.21	3.7
4,4'-DDT		0.26	U	0.26	3.7
Chlordane (technical)		3.3	U	3.3	19
Dieldrin		0.31	U	0.31	3.7
Heptachlor		0.093	U	0.093	1.9
Heptachlor epoxide		0.16	U	0.16	1.9

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	127		50 - 129
Tetrachloro-m-xylene	107		26 - 140

DATA REPORTING QUALIFIERS

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	M	Manual integrated compound.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	U	Undetected at the Limit of Detection.
GC Semi VOA		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	M	Manual integrated compound.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	U	Undetected at the Limit of Detection.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Method Blank - Batch: 680-144020

Method: 8270C LL
Preparation: 3550B

Lab Sample ID:	MB 680-144020/4-A	Analysis Batch:	680-144014	Instrument ID:	GC/MS SemiVolatiles - Y
Client Matrix:	Solid	Prep Batch:	680-144020	Lab File ID:	y0204.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	15.03 g
Date Analyzed:	07/29/2009 1715			Final Weight/Volume:	0.5 mL
Date Prepared:	07/29/2009 1408			Injection Volume:	1.0 uL

Analyte	Result	Qual	MDL	RL
Benzo[a]anthracene	1.7	U	1.7	6.7
Benzo[a]pyrene	1.7	U	1.7	6.7
Benzo[b]fluoranthene	1.7	U	1.7	6.7
Dibenz(a,h)anthracene	0.57	U	0.57	6.7
Indeno[1,2,3-cd]pyrene	3.3	U	3.3	6.7

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	73	29 - 122

Lab Control Sample - Batch: 680-144020

Method: 8270C LL
Preparation: 3550B

Lab Sample ID:	LCS 680-144020/5-A	Analysis Batch:	680-144014	Instrument ID:	GC/MS SemiVolatiles - Y
Client Matrix:	Solid	Prep Batch:	680-144020	Lab File ID:	y0205.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	15.00 g
Date Analyzed:	07/29/2009 1742			Final Weight/Volume:	0.5 mL
Date Prepared:	07/29/2009 1408			Injection Volume:	1.0 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzo[a]anthracene	66.7	65.8	99	44 - 116	
Benzo[a]pyrene	66.7	51.6	77	41 - 115	
Benzo[b]fluoranthene	66.7	56.9	85	40 - 112	
Dibenz(a,h)anthracene	66.7	55.8	84	36 - 115	
Indeno[1,2,3-cd]pyrene	66.7	64.7	97	35 - 126	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	74	29 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-144020

Method: 8270C LL
Preparation: 3550B

MS Lab Sample ID:	680-49366-1	Analysis Batch:	680-144014	Instrument ID:	GC/MS SemiVolatiles - Y
Client Matrix:	Solid	Prep Batch:	680-144020	Lab File ID:	y0209.d
Dilution:	1.0			Initial Weight/Volume:	15.08 g
Date Analyzed:	07/29/2009 1930			Final Weight/Volume:	0.5 mL
Date Prepared:	07/29/2009 1408			Injection Volume:	1.0 uL

MSD Lab Sample ID:	680-49366-1	Analysis Batch:	680-144014	Instrument ID:	GC/MS SemiVolatiles - Y
Client Matrix:	Solid	Prep Batch:	680-144020	Lab File ID:	y0210.d
Dilution:	1.0			Initial Weight/Volume:	15.07 g
Date Analyzed:	07/29/2009 1957			Final Weight/Volume:	0.5 mL
Date Prepared:	07/29/2009 1408			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[a]anthracene	128	320	44 - 116	15	50	M J 4	M J 4
Benzo[a]pyrene	36	209	41 - 115	18	50	4	J 4
Benzo[b]fluoranthene	103	219	40 - 112	12	50	M 4	M J 4
Dibenz(a,h)anthracene	321	392	36 - 115	17	50	M J	M J
Indeno[1,2,3-cd]pyrene	867	1000	35 - 126	12	50	J	J

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	93	91	29 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Method Blank - Batch: 680-144023

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: MB 680-144023/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/30/2009 0057
Date Prepared: 07/29/2009 1335

Analysis Batch: 680-144110
Prep Batch: 680-144023
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mg29069.d
Initial Weight/Volume: 15.04 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.24	U	0.24	3.3
4,4'-DDE	0.19	U	0.19	3.3
4,4'-DDT	0.23	U	0.23	3.3
Chlordane (technical)	2.9	U	2.9	17
Dieldrin	0.28	U	0.28	3.3
Heptachlor	0.083	U	0.083	1.7
Heptachlor epoxide	0.14	U	0.14	1.7

Surrogate	% Rec	Acceptance Limits
DCB Decachlorobiphenyl	115	50 - 129
Tetrachloro-m-xylene	104	26 - 140

Lab Control Sample - Batch: 680-144023

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: LCS 680-144023/5-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 07/30/2009 0116
Date Prepared: 07/29/2009 1335

Analysis Batch: 680-144110
Prep Batch: 680-144023
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mg29070.d
Initial Weight/Volume: 15.38 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	6.50	5.53	85	34 - 162	
4,4'-DDE	6.50	4.92	76	25 - 136	
4,4'-DDT	6.50	8.31	128	14 - 134	
Dieldrin	6.50	6.51	100	41 - 128	
Heptachlor	3.25	3.57	110	32 - 130	M
Heptachlor epoxide	3.25	3.07	94	30 - 123	

Surrogate	% Rec	Acceptance Limits
DCB Decachlorobiphenyl	122	50 - 129
Tetrachloro-m-xylene	103	26 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
Sdg Number: CHP49366

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-144023

Method: 8081A_8082
Preparation: 3550B

MS Lab Sample ID:	680-49366-2	Analysis Batch: 680-144110	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch: 680-144023	Lab File ID:	mg29074.d
Dilution:	5.0		Initial Weight/Volume:	15.11 g
Date Analyzed:	07/30/2009 0234		Final Weight/Volume:	5.0 mL
Date Prepared:	07/29/2009 1335		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

MSD Lab Sample ID:	680-49366-2	Analysis Batch: 680-144110	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch: 680-144023	Lab File ID:	mg29075.d
Dilution:	5.0		Initial Weight/Volume:	15.16 g
Date Analyzed:	07/30/2009 0253		Final Weight/Volume:	5.0 mL
Date Prepared:	07/29/2009 1335		Injection Volume:	1.0 uL
			Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,4'-DDD	119	29	34 - 162	123	50	J J	J J
4,4'-DDE	139	1	25 - 136	127	50	J J	J J
4,4'-DDT	-37	-3	14 - 134	66	50	J J	J J
Dieldrin	168	-644	41 - 128	113	50	4	4
Heptachlor	103	38	32 - 130	93	50	J J	J J
Heptachlor epoxide	261	126	30 - 123	70	50	M J	J J

Surrogate	MS % Rec	MSD % Rec		Acceptance Limits
DCB Decachlorobiphenyl	106	35	J	50 - 129
Tetrachloro-m-xylene	76	23	J	26 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Serial Number 020928

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83	PROJECT NO.: 431	PROJECT LOCATION (STATE):
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Brad McCalla	CLIENT PHONE: 724-462-4202	CLIENT FAX:
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL:	
CLIENT ADDRESS: 4975 William Flynn Hwy Suite 14 Gibsonia PA 15044		
COMPANY CONTRACTING THIS WORK (if applicable):		

PAGE 1 OF 1

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT ...)	Select PAHs	Select Pesticides	REMARKS
							PRESERVATIVE	1	1	
7/28/09	13:45	041-83-11I-S-0-1	G		S			X	X	24 HR TAT
7/28/09	14:00	041-83-11K-S-0-1	G		S			X	X	
7/28/09	11:20	041-83-14E-S-2-3	G		S			X	X	

NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad McCalla	7/28/09	18:00						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex (Newbern)	7/28/09	18:00						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Beth O'Daughtry	7/29/9	0937	YES ◯ NO ◯		L080-493166	TEMPERATURE 2.6

TAL 8240-680 (1207)

Login Sample Receipt Check List

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49366-1
SDG Number: CHP49366

Login Number: 49366
Creator: Daughtry, Beth
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	True	
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 680-49450-1

SDG Number: CHP49450-1

Job Description: MCAS - Cherry Point, Site 83

For:
Rhea Engineers & Consultants, Inc.
4975 William Flynn Hwy
Suite 14
Gibsonia, PA 15044

Attention: Mr. Brad McCalla

Approved for release.
Terry Hornsby
Project Manager I
8/3/2009 5:18 PM

Designee for
Kathryn Smith
Project Manager I
kathye.smith@testamericainc.com
08/03/2009

cc: Ms. Erica DeLattre

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager who signed this report.

TestAmerica Laboratories, Inc.
TestAmerica Savannah 5102 LaRoche Avenue, Savannah, GA 31404
Tel (912) 354-7858 Fax (912) 352-0165 www.testamericainc.com

METHOD SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Semivolatile Organic Compounds by GCMS - Low Levels	TAL SAV	SW846 8270C LL	
Ultrasonic Extraction	TAL SAV		SW846 3550B
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081A_8082	
Ultrasonic Extraction	TAL SAV		SW846 3550B
Metals (ICP)	TAL SAV	SW846 6010B	
Preparation, Metals	TAL SAV		SW846 3050B
Percent Moisture	TAL SAV	EPA Moisture	

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Method	Analyst	Analyst ID
SW846 8270C LL	Haynes, Carion	CRH
SW846 8081A_8082	Meincke, Griffin	GM
SW846 6010B	Bland, Brian	BCB
EPA Moisture	Morgan, Harriet	HM

SAMPLE SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-49450-1	OU1-83-9K-S-0-1	Solid	07/30/2009 0850	07/31/2009 0935
680-49450-3	OU1-83-9K-S-2-3	Solid	07/30/2009 0911	07/31/2009 0935
680-49450-6	OU1-83-9K-S-2-3-P	Solid	07/30/2009 0911	07/31/2009 0935
680-49450-7	OU1-83-9G-S-0-1	Solid	07/30/2009 1030	07/31/2009 0935
680-49450-7MS	OU1-83-9G-S-0-1	Solid	07/30/2009 1030	07/31/2009 0935
680-49450-7MSD	OU1-83-9G-S-0-1	Solid	07/30/2009 1030	07/31/2009 0935
680-49450-9	OU1-83-9G-S-2-3	Solid	07/30/2009 1032	07/31/2009 0935
680-49450-12	OU1-83-9I-S-0-1	Solid	07/30/2009 1045	07/31/2009 0935
680-49450-14	OU1-83-9I-S-2-3	Solid	07/30/2009 1047	07/31/2009 0935
680-49450-17	OU1-83-8K-S-0-1	Solid	07/30/2009 0825	07/31/2009 0935
680-49450-19	OU1-83-8K-S-2-3	Solid	07/30/2009 0831	07/31/2009 0935
680-49450-22	OU1-83-8K-S-0-1-P	Solid	07/30/2009 0000	07/31/2009 0935
680-49450-23	OU1-83-8H-S-0-1	Solid	07/30/2009 0950	07/31/2009 0935
680-49450-25	OU1-83-8H-S-2-3	Solid	07/30/2009 0952	07/31/2009 0935
680-49450-28	OU1-83-8H-S-0-1-P	Solid	07/30/2009 0000	07/31/2009 0935

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8K-S-0-1**

Lab Sample ID: 680-49450-17
Client Matrix: Solid
% Moisture: 27.0

Date Sampled: 07/30/2009 0825
Date Received: 07/31/2009 0935

8270C LL Semivolatile Organic Compounds by GCMS - Low Levels

Method:	8270C LL	Analysis Batch: 680-144331		Instrument ID:	MSK
Preparation:	3550B	Prep Batch: 680-144275		Lab File ID:	k8905.d
Dilution:	1.0			Initial Weight/Volume:	30.41 g
Date Analyzed:	07/31/2009 2249			Final Weight/Volume:	1.0 mL
Date Prepared:	07/31/2009 1420			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		47		2.3	9.1
Benzo[a]pyrene		120		2.3	9.1
Benzo[b]fluoranthene		160		2.3	9.1
Dibenz(a,h)anthracene		38		0.77	9.1
Indeno[1,2,3-cd]pyrene		120		4.5	9.1

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	64		29 - 122

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8H-S-2-3**

Lab Sample ID: 680-49450-25
Client Matrix: Solid
% Moisture: 19.3

Date Sampled: 07/30/2009 0952
Date Received: 07/31/2009 0935

8270C LL Semivolatile Organic Compounds by GCMS - Low Levels

Method:	8270C LL	Analysis Batch: 680-144331		Instrument ID:	MSK
Preparation:	3550B	Prep Batch: 680-144275		Lab File ID:	k8906.d
Dilution:	1.0			Initial Weight/Volume:	30.25 g
Date Analyzed:	07/31/2009 2312			Final Weight/Volume:	1.0 mL
Date Prepared:	07/31/2009 1420			Injection Volume:	1.0 uL

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
Benzo[a]anthracene		2.1	U	2.1	8.2
Benzo[a]pyrene		2.1	U	2.1	8.2
Benzo[b]fluoranthene		2.1	U	2.1	8.2
Dibenz(a,h)anthracene		0.70	U	0.70	8.2
Indeno[1,2,3-cd]pyrene		4.1	U	4.1	8.2

Surrogate	%Rec	Qualifier	Acceptance Limits
o-Terphenyl	64		29 - 122

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8K-S-0-1**

Lab Sample ID: 680-49450-17
Client Matrix: Solid
% Moisture: 27.0

Date Sampled: 07/30/2009 0825
Date Received: 07/31/2009 0935

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-144385		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-144273		Initial Weight/Volume:	15.30 g
Dilution:	1.0			Final Weight/Volume:	5.0 mL
Date Analyzed:	08/01/2009 0210			Injection Volume:	1.0 uL
Date Prepared:	07/31/2009 1450			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.32	U	0.32	4.4
4,4'-DDE		0.93	J J p	0.26	4.4
4,4'-DDT		9.1		0.31	4.4
Chlordane (technical)		850	J p	3.9	23
Dieldrin		92	J p	0.38	4.4
Heptachlor		0.11	U	0.11	2.3
Heptachlor epoxide		0.19	U	0.19	2.3

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	92		50 - 129
Tetrachloro-m-xylene	66		26 - 140

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8K-S-0-1**

Lab Sample ID: 680-49450-17
Client Matrix: Solid
% Moisture: 27.0

Date Sampled: 07/30/2009 0825
Date Received: 07/31/2009 0935

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-144385		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-144273		Initial Weight/Volume:	15.30 g
Dilution:	10			Final Weight/Volume:	5.0 mL
Date Analyzed:	08/01/2009 0308	Run Type:	DL	Injection Volume:	1.0 uL
Date Prepared:	07/31/2009 1450			Result Type:	SECONDARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		3.2	U	3.2	44
4,4'-DDE		2.6	U	2.6	44
4,4'-DDT		3.1	U	3.1	44
Chlordane (technical)		1500	M	39	230
Dieldrin		180		3.8	44
Heptachlor		1.1	U	1.1	23
Heptachlor epoxide		26		1.9	23

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	0	U	50 - 129
Tetrachloro-m-xylene	0	U	26 - 140

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8H-S-2-3**

Lab Sample ID: 680-49450-25
Client Matrix: Solid
% Moisture: 19.3

Date Sampled: 07/30/2009 0952
Date Received: 07/31/2009 0935

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-144385		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-144273		Initial Weight/Volume:	15.40 g
Dilution:	1.0			Final Weight/Volume:	5.0 mL
Date Analyzed:	08/01/2009 0327			Injection Volume:	1.0 uL
Date Prepared:	07/31/2009 1450			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.29	U	0.29	4.0
4,4'-DDE		0.23	U	0.23	4.0
4,4'-DDT		0.28	U	0.28	4.0
Chlordane (technical)		3.5	U	3.5	21
Dieldrin		0.34	U	0.34	4.0
Heptachlor		0.10	U	0.10	2.1
Heptachlor epoxide		0.17	U	0.17	2.1

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	62		50 - 129
Tetrachloro-m-xylene	47		26 - 140

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-9K-S-0-1**

Lab Sample ID: 680-49450-1
Client Matrix: Solid
% Moisture: 19.0

Date Sampled: 07/30/2009 0850
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.17 g
Date Analyzed:	08/03/2009 1157			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		98		0.56	1.1

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-9K-S-2-3**

Lab Sample ID: 680-49450-3
Client Matrix: Solid
% Moisture: 8.2

Date Sampled: 07/30/2009 0911
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.20 g
Date Analyzed:	08/03/2009 1208			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		53		0.48	0.91

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-9K-S-2-3-P**

Lab Sample ID: 680-49450-6
Client Matrix: Solid
% Moisture: 20.2

Date Sampled: 07/30/2009 0911
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.19 g
Date Analyzed:	08/03/2009 1222			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		57		0.56	1.1

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-9G-S-0-1**

Lab Sample ID: 680-49450-7
Client Matrix: Solid
% Moisture: 14.0

Date Sampled: 07/30/2009 1030
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Date Analyzed:	08/03/2009 1238			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		77		0.61	1.2

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-9G-S-2-3**

Lab Sample ID: 680-49450-9
Client Matrix: Solid
% Moisture: 15.1

Date Sampled: 07/30/2009 1032
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.00 g
Date Analyzed:	08/03/2009 1501			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		7.7		0.62	1.2

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-9I-S-0-1**

Lab Sample ID: 680-49450-12
Client Matrix: Solid
% Moisture: 10.3

Date Sampled: 07/30/2009 1045
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.14 g
Date Analyzed:	08/03/2009 1515			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		10		0.52	0.98

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-9I-S-2-3**

Lab Sample ID: 680-49450-14
Client Matrix: Solid
% Moisture: 16.3

Date Sampled: 07/30/2009 1047
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.08 g
Date Analyzed:	08/03/2009 1534			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		35		0.59	1.1

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8K-S-0-1**

Lab Sample ID: 680-49450-17
Client Matrix: Solid
% Moisture: 27.0

Date Sampled: 07/30/2009 0825
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.00 g
Date Analyzed:	08/03/2009 1548			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		24		0.73	1.4

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8K-S-2-3**

Lab Sample ID: 680-49450-19
Client Matrix: Solid
% Moisture: 14.2

Date Sampled: 07/30/2009 0831
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144337		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.11 g
Date Analyzed:	08/03/2009 1558			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		3.7		0.56	1.0

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8K-S-0-1-P**

Lab Sample ID: 680-49450-22
Client Matrix: Solid
% Moisture: 25.3

Date Sampled: 07/30/2009 0000
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144356		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.14 g
Date Analyzed:	08/03/2009 1326			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		27		0.62	1.2

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8H-S-0-1**

Lab Sample ID: 680-49450-23
Client Matrix: Solid
% Moisture: 17.8

Date Sampled: 07/30/2009 0950
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144356		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.04 g
Date Analyzed:	08/03/2009 1330			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		140		0.62	1.2

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8H-S-2-3**

Lab Sample ID: 680-49450-25
Client Matrix: Solid
% Moisture: 19.3

Date Sampled: 07/30/2009 0952
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144356		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.12 g
Date Analyzed:	08/03/2009 1340			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		4.3		0.59	1.1

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Client Sample ID: **OU1-83-8H-S-0-1-P**

Lab Sample ID: 680-49450-28
Client Matrix: Solid
% Moisture: 19.8

Date Sampled: 07/30/2009 0000
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3050B	Prep Batch: 680-144356		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Date Analyzed:	08/03/2009 1403			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

Analyte	DryWt Corrected: Y	Result (mg/Kg)	Qualifier	MDL	RL
Lead		110		0.62	1.2

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-9K-S-0-1**

Lab Sample ID: 680-49450-1
Client Matrix: Solid

Date Sampled: 07/30/2009 0850
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	19		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-9K-S-2-3**

Lab Sample ID: 680-49450-3
Client Matrix: Solid

Date Sampled: 07/30/2009 0911
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	8.2		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-9K-S-2-3-P**

Lab Sample ID: 680-49450-6
Client Matrix: Solid

Date Sampled: 07/30/2009 0911
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	20		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-9G-S-0-1**

Lab Sample ID: 680-49450-7
Client Matrix: Solid

Date Sampled: 07/30/2009 1030
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	14		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-9G-S-2-3**

Lab Sample ID: 680-49450-9
Client Matrix: Solid

Date Sampled: 07/30/2009 1032
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	15		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-9I-S-0-1**

Lab Sample ID: 680-49450-12
Client Matrix: Solid

Date Sampled: 07/30/2009 1045
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	10		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-9I-S-2-3**

Lab Sample ID: 680-49450-14
Client Matrix: Solid

Date Sampled: 07/30/2009 1047
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	16		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-8K-S-0-1**

Lab Sample ID: 680-49450-17
Client Matrix: Solid

Date Sampled: 07/30/2009 0825
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	27		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-8K-S-2-3**

Lab Sample ID: 680-49450-19
Client Matrix: Solid

Date Sampled: 07/30/2009 0831
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	14		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-8K-S-0-1-P**

Lab Sample ID: 680-49450-22
Client Matrix: Solid

Date Sampled: 07/30/2009 0000
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	25		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-8H-S-0-1**

Lab Sample ID: 680-49450-23
Client Matrix: Solid

Date Sampled: 07/30/2009 0950
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	18		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-8H-S-2-3**

Lab Sample ID: 680-49450-25
Client Matrix: Solid

Date Sampled: 07/30/2009 0952
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	19		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

General Chemistry

Client Sample ID: **OU1-83-8H-S-0-1-P**

Lab Sample ID: 680-49450-28
Client Matrix: Solid

Date Sampled: 07/30/2009 0000
Date Received: 07/31/2009 0935

Analyte	Result	Qual	Units	RL	RL	Dil	Method
Percent Moisture	20		%	0.010	0.010	1.0	Moisture

Analysis Batch: 680-144334 Date Analyzed: 08/03/2009 0831 DryWt Corrected: N

DATA REPORTING QUALIFIERS

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Lab Section	Qualifier	Description
GC/MS Semi VOA		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	U	Undetected at the Limit of Detection.
GC Semi VOA		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	M	Manual integrated compound.
	4	MS, MSD: The analyte present in the original sample is 4 times greater than the matrix spike concentration; therefore, control limits are not applicable.
	p	The %RPD between the primary and confirmation column/detector is >40%. The lower value has been reported.
	U	Undetected at the Limit of Detection.
Metals		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	U	Undetected at the Limit of Detection.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Method Blank - Batch: 680-144275

Method: 8270C LL
Preparation: 3550B

Lab Sample ID:	MB 680-144275/3-A	Analysis Batch:	680-144331	Instrument ID:	GC/MS SemiVolatiles - K
Client Matrix:	Solid	Prep Batch:	680-144275	Lab File ID:	k8903.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.23 g
Date Analyzed:	07/31/2009 2203			Final Weight/Volume:	1.0 mL
Date Prepared:	07/31/2009 1420			Injection Volume:	1.0 uL

Analyte	Result	Qual	MDL	RL
Benzo[a]anthracene	1.7	U	1.7	6.6
Benzo[a]pyrene	1.7	U	1.7	6.6
Benzo[b]fluoranthene	1.7	U	1.7	6.6
Dibenz(a,h)anthracene	0.57	U	0.57	6.6
Indeno[1,2,3-cd]pyrene	3.3	U	3.3	6.6

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	82	29 - 122

Lab Control Sample - Batch: 680-144275

Method: 8270C LL
Preparation: 3550B

Lab Sample ID:	LCS 680-144275/4-A	Analysis Batch:	680-144331	Instrument ID:	GC/MS SemiVolatiles - K
Client Matrix:	Solid	Prep Batch:	680-144275	Lab File ID:	k8904.d
Dilution:	1.0	Units:	ug/Kg	Initial Weight/Volume:	30.03 g
Date Analyzed:	07/31/2009 2226			Final Weight/Volume:	1.0 mL
Date Prepared:	07/31/2009 1420			Injection Volume:	1.0 uL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Benzo[a]anthracene	66.6	50.6	76	44 - 116	
Benzo[a]pyrene	66.6	42.2	63	41 - 115	
Benzo[b]fluoranthene	66.6	47.6	72	40 - 112	
Dibenz(a,h)anthracene	66.6	44.3	67	36 - 115	
Indeno[1,2,3-cd]pyrene	66.6	42.8	64	35 - 126	

Surrogate	% Rec	Acceptance Limits
o-Terphenyl	75	29 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-144275

Method: 8270C LL
Preparation: 3550B

MS Lab Sample ID:	680-49450-17	Analysis Batch:	680-144331	Instrument ID:	GC/MS SemiVolatiles - K
Client Matrix:	Solid	Prep Batch:	680-144275	Lab File ID:	k8907.d
Dilution:	1.0			Initial Weight/Volume:	30.35 g
Date Analyzed:	07/31/2009 2335			Final Weight/Volume:	1.0 mL
Date Prepared:	07/31/2009 1420			Injection Volume:	1.0 uL

MSD Lab Sample ID:	680-49450-17	Analysis Batch:	680-144331	Instrument ID:	GC/MS SemiVolatiles - K
Client Matrix:	Solid	Prep Batch:	680-144275	Lab File ID:	k8908.d
Dilution:	1.0			Initial Weight/Volume:	30.12 g
Date Analyzed:	07/31/2009 2358			Final Weight/Volume:	1.0 mL
Date Prepared:	07/31/2009 1420			Injection Volume:	1.0 uL

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Benzo[a]anthracene	20	22	44 - 116	2	50	J	J
Benzo[a]pyrene	-64	-58	41 - 115	8	50	J	J
Benzo[b]fluoranthene	-103	-103	40 - 112	1	50	J	J
Dibenz(a,h)anthracene	21	26	36 - 115	9	50	J	J
Indeno[1,2,3-cd]pyrene	-56	-59	35 - 126	4	50	J	J

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
o-Terphenyl	56	64	29 - 122

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Method Blank - Batch: 680-144273

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: MB 680-144273/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/01/2009 0131
Date Prepared: 07/31/2009 1450

Analysis Batch: 680-144385
Prep Batch: 680-144273
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mg31033.d
Initial Weight/Volume: 15.00 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.24	U	0.24	3.3
4,4'-DDE	0.19	U	0.19	3.3
4,4'-DDT	0.23	U	0.23	3.3
Chlordane (technical)	2.9	U	2.9	17
Dieldrin	0.28	U	0.28	3.3
Heptachlor	0.083	U	0.083	1.7
Heptachlor epoxide	0.14	U	0.14	1.7

Surrogate	% Rec	Acceptance Limits
DCB Decachlorobiphenyl	93	50 - 129
Tetrachloro-m-xylene	73	26 - 140

Lab Control Sample - Batch: 680-144273

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: LCS 680-144273/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/01/2009 0151
Date Prepared: 07/31/2009 1450

Analysis Batch: 680-144385
Prep Batch: 680-144273
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mg31034.d
Initial Weight/Volume: 15.00 g
Final Weight/Volume: 5.0 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	6.67	5.35	80	34 - 162	M
4,4'-DDE	6.67	4.37	65	25 - 136	
4,4'-DDT	6.67	6.64	100	14 - 134	
Dieldrin	6.67	6.05	91	41 - 128	
Heptachlor	3.33	2.38	71	32 - 130	
Heptachlor epoxide	3.33	2.73	82	30 - 123	

Surrogate	% Rec	Acceptance Limits
DCB Decachlorobiphenyl	83	50 - 129
Tetrachloro-m-xylene	62	26 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-144273

Method: 8081A_8082
Preparation: 3550B

MS Lab Sample ID:	680-49450-17	Analysis Batch:	680-144385	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch:	680-144273	Lab File ID:	mg31036.d
Dilution:	1.0			Initial Weight/Volume:	15.08 g
Date Analyzed:	08/01/2009 0229			Final Weight/Volume:	5.0 mL
Date Prepared:	07/31/2009 1450			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

MSD Lab Sample ID:	680-49450-17	Analysis Batch:	680-144385	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch:	680-144273	Lab File ID:	mg31037.d
Dilution:	1.0			Initial Weight/Volume:	15.13 g
Date Analyzed:	08/01/2009 0249			Final Weight/Volume:	5.0 mL
Date Prepared:	07/31/2009 1450			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,4'-DDD	0	0	34 - 162	NC	50	U J	U J
4,4'-DDE	46	46	25 - 136	0	50		
4,4'-DDT	51	75	14 - 134	15	50		
Dieldrin	23	-1020	41 - 128	NC	50	J p 4	U 4
Heptachlor	49	80	32 - 130	48	50	J J p	
Heptachlor epoxide	363	0	30 - 123	NC	50	M J p	U J

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
DCB Decachlorobiphenyl	77	92	50 - 129
Tetrachloro-m-xylene	53	58	26 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Method Blank - Batch: 680-144337

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 680-144337/23-A	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144337	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1.00 g
Date Analyzed:	08/03/2009 1146			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	Result	Qual	MDL	RL
Lead	0.53	U	0.53	1.0

Lab Control Sample - Batch: 680-144337

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 680-144337/24-A	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144337	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1.00 g
Date Analyzed:	08/03/2009 1152			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Lead	50.0	48.9	98	75 - 125	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-144337

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	680-49450-7	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144337	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Date Analyzed:	08/03/2009 1252			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

MSD Lab Sample ID:	680-49450-7	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144337	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.01 g
Date Analyzed:	08/03/2009 1257			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0827				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Lead	303	266	75 - 125	9	20	J	J

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
Sdg Number: CHP49450-1

Method Blank - Batch: 680-144356

Method: 6010B
Preparation: 3050B

Lab Sample ID:	MB 680-144356/14-A	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144356	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1.00 g
Date Analyzed:	08/03/2009 1311			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

Analyte	Result	Qual	MDL	RL
Lead	0.53	U	0.53	1.0

Lab Control Sample - Batch: 680-144356

Method: 6010B
Preparation: 3050B

Lab Sample ID:	LCS 680-144356/15-A	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144356	Lab File ID:	N/A
Dilution:	1.0	Units:	mg/Kg	Initial Weight/Volume:	1.00 g
Date Analyzed:	08/03/2009 1316			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Lead	50.0	51.0	102	75 - 125	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-144356

Method: 6010B
Preparation: 3050B

MS Lab Sample ID:	680-49450-28	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144356	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Date Analyzed:	08/03/2009 1417			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

MSD Lab Sample ID:	680-49450-28	Analysis Batch:	680-144422	Instrument ID:	ICP/AES - D
Client Matrix:	Solid	Prep Batch:	680-144356	Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	1.07 g
Date Analyzed:	08/03/2009 1422			Final Weight/Volume:	100 mL
Date Prepared:	08/03/2009 0817				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Lead	152	183	75 - 125	9	20	J	J

Calculations are performed before rounding to avoid round-off errors in calculated results.

Serial Number 023089

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil delineation	PROJECT NO.: 431	PROJECT LOCATION (STATE): NC
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER:	CONTRACT NO.:
CLIENT (SITE) PM: Brad McCalla	CLIENT PHONE: 724-462-4202	CLIENT FAX:
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us	
CLIENT ADDRESS: 4975 William Flynn Hwy Suite 14 Gibsonia PA 15044		
COMPANY CONTRACTING THIS WORK (if applicable)		

PAGE ___ OF ___

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

Note: 24 HR TAT

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Lead	Pesticides	PAHs								REMARKS
7/30/09	0825	041-83-8K-S-0-1	G		S			X	X	X								
	0830	041-83-8K-S-1-2	G		S			X										HOLD
	0831	041-83-8K-S-2-3	G		S			X										
	0832	041-83-8K-S-3-4	G		S			X										HOLD
	0833	041-83-8K-S-4-5	G		S			X										HOLD
	~~08~~	041-83-8K-S-0-1-P	G		S			X										
		~~041-83-8K-S-0-1~~ ZDW 7/30/09																
																		Samples 24 HR TAT

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex (New Bern)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS.
[illegible]	7/31/09	0935	YES ◯ NO ◯		680-49450	2.1°C

Serial Number 023086

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
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Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil Delineation	PROJECT NO.: 431	PROJECT LOCATION (STATE): NC	PAGE / OF
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ◯
CLIENT (SITE) PM: Brad A. McCalla	CLIENT PHONE: 724-462-4202	CLIENT FAX	DATE DUE
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 4975 Wm. Flynn Hwy. Suite 14 Gibsonia, PA 15044			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

Note: 24 HR TAT

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Lead	Pesticides	PAHs	PRESERVATIVE	NUMBER OF CONTAINERS SUBMITTED	REMARKS
7/30/09	0850	OU1-83-9K-S-0-1	G		S			X					
	0910	OU1-83-9K-S-1-2						X					HOLD
	0911	OU1-83-9K-S-2-3						X					
	0912	OU1-83-9K-S-3-4						X					HOLD
	0913	OU1-83-9K-S-4-5						X					HOLD
	0911	OU1-83-9K-S-2-3-P						X					
													Samples 24 HR TAT

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex (New Bern)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
George K Gomez	7/31/09	0935	YES ◯ NO ◯		680-44450	2.1°C

TAL8240-680 (1207)

Serial Number 020934

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil delineation	PROJECT NO.	PROJECT LOCATION (STATE): NC	PAGE / OF
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ◯
CLIENT (SITE) PM: Brad McCalla	CLIENT PHONE: 724-462-4202	CLIENT FAX	DATE DUE
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 4975 Wm Flynn Hwy Suite 14 Gibsonia PA 15044			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE; AQUEOUS (WATER); SOLID OR SEMISOLID; AIR; NONAQUEOUS LIQUID (OIL, SOLVENT, ...)

REQUIRED ANALYSIS: Lead; Pesticides (select); pAHs (select); SOILS = 24 HR TAT

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G)	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID	Lead	Pesticides	pAHs								REMARKS
7/30/09	09:50	OU1-83-8H-S-0-1	G		S			X										
	09:51	OU1-83-8H-S-1-2						X										HOLD
	09:52	OU1-83-8H-S-2-3						X	X	X								
	09:53	OU1-83-8H-S-3-4						X										HOLD
	09:54	OU1-83-8H-S-4-5						X										HOLD
	—	OU1-83-8H-S-0-1-P						X										
		BAM 7/30/09																
7/30/09	13:25	OU1-83-FB073009	G	W				X										nitric acid pres. - 3 day T
	13:35	OU1-83-EB073009	G	W				X										nitric acid pres. - 3 day T

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Fedex (Nan Barn)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
George K Lowe	7/31/09	0935	YES ◯ NO ◯		680-49430	2.1°C

TAL8240-680 (1207)

08/03/2009

Serial Number 020929

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
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Website: www.testamericainc.com
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Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil Delineation	PROJECT NO.: 431	PROJECT LOCATION (STATE): NC	PAGE / OF
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ◯
CLIENT (SITE) PM: Brad A McCalla	CLIENT PHONE	CLIENT FAX	DATE DUE
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 4975 Wm Flynn Hwy Suite 14 Gibsonia PA 15044			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

Note: 24 HR TAT

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Lead	Pesticides	PAHs	REMARKS
7/30/09	1030	041-83-96-S-0-1	G		S			X			MS/MSD Pb only
	1031	041-83-96-S-1-2						X			HOLD
	1032	041-83-96-S-2-3						X			
	1033	041-83-96-S-3-4						X			HOLD
	1034	041-83-96-S-4-5						X			HOLD
7/30/09	1045	041-83-9I-S-0-1	G		S			X			
	1046	041-83-9I-S-1-2						X			HOLD
	1047	041-83-9I-S-2-3						X			
	1048	041-83-9I-S-3-4						X			HOLD
	1049	041-83-9I-S-4-5						X			HOLD

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex (New Bern)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
George K Conway	7/31/09	0935	YES ◯ NO ◯		680-49445	2.1°C

08/03/2009

TAL8240-680 (1207)

Login Sample Receipt Check List

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-1
SDG Number: CHP49450-1

Login Number: 49450
Creator: Conner, Keaton
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	False	
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 680-49450-2

SDG Number: CHP49450-2

Job Description: MCAS - Cherry Point, Site 83

For:
Rhea Engineers & Consultants, Inc.
4975 William Flynn Hwy
Suite 14
Gibsonia, PA 15044

Attention: Mr. Brad McCalla

Kathryn Smith

Approved for release.
Kathryn Smith
Project Manager I
8/4/2009 5:02 PM

Kathryn Smith
Project Manager I
kathye.smith@testamericainc.com
08/04/2009

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager who signed this report.

METHOD SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
Sdg Number: CHP49450-2

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Metals (ICP)	TAL SAV	SW846 6010B	
Preparation, Total Metals	TAL SAV		SW846 3010A

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
Sdg Number: CHP49450-2

Method	Analyst	Analyst ID
SW846 6010B	Bland, Brian	BCB

SAMPLE SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
Sdg Number: CHP49450-2

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-49450-29	OU1-83-FB073009	Water	07/30/2009 1325	07/31/2009 0935
680-49450-30	OU1-83-EB073009	Water	07/30/2009 1335	07/31/2009 0935

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
Sdg Number: CHP49450-2

Client Sample ID: **OU1-83-FB073009**

Lab Sample ID: 680-49450-29
Client Matrix: Water

Date Sampled: 07/30/2009 1325
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3010A	Prep Batch: 680-144383		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	08/03/2009 1738			Final Weight/Volume:	50 mL
Date Prepared:	08/03/2009 1245				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Lead	4.0	U	4.0	10

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
Sdg Number: CHP49450-2

Client Sample ID: **OU1-83-EB073009**

Lab Sample ID: 680-49450-30
Client Matrix: Water

Date Sampled: 07/30/2009 1335
Date Received: 07/31/2009 0935

6010B Metals (ICP)

Method:	6010B	Analysis Batch: 680-144422		Instrument ID:	ICPD
Preparation:	3010A	Prep Batch: 680-144383		Lab File ID:	N/A
Dilution:	1.0			Initial Weight/Volume:	50 mL
Date Analyzed:	08/03/2009 1803			Final Weight/Volume:	50 mL
Date Prepared:	08/03/2009 1245				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Lead	4.0	U	4.0	10

DATA REPORTING QUALIFIERS

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
Sdg Number: CHP49450-2

Lab Section	Qualifier	Description
Metals		
	U	Undetected at the Limit of Detection.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
Sdg Number: CHP49450-2

Method Blank - Batch: 680-144383

Method: 6010B
Preparation: 3010A

Lab Sample ID: MB 680-144383/3-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/03/2009 1728
Date Prepared: 08/03/2009 1245

Analysis Batch: 680-144422
Prep Batch: 680-144383
Units: ug/L

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Result	Qual	MDL	RL
Lead	4.0	U	4.0	10

Lab Control Sample - Batch: 680-144383

Method: 6010B
Preparation: 3010A

Lab Sample ID: LCS 680-144383/4-A
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/03/2009 1733
Date Prepared: 08/03/2009 1245

Analysis Batch: 680-144422
Prep Batch: 680-144383
Units: ug/L

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Lead	500	506	101	75 - 125	

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-144383

Method: 6010B
Preparation: 3010A

MS Lab Sample ID: 680-49450-29
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/03/2009 1753
Date Prepared: 08/03/2009 1245

Analysis Batch: 680-144422
Prep Batch: 680-144383

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

MSD Lab Sample ID: 680-49450-29
Client Matrix: Water
Dilution: 1.0
Date Analyzed: 08/03/2009 1758
Date Prepared: 08/03/2009 1245

Analysis Batch: 680-144422
Prep Batch: 680-144383

Instrument ID: ICP/AES - D
Lab File ID: N/A
Initial Weight/Volume: 50 mL
Final Weight/Volume: 50 mL

Analyte	% Rec. MS	% Rec. MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Lead	100	101	75 - 125	1	20		

Calculations are performed before rounding to avoid round-off errors in calculated results.

Serial Number 023089

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil delineation	PROJECT NO.: 431	PROJECT LOCATION (STATE): NC	PAGE / OF
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ◯
CLIENT (SITE) PM: Brad McCalla	CLIENT PHONE: 724-462-4202	CLIENT FAX	DATE DUE
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 4975 William Flynn Hwy Suite 14 Gibsonia PA 15044			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

Note: 24 HR TAT

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Lead	Pesticides	PAHs								REMARKS
								PRESERVATIVE										
7/30/09	0825	041-83-8K-S-0-1	G		S			X	X	X								
	0830	041-83-8K-S-1-2	G		S			X										HOLD
	0831	041-83-8K-S-2-3	G		S			X										
	0832	041-83-8K-S-3-4	G		S			X										HOLD
	0833	041-83-8K-S-4-5	G		S			X										HOLD
	~~08~~	041-83-8K-S-0-1-P	G		S			X										
		~~041-83-8K-S-0-1~~ ZDW 7/30/09																
																		Samples 24 HR TAT

Page 9 of 13

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex (New Bern)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS.
[illegible]	7/31/09	0935	YES ◯ NO ◯		680-49450	2.1°C

TAL8240-680 (1207)

Serial Number 023086

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil Delineation	PROJECT NO.: 431	PROJECT LOCATION (STATE): NC	PAGE / OF
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ◯
CLIENT (SITE) PM: Brad A. McCalla	CLIENT PHONE: 724-462-4202	CLIENT FAX	DATE DUE
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 4975 Wm. Flynn Hwy. Suite 14 Gibsonia, PA 15044			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

Note: 24 HR TAT

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Lead	Pesticides	PAHs	REMARKS
7/30/09	0850	OU1-83-9K-S-0-1	G		S			X			
	0910	OU1-83-9K-S-1-2						X			HOLD
	0911	OU1-83-9K-S-2-3						X			
	0912	OU1-83-9K-S-3-4						X			HOLD
	0913	OU1-83-9K-S-4-5						X			HOLD
	0911	OU1-83-9K-S-2-3-P						X			

Samples 24 HR TAT

PRESERVATIVE

NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex (New Bern)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
George K Gomez	7/31/09	0935	YES ◯ NO ◯		680-44450	2.1°C

TAL8240-680 (1207)

Serial Number 020934

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location
Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil delineation	PROJECT NO.	PROJECT LOCATION (STATE): NC	PAGE / OF
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.	STANDARD REPORT DELIVERY ◯
CLIENT (SITE) PM: Brad McCalla	CLIENT PHONE: 724-462-4202	CLIENT FAX	DATE DUE
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us		EXPEDITED REPORT DELIVERY (SURCHARGE) ◯
CLIENT ADDRESS: 4975 Wm Flynn Hwy Suite 14 Gibsonia PA 15044			DATE DUE
COMPANY CONTRACTING THIS WORK (if applicable)			NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: Lead; Pesticides (select); PAHs (select); SOILS = 24 HR TAT

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Lead	Pesticides	PAHs							REMARKS
7/30/09	09:50	OU1-83-8H-S-0-1	G		S			X									
	09:51	OU1-83-8H-S-1-2						X									HOLD
	09:52	OU1-83-8H-S-2-3						X	X	X							
	09:53	OU1-83-8H-S-3-4						X									HOLD
	09:54	OU1-83-8H-S-4-5						X									HOLD
	—	OU1-83-8H-S-0-1-P						X									
		BAM 7/30/09															
7/30/09	13:25	OU1-83-FB073009	G	W				X									nitric acid pres. - 3 day T
	13:35	OU1-83-EB073009	G	W				X									nitric acid pres. - 3 day T

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex (Nan Barn)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Jerry K Lowe	7/31/09	0935	YES ◯ NO ◯		680-49430	2.1°C

TAL8240-680 (1207)

Serial Number 020929

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil Delineation	PROJECT NO.: 431	PROJECT LOCATION (STATE): NC
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Brad A McCalla	CLIENT PHONE	CLIENT FAX
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL: brad@rhea.us	
CLIENT ADDRESS: 4975 Wm Flynn Hwy Suite 14 Gibsonia PA 15044		
COMPANY CONTRACTING THIS WORK (if applicable)		

PAGE | OF

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

Note: 24 HR TAT

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	MATRIX TYPE: COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	Lead	Pesticides	PAHs	REMARKS
								PRESERVATIVE			
7/30/09	1030	041-83-96-S-0-1	G		S			X			MS/MSD Pb only
	1031	041-83-96-S-1-2						X			HOLD
	1032	041-83-96-S-2-3						X			
	1033	041-83-96-S-3-4						X			HOLD
	1034	041-83-96-S-4-5						X			HOLD
7/30/09	1045	041-83-9I-S-0-1	G		S			X			
	1046	041-83-9I-S-1-2						X			HOLD
	1047	041-83-9I-S-2-3						X			
	1048	041-83-9I-S-3-4						X			HOLD
	1049	041-83-9I-S-4-5						X			HOLD

NUMBER OF CONTAINERS SUBMITTED

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A McCalla	7/30/09	14:38	rec'd by [signature]	7/30/09	14:38			
RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME	RECEIVED BY: (SIGNATURE)	DATE	TIME
Fedex (New Bern)	7/30/09							

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
[signature]	7/31/09	0935	YES ◯ NO ◯		680-49445	2.1°C

TAL8240-680 (1207)

Login Sample Receipt Check List

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-49450-2
SDG Number: CHP49450-2

Login Number: 49450
Creator: Conner, Keaton
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	N/A	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	N/A	
Samples do not require splitting or compositing.	N/A	
Is the Field Sampler's name present on COC?	False	
Sample Preservation Verified	True	

ANALYTICAL REPORT

Job Number: 680-50134-1

SDG Number: CHP50134

Job Description: MCAS - Cherry Point, Site 83

For:
Rhea Engineers & Consultants, Inc.
4975 William Flynn Hwy
Suite 14
Gibsonia, PA 15044

Attention: Mr. Brad McCalla

Approved for release.
Kathryn Smith
Project Manager I
8/26/2009 1:13 PM

Kathryn Smith
Project Manager I
kathye.smith@testamericainc.com
08/26/2009

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory. All questions regarding this report should be directed to the TestAmerica Project Manager who signed this report.

METHOD SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
Sdg Number: CHP50134

Description	Lab Location	Method	Preparation Method
Matrix Solid			
Organochlorine Pesticides & PCBs (GC)	TAL SAV	SW846 8081A_8082	
Ultrasonic Extraction	TAL SAV		SW846 3550B

Lab References:

TAL SAV = TestAmerica Savannah

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
Sdg Number: CHP50134

Method	Analyst	Analyst ID
SW846 8081A_8082	Kellar, Joshua	JK

SAMPLE SUMMARY

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
Sdg Number: CHP50134

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
680-50134-1	OU1-83-11C-S-0-1	Solid	08/21/2009 0830	08/22/2009 0945

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
Sdg Number: CHP50134

Client Sample ID: **OU1-83-11C-S-0-1**

Lab Sample ID: 680-50134-1
Client Matrix: Solid
% Moisture: 11.5

Date Sampled: 08/21/2009 0830
Date Received: 08/22/2009 0945

8081A_8082 Organochlorine Pesticides & PCBs (GC)

Method:	8081A_8082	Analysis Batch: 680-146368		Instrument ID:	SGM
Preparation:	3550B	Prep Batch: 680-146150		Initial Weight/Volume:	15.02 g
Dilution:	1.0			Final Weight/Volume:	5 mL
Date Analyzed:	08/25/2009 1807			Injection Volume:	1.0 uL
Date Prepared:	08/24/2009 1646			Result Type:	PRIMARY

Analyte	DryWt Corrected: Y	Result (ug/Kg)	Qualifier	MDL	RL
4,4'-DDD		0.27	U	0.27	3.7
4,4'-DDE		0.21	U	0.21	3.7
4,4'-DDT		0.26	U	0.26	3.7
Chlordane (technical)		3.3	U	3.3	19
Dieldrin		2.8	J	0.32	3.7
Heptachlor		0.094	U	0.094	1.9
Heptachlor epoxide		0.16	U	0.16	1.9

Surrogate	%Rec	Qualifier	Acceptance Limits
DCB Decachlorobiphenyl	91		50 - 129
Tetrachloro-m-xylene	79		26 - 140

DATA REPORTING QUALIFIERS

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
Sdg Number: CHP50134

Lab Section	Qualifier	Description
GC Semi VOA		
	J	Estimated: The analyte was positively identified; the quantitation is an estimation
	M	Manual integrated compound.
	U	Undetected at the Limit of Detection.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
Sdg Number: CHP50134

Method Blank - Batch: 680-146150

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: MB 680-146150/3-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/25/2009 2014
Date Prepared: 08/24/2009 1646

Analysis Batch: 680-146368
Prep Batch: 680-146150
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mh24076.d
Initial Weight/Volume: 15.00 g
Final Weight/Volume: 5 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Result	Qual	MDL	RL
4,4'-DDD	0.24	U	0.24	3.3
4,4'-DDE	0.19	U	0.19	3.3
4,4'-DDT	0.23	U	0.23	3.3
Chlordane (technical)	2.9	U	2.9	17
Dieldrin	0.28	U	0.28	3.3
Heptachlor	0.083	U	0.083	1.7
Heptachlor epoxide	0.14	U	0.14	1.7

Surrogate	% Rec	Acceptance Limits
DCB Decachlorobiphenyl	100	50 - 129
Tetrachloro-m-xylene	74	26 - 140

Lab Control Sample - Batch: 680-146150

Method: 8081A_8082
Preparation: 3550B

Lab Sample ID: LCS 680-146150/4-A
Client Matrix: Solid
Dilution: 1.0
Date Analyzed: 08/25/2009 2033
Date Prepared: 08/24/2009 1646

Analysis Batch: 680-146368
Prep Batch: 680-146150
Units: ug/Kg

Instrument ID: GC SemiVolatiles - M
Lab File ID: mh24077.d
Initial Weight/Volume: 15.00 g
Final Weight/Volume: 5 mL
Injection Volume: 1.0 uL
Column ID: PRIMARY

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
4,4'-DDD	6.67	7.00	105	34 - 162	
4,4'-DDE	6.67	5.86	88	25 - 136	
4,4'-DDT	6.67	7.87	118	14 - 134	
Dieldrin	6.67	7.13	107	41 - 128	
Heptachlor	3.33	2.04	61	32 - 130	J
Heptachlor epoxide	3.33	3.30	99	30 - 123	

Surrogate	% Rec	Acceptance Limits
DCB Decachlorobiphenyl	110	50 - 129
Tetrachloro-m-xylene	79	26 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
Sdg Number: CHP50134

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 680-146150

Method: 8081A_8082
Preparation: 3550B

MS Lab Sample ID:	680-50134-1	Analysis Batch:	680-146368	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch:	680-146150	Lab File ID:	mh24071.d
Dilution:	1.0			Initial Weight/Volume:	15.02 g
Date Analyzed:	08/25/2009 1836			Final Weight/Volume:	5 mL
Date Prepared:	08/24/2009 1646			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

MSD Lab Sample ID:	680-50134-1	Analysis Batch:	680-146368	Instrument ID:	GC SemiVolatiles - M
Client Matrix:	Solid	Prep Batch:	680-146150	Lab File ID:	mh24072.d
Dilution:	1.0			Initial Weight/Volume:	15.02 g
Date Analyzed:	08/25/2009 1855			Final Weight/Volume:	5 mL
Date Prepared:	08/24/2009 1646			Injection Volume:	1.0 uL
				Column ID:	PRIMARY

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
4,4'-DDD	92	91	34 - 162	1	50		M
4,4'-DDE	78	83	25 - 136	6	50		
4,4'-DDT	96	94	14 - 134	2	50		
Dieldrin	90	96	41 - 128	5	50		
Heptachlor	86	46	32 - 130	61	50		J J
Heptachlor epoxide	38	35	30 - 123	9	50	J	J

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
DCB Decachlorobiphenyl	81	80	50 - 129
Tetrachloro-m-xylene	75	73	26 - 140

Calculations are performed before rounding to avoid round-off errors in calculated results.

Serial Number 020936

ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Savannah
5102 LaRoche Avenue
Savannah, GA 31404

Website: www.testamericainc.com
Phone: (912) 354-7858
Fax: (912) 352-0165

Alternate Laboratory Name/Location

Phone:
Fax:

PROJECT REFERENCE: Site 83 Soil delineation	PROJECT NO.: 931	PROJECT LOCATION (STATE): NC
TAL (LAB) PROJECT MANAGER: Kathy Smith	P.O. NUMBER	CONTRACT NO.
CLIENT (SITE) PM: Erica Delattre	CLIENT PHONE: 724-443-4111	CLIENT FAX
CLIENT NAME: Rhea Engineers	CLIENT E-MAIL	
CLIENT ADDRESS: 4975 William Flynn Hwy Suite 14 Gibsonia PA 15044		
COMPANY CONTRACTING THIS WORK (if applicable)		

PAGE | OF

STANDARD REPORT DELIVERY ◯

DATE DUE _____

EXPEDITED REPORT DELIVERY (SURCHARGE) ◯

DATE DUE _____

NUMBER OF COOLERS SUBMITTED PER SHIPMENT:

REQUIRED ANALYSIS: Select Posts

PRESERVATIVE

SAMPLE DATE	SAMPLE TIME	SAMPLE IDENTIFICATION	COMPOSITE (C) OR GRAB (G) INDICATE	AQUEOUS (WATER)	SOLID OR SEMISOLID	AIR	NONAQUEOUS LIQUID (OIL, SOLVENT, ...)	NUMBER OF CONTAINERS SUBMITTED	REMARKS
8/21/09	08:30	OU1-83-11C-S-0-1			S			1	24 HR TAT

Page 9 of 10

RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME	RELINQUISHED BY: (SIGNATURE)	DATE	TIME
Brad A M Call	8/21/09	17:30						
RECEIVED BY: (SIGNATURE)	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**	**RECEIVED BY: (SIGNATURE)**	**DATE**	**TIME**
Fedex	8/21/09	17:30						

LABORATORY USE ONLY

RECEIVED FOR LABORATORY BY: (SIGNATURE)	DATE	TIME	CUSTODY INTACT	CUSTODY SEAL NO.	SAVANNAH LOG NO.	LABORATORY REMARKS
Anne KL	8/22/09	0945	YES ◯ NO ◯		680-50134	4.8

TAL8240-680 (1207)

Login Sample Receipt Check List

Client: Rhea Engineers & Consultants, Inc.

Job Number: 680-50134-1
SDG Number: CHP50134

Login Number: 50134
Creator: Conner, Keaton
List Number: 1

List Source: TestAmerica Savannah

Question	T / F/ NA	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	N/A	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Is the Field Sampler's name present on COC?	N/A	
Sample Preservation Verified	True	

APPENDIX F

DATA VALIDATION REPORTS

DATA VALIDATION
8081 PESTICIDES and 8270 SEMI-VOLATILES DATA

Site 83 – Soil Delineation
Marine Corps Air Station (MCAS), Cherry Point, NC
ECCS Sample Delivery Group Nos. N093101 to N093109
(July 2009 – Soil Samples)

This data validation summary pertains to soil samples, which were collected July 28 - 30, 2009 for the Site 83 Soil Delineation at Marine Corps Air Station Cherry Point. The samples were analyzed according to SW-846 Method 8081 for select pesticides by Gas Chromatography Electron Capture Detectors (GC/ECD) and SW-846 Method 8270C for select polynuclear aromatic hydrocarbons (PAH) by Gas Chromatography/Mass Spectrometry (GC/MS). Data validation procedures follow the criteria in Region III Modifications to National Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration (OLMO1.0-OLMO1.9; September 1994). The data were reported in nine sample delivery groups. Results of the data validation effort pertaining to the nine SDGs (N093101 to N093109) are summarized in the attached narrative summary. Data qualifiers (as appropriate) have been added to the sample result table and the corresponding EDD file.

Data Qualifier Definitions:

U The analyte was analyzed for, but was not detected at or above the stated level or the associated value. The associated value is the sample quantitation limit (i.e., the sample reporting limit). The ECCS laboratory used a (ND) qualifier for the pesticides analyses.

J The associated value is an estimated quantity.

UJ The analyte was analyzed for, but was not detected. The associated detection limit is an estimated value and may be inaccurate or imprecise.

L The analyte is present. The reported value may be biased low. The actual value is expected to be higher than reported.

UL The analyte was not detected; the reported quantitation limit is probably higher than reported.

K The analyte is present. The reported value may be biased high. The actual value is expected to be lower than reported.

R The data are unusable based on quality control.

8081 PESTICIDES

Data Completeness: The data deliverables pertaining to 83 soil samples, 4 equipment blank water samples and 1 field blank water sample were complete. The data were reported in nine sample delivery groups.

Chain of Custody: The chain of custody documentation was complete, with the exception of discrepancy related to the July 31st equipment blank sample identification (N093103-05). The discrepancy was corrected and documented; no qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times; no qualifiers were applied.

GC/ECD Performance Check: The Performance Evaluation Mixture (PEM) was analyzed in the required sequence and frequency. The PEM criteria were met. The individual breakdown for 4,4'-DDT were within control limits. No qualifiers were applied.

Initial Calibration: Initial calibrations were performed for the primary (quantitation) and secondary (confirmation) columns as required by the method. The percent relative standard deviations (%RSD) and retention times (RT) were within the control limits for the target compounds. No qualifiers were applied.

Continuing Calibration: The percent difference (%D) and RT were within the control limits for most target compounds and analytical batches. For analysis in which the %D of a particular compound was outside the control limits, positive results in the corresponding samples are considered estimates and flagged (J); qualification of non-detects is not necessary.

Blanks: ***Method Blanks -*** The nine method-blank soil samples reported all target compounds as not detected; no qualifiers were applied. The one method-blank water sample reported all target compounds as not detected; no qualifiers were applied. ***Equipment and Field Blanks*** –The equipment and field water-blank samples (EB072809, EB072909, EB073009, EB073109, and FB073009) reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): Decachlorobiphenyl (DCB) and/or tetrachloro-m-xylene (TCX) recoveries for the soil samples were within the control limits. No qualifiers were applied to the soil samples. Both DCB and TCX recoveries were outside the control limits for two of the five equipment/field water-blank samples and one of the nine MS/MSD samples. Results for the equipment blank samples (EB072809 and EB073009) are considered to be biased low and flagged (L) for detects and (UL) for non-detects. (No detects were noted in the water blank samples). No qualifiers were added to the MS/MSD results.

Field Duplicates: Eight field duplicate samples were collected and analyzed. Review of the results indicates relatively good comparison between the soil samples and their duplicates (indicated by a –P in the sample identification number) considering the heterogeneity of soil samples. There are no required review criteria for field duplicate samples. No qualifiers were applied.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries and relative percent differences were within control limits for eight of the nine MS/MSD samples. For the other MS/MSD sample, the percent recoveries and relative percent differences were within control limits, with the exception of 4,4'-DDT, most likely due to relatively high analyte concentration in the original sample relative to the spike amount. No action/qualifier is taken on MS/MSD data alone if the associated LCS samples are within the control limits. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the thirteen LCS samples. No qualifiers were applied.

Compound Identification: The retention times and retention time windows were within acceptable limits. Dual column analysis was performed; calculated concentrations of detected compounds are within limits on both columns, with the exception of dieldrin, 4,4'-DDD, 4,4'-DDT, or heptachlor epoxide for five samples. Detects for these compounds in the associated samples are flagged (J) to indicate estimated values.

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. The ECCS laboratory used a (ND) qualifier.

8270 SEMI-VOLATILES DATA

Data Completeness: The data deliverables pertaining to 80 soil samples, 4 equipment blank water samples and 1 field blank water sample were complete. The data were reported in nine sample delivery groups, and analyzed in six analytical batches.

Chain of Custody: The chain of custody documentation was complete, with the exception of discrepancy related to the July 31st equipment blank sample identification (N093103-05). The discrepancy was corrected and documented; no qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times. No qualifiers were applied.

GC/MS Performance Check: DFTPP was run every 12 hours of analysis and all DFTPP tuning criteria were within control limits. No qualifiers were applied.

Initial Calibration: Target compounds had RRFs above the allowable minimum (0.05) and the %RSDs were within the control limits (20%). No qualifiers were applied.

Continuing Calibration: The percent difference (%D) were within the control limits for most target compounds and analytical batches. For analysis in which the %D of a particular compound was outside the control limits, positive results in the corresponding samples are considered estimates and flagged (J); qualification of non-detects is not necessary.

Blanks: ***Method Blanks -*** The five method-blank soil samples reported all target compounds as not detected; no qualifiers were applied. The one method-blank water sample reported all target compounds as not detected; no qualifiers were applied. ***Equipment and Field Blanks*** –The equipment and field water-blank samples (EB072809, EB072909, EB073009, EB073109, and FB073009) reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): The surrogate recoveries were within control and advisory limits for the soil samples. No qualifiers were applied to the soil samples. The recovery for p-terphenyl-d14 was outside the control limits for three of the five equipment/field water-blank samples. Results for the equipment/field blank samples (EB072909, EB073009, and FB073009) are considered to be biased low and flagged (L) for detects and (UL) for non-detects. (No detects were noted in the water blank samples).

Field Duplicates: Eight field duplicate samples were collected and analyzed. As no compounds were detected between the sample and the duplicate (indicated by a –P in the sample identification number) for three of the sampling locations, review of the results is inconclusive. For the other five sampling locations, review of the results indicates relatively fair comparison between the soil samples and their duplicates considering the heterogeneity of soil samples. There are no required review criteria for field duplicate samples. No qualifiers were applied.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries and relative percent differences were within control limits for the five MS/MSD samples. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the eight LCS samples. No qualifiers were applied.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits for the soil samples. No qualifiers were applied.

Compound Identification: All positive-result compounds met RRT and ion spectra criteria. No qualifiers were applied.

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. The ECCS laboratory also used a (U) qualifier.

Overall Assessment: The checked data were within acceptable quantitation and qualitation limits. Minor issues were identified and qualifiers added; no major issues, however, were encountered during the data validation effort.

DATA VALIDATION
8081 PESTICIDES and 8270 SEMI-VOLATILES DATA

Site 83 – Soil Delineation
Marine Corps Air Station (MCAS), Cherry Point, NC
ECCS Sample Delivery Group Nos. N093110 to N093210
(July - August 2009 – Soil Samples)

This data validation summary pertains to soil samples, which were collected July 30, 2009 through August 6, 2009 for the Site 83 Soil Delineation at Marine Corps Air Station Cherry Point. The samples were analyzed according to SW-846 Method 8081 for select pesticides by Gas Chromatography Electron Capture Detectors (GC/ECD) and SW-846 Method 8270C for select polynuclear aromatic hydrocarbons (PAH) by Gas Chromatography/Mass Spectrometry (GC/MS). Data validation procedures follow the criteria in Region III Modifications to National Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration (OLMO1.0-OLMO1.9; September 1994). The data were reported in fourteen sample delivery groups. Results of the data validation effort pertaining to the fourteen SDGs (N093110, N093111, N093112, N093113, N093201, N093202, N093203, N093204, N093205, N093206, N093207, N093208, N093208, and N093210) are summarized in the attached narrative summary. Data qualifiers (as appropriate) have been added to the sample result table and the corresponding EDD file.

Data Qualifier Definitions:

U The analyte was analyzed for, but was not detected at or above the stated level or the associated value. The associated value is the sample quantitation limit (i.e., the sample reporting limit). The ECCS laboratory used a (ND) qualifier for the pesticides analyses.

J The associated value is an estimated quantity.

UJ The analyte was analyzed for, but was not detected. The associated detection limit is an estimated value and may be inaccurate or imprecise.

L The analyte is present. The reported value may be biased low. The actual value is expected to be higher than reported.

UL The analyte was not detected; the reported quantitation limit is probably higher than reported.

K The analyte is present. The reported value may be biased high. The actual value is expected to be lower than reported.

R The data are unusable based on quality control.

8081 PESTICIDES

Data Completeness: The data deliverables pertaining to 53 soil samples and 3 equipment blank water samples were complete. The data were reported in 14 sample delivery groups (N093110, N093111, N093112, N093113, N093201, N093202, N093203, N093204, N093205, N093206, N093207, N093208, N093208, and N093210) and analyzed in seven analytical batches for the soil samples and one analytical batch for the equipment water blank samples.

Chain of Custody: The chain of custody documentation was complete. No qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times; no qualifiers were applied.

GC/ECD Performance Check: The Performance Evaluation Mixture (PEM) was analyzed in the required sequence and frequency. The PEM criteria were met. The individual breakdown for 4,4'-DDT were within control limits. No qualifiers were applied.

Initial Calibration: Initial calibrations were performed for the primary (quantitation) and secondary (confirmation) columns as required by the method. The percent relative standard deviations (%RSD) and retention times (RT) were within the control limits for the target compounds. No qualifiers were applied.

Continuing Calibration: The percent difference (%D) and RT were within the control limits for nearly all of the target compounds and analytical batches. For analysis in which the %D of a particular compound was outside the control limits, positive results in the corresponding samples are considered estimates and flagged (J); qualification of non-detects is not necessary.

Blanks: ***Method Blanks -*** The seven method-blank soil samples reported all target compounds as not detected; no qualifiers were applied. The one method-blank water sample reported all target compounds as not detected; no qualifiers were applied. ***Equipment Blanks*** –The equipment water-blank samples (EB080309, EB080409, and EB080509) reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): Decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX) recoveries for the soil samples were within the control limits. No qualifiers were applied to the soil samples. DCB recovery was outside the control limits for one of the three equipment water-blank samples and TCX recoveries were outside the limits for some of the MS/MSD samples. However, for the water blank and MS/MSD samples, the DCB and TCX recoveries were greater than 10%. Data are not qualified with respect to surrogate recovery unless both surrogates are outside control limits or recovery is less the 10%. No qualifiers were added to the water blank and MS/MSD results.

Field Duplicates: Six field duplicate samples were collected and analyzed. As no compounds were detected between the sample and the duplicate (indicated by a –P in the sample identification number) for four of the sampling locations, review of the results is inconclusive. For the other two sampling locations, review of the results indicates relatively good- to fair-comparison between the soil samples and their duplicates considering the heterogeneity of soil samples. There are no required review criteria for field duplicate samples. No qualifiers were applied.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries and relative percent differences were within control limits for five of the seven MS/MSD samples. For the other two MS/MSD samples, the percent recoveries and relative percent differences were within control limits, with the exception of 4,4'-DDT, most likely due to relatively high analyte concentration in the original samples relative to the spike amount. No action/qualifier is taken on MS/MSD data alone if the associated LCS samples are within the control limits. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the thirteen LCS samples. No qualifiers were applied.

Compound Identification: The retention times and retention time windows were within acceptable limits. Dual column analysis was performed; calculated concentrations of detected compounds are within limits on both columns, with the exception of 4,4'-DDD or 4,4'-DDE for five samples. Detects for these compounds in the associated samples are flagged (J) to indicate estimated values.

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. The ECCS laboratory used a (ND) qualifier.

8270 SEMI-VOLATILES DATA

Data Completeness: The data deliverables pertaining to 69 soil samples and 3 equipment blank water samples were complete. The data were reported in fourteen sample delivery groups, and analyzed in 10 analytical batches for the soil samples and one analytical batch for the equipment water blank samples.

Chain of Custody: The chain of custody documentation was complete; no qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times. No qualifiers were applied.

GC/MS Performance Check: DFTPP was run every 12 hours of analysis and all DFTPP tuning criteria were within control limits. No qualifiers were applied.

Initial Calibration: Target compounds had RRFs above the allowable minimum (0.05) and the %RSDs were within the control limits (20%). No qualifiers were applied.

Continuing Calibration: The percent difference (%D) were within the control limits for most target compounds and analytical batches. For analysis in which the %D of a particular compound was outside the control limits, positive results in the corresponding samples are considered estimates and flagged (J); qualification of non-detects is not necessary.

Blanks: ***Method Blanks -*** The ten method-blank soil samples reported all target compounds as not detected; no qualifiers were applied. The one method-blank water sample reported all target compounds as not detected; no qualifiers were applied. ***Equipment Blanks*** –The equipment water-blank samples reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): The surrogate recoveries were within control and advisory limits for the soil samples. No qualifiers were applied to the soil samples. The recovery for p-terphenyl-d14 was outside the control limits for one of the three equipment water-blank samples. Results for the equipment water-blank sample (EB080309) are considered to be biased low and flagged (L) for detects and (UL) for non-detects. (No detects were noted in the water blank samples).

Field Duplicates: Seven field duplicate samples were collected and analyzed. As no compounds were detected between the sample and the duplicate (indicated by a –P in the sample identification number) for five of the sampling locations, review of the results is inconclusive. For the other two sampling locations, review of the results indicates relatively fair- to poor-comparison between the soil samples and their duplicates; most likely due to the heterogeneity of soil samples. There are no required review criteria for field duplicate samples. No qualifiers were applied.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries and relative percent differences were within control limits for the nine MS/MSD samples. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the ten LCS samples. No qualifiers were applied.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits for the soil samples. No qualifiers were applied.

Compound Identification: All positive-result compounds met RRT and ion spectra criteria. No qualifiers were applied.

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. The ECCS laboratory also used a (U) qualifier.

Overall Assessment: The checked data were within acceptable quantitation and qualitation limits. Minor issues were identified and qualifiers added; no major issues, however, were encountered during the data validation effort.

DATA VALIDATION
8081 PESTICIDES and 8270 SEMI-VOLATILES DATA

Site 83 – Soil Delineation
Marine Corps Air Station (MCAS), Cherry Point, NC
ECCS Sample Delivery Group Nos. N093111 to N093409
(August 2009 – Soil Samples)

This data validation summary pertains to soil samples, which were collected August 6, 2009 through August 21, 2009 for the Site 83 Soil Delineation at Marine Corps Air Station Cherry Point. The samples were analyzed according to SW-846 Method 8081 for select pesticides by Gas Chromatography Electron Capture Detectors (GC/ECD) and SW-846 Method 8270C for select polynuclear aromatic hydrocarbons (PAH) by Gas Chromatography/Mass Spectrometry (GC/MS). Data validation procedures follow the criteria in Region III Modifications to National Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration (OLMO1.0-OLMO1.9; September 1994). The data were reported in twelve sample delivery groups. Results of the data validation effort pertaining to the twelve SDGs (N093111, N093112, N093114, N093401, N093402, N093403, N093404, N093405, N093406, N093407, N093408, and N093409) are summarized in the attached narrative summary. Data qualifiers (as appropriate) have been added to the sample result table and the corresponding EDD file.

Data Qualifier Definitions:

U The analyte was analyzed for, but was not detected at or above the stated level or the associated value. The associated value is the sample quantitation limit (i.e., the sample reporting limit). The ECCS laboratory used a (ND) qualifier for the pesticides analyses.

J The associated value is an estimated quantity.

UJ The analyte was analyzed for, but was not detected. The associated detection limit is an estimated value and may be inaccurate or imprecise.

L The analyte is present. The reported value may be biased low. The actual value is expected to be higher than reported.

UL The analyte was not detected; the reported quantitation limit is probably higher than reported.

K The analyte is present. The reported value may be biased high. The actual value is expected to be lower than reported.

R The data are unusable based on quality control.

8081 PESTICIDES

Data Completeness: The data deliverables pertaining to 47 soil samples, 4 equipment blank water samples, and 1 field blank water sample were complete. The data were reported in 12 sample delivery groups (N093111, N093112, N093114, N093401, N093402, N093403, N093404, N093405, N093406, N093407, N093408, and N093409) and analyzed in six analytical batches for the soil samples and one analytical batch for the equipment- and field-water blank samples.

Chain of Custody: The chain of custody documentation was complete. No qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times; no qualifiers were applied.

GC/ECD Performance Check: The Performance Evaluation Mixture (PEM) was analyzed in the required sequence and frequency. The PEM criteria were met. The individual breakdown for 4,4'-DDT were within control limits. No qualifiers were applied.

Initial Calibration: Initial calibrations were performed for the primary (quantitation) and secondary (confirmation) columns as required by the method. The percent relative standard deviations (%RSD) and retention times (RT) were within the control limits for the target compounds. No qualifiers were applied.

Continuing Calibration: The percent difference (%D) and RT were within the control limits for the target compounds and analytical batches. No qualifiers were applied.

Blanks: ***Method Blanks -*** The six method-blank soil samples reported all target compounds as not detected; no qualifiers were applied. The one method-blank water sample reported all target compounds as not detected; no qualifiers were applied. ***Equipment Blanks*** –The equipment water-blank samples (EB081809, EB081909, EB082009, and EB082109) reported all target compounds as not detected; no qualifiers were applied. ***Field Blank*** –The field water-blank sample (FB081909) reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): Decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX) recoveries for the soil samples were within the control limits. No qualifiers were applied to the soil samples. DCB recovery was outside the control limits for one of the four equipment water-blank samples, but greater than 10%. Data are not qualified with respect to surrogate recovery unless both surrogates are outside control limits or recovery is less the 10%. No qualifiers were added to the water blank results.

Field Duplicates: Four field duplicate samples were collected and analyzed. Considering the heterogeneity of soil samples, review of the results indicates relatively good- to fair-comparison between the soil samples and their duplicates (indicated by a –P in the sample identification number). There are no required review criteria for field duplicate samples. No qualifiers were applied.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries and relative percent differences were within control limits for five of the six MS/MSD samples. For the other MS/MSD samples, the percent recoveries and relative percent differences were outside control limits for four compounds, most likely due to relatively high analyte concentration in the original samples relative to the spike amount. No action/qualifier is taken on MS/MSD data alone if the associated LCS samples are within the control limits. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the six LCS samples. No qualifiers were applied.

Compound Identification: The retention times and retention time windows were within acceptable limits. Dual column analysis was performed; calculated concentrations of detected compounds are within limits on both columns, with the exception of 4,4'-DDT for two samples. Detects for these compounds in the associated samples are flagged (J) to indicate estimated values.

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. The ECCS laboratory used a (ND) qualifier.

8270 SEMI-VOLATILES DATA

Data Completeness: The data deliverables pertaining to nine soil samples, two equipment blank water samples and one field blank water sample were complete. The samples were analyzed in four analytical batches for the soil samples and one analytical batch for the equipment- and field-water blank samples.

Chain of Custody: The chain of custody documentation was complete; no qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times. No qualifiers were applied.

GC/MS Performance Check: DFTPP was run every 12 hours of analysis and all DFTPP tuning criteria were within control limits. No qualifiers were applied.

Initial Calibration: Target compounds had RRFs above the allowable minimum (0.05) and the %RSDs were within the control limits (20%). No qualifiers were applied.

Continuing Calibration: The percent difference (%D) were within the control limits for the target compounds and analytical batches. No qualifiers were applied.

Blanks: ***Method Blanks -*** The four method-blank soil samples reported all target compounds as not detected; no qualifiers were applied. The one method-blank water sample reported all target compounds as not detected; no qualifiers were applied. ***Equipment Blanks*** –The equipment water-blank samples reported all target compounds as not detected; no qualifiers were applied. ***Field Blank*** –The field water-blank sample reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): The surrogate recoveries were within control and advisory limits for the soil samples. No qualifiers were applied to the soil samples. The recovery for p-terphenyl-d14 was outside the control limits for one of the five equipment/field water-blank samples. Results for the equipment water-blank sample (EB081809) are considered to be biased low and flagged (L) for detects and (UL) for non-detects. (No detects were noted in the water blank sample).

Field Duplicates: No field duplicate samples were analyzed for semi-volatile compounds. There are no required review criteria for field duplicate samples.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries and relative percent differences were within control limits for the four MS/MSD samples. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the five LCS samples. No qualifiers were applied.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits for the soil samples. No qualifiers were applied.

Compound Identification: All positive-result compounds met RRT and ion spectra criteria. No qualifiers were applied.

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. The ECCS laboratory also used a (U) qualifier.

Overall Assessment: The checked data were within acceptable quantitation and qualitation limits. Minor issues were identified and qualifiers added; no major issues, however, were encountered during the data validation effort.

DATA VALIDATION
8081 PESTICIDES, 8270 SEMI-VOLATILES, AND 6010 METALS DATA

Site 83 – Soil Delineation
Marine Corps Air Station (MCAS), Cherry Point, NC
TestAmerica Sample Delivery Group Nos. 49366, 49450-1, 49450-2, and 50134
(July - August 2009 – Soil Samples)

This data validation summary pertains to soil samples, which were collected July 28-30, 2009 and August 21, 2009 for the Site 83 Soil Delineation at Marine Corps Air Station Cherry Point. The samples were analyzed according to SW-846 Method 8081 for select pesticides by Gas Chromatography Electron Capture Detectors (GC/ECD), SW-846 Method 8270C for select polynuclear aromatic hydrocarbons (PAH) by Gas Chromatography/Mass Spectrometry (GC/MS), and SW-846 Methods 6010 (Inductively Coupled Plasma-Atomic Emission Spectrometry) for lead analyses. Data validation procedures follow the criteria in Region III Modifications to National Functional Guidelines for Organic Data Review Multi-Media, Multi-Concentration (OLMO1.0-OLMO1.9; September 1994) and Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses (April 1993). The data were reported in four sample delivery groups. Results of the data validation effort pertaining to the four SDGs (680-49366-1, 680-49450-1, 680-49450-2, and 680-50134-1) are summarized in the attached narrative summary. Data qualifiers (as appropriate) have been added to the sample result table and the corresponding EDD files.

Data Qualifier Definitions:

U The analyte was analyzed for, but was not detected at or above the stated level or the associated value. The associated value is the sample quantitation limit (i.e., the sample reporting limit).

J The associated value is an estimated quantity.

UJ The analyte was analyzed for, but was not detected. The associated detection limit is an estimated value and may be inaccurate or imprecise.

L The analyte is present. The reported value may be biased low. The actual value is expected to be higher than reported.

UL The analyte was not detected; the reported quantitation limit is probably higher than reported.

K The analyte is present. The reported value may be biased high. The actual value is expected to be lower than reported.

R The data are unusable based on quality control.

8081 PESTICIDES

Data Completeness: The data deliverables pertaining to 6 soil samples were complete. The data were reported in three sample delivery groups (680-49366-1, 680-49450-1, and 680-50134-1) and analyzed in three analytical batches for the soil samples.

Chain of Custody: The chain of custody documentation was complete. No qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times; no qualifiers were applied.

GC/ECD Performance Check: The Performance Evaluation Mixture (PEM) was analyzed in the required sequence and frequency. The PEM criteria were met. The individual breakdown for 4,4'-DDT and Endrin were within control limits. No qualifiers were applied.

Initial Calibration: Initial calibrations were performed for the primary (quantitation) and secondary (confirmation) columns as required by the method. The percent relative standard deviations (%RSD) and retention times (RT) were within the control limits for the target compounds. No qualifiers were applied.

Continuing Calibration: The percent difference (%D) and RT were within the control limits for the target compounds and analytical batches. No qualifiers were applied.

Blanks: ***Method Blanks -*** The three method-blank soil samples reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): Decachlorobiphenyl (DCB) and tetrachloro-m-xylene (TCX) recoveries for the soil samples were within the control limits. No qualifiers were applied to the soil samples. DCB and/or TCX recoveries were outside the limits for one of the MS/MSD samples. However, the DCB and TCX recoveries were greater than 10%. Data are not qualified with respect to surrogate recovery unless both surrogates are outside control limits or recovery is less the 10%. No qualifiers were added to the MS/MSD results. Also, surrogate recoveries for one sample (49450-17DL) were outside control limits due to 10X dilution. Thus, the extraction efficiency for this sample cannot be verified.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries and relative percent differences were within control limits for the two of the three MS/MSD samples. For the other two MS/MSD samples, the percent recoveries and relative percent differences were outside control limits, most likely due to relatively high analyte concentration in the original samples relative to the spike amount and/or sample heterogeneity. No action/qualifier is taken on MS/MSD data alone if the associated LCS samples are within the control limits. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the three LCS samples. No qualifiers were applied.

Internal Standard Area Summary: All internal standard areas were within acceptable control limits. No qualifiers were applied.

Compound Identification: The retention times and retention time windows were within acceptable limits. Dual column analysis was performed; calculated concentrations of detected compounds are within limits on both columns, with the exception of 4,4'-DDD, 4,4'-DDE, dieldrin, or heptachlor for three samples. Detects for these compounds in the associated samples are flagged (J) to indicate estimated values. Also, sample 49450-17 was reanalyzed at a 1:10 dilution due to 'matrix interference.' Because target compounds may have been diluted-out, the initial analyses are deemed more appropriate. The reanalysis of this dilution sample has been rejected and flagged (R).

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. Sample 49450-17 was reanalyzed at a 1:10 dilution. Because target compounds may have been diluted-out, the initial analyses are deemed more appropriate. The reanalysis of this dilution sample has been rejected and flagged (R).

8270 SEMI-VOLATILES DATA

Data Completeness: The data deliverables pertaining to five soil samples were complete. The data were reported in two sample delivery groups and analyzed in two analytical batches for the soil samples.

Chain of Custody: The chain of custody documentation was complete; no qualifiers were applied.

Holding Times: The samples were extracted and analyzed within the required holding times. No qualifiers were applied.

GC/MS Performance Check: DFTPP was run every 12 hours of analysis and all DFTPP tuning criteria were within control limits. No qualifiers were applied.

Initial Calibration: Target compounds had RRFs above the allowable minimum (0.05) and the %RSDs were within the control limits (20%). No qualifiers were applied.

Continuing Calibration: The percent difference (%D) were within the control limits for the target compounds and analytical batches. No qualifiers were applied.

Blanks: ***Method Blanks -*** The two method-blank soil samples reported all target compounds as not detected; no qualifiers were applied.

System Monitoring (Surrogate Recovery): The surrogate recoveries were within control and advisory limits for the soil samples. No qualifiers were applied to the soil samples.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries were outside control limits for the two MS/MSD samples, most likely due to relatively high analyte concentration in the original samples relative to the spike amount and sample non-homogeneity. The relative percent differences were within control limits. No action/qualifier is taken on MS/MSD data alone if the associated LCS samples are within the control limits. No qualifiers were applied.

LCS Analyses: Laboratory control spike recoveries for target compounds were within the control limits for the ten LCS samples. No qualifiers were applied.

Internal Standard Area Summary: All internal standard areas and retention times were within control limits for the soil samples. No qualifiers were applied.

Compound Identification: All positive-result compounds met RRT and ion spectra criteria. No qualifiers were applied. Also, sample 49366-1 was reanalyzed at a 1:2 dilution due to 'abundance of target analytes.' The initial analyses are deemed more appropriate. The reanalysis of this dilution sample has been rejected and flagged (R).

Quantitation/Reporting Limits: Compounds that were analyzed for, but were not detected at or above the stated reporting level are flagged with a (U) qualifier in the EDD. Sample 49450-17 was reanalyzed at a 1:2 dilution; the initial analyses are deemed more appropriate. The reanalysis of this dilution sample has been rejected and flagged (R).

6010 METALS DATA (Lead)

Data Completeness: The data deliverables pertaining to 13 soil samples, one equipment blank water sample, and one field blank water sample were complete. The data were reported in two sample delivery groups. The samples were analyzed in two analytical batches for the soil samples and one analytical batch for the equipment/field water-blank samples.

Chain of Custody: The chain of custody documentation was complete.

Holding Times: The samples were prepared and analyzed within the required holding times; no qualifiers were applied.

Initial and Continuing Calibration Verification: All values associated with the reported data were within control limits (90 – 110 %R). No qualifiers were applied.

Blanks: The frequency of the initial calibration blank (ICB) and the continuing calibration blanks (CCB) were met. The three method blank samples reported the target compound as not detected. ***Equipment Blank*** – The equipment rinsate blank water sample reported the target compound as not detected. ***Field Blank*** – The field blank water sample reported the target compound as not detected. ***Qualifiers*** – No qualifiers were applied.

ICP Interference Check Sample: ICSs were analyzed at the beginning and end of each run. The results were within acceptable limits (± 20% of the mean value). No qualifiers were applied.

Laboratory Control Sample (LCS): All percent recoveries were within control limits (%REC of 80% to 120%) for the three LCS samples; no qualifiers were applied.

Post-Digestion Spike: The percent recoveries were within control limits for the post-digestion spike sample analyses. No qualifiers were applied.

Matrix Spike/Matrix Spike Duplicate: The percent recoveries were outside control limits (high recoveries) for the soil MS/MSD samples, most likely due to elevated analyte concentration in the original sample relative to the spike amount. The relative percent differences were within control limits. The percent recoveries and relative percent differences were within control limits for the water MS/MSD samples. No action/qualifier is taken on MS/MSD data alone if the associated LCS samples are within the control limits. No qualifiers were applied.

ICP Serial Dilution: The serial dilutions were within the control limits for the two analyses. No qualifiers were applied.

Result Verification: Compounds qualitatively identified at concentrations below their respective Contract Required Quantitation Limits (i.e., reporting limits) are reported with a (J) qualifier to indicate that they are quantitative estimates.

OVERALL ASSESSMENT:

The checked data were within acceptable quantitation and qualitation limits. Minor issues were identified and qualifiers added; no major issues, however, were encountered during the data validation effort.

Appendix B

2009 Additional Investigation Activities Operable Unit 1
MCAS Cherry Point, North Carolina
CH2M HILL (January 19, 2010)

2009 Additional Investigation Activities Operable Unit 1 MCAS Cherry Point, North Carolina

PREPARED FOR: MCAS Cherry Point Tier I Partnering Team

PREPARED BY: CH2M HILL

DATE: January 19, 2009

Introduction

This technical memorandum presents the data and findings from the 2009 additional field activities at Operable Unit 1 (OU1), located at Marine Corps Air Station (MCAS) Cherry Point, North Carolina (**Figures 1 and 2**). The field activities included the collection of groundwater level measurements and groundwater samples from 160 existing monitoring wells and the installation and sampling of 14 new monitoring wells.

The field activities were implemented based on the proposed future actions described in the OU1 Remedial Investigation (RI) Addendum (CH2M HILL, 2009) to support the OU1 Central Groundwater Plume Feasibility Study (FS). Additional monitoring wells were proposed to further characterize the extent of the chlorinated volatile organic compound (VOC) groundwater plume in the vicinity of Sandy Branch Tributary #2. Additional samples were collected from existing monitoring wells to update OU1 conditions and establish baseline conditions prior to the implementation of a remedial action. All existing and newly installed monitoring wells were analyzed for natural attenuation parameters that included nitrate, nitrite, sulfide, chloride, methane, ethane, ethene, and total organic carbon (TOC).

This technical memorandum was prepared under the United States (U.S.) Department of the Navy (Navy), Naval Facilities Engineering Command (NAVFAC), Atlantic Division, Comprehensive Long-Term Environmental Action Navy 1000 Contract N62470-08-D-1000, Contract Task Order 0059, for submittal to NAVFAC Mid-Atlantic Division, MCAS Cherry Point Environmental Affairs Department (EAD), U.S. Environmental Protection Agency (USEPA) Region 4, and North Carolina Department of Environment and Natural Resources (NCDENR). NAVFAC, EAD, USEPA, and NCDENR work jointly as the MCAS Cherry Point Tier I Partnering Team.

Objectives and Approach

In addition to the field activities proposed as future actions in the OU1 RI Addendum, additional monitoring wells were also planned to support the FS evaluation of the OU1 Central Groundwater Plume, and for potential long-term monitoring at other OU1 Sites (Sites 16, 17, and 83).

The specific objectives of the additional field investigation activities included the following:

- Installation and sampling of 4 upper surficial aquifer and 5 lower surficial aquifer monitoring wells to the north, northeast, and downgradient of existing monitoring well 42GW15, to further characterize the chlorinated VOC plume along Sandy Branch Tributary #2.
- Installation and sampling of 1 lower surficial aquifer monitoring well to delineate the southern extent of the chlorinated VOC plume.
- Installation and sampling of 2 lower surficial aquifer monitoring wells to further assess the horizontal extent of elevated chlorinated VOC concentrations (i.e. above 10 times the North Carolina 2L Groundwater Standard [NC2L]) in the downgradient portion of the plume.
- Installation and sampling of 1 upper surficial aquifer monitoring well at each of Sites 16, 17, and 83 (total of 3 monitoring wells) to serve as part of potential monitoring well networks for long-term monitoring.
- Sampling from 170 existing monitoring wells to establish baseline conditions prior to implementation of a remedial action, provide another temporal groundwater monitoring event at monitoring wells only sampled once, and to further assess the plume stability and natural attenuation conditions.

The proposed additional field activities were discussed and approved by the MCAS Cherry Point Partnering Team during the January 13, 2009 Partnering Meeting in Atlanta, Georgia.

List of Attachments

The following attachments presenting the data and information are provided:

- A – Boring and Well Construction Logs
- B – Survey Data
- C – Laboratory Analytical Reports
- D – Data Validation Reports
- E – Time Series Charts

Investigation Activities

The field investigation activities were conducted in two separate phases. The first phase was conducted in March 2009 and consisted of a groundwater monitoring event that included the existing monitoring wells. The second phase was conducted in April and May 2009, and included the installation and sampling of new monitoring wells.

Sampling and well installation activities followed the protocols and standard operating procedures (SOPs) described in the *Final Master Field Sampling Plan, MCAS Cherry Point, North Carolina* (CH2M HILL, 2004). A site-specific Health and Safety Plan (HASP) to address site-specific details relevant to the Master Field Sampling Plan was completed prior to commencement of the field event and all associated staff reviewed the document.

A description of the field activities is discussed below.

Groundwater Monitoring Event

The groundwater monitoring event occurred between March 9 through 30, 2009 and included the sampling of 160 existing monitoring wells (**Figure 3**). Prior to sampling activities, two monitoring wells were added to the original 170-well sampling network (MW01 and N2GW75) that had been discussed at the January 2009 Partnering Meeting. MW01 was added to assess the vertical extent of the plume in the area of the Industrial Wastewater Treatment Plant (IWTP), and N2GW75 was substituted for N4GW22 since the well had been abandoned and replaced. Of a total of 172 monitoring wells proposed to be sampled, 12 monitoring wells were either found to have been destroyed or damaged, could not be located, or were dry (**Table 1**).

Prior to purging, the field team measured and recorded the depth to water, sampling depth (sample tubing intake), and total well depth in the log book. Purging and sampling was done using either a peristaltic pump or a submersible pump at a flow rate of approximately 100 – 500 milliliters per minute (mL/min). Purging continued until water quality parameters stabilized for three consecutive readings. Water quality parameters were obtained using a Horiba U-22 water quality meter and flow-through cell. Parameters were considered stabilized over three successive readings when measurements were generally consistent as follows:

a) pH within 0.1 pH units
b) Temperature within 10%
c) Conductivity within 3%
d) Oxidation-reduction potential (ORP) within 10 mV
e) Dissolved oxygen (DO) within 10%
f) Turbidity is minimized to the extent practical for the well

The field parameter data are summarized in **Tables 2 and 3**.

Groundwater samples were collected by placing the sample tubing intake in the middle of the screened interval. For collection of VOC samples, the pre-preserved bottles were filled completely to minimize aeration, and capped to prevent the entrapment of any air bubbles in the vial. Following purging, VOC samples were collected using the straw method.

The groundwater samples were analyzed by GPL Laboratories (GPL) of Fredrick, Maryland for analysis of VOCs using method SW846-8260B and natural attenuation parameters that included nitrate, nitrite, sulfide, chloride, methane, ethane, ethene, and total organic carbon (TOC). All samples were contained in laboratory-prepared, pre-preserved sample bottles and packed on ice. Quality assurance/quality control (QA/QC) samples included field duplicates, matrix/matrix spike duplicates (MS/MSDs), field blanks, equipment blanks, and trip blanks.

All non-disposable sampling equipment was decontaminated immediately after each use in accordance with the applicable SOPs.

Monitoring Well Installation and Sampling

Fourteen groundwater monitoring wells were installed in the upper and lower surficial aquifers within OU1 (**Figure 4**). One monitoring well (16GW48) at Site 16 intended as a

future long-term monitoring well could not be installed due to poor weather conditions and will be installed at a later date.

Prior to the drilling of each borehole, all buried utilities were marked by Accumark Inc. of Ashland, Virginia on April 13, 2009. Monitoring well installations were conducted from April 15 through 24, 2009 by Miller Drilling Inc. of Lawrenceville, Tennessee using the sonic drilling technique. All field activities were completed under the direct supervision of a CH2M HILL geologist. A photo-ionization detector (PID) was used for monitoring sample locations for VOCs as a health and safety precaution.

During borehole drilling, soil descriptions that included grain size, color, moisture content, consistency, soil structure, mineralogy, and other relevant information concerning contamination were recorded. A copy of the soil boring logs is provided in **Attachment A**.

Each monitoring well was constructed with 2-inch nominal-diameter Schedule 40 polyvinyl chloride (PVC) screen and riser. Monitoring well screens were machine-slotted 0.010-inch, and 10 feet in length. A silica sand filter pack was installed in the annular space around the well screen from the bottom of the boring extending to a depth of 2 feet above the top of the screen. A 2-feet thick bentonite layer was placed above the top of the sand pack. After the bentonite was hydrated, a cement-bentonite grout was used to fill the remaining annular space. Four monitoring wells (42GW16, 42GW17, 14GW53, and 16GW52) were completed flush to ground surface with a watertight steel cover. A locking watertight cap was placed on the PVC pipe and the wells clearly labeled. The remaining 11 monitoring wells were completed above grade with four steel bollards painted yellow installed to protect the monitoring well. Well construction details are summarized in **Table 4** and **Attachment A**.

All newly installed monitoring wells were allowed to sit for at least 48 hours prior to development to allow the cement-bentonite grout seals to set up. Development equipment was steam cleaned before use at each location. All development and decontamination water was temporarily stored in labeled, 55-gallon drums pending characterization and transported to the Base IWTP for disposal.

Initially, monitoring wells were surged and bailed to remove sediment that might have entered the well during construction and to promote hydraulic communication between the formation, filter pack, and well screen. The monitoring wells were further developed by pumping with a submersible pump. Water quality parameters, including pH, conductivity, temperature, turbidity, and dissolved oxygen (DO), were measured during development using a Horiba U-22 water quality meter.

Groundwater sampling of the 14 new monitoring wells occurred between May 5 and 8, 2009. Except for monitoring well 17GW03 at Site 17, each newly-installed monitoring well was sampled and analyzed for VOCs using EPA Method SW846-8260B and natural attenuation parameters that included nitrate, nitrite, sulfide, chloride, methane, ethane, ethene, and TOC (**Figure 4**). Monitoring well 17GW03 was only analyzed for polychlorinated biphenyls (PCBs) by method SW846-8082 and the pesticide dieldrin using method SW846-8081A. Monitoring well 16GW49 at Site 83 was sampled for VOCs and also for polycyclic aromatic hydrocarbons (PAHs) by method SW846-8310 and pesticides by method SW846-8081A. The same sampling procedures as described previously for the existing wells were used.

Each newly-installed monitoring well was surveyed on May 6, 2009, by Lanier Surveying Inc. of Swansboro, North Carolina. The vertical elevations of the north side of the top of each monitoring well casing and the ground surface, and the horizontal coordinates (northings and eastings) of the center of each well vault, were surveyed relative to North American Vertical Datum (NAVD) 88 (**Attachment B**).

Investigation-Derived Waste

Investigation-derived waste (IDW) consisted of drill cuttings, purge water, and decontamination fluids. Aqueous IDW was temporarily stored in 55-gallon drums or 5 gallon buckets with lids and transported to the IWTP for disposal on a daily basis. A letter was provided by MCAS Cherry Point prior to the event granting permission to utilize the IWTP for aqueous IDW disposal. Soil IDW generated during drilling activities was containerized in Department of Transportation (DOT) approved 55-gallon drums and stored temporarily at the base-approved drum storage area. Soil IDW was transported offsite to an approved facility on June 25, 2009 by Potomac Environmental, Inc. of Stafford, Virginia.

Disposable equipment, including personal protective equipment (PPE), polyethylene sheeting, paper towels, and polyethylene tubing was disposed of as solid waste.

Investigation Results

Geology

The lithology encountered during the drilling of each borehole consisted primarily of poorly-graded sand. The Yorktown confining unit was encountered at approximately 40 feet below ground surface (bgs) at monitoring wells 14GW53, 42GW17, 42GW19, and 42GW21 and not observed at 42GW23, 16GW50, and 16GW51, which are located within the area underlain by the previously-identified paleochannel. Boring logs are included in **Attachment A**.

Groundwater Conditions

Groundwater elevations measured in 2009 are generally consistent with the 2006 measurements (**Tables 5 and 6**). Groundwater elevations ranged from 15.42 feet above mean sea level (msl) (MW20) to 0.07 feet above msl (16GW40) in the upper surficial aquifer monitoring wells and 15.42 feet above msl (47GW08) to 1.03 feet below msl (MW43) in the lower surficial aquifer monitoring wells (**Figures 5 and 6**). Groundwater flows generally westward in the surficial aquifer towards East Prong Slocum Creek and Sandy Branch, with an average hydraulic gradient of approximately 0.004 foot per foot (ft/ft).

Measured vertical hydraulic gradients (**Table 7**) were generally consistent with the gradients presented earlier in the OU1 RI Addendum.

Data Management and Validation

Groundwater samples were tracked from the time of field collection to the receipt of validated electronic analytical results. Documentation of field samples and their corresponding analytical tests were recorded on chain-of-custody forms for submission to the laboratory. Chain-of-custody entries were checked to verify that all designated samples

were collected and submitted for the appropriate analysis. Upon receipt of the samples by the laboratory, a comparison to the field information was made to ensure that each sample would be analyzed for the correct parameters with the proper number of QA/QC samples. The laboratory analytical reports are included in **Attachment C**.

Third-party validation was performed by Environmental Data Services, Inc. of Williamsburg, Virginia. Data that should be qualified was flagged appropriately. Results for QA/QC samples were reviewed and the data was qualified further, as necessary. Finally, the data set as a whole was examined for consistency, anomalous results, reasonableness, and utility. The data validation reports are included in **Attachment D**.

Regulatory Standards and Risk-Based Screening Values

Following receipt of the validated data from the analytical laboratory, the results of the groundwater analyses were compared to the appropriate screening criteria and are presented in **Tables 8, 9, and 10**. The screening criteria included:

- Federal Maximum Contaminant Levels (MCL) and Secondary MCLs
- North Carolina Administrative Code, Title 15A, Subchapter 2L, Groundwater Standards for "Class GA Groundwater Quality" (NC2L Standards)
- USEPA Regional Screening Levels (RSLs) for Tap Water

Analytical Results

Groundwater analytical results that exceeded screening criteria are summarized in **Tables 8, 9, and 10**. Concentration contour maps for the upper and lower surficial aquifers were prepared for trichloroethene (TCE), 1,2-dichloroethene (DCE), and vinyl chloride, and are shown in **Figures 7 through 14**. Time series charts presenting concentration trends through time were created using selected clustered monitoring wells located within the center of each plume, and are shown in **Attachment E.**

Results from the newly-installed monitoring wells, deviations in the plume from the OU1 RI Addendum, and concentration trends through time are discussed below.

TCE

TCE was observed in all new monitoring wells installed to the north of Sandy Branch Tributary #2 (**Figures 7 and 9**); however, only two monitoring wells (42GW16 and 42GW18) installed within the upper surficial aquifer contained TCE slightly exceeding the NC2L. The northern lateral extent of TCE within the upper surficial aquifer is expected to be in close proximity to these wells. The newly-installed monitoring wells within the lower surficial aquifer complete the delineation of the northern lateral extent of the TCE plume.

The southern extent of the plume within the lower surficial aquifer was delineated with the installation of the three new monitoring wells (16GW50 through 16GW52) near Roosevelt Boulevard (**Figure 9**). Monitoring well 16GW50 also aids in delineating the extent of the center axis of the plume (i.e., concentrations above 10-times the NC2L).

In general, TCE concentrations within the upper and lower surficial aquifers have decreased since the last sampling events in Spring 2006 and Fall 2008, presented in the OU1 RI

Addendum (CH2M HILL, 2009). However, TCE concentrations have increased in a select number of monitoring wells located immediately downgradient of Building 133. A discussion of the TCE concentration trends through time at monitoring wells generally located along the center axis of each plume is provided below (from source area to discharge point).

Building 137

- **Building 137 Area–** TCE concentrations within the upper surficial aquifer have significantly decreased at 47GW07 from 8,700 to 440 µg/L and are consistently below the NC2L within the lower surficial aquifer (**Attachment E, Chart E-1)**.
- **Downgradient of Building 137 –** TCE has not been observed within the upper surficial aquifer downgradient of the building; concentrations in the lower surficial aquifer (MW-23) significantly decreased since the last sampling event (2006), from 330 to 4.3 µg/L (**Attachment E, Chart E-1**).

IWTP

- **IWTP Area to Sandy Branch –** TCE concentrations within the upper and lower surficial aquifers generally show a decreasing concentration trend since the last sampling event in 2006 (**Attachment E, Chart E-2**). Near the groundwater to surface water discharge area at Sandy Branch, concentrations significantly decreased in the upper surficial aquifer (16GW06) since the last sampling event in 2006, from 120 to 13 µg/L.

Building 133

- **Building 133 Area –**TCE concentrations in the upper surficial aquifer beneath Building 133 have significantly decreased since the 2006 event at the majority of monitoring wells (e.g., from 62,000 to 9,700 µg/L at 52GW53) (**Attachment E, Chart E-3**). Only one monitoring well (52GW46) sampled in 2009 had TCE concentrations above 11,000 µg/L (indicative of DNAPL), with a concentration of 17,000 µg/L (**Figure 8**).
- **Downgradient of Building 133 –** TCE concentrations in both the upper and lower surficial aquifers immediately downgradient of Building 133 significantly increased (**Attachment E, Chart E-3**). TCE was not previously observed in the upper surficial aquifer in the area (16GW11, N2GW07, N2GW44, and N2GW15), but was observed up to a concentration of 210J µg/L at 16GW11 in 2009 (**Figure 7**). Concentrations at MW53 increased in the lower surficial aquifer from 100 (2006) to 510 µg/L.
- **Further Downgradient –** TCE concentrations within the upper and lower surficial aquifers generally show a decreasing trend (**Attachment E, Chart E-3**).
- **East Prong Slocum Creek and Sandy Branch –** Monitoring wells west of Cunningham Boulevard generally show a similar concentration trend, in which concentrations increased in 2006 and decreased in 2009 (**Attachment E, Chart E-3**). TCE concentrations in the area of East Prong Slocum Creek were generally consistent with previous sampling events; however, TCE concentrations increased in 2009

adjacent to Sandy Branch at 16GW04 (190 µg/L - upper surficial aquifer) and 16GW28 (32 µg/L - lower surficial aquifer) (**Figures 7 and 9**).

1,2-DCE and Vinyl Chloride

The newly-installed monitoring wells delineate both the northern and southern extents of the 1,2-DCE plume (**Figures 11 and 12**). Similar to TCE, 1,2-DCE concentrations generally showed decreasing trends in the upper and lower surficial aquifers (**Attachment E, Charts E-4 through E-6**).

Vinyl chloride was not detected at the newly-installed monitoring wells to the north and south of the plume (**Figures 13 and 14**). Vinyl chloride concentration trends through time were generally similar to trends of TCE (**Attachment E, Charts E-7 through E-9**). Vinyl chloride generally showed decreasing trends, except for 2009 concentrations located immediately downgradient of Building 133 (16GW11 and MW53) and adjacent to Sandy Branch (16GW04 and 16GW28).

Monitored Natural Attenuation Analysis

Field measurements collected during the purging of the wells included depth to water, DO, ORP, pH, temperature, conductivity, and turbidity (**Tables 2 and 3**). The spatial distribution of DO within the upper and lower surficial aquifers is shown in **Figures 15 and 16**, respectively. Additionally, groundwater samples were collected and submitted for laboratory analysis of geochemical parameters that included nitrate, nitrite, sulfide, chloride, total organic carbon (TOC), methane, ethane, and ethene (**Table 10**).

A summary of the significance of each natural attenuation parameter and the geochemical conditions within groundwater in the Building 137 area, the Building 133 and IWTP area, and the downgradient area towards East Prong Slocum Creek and Sandy Branch is discussed below.

Summary of Natural Attenuation Parameters

Dissolved Oxygen

DO is the most thermodynamically favored electron acceptor used by microbes for the biodegradation of organic carbon. Reductive dechlorination can occur at DO concentrations less than 5 mg/L. However, DO concentrations less than 0.5 mg/L are considered ideal conditions for reductive dechlorination.

Nitrate/Nitrite

After DO has been depleted, nitrate may be used as an electron acceptor during anaerobic biodegradation of organic carbon via denitrification. In this process, nitrate is reduced and nitrite is produced. Nitrate concentrations less than background indicate that nitrate reduction is occurring in an aquifer. At concentrations greater than 1.0 mg/L, nitrate may compete with chlorinated ethenes as an electron acceptor.

Sulfate/Sulfide

After DO and nitrate have been depleted, sulfate may be used as the electron acceptor in anaerobic degradation. This process is termed "sulfate reduction" and results in the production of sulfide. Sulfide concentrations increase within the aquifer when sulfate reduction is occurring.

Methane

After the other electron acceptors have been utilized, carbon dioxide can be used as the electron acceptor in anaerobic degradation. In this process, termed "methanogenesis," carbon dioxide is reduced to produce methane. The presence of methane in the aquifer is indicative of strongly reducing conditions. Reductive dechlorination is most efficient under methanogenic conditions. In general, methane concentrations higher than background indicate that methanogenesis is occurring.

Ethene/Ethane

Ethene is a daughter product of vinyl chloride, and ethane is a daughter product of ethene. Concentrations of ethene above 0.01 µg/L and ethane above 0.1 µg/L indicate reductive dechlorination is proceeding to completion.

Total Organic Carbon

Organic carbon is used as an electron donor (or may produce hydrogen, which can serve as the electron donor) in the reductive dechlorination process and, therefore, is needed to drive the process. Organic carbon can be naturally-occurring or introduced by human activity. The presence of TOC at concentrations greater than 20 mg/L indicates ideal conditions for reductive dechlorination.

Oxidation-Reduction Potential (ORP)

The ORP of groundwater is a measure of electron activity and is an indicator of the relative tendency of a solution to accept or transfer electrons. The ORP of a groundwater system depends upon and influences rates of biodegradation. Reductive dechlorination is most efficient in the ORP range corresponding to sulfate reduction and methanogenesis (less than -100 millivolts [mV]); however, dechlorination of PCE and other chlorinated ethenes also occurs in the ORP range associated with nitrate, manganese, and ferric iron reduction (-50 to 740 mV).

Temperature and pH

Groundwater temperature directly affects the solubility of oxygen and other geochemical species. Reductive dechlorination can occur at groundwater temperatures between 5°C and 20°C, while temperatures greater than 20°C are considered ideal for reductive dechlorination.

The pH of groundwater has an effect on the presence and activity of microbial populations in groundwater. The optimal pH range for reductive dechlorination is 5 to 9.

Reductive Dechlorination Daughter Products

Reductive dechlorination daughter products of TCE include cis-1,2-DCE, vinyl chloride, ethane, and ethene. The presence of these compounds indicates biodegradation is occurring.

During biodegradation of chlorinated hydrocarbons, chloride is released into the groundwater. Therefore, elevated chloride concentrations relative to background indicate degradation is taking place.

Building 137 Area

The geochemical parameters measured in the vicinity of Building 137 are discussed below.

Dissolved Oxygen

DO concentrations in the upper surficial aquifer ranged from less than 0.10 mg/L (47GW07) to 2.90 mg/L (MW20) (**Figure 15**). With the exception of MW20 and 47GW20, each of the monitoring wells contained DO concentrations less than 0.50 mg/L. Therefore, DO concentrations indicate favorable to ideal conditions for reductive dechlorination in the upper surficial aquifer.

DO concentrations in the lower surficial aquifer ranged from less than 0.10 mg/L (14GW53 and 47GW25) to 2.37 mg/L (MW21). The majority of lower surficial aquifer monitoring wells contained DO concentrations less than 0.5 mg/L, and all of these wells contained DO concentrations less than 5 mg/L. The low DO concentrations observed are indicative of favorable to ideal conditions for reductive dechlorination in the lower surficial aquifer in the vicinity of Building 137.

Nitrate/Nitrite

Nitrate was observed in four upper surficial aquifer monitoring wells: 47GW17 (0.68 mg/L); 47GW18 (1.4 mg/L); 47GW20 (2.1 mg/L); and MW20 (0.24 mg/L). Nitrite was not observed in any upper surficial aquifer monitoring well. Nitrate and nitrite were not detected in lower surficial aquifer monitoring wells. Therefore, nitrate reduction does not appear to be a significant electron acceptor process in the vicinity of Building 137.

Sulfide

Sulfide was not observed within the upper or lower surficial aquifers in the vicinity of Building 137. Therefore, sulfate reduction does not appear to be a significant electron acceptor process.

Methane

In the upper surficial aquifer, methane was detected in each well sampled near Building 137. Detected concentrations ranged from 8.5 μg/L (MW20) to 17,000 μg/L (47GW05). Methane concentrations within the plume areas were significantly elevated compared to background areas (such as 14GW18 and 14GW49, where methane was not detected). These data indicate the presence of strongly reducing conditions within the plume and ideal conditions for reductive dechlorination in the upper surficial aquifer.

In the lower surficial aquifer, methane was detected at concentrations that ranged from 25 μg/L (47GW10) to 10,000 μg/L (47GW06). The presence of methane at elevated

concentrations indicates the presence of strongly reducing conditions and ideal conditions for reductive dechlorination within the lower surficial aquifer.

Ethene/Ethane

Ethene was observed in one upper surficial aquifer monitoring well (47GW05) near Building 137 at a concentration of 58 μg/L. Ethane was detected in two upper surficial aquifer monitoring wells at concentrations of 42 μg/L (47GW07) and 8.4 μg/L (51GW02). The detection of ethene at a concentration more than 10 μg/L in 47GW05 indicates reductive dechlorination is likely proceeding to completion in this area. This conclusion is also supported by the lack of TCE and cis-1,2-DCE detected in this well in combination with the detection of vinyl chloride at a concentration of 49 μg/L. These data support the conclusion that reductive dechlorination is proceeding to completion in the Building 137 area.

In the lower surficial aquifer, ethene was detected in one monitoring well at a concentration of 8 μg/L (14GW51). Ethane was detected in two wells at concentrations of 50 μg/L (14GW51) and 20 μg/L (47GW25). These data, in conjunction with TCE daughter product concentrations, indicate reductive dechlorination is occurring and proceeding to completion in the lower surficial aquifer.

Total Organic Carbon

TOC was detected at relatively low concentrations in the upper surficial aquifer near Building 137, ranging from 1.9 mg/L (47GW12) to 21 mg/L (51GW02), and in the lower surficial aquifer, ranging from 2.4 (MW-21) mg/L to 5.7 mg/L (47GW11). Although TOC is generally not present at concentrations ideal for reductive dechlorination, TOC appears to be present at concentrations sufficient to drive reductive dechlorination based on the presence of reductive dechlorination daughter products (discussed below).

Oxidation-Reduction Potential

In the upper surficial aquifer, ORP ranged from -99 mV to 112 mV; ORP in the lower surficial aquifer ranged from -143 mV to 57 mV. The ORP in the Building 137 area is within the range where reductive dechlorination occurs and in some areas is within the ideal range.

Chlorides

Chloride concentrations ranged from 7.8 mg/L to 56 mg/L in the upper surficial aquifer. The highest chloride concentration was detected in 47GW05, which also contained the highest concentration of TCE. The chloride concentrations detected in the Building 137 source area were approximately 2 to 14 times higher than background concentrations (as represented by 14GW18 and 14GW49).

In the lower surficial aquifer, chloride concentrations ranged from 4.9 mg/L (MW-21) to 12 mg/L (14GW51 and 47GW11). Chloride concentrations within the plume are approximately 2 times higher than background concentrations (represented by 47GW10).

Chloride concentrations indicate that conditions in the upper and lower surficial aquifers are favorable to the efficacy of reductive dechlorination.

Temperature and pH

Groundwater temperatures in the upper surficial aquifer ranged from 21.00^{0}C to 26.40^{0}C and pH ranged from 5.15 to 6.90. In the lower surficial aquifer, the temperature ranged from 20.70 ^{0}C to 24.10^{0}C and the pH ranged from 5.74 to 7.15. The temperature and pH data indicate ideal conditions for reductive dechlorination.

Daughter Products

Reductive dechlorination daughter products of TCE (1,2-DCE and VC) were observed in the upper and lower surficial aquifers. The highest concentrations of daughter products are located downgradient of Building 137.

Building 137 Area Summary

Natural attenuation indicator parameters in the upper and lower surficial aquifers in the Building 137 area indicate favorable to ideal conditions for reductive dechlorination. The low DO and elevated methane concentrations indicate highly-reducing conditions are present in the area. Temperature and pH are also within the ideal range for reductive dechlorination to occur. Reductive dechlorination daughter products, including 1,2-DCE, vinyl chloride, chlorides, and ethene, indicate reductive dechlorination has occurred through completion. TOC is present within the aquifer and appears to be sufficient to drive reductive dechlorination, but degradation could likely be enhanced by the addition of a carbon source.

Building 133 and IWTP Area

The geochemical parameters measured in the vicinity of Buildings 133 and the IWTP westward to Cunningham Boulevard are discussed below.

Dissolved Oxygen

DO concentrations in upper surficial monitoring wells ranged from less than 0.10 mg/L (multiple wells) to 10.67 mg/L (52GW72); the majority of concentrations were less than 0.5 mg/L (**Figure 15**). Only four wells contained DO concentrations greater than 5 mg/L. In general, the low DO concentrations observed are indicative of favorable to ideal conditions for reductive dechlorination.

DO concentrations in the lower surficial aquifer ranged from less than 0.10 mg/L (multiple wells) to 10.26 mg/L (52GW71). DO concentrations exceeded 5 mg/L in only 5 of the 55 monitoring wells sampled in the lower surficial aquifer, and exceeded 0.5 mg/L in only 13 of these wells. Therefore, DO concentrations within the lower surficial aquifer are indicative of favorable to ideal conditions for reductive dechlorination.

Nitrate/Nitrite

Nitrate was detected in 11 upper surficial aquifer monitoring wells at concentrations that ranged from 0.13 mg/L to 1.3 mg/L. Nitrite was detected in only one sampled monitoring well. Nitrate and nitrite were only detected in two and one lower surficial aquifer monitoring wells, respectively. Therefore, nitrate reduction does not appear to be a significant electron acceptor process in this area, most likely due the lack of available nitrate.

Sulfide

Sulfide was detected in only one well located within the upper surficial aquifer (N2GW17 at 2.6 mg/L) and was not detected in the lower surficial aquifer. Therefore, sulfate reduction does not appear to be a significant electron acceptor process.

Methane

In the upper surficial aquifer, methane was detected in the majority of the monitoring wells. Detected concentrations ranged from 3.9 µg/L (16GW10) to 33,000 µg/L (52GW44). Methane concentrations within the plume area were significantly elevated compared to background (such as 14GW18 and 14GW49, where methane was not detected). Methane was detected in the lower surficial aquifer at concentrations that ranged from 13 µg/L (52GW45) to 8,300 µg/L (51GW02). The elevated methane concentrations indicate strongly reducing conditions are present in the upper and lower surficial aquifers, which are ideal for reductive dechlorination.

Ethene/Ethane

Ethene was detected in eight upper surficial aquifer monitoring wells at concentrations that ranged from an estimated value of 4.9 µg/L (52GW28) to 1,100 µg/L (MW73). Ethane was detected in four wells at concentrations that ranged from 8.4 µg/L (GW76) to 27 µg/L (N2GW07). The detection of ethene at concentrations more than 10 µg/L indicates reductive dechlorination is proceeding to completion in some areas of the upper surficial aquifer, including the highest concentration areas of the plume.

Ethene was detected at low concentrations (3.9 µg/L [estimated value] in MW53 to 6.2 µg/L in 52GW18) in three lower surficial aquifer monitoring wells and ethane was detected in four lower surficial aquifer monitoring wells at concentrations that ranged from 10 µg/L to 34 µg/L (51EX19 and 51EX16, respectively). The highest concentrations of these compounds were detected from monitoring wells located within the plume extent. The presence of these compounds indicates reductive dechlorination is proceeding to completion in some areas.

Total Organic Carbon

TOC was detected at relatively low concentrations in the upper surficial aquifer that ranged from 1.1 mg/L (MW37 and 42GW16) to 29 mg/L (N2GW75). In the lower surficial aquifer, TOC concentrations ranged from 1 mg/L to 21 mg/L. TOC was only detected above 20 mg/L in one monitoring well (MW64). In general, the TOC concentrations do not indicate conditions that are ideal for reductive dechlorination. However, TOC appears to be present at concentrations sufficient to drive reductive dechlorination based on the presence of reductive dechlorination daughter products (discussed below).

Oxidation-Reduction Potential

In the upper surficial aquifer, ORP ranged from -143 mV to 394 mV and from -178 mV to 185 mV in the lower surficial aquifer. ORP is within the range where reductive dechlorination occurs and is in the range where reductive dechlorination is most efficient in several locations.

Chlorides

Chloride concentrations ranged from 3.8 mg/L (14GW49 and 52GW39) to 44 mg/L (52GW11) in the upper surficial aquifer. The chloride concentrations detected in the Building 133 source area were approximately 2 to 11 times higher than background concentrations (as represented by 14GW18 and 14GW49). In the lower surficial aquifer, chloride was detected at concentrations that ranged from 6.6 mg/L (52GW59 and MW23) to 22 mg/L (52GW18). Chloride concentrations were approximately 2 to 3 times higher in the plume area compared to the upgradient concentrations. The elevated chloride concentrations indicate reductive dechlorination is occurring within the plume area.

Temperature and pH

Groundwater temperatures in the upper surficial aquifer ranged from 12.38^{0}C to 28.40^{0}C and pH ranged from 4.70 to 7.23. In the lower surficial aquifer, temperatures ranged from 19.47^{0}C to 26.70^{0}C and pH ranged from 5.10 to 7.23. In general, the temperature and pH data are close to or within the ideal range for reductive dechlorination.

Daughter Products

Reductive dechlorination daughter products of TCE (1,2-DCE and VC) were detected in the upper surficial and lower surficial aquifers. The elevated concentrations of TCE daughter products and relatively high daughter product to parent compound ratios indicate reductive dechlorination is occurring.

Building 133 and IWTP Area Summary

Natural attenuation indicator parameters in the Building 133 and IWTP area indicate favorable to ideal conditions for reductive dechlorination. The low DO and elevated methane concentrations indicate highly reducing conditions are present in this area. Temperature and pH are also close to within the ideal range for reductive dechlorination to occur. Reductive dechlorination daughter products, including 1,2-DCE, VC, and ethene, indicate reductive dechlorination has occurred through completion. TOC is present within the aquifer and appears to be sufficient to drive reductive dechlorination, but degradation could likely be enhanced by the addition of a carbon source.

Downgradient Area

The geochemical parameters measured downgradient of Cunningham Boulevard to East Prong Slocum Creek and Sandy Branch are discussed below.

Dissolved Oxygen

DO concentrations in upper surficial monitoring wells ranged from less than 0.10 mg/L (multiple wells) to 3.95 mg/L (16GW05). The majority of upper surficial aquifer wells contained DO concentrations less than 0.5 mg/L and all of these wells contained DO concentrations less than 5 mg/L. In the lower surficial aquifer, the DO concentration ranged from less than 0.10 mg/L (MW48 and MW39) to 12.34 mg/L (16GW32). With the exception of 16GW32, no other lower surficial aquifer monitoring wells contained DO concentrations greater than 5 µg/L, and only four monitoring wells contained DO concentrations greater than 0.5 mg/L. The low DO concentrations observed are indicative of favorable to ideal conditions for reductive dechlorination.

Nitrate/Nitrite

Nitrate was observed in four upper surficial aquifer monitoring wells at concentrations that ranged from 0.11 mg/L to 0.32 mg/L. Nitrate was only observed in one lower surficial aquifer monitoring well (16GW32) at a concentration of 0.26 mg/L. Nitrite was not observed in the upper or lower surficial aquifer. In general, nitrate does not appear to be present at significant concentrations, and therefore, nitrate reduction is not appear to be a significant electron acceptor process in this area.

Sulfide

Sulfide was detected in one upper surficial aquifer monitoring well (MW42) at a concentration of 10 mg/L. Sulfide was not observed in the lower surficial aquifer. Therefore, sulfate reduction does not appear to be a significant electron acceptor process in the downgradient portion of OU1.

Methane

Methane was observed in the majority of the upper surficial aquifer with detected concentrations that ranged from 8 µg/L (MW28) to 10,000 µg/L (16GW33). Only two upper surficial aquifer monitoring wells did not contain detectable concentrations of methane (16GW01 and 16GW05), neither of which are located within the plume extent. Methane was detected in the lower surficial aquifer at concentrations that ranged from 6.1 µg/L (16GW32) to 3,300J µg/L (16GW36). Overall, the methane data indicate the presence of strongly reducing conditions that are ideal for reductive dechlorination to occur.

Ethene/Ethane

Ethene was observed in one upper surficial aquifer monitoring well (16GW06) at a low concentration of 5.2J µg/L, and not observed within the lower surficial aquifer. Ethane was not observed in the upper surficial aquifer monitoring wells. However, ethane was observed at low concentrations in three lower surficial aquifer monitoring wells (16GW42, 16GW28, and 16GW41) at concentrations of 4.2J µg/L, 5 µg/L, 5.9 µg/L, respectively. These monitoring wells are located within the plume extent and indicate that reductive dechlorination is occurring to completion within the lower surficial aquifer in the downgradient portion of OU1.

TCE and daughter product concentrations in the downgradient portion of OU1 are much lower than in the Building 133 and IWTP area; therefore, higher concentrations of ethene and ethane would not be expected in this area.

Total Organic Carbon

TOC was observed at relatively low concentrations in the upper surficial aquifer, ranging from 1 mg/L (MW28) to 48 mg/L (16GW33). TOC was observed in the lower surficial aquifer at concentrations that ranged from 1.5 mg/L (16GW52) to 8.7 mg/L (16GW32). Although TOC is generally not present at concentrations ideal for reductive dechlorination, TOC appears to be present at concentrations sufficient to drive reductive dechlorination based on the presence of reductive dechlorination daughter products (discussed below).

Oxidation-Reduction Potential

In the upper surficial aquifer, ORP ranged from -140 mV to 331 mV. ORP in the lower surficial aquifer ranged from -162 mV to 303 mV. This ORP is within the range where reductive dechlorination occurs. The majority of ORP readings in the lower surficial aquifer were less than -100 mV. Therefore, the ORP in the lower surficial aquifer is in the range where reductive dechlorination is most efficient.

Chlorides

Chloride concentrations ranged from 6.4 mg/L (16GW11, 16GW37, and MW40) to 180 mg/L (MW42) in the upper surficial aquifer. The chloride concentrations detected in the downgradient area of OU1 were approximately 2 to 46 times higher than background concentrations (as represented by 14GW18 and 14GW49), indicating that reductive dechlorination is occurring.

In the lower surficial aquifer, chloride was detected a concentrations that ranged from 6.3 mg/L (MW43) to 29 mg/L (16GW34). Chloride concentrations were approximately 2 to 4 times higher in the plume area compared to the background concentrations. Therefore, reductive dechlorination appears to be occurring in the plume area.

Temperature and pH

Groundwater temperatures in the upper surficial aquifer ranged from 15.34^{0}C to 22.90^{0}C and pH ranged from 4.24 to 7.29. In the lower surficial aquifer, temperatures ranged from 12.87^{0}C to 22.90^{0}C and pH ranged from 6.32 to 7.51. Temperature and pH data are close to or within the ideal range for reductive dechlorination.

Daughter Products

Reductive dechlorination daughter products of TCE (1,2-DCE and VC) were detected in both the upper and lower surficial aquifers. The elevated concentrations of TCE daughter products and relatively high daughter product to parent compound ratios indicate that reductive dechlorination is occurring.

Downgradient Area Summary

Natural attenuation indicator parameters indicate favorable to ideal conditions for reductive dechlorination. The low DO and elevated methane concentrations indicate highly reducing conditions are present in this area. Temperature and pH are also close to or within the ideal range for reductive dechlorination to occur. Reductive dechlorination daughter product concentrations, including 1,2-DCE and vinyl chloride, indicate reductive dechlorination has occurred, likely to completion, at least in some areas. TOC is present within the aquifer and appears to be sufficient to drive reductive dechlorination to some extent, but degradation could likely be enhanced by addition of a carbon source.

Proposed Future Actions

Based on the findings and conclusions of the 2009 additional activities at OU1, the nature and extent of groundwater contamination has been delineated such that preparation of the FS of potential remedial alternatives for the OU1 Central Groundwater Plume should

proceed. Results from this investigation and the earlier OU1 RI Addendum will be summarized in the OU1 Central Groundwater Plume FS.

Results from the sampling of the Site 17 monitoring well (17GW03) should be incorporated into the Site 17 Supplemental Investigation report currently being prepared.

Since a monitoring well could not be installed at Site 16 due to adverse weather conditions, the monitoring well should be installed in the near future. Results from the sampling of this monitoring well, in addition to the results from the Site 83 monitoring well (16GW49), should be incorporated into the upcoming Sites 16 and 83 Focused Feasibility Study.

Since the extent of the chlorinated VOC groundwater plume in the upper surficial aquifer has been revised based on the findings of this investigation, the upcoming vapor intrusion investigation may need to evaluate and investigate new buildings of interest identified within 100 feet of the updated plume.

References

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CH2M HILL, 2009. *Final OU1 Remedial Investigation Addendum Report, Marine Corps Air Station Cherry Point, North Carolina*. April.

TetraTech NUS, Inc., 2002. *Final Remedial Investigation Report for Operable Unit 1 (OU1). Marine Corps Air Station, Cherry Point, North Carolina*. November.

Tables

TABLE 1

Proposed Monitoring Well Network for Spring 2009 Sampling Event

Marine Corps Air Station Cherry Point, North Carolina

Site	Well ID	Aquifer	Sampled	Reason for Not Sampling
Site 14	14GW18	Upper	Yes	--
	14GW35	Upper	No	Unable to open due to a rusted well cap
	14GW39	Lower	No	Could not locate
	14GW49	Upper	Yes	--
	14GW51	Lower	Yes	--
Site 16	16GW01	Upper	Yes	--
	16GW02	Upper	Yes	--
	16GW03	Upper	Yes	--
	16GW04	Upper	Yes	--
	16GW05	Upper	Yes	--
	16GW06	Upper	Yes	--
	16GW08	Upper	Yes	--
	16GW09	Upper	Yes	--
	16GW10	Upper	Yes	--
	16GW11	Upper	Yes	--
	16GW16	Upper	Yes	--
	16GW21	Upper	Yes	--
	16GW28	Lower	Yes	--
	16GW29	Upper	Yes	--
	16GW30	Lower	Yes	--
	16GW31	Upper	Yes	--
	16GW32	Lower	Yes	--
	16GW33	Upper	Yes	--
	16GW34	Lower	Yes	--
	16GW35	Upper	Yes	--
	16GW36	Lower	Yes	--
	16GW37	Upper	Yes	--
	16GW40	Upper	Yes	--
	16GW41	Lower	Yes	--
	16GW42	Lower	Yes	--
	MW12	Upper	Yes	--
	MW18	Upper	No	Dry
	MW28	Upper	Yes	--
	MW40	Upper	Yes	--
	MW41	Lower	Yes	--
	MW42	Upper	Yes	--
	MW43	Lower	Yes	--
	MW44	Upper	Yes	--
	MW45	Lower	Yes	--
	MW48	Lower	Yes	--
	MW50	Upper	Yes	--
	MW51	Lower	Yes	--
	MW53	Lower	Yes	--
	MW55	Lower	Yes	--
	S3W3	Lower	Yes	--
	51EX18	Lower	Yes	--
	51EX19	Lower	Yes	--

TABLE 1

Proposed Monitoring Well Network for Spring 2009 Sampling Event

Marine Corps Air Station Cherry Point, North Carolina

Site	Well ID	Aquifer	Sampled	Reason for Not Sampling
Site 42	42GW05	Upper	Yes	--
	42GW08	Upper	Yes	--
	42GW15	Lower	Yes	--
	GW75	Upper	Yes	--
	GW76	Upper	Yes	--
	MW01	Lower	Yes	--
	MW37	Upper	Yes	--
	MW38	Upper	Yes	--
	MW39	Lower	Yes	--
	MW58	Upper	Yes	--
	MW59	Lower	Yes	--
	MW64	Lower	Yes	--
	51EX10	Upper	Yes	--
	51EX11	Upper	No	Compromised/Unable to sample
	N2GW15	Upper	Yes	--
	N2GW44	Upper	Yes	--
	N2GW27	Upper	Yes	--
	N2GW28	Upper	Yes	--
Site 47/ Bldg 137	47GW05	Upper	Yes	--
	47GW06	Lower	Yes	--
	47GW07	Upper	Yes	--
	47GW08	Lower	Yes	--
	47GW09	Upper	Yes	--
	47GW10	Lower	Yes	--
	47GW11	Lower	Yes	--
	47GW12	Upper	Yes	--
	47GW17	Upper	Yes	--
	47GW18	Upper	Yes	--
	47GW19	Upper	Yes	--
	47GW20	Upper	Yes	--
	47GW25	Lower	Yes	--
	51GW02	Upper	Yes	--
	MW20	Upper	Yes	--
	MW21	Lower	Yes	--
	MW23	Lower	Yes	--
Site 52/ Bldg 133	51EX12	Lower	Yes	--
	51EX13	Lower	Yes	--
	51EX14	Lower	No	Abandoned
	51EX15	Lower	No	Abandoned
	51EX16	Lower	Yes	--
	51EX17	Lower	Yes	--
	52GW01	Upper	Yes	--
	52GW07	Upper	Yes	--
	52GW08	Upper	Yes	--
	52GW10	Upper	Yes	--
	52GW11	Upper	Yes	--
	52GW15	Lower	Yes	--
	52GW16	Lower	Yes	--

TABLE 1
Proposed Monitoring Well Network for Spring 2009 Sampling Event
Marine Corps Air Station Cherry Point, North Carolina

Site	Well ID	Aquifer	Sampled	Reason for Not Sampling
	52GW17	Upper	Yes	--
	52GW18	Lower	Yes	--
	52GW19	Lower	Yes	--
	52GW20	Lower	Yes	--
	52GW21	Lower	Yes	--
	52GW22	Lower	Yes	--
	52GW23	Lower	Yes	--
	52GW24	Lower	Yes	--
	52GW25	Lower	No	Unable to locate
	52GW26	Lower	Yes	--
	52GW27	Lower	Yes	--
	52GW28	Upper	Yes	--
	52GW29	Lower	Yes	--
	52GW30	Lower	Yes	--
	52GW31	Upper	Yes	--
	52GW32	Lower	Yes	--
	52GW33	Upper	Yes	--
	52GW34	Lower	Yes	--
	52GW35	Upper	Yes	--
	52GW36	Lower	Yes	--
	52GW37	Upper	Yes	--
	52GW38	Lower	Yes	--
	52GW39	Upper	Yes	--
Site 52/	52GW40	Lower	Yes	--
Bldg 133	52GW41	Upper	Yes	--
	52GW42	Lower	Yes	--
	52GW43	Lower	Yes	--
	52GW44	Upper	Yes	--
	52GW45	Lower	Yes	--
	52GW46	Upper	Yes	--
	52GW47	Lower	Yes	--
	52GW48	Upper	Yes	--
	52GW49	Lower	Yes	--
	52GW50	Lower	Yes	--
	52GW51	Upper	Yes	--
	52GW52	Lower	Yes	--
	52GW53	Upper	Yes	--
	52GW54	Lower	Yes	--
	52GW55	Lower	Yes	--
	52GW56	Upper	Yes	--
	52GW57	Lower	Yes	--
	52GW58	Upper	Yes	--
	52GW59	Lower	Yes	--
	52GW60	Upper	Yes	--
	52GW61	Lower	Yes	--
	52GW62	Upper	Yes	--
	52GW63	Lower	Yes	--
	52GW64	Upper	Yes	--

TABLE 1

Proposed Monitoring Well Network for Spring 2009 Sampling Event

Marine Corps Air Station Cherry Point, North Carolina

Site	Well ID	Aquifer	Sampled	Reason for Not Sampling
Site 52/ Bldg 133	52GW65	Lower	Yes	--
	52GW66	Lower	Yes	--
	52GW67	Lower	Yes	--
	52GW68	Upper	Yes	--
	52GW69	Lower	Yes	--
	52GW70	Upper	Yes	--
	52GW71	Lower	Yes	--
	52GW72	Upper	Yes	--
	52GW73	Lower	Yes	--
	52GW74	Upper	Yes	--
	52GW75	Lower	No	Abandoned
	52GW76	Upper	Yes	--
	MW73	Upper	Yes	--
	N2GW03	Upper	No	Abandoned
	N2GW07	Upper	Yes	--
	N2GW17	Upper	Yes	--
	N2GW18	Upper	Yes	--
	N2GW25	Upper	Yes	--
	N2GW29	Upper	Yes	--
	N2GW36	Upper	Yes	--
	N2GW39	Upper	No	Abandoned
	N2GW41	Lower	Yes	--
	N2GW42	Lower	No	Abandoned
	N2GW75	Upper	Yes	--
	N4GW07	Upper	Yes	--
	N4GW09	Lower	Yes	--
	N4GW14	Upper	Yes	--
	N4GW22	Upper	No	Abandoned
	N5GW03	Upper	Yes	--

TABLE 2
Field Parameters - Spring 2009, Upper Surficial Aquifer
MCAS Cherry Point, North Carolina

Monitoring Well ID	Sample Date	Temperature (ºC)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)
14GW18	3/24/2009	20.01	0.213	2.46	6.44	109	202.0
14GW49	3/28/2009	20.10	0.400	6.65	6.75	101	424.0
16GW01	3/10/2009	22.90	0.147	0.92	4.78	331	27.2
16GW02	3/11/2009	18.78	0.531	0.51	5.98	53	50.6
16GW03	3/11/2009	21.00	0.384	0.00	6.07	-104	15.6
16GW04	3/11/2009	20.90	0.241	0.00	5.82	4	98.6
16GW05	3/30/2009	19.17	0.187	3.95	5.00	202	207.0
16GW06	3/13/2009	19.61	0.548	0.00	6.22	315	34.1
16GW08	3/28/2009	23.60	0.483	1.86	5.35	68	0.0
16GW09	3/11/2009	21.70	0.133	0.90	5.49	-14	74.1
16GW10	3/15/2009	23.50	0.144	3.10	5.28	329	22.5
16GW11	3/16/2009	17.42	0.321	5.80	6.40	394	79.3
16GW16	3/10/2009	22.30	0.215	0.15	6.23	181	833.0
16GW21	3/24/2009	16.70	0.281	0.00	6.05	-49	11.6
16GW29	3/13/2009	18.30	0.273	0.00	5.83	-7	38.0
16GW31	3/12/2009	19.50	0.775	0.00	7.29	-140	22.1
16GW33	3/12/2009	16.55	0.900	0.00	6.10	-18	228.0
16GW35	3/13/2009	19.10	0.338	0.69	6.41	143	337.0
16GW37	3/28/2009	19.30	0.479	0.16	6.19	18	0.0
16GW40	3/11/2009	21.10	0.163	0.13	5.38	160	35.6
16GW49	5/6/2009	20.04	0.183	0.00	4.24	219	57.3
17GW03	5/6/2009	17.95	0.292	2.87	7.15	-40	80.3
42GW05	3/25/2009	18.00	0.780	0.58	6.33	-71	26.2
42GW08	3/25/2009	19.30	0.810	1.49	5.52	211	1.5
42GW16	5/5/2009	20.96	0.643	0.00	7.23	-141	6.7
42GW18	5/5/2009	20.59	0.607	0.00	6.25	-106	34.4
42GW20	5/5/2009	19.88	0.266	0.00	6.32	-78	40.4
42GW22	5/5/2009	19.79	0.700	0.14	6.88	-105	10.3
47GW05	3/26/2009	23.30	0.692	0.49	5.68	1	2.8
47GW07	3/26/2009	22.84	0.622	0.00	5.73	-33	9.8
47GW09	3/27/2009	22.40	0.742	0.26	6.53	-99	8.9
47GW12	3/26/2009	24.90	0.346	0.22	5.39	41	0.9
47GW17	3/26/2009	26.40	58.000	0.36	5.45	35	8.3
47GW18	3/26/2009	21.76	0.555	0.50	6.35	12	144.0
47GW19	3/26/2009	23.60	50.300	0.42	6.20	-65	2.4
47GW20	3/27/2009	21.00	0.376	2.12	6.68	76	32.5
51EX10	3/27/2009	19.83	0.625	0.86	6.37	-38	153.0
51GW02	3/26/2009	24.90	0.558	0.51	5.15	112	10.2
52GW01	3/24/2009	25.20	5.900	0.40	5.81	-51	4.1
52GW07	3/24/2009	24.40	0.786	0.31	6.13	-44	111.0
52GW08	3/24/2009	25.00	0.860	0.32	6.19	-81	5.5
52GW10	3/24/2009	23.87	0.856	0.00	5.97	-18	4.4
52GW11	3/24/2009	23.89	0.841	0.00	5.80	-62	84.8
52GW17	3/22/2009	24.00	0.299	0.19	5.17	41	0.0
52GW28	3/20/2009	22.80	0.521	0.76	5.68	-7	146.0
52GW31	3/24/2009	20.50	0.300	0.00	5.02	79	136.0
52GW33	3/19/2009	25.40	0.195	0.74	5.27	74	90.2
52GW35	3/17/2009	25.00	0.896	1.28	6.53	-68	17.0
52GW37	3/17/2009	23.07	0.251	0.00	4.82	182	27.9
52GW39	3/18/2009	28.40	0.155	0.12	5.84	-28	115.0
52GW41	3/17/2009	26.90	0.286	0.28	5.98	-27	32.3
52GW44	3/19/2009	24.19	0.423	0.00	5.34	-7	38.3
52GW46	3/16/2009	22.67	0.344	0.00	4.70	160	86.9
52GW48	3/18/2009	21.15	0.533	9.26	4.79	190	0.0
52GW51	3/17/2009	23.91	0.399	0.00	5.98	31	22.1
52GW53	3/17/2009	24.30	0.168	0.47	4.98	99	17.2

TABLE 2
Field Parameters - Spring 2009, Upper Surficial Aquifer
MCAS Cherry Point, North Carolina

Monitoring Well ID	Sample Date	Temperature (ºC)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)
52GW56	3/18/2009	25.90	0.356	0.17	5.87	-89	19.0
52GW58	3/18/2009	24.40	0.242	0.37	4.75	53	0.0
52GW60	3/17/2009	20.74	0.371	0.00	4.97	89	27.3
52GW62	3/16/2009	23.90	0.335	0.45	5.80	39	28.0
52GW64	3/19/2009	20.94	0.451	0.00	5.10	114	128.0
52GW68	3/19/2009	23.00	0.446	0.28	6.13	-35	7.9
52GW70	3/17/2009	22.96	0.441	0.00	4.83	101	27.3
52GW72	3/18/2009	20.79	0.346	10.67	4.65	172	41.9
52GW74	3/19/2009	23.00	0.343	0.18	5.13	35	15.7
52GW76	3/22/2009	25.70	5.270	0.16	5.66	17	0.0
GW75	3/30/2009	19.77	0.495	0.51	6.37	-61	27.1
GW76	3/27/2009	22.10	0.590	0.27	6.22	-29	9.8
MW12	3/11/2009	16.40	0.724	0.00	6.78	-41	85.7
MW20	3/26/2009	22.20	0.384	2.90	6.90	65	6.7
MW28	3/12/2009	22.00	0.129	3.20	5.28	297	22.2
MW37	3/27/2009	20.80	0.927	0.22	4.56	252	0.0
MW38	3/13/2009	17.20	0.411	0.00	6.34	-10	73.5
MW40	3/29/2009	17.50	0.970	0.00	5.41	53	13.7
MW42	3/29/2009	15.34	0.714	0.49	5.75	-50	53.9
MW44	3/25/2009	19.90	0.257	0.21	6.04	-37	33.3
MW50	3/10/2009	15.80	0.324	0.79	6.37	-115	8.7
MW58	3/28/2009	18.30	0.234	2.34	5.58	114	112.0
MW73	3/27/2009	12.38	0.919	0.45	7.17	-143	421.0
N2GW07	3/23/2009	21.48	0.488	0.23	5.36	-12	185.0
N2GW15	3/22/2009	25.60	0.196	0.20	5.10	60	14.3
N2GW17	3/20/2009	--	--	--	--	--	--
N2GW18	3/24/2009	--	--	--	--	--	--
N2GW25	3/29/2009	23.00	0.430	0.39	6.24	109	0.0
N2GW27	3/22/2009	26.37	0.668	0.00	5.72	-61	8.4
N2GW28	3/22/2009	25.00	0.807	0.22	5.73	-14	0.0
N2GW29	3/20/2009	23.00	0.303	0.33	6.40	-65	0.0
N2GW36	3/29/2009	21.60	0.665	0.27	6.23	-88	0.0
N2GW44	3/24/2009	22.70	0.621	0.71	6.47	-59	14.9
N2GW75	3/25/2009	22.11	0.633	0.00	5.68	-31	36.0
N4GW07	3/16/2009	22.90	0.196	0.17	5.36	-7	11.8
N4GW14	3/30/2009	18.10	0.670	1.70	6.22	173	22.1
N5GW03	3/30/2009	20.60	0.721	0.31	6.24	-29	20.8

Notes:
ºC = degree Celsius
mS = micro Siemens
cm = centimeter
DO = dissolved oxygen
mg = milligram
L = liter
ORP = oxidation reduction potential
mV = millivolts
NTU = nephelometric turbidity units
-- = data not available

TABLE 3
Field Parameters - Spring 2009, Lower Surficial Aquifer
MCAS Cherry Point, North Carolina

Monitoring Well ID	Sample Date	Temperature (ºC)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)
14GW51	3/27/2009	21.77	0.862	0.57	7.04	-116	4.2
14GW53	5/6/2009	23.62	0.780	0.00	7.15	-143	29.9
16GW28	3/13/2009	20.80	0.735	0.72	6.96	-104	72.1
16GW30	3/12/2009	21.60	0.554	0.31	7.09	-124	11.5
16GW32	3/13/2009	12.87	0.346	12.34	7.34	303	15.9
16GW34	3/13/2009	20.20	1.27	0.09	6.71	-40	16.3
16GW36	3/28/2009	21.40	0.450	0.39	6.91	-109	0.0
16GW41	3/11/2009	21.30	0.403	0.20	6.97	-162	62.4
16GW42	3/11/2009	21.90	0.464	0.06	7.02	-114	22.2
16GW50	5/7/2009	21.69	0.524	2.19	6.32	-120	18.7
16GW51	5/6/2009	22.55	0.541	0.45	6.41	-153	15.0
16GW52	5/6/2009	22.90	0.620	0.37	6.47	-155	24.1
42GW15	3/28/2009	20.92	0.691	0.48	7.16	-106	7.2
42GW17	5/6/2009	21.06	0.678	0.41	6.46	-159	4.7
42GW19	5/5/2009	21.10	0.411	0.41	7.15	-178	102.0
42GW21	5/5/2009	20.70	0.315	0.96	6.07	-6	6.0
42GW23	5/5/2009	19.47	0.682	0.40	6.82	-153	12.5
47GW06	3/26/2009	23.90	0.370	0.55	5.86	-6	1.3
47GW08	3/25/2009	24.00	26.000	0.41	5.74	15	0.0
47GW10	3/27/2009	23.10	0.342	0.70	6.15	57	11.7
47GW11	3/26/2009	22.60	0.440	0.69	6.09	-20	406.0
47GW25	3/26/2009	21.78	0.798	0.00	6.07	-53	169.0
51EX12	3/29/2009	20.30	0.723	4.37	5.50	113	52.8
51EX13	3/25/2009	20.80	0.838	0.06	5.76	88	31.4
51EX16	3/25/2009	21.32	0.760	0.00	6.09	-50	83.7
51EX17	3/25/2009	20.65	0.567	0.00	5.44	37	45.5
51EX18	3/28/2009	22.16	0.422	0.51	6.74	-24	150.0
51EX19	3/28/2009	22.34	0.361	0.83	6.41	-18	309.0
52GW15	3/20/2009	22.78	0.561	0.19	6.35	-14	40.1
52GW16	3/22/2009	22.55	0.520	1.05	6.42	-76	197.0
52GW18	3/22/2009	25.00	0.182	0.33	5.25	77	5.8
52GW19	3/20/2009	23.34	0.661	0.00	6.23	-79	142.0
52GW20	3/23/2009	23.30	0.876	0.00	6.76	-104	89.3
52GW21	3/24/2009	21.02	0.635	0.00	6.32	-75	137.0
52GW22	3/23/2009	23.50	0.572	2.53	6.78	-113	0.0
52GW23	3/23/2009	21.41	0.546	9.99	6.49	-84	62.9
52GW24	3/20/2009	21.76	0.795	0.00	6.48	-76	2.3
52GW26	2/23/2009	23.50	0.517	0.14	6.85	-119	18.2
52GW27	3/20/2009	24.20	0.324	2.40	5.38	49	27.9
52GW29	3/20/2009	24.30	0.476	0.09	6.76	-114	35.7
52GW30	3/24/2009	22.20	6.040	0.15	6.85	-115	4.3
52GW32	3/19/2009	25.70	0.342	0.25	6.06	-19	50.8
52GW34	3/17/2009	25.10	0.392	0.21	6.18	-30	14.5
52GW36	3/17/2009	22.72	0.432	0.00	6.80	-63	38.7
52GW38	3/18/2009	26.70	0.458	0.30	6.54	-80	69.9
52GW40	3/17/2009	26.60	0.258	0.21	6.01	-1	39.5
52GW42	3/18/2009	23.49	0.381	9.09	6.07	7	362.0
52GW43	3/19/2009	24.90	0.459	0.07	6.70	-91	40.3
52GW45	3/17/2009	22.10	0.435	0.00	6.81	-60	85.6
52GW47	3/18/2009	20.48	0.428	9.19	6.61	-3	181.0
52GW49	3/30/2009	23.40	5.390	0.40	6.96	-129	6.8
52GW50	3/17/2009	24.19	0.285	0.00	5.40	185	59.9
52GW52	3/17/2009	23.40	0.330	0.04	7.24	-124	171.0
52GW54	3/19/2009	26.82	0.334	0.00	6.12	-23	112.0
52GW55	3/18/2009	26.00	0.224	0.18	5.93	-5	22.2
52GW57	3/18/2009	25.00	0.160	0.29	5.45	55	31.7
52GW59	3/19/2009	21.04	0.262	0.00	5.33	50	43.3

TABLE 3
Field Parameters - Spring 2009, Lower Surficial Aquifer
MCAS Cherry Point, North Carolina

Monitoring Well ID	Sample Date	Temperature (ºC)	Conductivity (mS/cm)	DO (mg/L)	pH	ORP (mV)	Turbidity (NTU)
52GW61	3/16/2009	23.10	0.332	0.10	7.20	-117	40.3
52GW63	3/19/2009	20.74	0.433	0.00	6.42	-27	5.4
52GW65	3/19/2009	22.80	0.255	0.15	5.75	14	138.0
52GW66	3/19/2009	22.60	0.276	0.23	6.36	-22	203.0
52GW67	3/19/2009	22.50	0.415	0.13	6.91	-97	145.0
52GW69	3/17/2009	23.61	0.187	0.00	5.30	101	96.4
52GW71	3/18/2009	20.02	0.158	10.26	5.10	113	0.0
52GW73	3/19/2009	23.10	0.444	0.14	7.13	-121	40.5
MW01	3/25/2009	22.30	0.999	1.75	5.61	38	0.8
MW21	3/26/2009	24.10	0.560	2.37	6.72	-55	3.4
MW23	3/26/2009	24.70	0.230	0.70	6.55	-114	0.5
MW39	3/13/2009	18.57	0.616	0.00	6.78	-60	129.0
MW41	3/29/2009	17.11	0.487	0.48	7.35	-136	14.5
MW43	3/29/2009	20.00	0.457	0.38	6.97	-128	0.0
MW45	3/29/2009	18.38	0.467	0.61	7.51	-128	15.2
MW48	3/11/2009	18.83	0.515	0.00	6.81	-76	108.0
MW51	3/10/2009	21.60	0.447	0.08	7.25	-140	75.4
MW53	3/15/2009	23.70	0.395	0.13	7.11	-87	17.2
MW55	3/15/2009	23.70	0.309	0.05	7.26	-135	8.2
MW59	3/16/2009	19.47	0.680	0.00	6.54	-38	91.9
MW64	3/24/2009	22.47	0.652	0.00	6.26	-31	175.0
N2GW41	3/20/2009	23.04	0.375	0.96	5.90	67	31.7
N4GW09	3/16/2009	22.90	0.001	9.20	6.05	166	50.3
S3W3	3/12/2009	22.50	0.432	0.04	6.80	-77	47.3

Notes:
ºC = degree Celsius
mS = micro Siemens
cm = centimeter
DO = dissolved oxygen
mg = milligram
L = liter
ORP = oxidation reduction potential
mV = millivolts
NTU = nephelometric turbidity units

TABLE 4
Well Construction Table
Marine Corps Air Station Cherry Point, North Carolina

Site	Well ID	Date Completed	Northing	Easting	Aquifer	Ground Elevation (amsl)	Top of Casing Elevation (amsl)	Well Diameter (inches)	Total Well Depth (ft bgs)	Sample Interval (ft bgs)
Site 14	14GW53	4/21/2009	424015.05	2629877.07	Lower	18.47	18.11	2	43	33-43
Site 16	16GW49	4/24/2009	420939.06	2628045.21	Upper	3.81	6.11	2	18	8-18
	16GW50	4/22/2009	421730.74	2628050.21	Lower	21.94	24.41	2	50	40-50
	16GW51	4/21/2009	421454.56	2628102.14	Lower	24.30	26.73	2	50	40-50
	16GW52	4/20/2009	421217.68	2628603.83	Lower	23.11	22.77	2	45	35-45
Site 17	17GW03	4/17/2009	421279.21	2629956.41	Upper	16.33	19.15	2	18	8-18
Site 42	42GW16	4/16/2009	423793.86	2629092.31	Upper	13.25	12.89	2	30	20-30
	42GW17	4/15/2009	423787.09	2629084.55	Lower	13.23	12.72	2	47	37-47
	42GW18	4/19/2009	423307.25	2628588.99	Upper	9.58	12.18	2	23	13-23
	42GW19	4/19/2009	423300.24	2628582.28	Lower	9.59	12.19	2	41	31-41
	42GW20	4/16/2009	423245.49	2627957.41	Upper	11.77	14.40	2	25	15-25
	42GW21	4/16/2009	423255.04	2627955.92	Lower	11.72	14.15	2	41	31-41
	42GW22	4/17/2009	422686.79	2628303.76	Upper	15.89	18.83	2	30	20-30
	42GW23	4/17/2009	422680.60	2628295.75	Lower	15.92	18.78	2	50	40-50

TABLE 5
Groundwater Elevations, Upper Surficial Aquifer Monitoring Wells
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Depth to Water Spring 2006 (ft btoc)	Groundwater Elevation Spring 2006 (ft msl)	Depth to Water Fall 2008 (ft btoc)	Groundwater Elevation Fall 2008 (ft msl)	Depth to Water Spring 2009 (ft btoc)	Groundwater Elevation Spring 2009 (ft msl)
14GW18	26.07	16 - 26	NM	NM	NM	NM	13.46	12.61
14GW49	--	5 - 15	NM	NM	NM	NM	7.28	--
16GW01	24.67	10 - 25	20.42	4.25	NM	NM	20.45	4.22
16GW02	7.43	10 - 25	5.95	1.48	4.90	2.53	6.35	1.08
16GW03	8.27	10 - 25	6.79	1.48	5.84	2.43	7.28	0.99
16GW04	6.90	10 - 25	5.09	1.81	4.30	2.60	5.60	1.30
16GW05	26.33	10 - 25	21.72	4.61	NM	NM	21.68	4.65
16GW06	18.41	10 - 25	14.51	3.90	NM	NM	14.18	4.23
16GW08	23.65	17 - 27	18.27	5.38	NM	NM	18.05	5.60
16GW09	24.07	16 - 26	NM	NM	NM	NM	15.50	8.57
16GW10	20.51	10 - 25	15.9	4.61	NM	NM	15.62	4.89
16GW11	23.44	12 - 27	NM	NM	NM	NM	13.75	9.69
16GW16	11.48	10 - 25	7.42	4.06	NM	NM	7.57	3.91
16GW21	18.80	3 - 13	NM	NM	NM	NM	6.85	11.95
16GW29	10.52	5 - 15	7.87	2.65	7.27	3.25	8.23	2.29
16GW31	18.84	11 - 21	15.95	2.89	NM	NM	15.80	3.04
16GW33	15.06	9 - 19	11.64	3.42	NM	NM	11.20	3.86
16GW35	11.60	5 - 15	9.23	2.37	8.42	3.18	8.62	2.98
16GW37	7.28	5 - 15	4.13	3.15	NM	NM	3.71	3.57
16GW40	8.69	15 - 25	NM	NM	7.25	1.44	8.62	0.07
16GW49	6.11	20-30	NM	NM	NM	NM	3.80	2.31
17GW03	19.15	8-18	NM	NM	NM	NM	8.49	10.66
42GW05	15.47	1 - 11	4.6	10.87	NM	NM	4.61	10.86
42GW08	21.59	3 - 15	10.77	10.82	NM	NM	10.61	10.98
42GW16	12.89	20-30	NM	NM	NM	NM	6.10	6.79
42GW18	12.18	13-23	NM	NM	NM	NM	7.45	4.73
42GW20	14.40	15-25	NM	NM	NM	NM	10.50	3.90
42GW22	18.83	20-30	NM	NM	NM	NM	15.57	3.26
47GW05	24.46	10 - 20	9.35	15.11	NM	NM	9.11	15.35
47GW07	24.36	7 - 17	9.36	15.00	NM	NM	9.16	15.20
47GW09	23.49	15 - 25	8.57	14.92	NM	NM	8.15	15.34
47GW12	23.514	7 - 17	NM	NM	NM	NM	9.59	13.92
47GW17	23.32	9 - 19	NM	NM	NM	NM	9.02	14.30
47GW18	23.51	8 - 18	NM	NM	NM	NM	9.18	14.33

TABLE 5
Groundwater Elevations, Upper Surficial Aquifer Monitoring Wells
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Depth to Water Spring 2006 (ft btoc)	Groundwater Elevation Spring 2006 (ft msl)	Depth to Water Fall 2008 (ft btoc)	Groundwater Elevation Fall 2008 (ft msl)	Depth to Water Spring 2009 (ft btoc)	Groundwater Elevation Spring 2009 (ft msl)
47GW19	23.53	8 - 18	NM	NM	NM	NM	9.21	14.32
47GW20	23.18	7 - 17	NM	NM	NM	NM	8.74	14.44
51EX10	14.24	18 - 38	4.22	10.02	NM	NM	3.96	10.28
51GW02	23.93	5 - 15	9.22	14.71	NM	NM	8.92	15.01
52GW01	21.98	5 - 15	9.22	12.76	NM	NM	9.16	12.82
52GW07	21.1	10 - 20	NM	NM	NM	NM	9.18	11.92
52GW08	21.08	8 - 18	NM	NM	NM	NM	9.38	11.70
52GW10	21.11	8 - 18	NM	NM	NM	NM	9.49	11.62
52GW11	21.10	8 - 18	NM	NM	NM	NM	9.59	11.51
52GW17	21.45	20 - 30	11.23	10.22	NM	NM	11.05	10.40
52GW28	20.65	20 - 30	9.83	10.82	NM	NM	9.66	10.99
52GW31	20.57	20 - 30	10.82	9.75	NM	NM	10.68	9.89
52GW33	21.03	20 - 30	9.86	11.17	NM	NM	9.56	11.47
52GW35	21.05	20 - 30	10.19	10.86	NM	NM	9.97	11.08
52GW37	21.04	20 - 30	10.70	10.34	NM	NM	10.59	10.45
52GW39	20.37	20 - 30	8.71	11.66	NM	NM	8.36	12.01
52GW41	20.99	20 - 30	9.55	11.44	NM	NM	9.23	11.76
52GW44	20.91	20 - 30	10.10	10.81	NM	NM	9.92	10.99
52GW46	21.02	20 - 30	10.63	10.39	NM	NM	10.50	10.52
52GW48	21.08	20 - 30	10.60	10.48	NM	NM	10.60	10.48
52GW51	21.01	20 - 30	9.44	11.57	NM	NM	9.30	11.71
52GW53	21.03	20 - 30	7.17	13.86	NM	NM	9.95	11.08
52GW56	21.10	20 - 30	9.20	11.90	NM	NM	8.83	12.27
52GW58	21.08	20 - 30	9.34	11.74	NM	NM	8.99	12.09
52GW60	21.14	20 - 30	9.52	11.62	NM	NM	9.20	11.94
52GW62	21.14	20 - 30	10.04	11.10	NM	NM	9.83	11.31
52GW64	17.95	20 - 30	7.05	10.90	NM	NM	6.91	11.04
52GW68	17.50	20 - 30	7.45	10.05	NM	NM	7.18	10.32
52GW70	21.11	20 - 30	9.05	12.06	NM	NM	11.65	9.46
52GW72	18.73	20 - 30	6.39	12.34	NM	NM	5.98	12.75
52GW74	18.61	20 - 30	6.65	11.96	NM	NM	6.07	12.54
52GW76	20.94	20 - 30	10.86	10.08	NM	NM	10.97	9.97
GW75	12.65	20 - 30	7.39	5.26	7.03	5.62	6.82	5.83
GW76	13.87	20 - 30	6.12	7.75	NM	NM	5.84	8.03

TABLE 5
Groundwater Elevations, Upper Surficial Aquifer Monitoring Wells
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Depth to Water Spring 2006 (ft btoc)	Groundwater Elevation Spring 2006 (ft msl)	Depth to Water Fall 2008 (ft btoc)	Groundwater Elevation Fall 2008 (ft msl)	Depth to Water Spring 2009 (ft btoc)	Groundwater Elevation Spring 2009 (ft msl)
MW12	5.49	3 - 13	3.63	1.86	NM	NM	4.26	1.23
MW20	23.06	6 - 16	7.75	15.31	NM	NM	7.64	15.42
MW28	23.23	12 - 24	19.38	3.85	NM	NM	19.48	3.75
MW37	13.15	2 - 12	NM	NM	NM	NM	6.75	6.40
MW38	6.96	3 - 13	3.89	3.07	NM	NM	3.02	3.94
MW40	5.84	2 - 12	4.7	1.14	NM	NM	3.56	2.28
MW42	5.79	2 - 12	3.44	2.35	NM	NM	3.49	2.30
MW44	5.69	2 - 12	3.27	2.42	NM	NM	3.56	2.13
MW50	6.94	3 - 13	3.49	3.45	NM	NM	4.01	2.93
MW58	15.39	3 - 13	NM	NM	NM	NM	4.46	10.93
MW73	18.19	5 - 15	5.24	12.95	NM	NM	5.15	13.04
N2GW07	23.05	20 - 30	14.17	8.88	NM	NM	11.74	11.31
N2GW15	22.73	20 - 30	NM	NM	NM	NM	12.15	10.58
N2GW17	24.64	12.9 - 22.9	13.99	10.65	NM	NM	13.62	11.02
N2GW18	24.64	7.5 - 17.5	13.61	11.03	NM	NM	14.11	10.53
N2GW25	20.93	4.9 - 14.5	8.84	12.09	NM	NM	8.72	12.21
N2GW27	21.33	5 - 15	9.91	11.42	NM	NM	9.77	11.56
N2GW28	22.12	5 - 15	10.44	11.68	NM	NM	10.30	11.82
N2GW29	21.72	5 - 15	NM	NM	NM	NM	10.09	11.63
N2GW36	21.36	5 - 15	9.44	11.92	NM	NM	9.22	12.14
N2GW44	13.95	30.5 - 35.5	NM	NM	NM	NM	4.37	9.58
N2GW75	--	--	NM	NM	NM	NM	10.59	--
N4GW07	21.71	8 - 18	9.44	12.27	NM	NM	9.80	11.91
N4GW14	18.06	5 - 15	5.62	12.44	NM	NM	5.70	12.36
N5GW03	21.91	6 - 16	NM	NM	NM	NM	9.42	12.49

Notes:
ft msl - feet, (elevation relative to) mean sea level
ft btoc - feet below top of casing
-- Data Unavailable
NM - Not measured

TABLE 6
Groundwater Elevations, Lower Surficial Aquifer Monitoring Wells
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Depth to Water Spring 2006 (ft btoc)	Groundwater Elevation Spring 2006 (ft msl)	Depth to Water Fall 2008 (ft btoc)	Groundwater Elevation Fall 2008 (ft msl)	Depth to Water Spring 2009 (ft btoc)	Groundwater Elevation Spring 2009 (ft msl)
14GW51	--	45 - 50	NM	NM	NM	NM	11.01	--
14GW53	18.11	33-43	NM	NM	NM	NM	7.70	10.41
16GW28	10.84	35.5 - 45.5	NM	NM	8.06	2.78	7.26	3.58
16GW30	18.92	45 - 55	NM	NM	NM	NM	15.71	3.21
16GW32	15.32	44 - 54	NM	NM	NM	NM	11.84	3.48
16GW34	11.10	36.5 - 46.5	8.65	2.45	8.10	3.00	8.06	3.04
16GW36	7.43	32 - 42	NM	NM	NM	NM	3.86	3.57
16GW41	8.65	35 - 45	NM	NM	7.36	1.29	8.82	-0.17
16GW42	7.51	35 - 45	NM	NM	6.14	1.37	7.42	0.09
16GW50	24.41	40-50	NM	NM	NM	NM	21.50	2.91
16GW51	26.73	40-50	NM	NM	NM	NM	23.70	3.03
16GW52	22.77	35-45	NM	NM	NM	NM	17.40	5.37
42GW15	12.83	36 - 46	NM	NM	7.25	5.58	6.99	5.84
42GW17	12.72	37-47	NM	NM	NM	NM	6.10	6.62
42GW19	12.19	31-41	NM	NM	NM	NM	7.50	4.69
42GW21	14.15	31-41	NM	NM	NM	NM	10.25	3.9
42GW23	18.78	40-50	NM	NM	NM	NM	15.66	3.12
47GW06	24.49	39 - 49	9.67	14.82	NM	NM	9.46	15.03
47GW08	24.29	40 - 50	9.46	14.83	NM	NM	9.25	15.04
47GW10	22.42	37.5 - 47.5	NM	NM	NM	NM	8.31	14.11
47GW11	24.25	40 - 50	9.51	14.74	NM	NM	9.31	14.94
47GW25	20.75	33 - 43	NM	NM	8.55	12.20	8.55	12.20
51EX12	20.12	30 - 50	10.28	9.84	NM	NM	10.70	9.42
51EX13	19.40	30 - 50	9.39	10.01	NM	NM	9.02	10.38
51EX16	20.94	30 - 50	11.87	9.07	NM	NM	11.70	9.24
51EX17	20.02	30 - 50	11.10	8.92	NM	NM	10.90	9.12
51EX18	18.08	30 - 50	12.80	5.28	NM	NM	12.50	5.58
51EX19	18.66	30 - 50	13.08	5.58	NM	NM	12.85	5.81
52GW15	20.42	43 - 53	10.36	10.06	NM	NM	10.06	10.36
52GW16	21.42	40 - 50	11.92	9.50	NM	NM	11.63	9.79
52GW18	22.60	45 - 55	13.83	8.77	NM	NM	13.25	9.35
52GW19	22.11	44 - 54	13.55	8.56	NM	NM	12.93	9.18
52GW20	22.10	42 - 52	12.98	9.12	NM	NM	12.70	9.40

TABLE 6
Groundwater Elevations, Lower Surficial Aquifer Monitoring Wells
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Depth to Water Spring 2006 (ft btoc)	Groundwater Elevation Spring 2006 (ft msl)	Depth to Water Fall 2008 (ft btoc)	Groundwater Elevation Fall 2008 (ft msl)	Depth to Water Spring 2009 (ft btoc)	Groundwater Elevation Spring 2009 (ft msl)
52GW21	21.47	43 - 53	12.63	8.84	NM	NM	12.39	9.08
52GW22	22.26	40 - 50	13.03	9.23	NM	NM	12.72	9.54
52GW23	20.69	43 - 53	11.87	8.82	NM	NM	11.60	9.09
52GW24	20.50	42 - 52	11.00	9.50	NM	NM	10.70	9.80
52GW26	20.42	40 - 50	11.67	9.08	NM	NM	11.40	9.02
52GW27	20.75	40 - 50	10.43	10.52	NM	NM	10.12	10.63
52GW29	20.95	43 - 53	11.10	9.60	NM	NM	10.81	10.14
52GW30	20.70	40 - 50	11.69	9.30	NM	NM	11.45	9.25
52GW32	20.99	40 - 50	10.35	10.63	NM	NM	10.03	10.96
52GW34	20.98	40 - 50	10.64	10.39	NM	NM	10.30	10.68
52GW36	21.03	40 - 50	11.14	9.33	NM	NM	10.84	10.19
52GW38	20.47	40 - 50	9.28	11.73	NM	NM	8.99	11.48
52GW40	21.01	39 - 49	10.08	10.95	NM	NM	9.76	11.25
52GW42	21.03	45 - 55	10.35	10.63	NM	NM	10.30	10.73
52GW43	20.98	45 - 55	10.69	10.31	NM	NM	10.39	10.59
52GW45	21.00	44 - 54	11.11	10.97	NM	NM	10.83	10.17
52GW47	22.08	44 - 54	11.21	9.07	NM	NM	10.95	11.13
52GW49	20.28	42 - 52	10.59	10.43	NM	NM	10.16	10.12
52GW50	21.02	40 - 50	9.99	11.00	NM	NM	9.71	11.31
52GW52	20.99	44 - 54	10.67	9.33	NM	NM	10.39	10.60
52GW54	20.00	43 - 53	10.14	10.91	NM	NM	9.82	10.18
52GW55	21.05	40 - 50	9.83	11.23	NM	NM	9.51	11.54
52GW57	21.06	41 - 51	9.97	11.09	NM	NM	9.64	11.42
52GW59	21.11	40 - 50	10.23	10.88	NM	NM	9.91	11.20
52GW61	21.05	40 - 50	10.61	10.44	NM	NM	10.35	10.70
52GW63	17.93	45 - 55	7.51	10.42	NM	NM	7.23	10.70
52GW65	17.84	40 - 50	7.69	10.15	NM	NM	7.38	10.46
52GW66	18.00	38 - 48	8.16	9.84	NM	NM	7.85	10.15
52GW67	17.34	40 - 50	7.59	9.75	NM	NM	7.29	10.05
52GW69	21.10	40 - 50	9.79	11.31	NM	NM	10.10	11.00
52GW71	18.69	36 - 46	7.24	11.45	NM	NM	6.91	11.78
52GW73	18.67	39 - 49	7.59	11.08	NM	NM	7.10	11.57
MW01	13.56	25.9 - 35.9	2.75	10.81	NM	NM	2.56	11.00

TABLE 6
Groundwater Elevations, Lower Surficial Aquifer Monitoring Wells
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Depth to Water Spring 2006 (ft btoc)	Groundwater Elevation Spring 2006 (ft msl)	Depth to Water Fall 2008 (ft btoc)	Groundwater Elevation Fall 2008 (ft msl)	Depth to Water Spring 2009 (ft btoc)	Groundwater Elevation Spring 2009 (ft msl)
MW21	22.16	39 - 49	NM	NM	NM	NM	8.59	13.57
MW23	23.28	38 - 48	9.05	14.23	NM	NM	8.88	14.40
MW39	6.92	25 - 35	3.86	3.06	NM	NM	2.91	4.01
MW41	5.62	31 - 41	NM	NM	NM	NM	3.24	2.38
MW43	3.73	32.5 - 42.5	NM	NM	NM	NM	4.76	-1.03
MW45	5.71	35 - 45	NM	NM	NM	NM	3.25	2.46
MW48	5.63	32 - 42	3.70	1.93	NM	NM	4.24	1.39
MW51	6.98	31 - 41	3.19	3.79	NM	NM	3.34	3.64
MW53	23.47	44 - 54	14.87	8.60	NM	NM	16.30	7.17
MW55	21.26	42 - 52	NM	NM	NM	NM	16.87	4.39
MW59	17.86	32 - 42	7.64	13.62	NM	NM	7.40	10.46
MW64	16.24	35 - 45	7.10	10.76	NM	NM	6.81	9.43
N2GW41	20.73	45 - 50	NM	NM	NM	NM	8.51	12.22
N4GW09	21.67	45 - 50	10.66	11.01	NM	NM	10.41	11.26
S3W3	21.52	38 - 48	17.74	3.78	NM	NM	17.80	3.72

Notes:
ft msl - feet, (elevation relative to) mean sea level
ft btoc - feet below top of casing
-- Data Unavailable
NM - Not measured

TABLE 7
Vertical Gradients - Spring 2009
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Aquifer	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)	Vertical Gradient (ft/ft)	Upward or Downward Gradient
Downward Vertical Gradients within the Surficial Aquifer							
16GW33	15.06	9 - 19	Upper Surficial Aquifer	11.20	3.86	-0.011	Downward
16GW32	15.32	44 - 54	Lower Surficial Aquifer	11.84	3.48		
16GW40	8.69	15 - 25	Upper Surficial Aquifer	8.62	0.07	-0.010	
16GW41	8.65	35 - 45	Lower Surficial Aquifer	8.82	-0.17		
16GW04	6.9	10 - 25	Upper Surficial Aquifer	5.6	1.30	-0.049	
16GW42	7.51	35 - 45	Lower Surficial Aquifer	7.42	0.09		
16GW10	20.51	10 - 25	Upper Surficial Aquifer	15.62	4.89	-0.019	
MW55	21.26	42 - 52	Lower Surficial Aquifer	16.87	4.39		
16GW11	23.44	12 - 27	Upper Surficial Aquifer	13.75	9.69	-0.093	
MW53	23.47	44 - 54	Lower Surficial Aquifer	16.30	7.17		
42GW16	12.89	20-30	Upper Surficial Aquifer	6.10	6.79	-0.010	
42GW17	12.72	37-47	Lower Surficial Aquifer	6.10	6.62		
42GW18	12.18	13-23	Upper Surficial Aquifer	7.45	4.73	-0.002	
42GW19	12.19	31-41	Lower Surficial Aquifer	7.50	4.69		
42GW20	14.40	7 - 17	Upper Surficial Aquifer	10.50	3.90	0.000	
42GW21	14.15	31-41	Lower Surficial Aquifer	10.25	3.90		
42GW22	18.83	20-30	Upper Surficial Aquifer	15.57	3.26	-0.007	
42GW23	18.78	40-50	Lower Surficial Aquifer	15.66	3.12		
47GW07	24.36	7 - 17	Upper Surficial Aquifer	9.16	15.20	-0.005	
47GW08	24.29	40 - 50	Lower Surficial Aquifer	9.25	15.04		
47GW05	24.46	10 - 20	Upper Surficial Aquifer	9.11	15.35	-0.011	
47GW06	24.49	39 - 49	Lower Surficial Aquifer	9.46	15.03		
47GW09	23.49	15 - 25	Upper Surficial Aquifer	8.15	15.34	-0.055	
47GW10	22.42	37.5 - 47.5	Lower Surficial Aquifer	8.31	14.11		
51GW02	23.93	5 - 15	Upper Surficial Aquifer	8.92	15.01	-0.002	
47GW11	24.25	40 - 50	Lower Surficial Aquifer	9.31	14.94		
52GW31	20.57	20 - 30	Upper Surficial Aquifer	10.68	9.89	-0.032	
52GW30	20.70	40 - 50	Lower Surficial Aquifer	11.45	9.25		
52GW46	21.02	20 - 30	Upper Surficial Aquifer	10.50	10.52	-0.015	
52GW45	21.00	44 - 54	Lower Surficial Aquifer	10.83	10.17		
52GW53	21.03	20 - 30	Upper Surficial Aquifer	9.95	11.08	-0.020	
52GW52	20.99	44 - 54	Lower Surficial Aquifer	10.39	10.60		
52GW56	21.10	20 - 30	Upper Surficial Aquifer	8.83	12.27	-0.037	
52GW55	21.05	40 - 50	Lower Surficial Aquifer	9.51	11.54		
52GW62	21.14	20 - 30	Upper Surficial Aquifer	9.83	11.31	-0.024	
52GW61	21.05	45 - 55	Lower Surficial Aquifer	10.35	10.70		
52GW64	17.95	20 - 30	Upper Surficial Aquifer	6.91	11.04	-0.017	
52GW63	17.93	40 - 50	Lower Surficial Aquifer	7.23	10.70		
52GW68	17.50	20 - 30	Upper Surficial Aquifer	7.18	10.32	-0.014	
52GW67	17.34	40 - 50	Lower Surficial Aquifer	7.29	10.05		
52GW74	18.61	20 - 30	Upper Surficial Aquifer	6.07	12.54	-0.051	
52GW73	18.67	39 - 49	Lower Surficial Aquifer	7.10	11.57		
52GW17	21.45	20 - 30	Upper Surficial Aquifer	11.05	10.40	-0.030	
52GW16	21.42	40 - 50	Lower Surficial Aquifer	11.63	9.79		

TABLE 7
Vertical Gradients - Spring 2009
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Aquifer	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)	Vertical Gradient (ft/ft)	Upward or Downward Gradient
52GW28	20.65	20 - 30	Upper Surficial Aquifer	9.66	10.99	-0.018	Downward
52GW27	20.75	40 - 50	Lower Surficial Aquifer	10.12	10.63		
52GW33	21.03	20 - 30	Upper Surficial Aquifer	9.56	11.47	-0.025	
52GW32	20.99	40 - 50	Lower Surficial Aquifer	10.03	10.96		
52GW35	21.05	20 - 30	Upper Surficial Aquifer	9.97	11.08	-0.020	
52GW34	20.98	40 - 50	Lower Surficial Aquifer	10.30	10.68		
52GW37	21.04	20 - 30	Upper Surficial Aquifer	10.59	10.45	-0.013	
52GW36	21.03	40 - 50	Lower Surficial Aquifer	10.84	10.19		
52GW39	20.37	20 - 30	Upper Surficial Aquifer	8.36	12.01	-0.027	
52GW38	20.47	40 - 50	Lower Surficial Aquifer	8.99	11.48		
52GW41	20.99	20 - 30	Upper Surficial Aquifer	9.23	11.76	-0.027	
52GW40	21.01	39 - 49	Lower Surficial Aquifer	9.76	11.25		
52GW44	20.91	20 - 30	Upper Surficial Aquifer	9.92	10.99	-0.016	
52GW43	20.98	45 - 55	Lower Surficial Aquifer	10.39	10.59		
52GW51	21.01	20 - 30	Upper Surficial Aquifer	9.30	11.71	-0.020	
52GW50	21.02	40 - 50	Lower Surficial Aquifer	9.71	11.31		
52GW60	21.14	20 - 30	Upper Surficial Aquifer	9.20	11.94	-0.037	
52GW59	21.11	40 - 50	Lower Surficial Aquifer	9.91	11.20		
52GW72	18.73	20 - 30	Upper Surficial Aquifer	5.98	12.75	-0.061	
52GW71	18.69	36 - 46	Lower Surficial Aquifer	6.91	11.78		
MW20	23.06	6 - 16	Upper Surficial Aquifer	7.64	15.42	-0.056	
MW21	22.16	39 - 49	Lower Surficial Aquifer	8.59	13.57		
MW28	23.23	12 - 24	Upper Surficial Aquifer	19.48	3.75	-0.001	
S3W3	21.52	38 - 48	Lower Surficial Aquifer	17.80	3.72		
MW42	5.79	2 - 12	Upper Surficial Aquifer	3.49	2.30	-0.1092	
MW43	3.73	32.5 - 42.5	Lower Surficial Aquifer	4.76	-1.03		
MW58	15.39	3 - 13	Upper Surficial Aquifer	4.46	10.93	-0.0162	
MW59	17.86	32 - 42	Lower Surficial Aquifer	7.40	10.46		
N2GW15	22.73	20 - 30	Upper Surficial Aquifer	12.15	10.58	-0.0583	
52GW19	22.11	44 - 54	Lower Surficial Aquifer	12.93	9.18		
N2GW17	24.64	12.9 - 22.9	Upper Surficial Aquifer	13.62	11.02	-0.042	
52GW24	20.50	42 - 52	Lower Surficial Aquifer	10.70	9.80		
N2GW29	21.72	5 - 15	Upper Surficial Aquifer	10.09	11.63	-0.039	
52GW29	20.95	43 - 53	Lower Surficial Aquifer	10.81	10.14		
N2GW36	21.36	5 - 15	Upper Surficial Aquifer	9.22	12.14	-0.047	
52GW15	20.42	43 - 53	Lower Surficial Aquifer	10.06	10.36		
N4GW07	21.71	8 - 18	Upper Surficial Aquifer	9.8	11.91	-0.020	
N4GW09	21.67	45 - 50	Lower Surficial Aquifer	10.41	11.26		
52GW58	21.08	20 - 30	Upper Surficial Aquifer	8.99	12.09	-0.033	
52GW57	21.06	40 - 50	Lower Surficial Aquifer	9.64	11.42		
Upward Vertical Gradients within the Surficial Aquifer							
16GW29	10.52	5 - 15	Upper Surficial Aquifer	8.23	2.29	0.042	Upward
16GW28	10.84	35.5 - 45.5	Lower Surficial Aquifer	7.26	3.58		
16GW31	18.84	11 - 21	Upper Surficial Aquifer	15.80	3.04	0.005	
16GW30	18.92	45 - 55	Lower Surficial Aquifer	15.71	3.21		

TABLE 7
Vertical Gradients - Spring 2009
Marine Corps Air Station Cherry Point, North Carolina

Well ID	Reference Point Elevation (ft msl)	Screened Interval (ft bgs)	Aquifer	Depth to Water (ft btoc)	Groundwater Elevation (ft msl)	Vertical Gradient (ft/ft)	Upward or Downward Gradient
16GW35	11.60	5 - 15	Upper Surficial Aquifer	8.62	2.98	0.002	Upward
16GW34	11.10	36.5 - 46.5	Lower Surficial Aquifer	8.06	3.04		
16GW37	7.28	5 - 15	Upper Surficial Aquifer	3.71	3.57	0.000	
16GW36	7.43	32 - 42	Lower Surficial Aquifer	3.86	3.57		
42GW05	15.47	1 - 11	Upper Surficial Aquifer	4.61	10.86	0.006	
MW01	13.56	25.9 - 35.9	Lower Surficial Aquifer	2.56	11.00		
52GW48	21.08	20 - 30	Upper Surficial Aquifer	10.60	10.48	0.027	
52GW47	22.08	44 - 54	Lower Surficial Aquifer	10.95	11.13		
52GW70	21.11	20 - 30	Upper Surficial Aquifer	11.65	9.46	0.077	
52GW69	21.10	40 - 50	Lower Surficial Aquifer	10.10	11.00		
GW75	12.65	20 - 30	Upper Surficial Aquifer	6.82	5.83	0.001	
42GW15	12.83	36 - 46	Lower Surficial Aquifer	6.99	5.84		
MW12	5.49	3 - 13	Upper Surficial Aquifer	4.26	1.23	0.006	
MW48	5.63	32 - 42	Lower Surficial Aquifer	4.24	1.39		
MW38	6.96	3 - 13	Upper Surficial Aquifer	3.02	3.94	0.0032	
MW39	6.92	25 - 35	Lower Surficial Aquifer	2.91	4.01		
MW40	5.84	2 - 12	Upper Surficial Aquifer	3.56	2.28	0.0034	
MW41	5.62	31 - 41	Lower Surficial Aquifer	3.24	2.38		
MW44	5.69	2 - 12	Upper Surficial Aquifer	3.56	2.13	0.0100	
MW45	5.71	35 - 45	Lower Surficial Aquifer	3.25	2.46		
MW50	6.94	3 - 13	Upper Surficial Aquifer	4.01	2.93	0.025	
MW51	6.98	31 - 41	Lower Surficial Aquifer	3.34	3.64		

Notes:
ft bgs - feet below ground surface
ft msl - feet (relative) mean sea level
gradient

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	14GW18	14GW49	14GW51	14GW53	16GW01	16GW02	16GW03	16GW04
Sample ID				OU1-14GW18-0309	OU1-14GW49-0309	OU1-14GW51-0309	OU1-14GW53-0509	OU1-16GW01-0309	OU1-16GW02-0309	OU1-16GW03-0309	OU1-16GW04-0309
Sample Date				03/27/09	03/28/09	03/27/09	05/06/09	03/10/09	03/11/09	03/11/09	03/11/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	**16 (3)**	**0.94 J**	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	**63 (1,2)**	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	**0.97 (3) J**	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.9**
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	**3.4 (2) J**
cis-1,2-Dichloroethene	70	70	370	1 U	1 U	**320 (1,2)**	**1.5**	1 U	**4.5**	**52**	**180 (1,2)**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.96 J**
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	1 U	**2**	2.5 U	1 U	1 U	**2.3**	**3.4**	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**16 (1,2,3)**
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	**170 (1,2,3)**	1 U	1 U	1 U	**4.4**	**29**
Trichloroethene	5	2.8	1.7	1 U	1 U	**13 (1,2,3)**	**2.2 (3)**	1 U	**3.9 (2,3)**	**19 (1,2,3)**	**190 (1,2,3)**
Vinyl chloride	2	0.015	0.016	1 U	1 U	**170 (1,2,3)**	1 U	1 U	1 U	1 U	**60 (1,2,3)**

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

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9. NA - Not analyzed
10. "--" - No screening criteria exists
11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW05	16GW06	16GW08		16GW09	16GW10	16GW11	16GW16
Sample ID				OU1-16GW05-0309	OU1-16GW06-0309	OU1-16GW08-0309	OU1-16GW08P-0309	OU1-16GW09-0309	OU1-16GW10-0309	OU1-16GW11-0309	OU1-16GW16-0309
Sample Date				03/30/09	03/13/09	03/28/09	03/28/09	03/11/09	03/15/09	03/16/09	03/10/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 UJ	10 UJ	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 UJ	10 UJ	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
1,1-Dichloroethene	7	7	340	1 U	**6.5**	1 U	1 U	1 U	1 UJ	10 UJ	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 UJ	10 UJ	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 UJ	10 UJ	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	1 UJ	10 UJ	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	10 U	**16**
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 UJ	10 UJ	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	**540 (1,2,3)**	**1.3**	**2.3**	1 U	**8**	10 U	1 U
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
Methylene chloride	5	4.6	4.8	1 U	1 U	**2.6**	**2.3**	1 U	3.5 U	10 R	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 UJ	10 UJ	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	**2.8 (2,3) J**	**3.4 (2,3) J**	1 U	1 U	10 U	**2.6 (2,3)**
trans-1,2-Dichloroethene	100	100	110	1 U	**59**	1 U	1 U	1 U	1 U	10 U	1 U
Trichloroethene	5	2.8	1.7	1 U	**13 (1,2,3)**	**1.4**	**2.1 (3)**	1 U	**4.9 (2,3) J**	**210 (1,2,3) J**	**2.3 (3)**
Vinyl chloride	2	0.015	0.016	1 U	**31 (1,2,3)**	1 U	1 U	1 U	**4.8 (1,2,3) J**	10 UJ	1 U

Notes:

1. Bold indicates detections

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11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW21	16GW28	16GW29	16GW30	16GW31	16GW32	16GW33	16GW34
Sample ID				OU1-16GW21-0309	OU1-16GW28-0309	OU1-16GW29-0309	OU1-16GW30-0309	OU1-16GW31-0309	OU1-16GW32-0309	OU1-16GW33-0309	OU1-16GW34-0309
Sample Date				03/24/09	03/13/09	03/13/09	03/12/09	03/12/09	03/13/09	03/12/09	03/13/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**0.76 J**
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.5 (2,3)**
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	**180 (1,2)**	1 U	**32**	1 U	**10**	1 U	**110 (1,2)**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	**2.2**	**2.6**	**2.2**	1 U	1 U	1 U	3.7 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	**7.7**	1 U	**2.9**	1 U	1 U	1 U	**5.3**
Trichloroethene	5	2.8	1.7	1 U	**32 (1,2,3)**	1 U	**2 (3)**	1 U	**0.96 J**	1 U	**38 (1,2,3)**
Vinyl chloride	2	0.015	0.016	1 U	**29 (1,2,3)**	1 U	**8.8 (1,2,3)**	1 U	1 U	1 U	**17 (1,2,3)**

Notes:

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11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW35	16GW36	16GW37	16GW40	16GW41	16GW42	16GW49[1]	
Sample ID				OU1-16GW35-0309	OU1-16GW36-0309	OU1-16GW37-0309	OU1-16GW40-0309	OU1-16GW41-0309	OU1-16GW42-0309	OU1-16GW49-0509	OU1-16GW49P-0509
Sample Date				03/13/09	03/28/09	03/28/09	03/11/09	03/11/09	03/11/09	05/06/09	05/06/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	**2.1 (2,3)**	1 U	1 U	1 U	NA
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
1,1-Dichloroethene	7	7	340	1 U	**1.2**	**5.8**	1 U	1 U	1 U	1 U	NA
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Benzene	5	1	0.41	1 U	1 U	**1.1 (2,3)**	1 UJ	1 U	**1.2 (2,3)**	1 U	NA
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA
cis-1,2-Dichloroethene	70	70	370	1 U	**160 (1,2)**	**730 (1,2,3)**	**16**	**170 (1,2)**	**140 (1,2)**	**5.9**	NA
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Methylene chloride	5	4.6	4.8	1 U	**2.5**	**2.4**	1 U	1 U	1 U	1 U	NA
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	0.22 U	0.22 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA
Tetrachloroethene	5	0.7	0.11	1 U	1 UJ	1 UJ	**8 (1,2,3)**	1 U	1 U	1 U	NA
trans-1,2-Dichloroethene	100	100	110	1 U	**33**	**82**	**1.7**	**5**	**11**	**0.89 J**	NA
Trichloroethene	5	2.8	1.7	1 U	**1.4**	**3.3 (2,3)**	**11 (1,2,3)**	**4 (2,3)**	**13 (1,2,3)**	1 U	NA
Vinyl chloride	2	0.015	0.016	1 U	**2.4 (1,2,3)**	**30 (1,2,3)**	**8.8 (1,2,3)**	**22 (1,2,3)**	**32 (1,2,3)**	1 U	NA

Notes:

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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW50	16GW51	16GW52	42GW05	42GW08	42GW15	42GW16	42GW17
Sample ID				OU1-16GW50-0509	OU1-16GW51-0509	OU1-16GW52-0509	OU1-42GW05-0309	OU1-42GW08-0309	OU1-42GW15-0309	OU1-42GW16-0509	OU1-42GW17-0509
Sample Date				05/07/09	05/06/09	05/06/09	03/25/09	03/25/09	03/28/09	05/05/09	05/06/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	**4.1 (3)**	1 U	**7.8 (3)**	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 U	**7.1 (1,2)**	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	**2.5 (2,3) J**	**7.9 (2,3)**	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	**0.81 (3) J**	1 UJ	1 U
Chlorobenzene	100	50	91	1 U	1 U	**37 J**	**130 (1,2,3)**	**3.3**	1 U	1 U	1 U
Chloroform	80	70	0.19	**2.8 (3)**	1 U	1 U	1 U	1 U	1 U	1 U	**2.6 (3)**
Chloromethane	--	2.6	190	1 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 UJ	1 UJ
cis-1,2-Dichloroethene	70	70	370	**120 (1,2)**	**24**	1 U	**31**	1 U	**410 (1,2,3)**	**7.4**	**1.3**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	1 UJ	1 U	1 U	1 U	**2.1**	**2.1**	1 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 UJ	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	**3.7**	1 U	1 U	1 U	1 U	**27**	1 U	1 U
Trichloroethene	5	2.8	1.7	**19 (1,2,3)**	**1.5**	1 U	**3 (2,3)**	**0.95 J**	**81 (1,2,3)**	**10 (1,2,3)**	**1.4**
Vinyl chloride	2	0.015	0.016	**16 (1,2,3)**	**5.5 (1,2,3)**	1 U	**73 (1,2,3)**	1 U	**4.7 (1,2,3)**	1 UJ	1 U

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TABLE 8
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Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	42GW17	42GW18	42GW19	42GW20	42GW21	42GW22	42GW23	47GW05
Sample ID				OU1-42GW17P-0509	OU1-42GW18-0509	OU1-42GW19-0509	OU1-42GW20-0509	OU1-42GW21-0509	OU1-42GW22-0509	OU1-42GW23-0509	OU1-47GW05-0309
Sample Date				05/06/09	05/05/09	05/05/09	05/05/09	05/05/09	05/05/09	05/05/09	03/26/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	**21 (3)**	**5.8 (3)**	**1**
1,1-Dichloroethene	7	7	340	1 U	**1.2**	1 U	1 U	1 U	**20 (1,2)**	**4**	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**63 (3)**
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**38 (3)**
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 UJ	1 UJ	1 U	1 UJ	**3.4 (2,3)**	**1.4 (2,3)**	**11 (1,2,3)**
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	**5.6 (3)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 UJ	1 UJ	1 UJ	1 U	1 UJ	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**1.7**	**7.7**	**2.8**	**0.95 J**	**0.86 J**	**1200 (1,2,3)**	**180 (1,2)**	1 U
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**8.9 (3)**
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**22**
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**19**
Methylene chloride	5	4.6	4.8	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.9 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 UJ	**20 (3)**	**1.5**	1 U	**1.9**	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**69 (2,3)**
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**14**
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	1 U	1 U	1 U	**20**	**4**	1 U
Trichloroethene	5	2.8	1.7	**2.2 (3)**	**7 (1,2,3)**	**1.4**	**1.4**	**1.1**	**21 (1,2,3)**	**78 (1,2,3)**	1 U
Vinyl chloride	2	0.015	0.016	1 U	1 UJ	1 UJ	1 U	1 UJ	**130 (1,2,3)**	**16 (1,2,3)**	**49 (1,2,3)**

Notes:

1. Bold indicates detections

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3. Red bolding indicates exceedance of RSLs

4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

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9. NA - Not analyzed
10. "--" - No screening criteria exists
11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	47GW06	47GW07	47GW08	47GW09[1]		47GW10[1]		47GW11
Sample ID				OU1-47GW06-0309	OU1-47GW07-0309	OU1-47GW08-0309	OU1-47GW09-0309	OU1-47GW09P-0309	OU1-47GW10-0309	OU1-47GW10P-0309	OU1-47GW11-0309
Sample Date				03/26/09	03/26/09	03/26/09	03/27/09	03/27/09	03/27/09	03/27/09	03/26/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	**850 (2,3)**	1 U	1 U	1 U	1 U	1 U	**1.1**
1,1-Dichloroethene	7	7	340	1 U	**72 (1,2)**	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	50	91	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	50 U	1 U	1 U	1 U	**5.4 (3)**	**4 (3)**	1 U
Chloromethane	--	2.6	190	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**1.2**	**850 (1,2,3)**	1 U	**4.1**	**4.1**	1 U	1 U	**8**
Ethylbenzene	700	550	1.5	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	2.6 U	120 U	2.3 U	2.2 U	2.4 U	2.8 U	2.5 U	3.5 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	**1.2 (3)**	50 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	2.8	1.7	**0.84 J**	**440 (1,2,3)**	1 U	1 U	1 U	1 U	1 U	**3.8 (2,3)**
Vinyl chloride	2	0.015	0.016	1 U	50 U	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

1. Bold indicates detections

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4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected
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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	47GW12	47GW17	47GW18	47GW19	47GW20	47GW25	51EX10	51EX12
Sample ID				OU1-47GW12-0309	OU1-47GW17-0309	OU1-47GW18-0309	OU1-47GW19-0309	OU1-47GW20-0309	OU1-47GW25-0309	OU1-51EX10-0309	OU1-51EX12-0309
Sample Date				03/26/09	03/26/09	03/26/09	03/26/09	03/27/09	03/26/09	03/27/09	03/29/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	**32**	1 U	**12**	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	**1.9**	**75 (2,3)**	**1.3**	**240 (2,3)**	1 U	**16 (3)**	**20 (3)**	1 U
1,1-Dichloroethene	7	7	340	1 U	**2.6**	1 U	**11 (1,2)**	1 U	**44 (1,2)**	**37 (1,2)**	**2.4**
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**130 (1,2,3)**
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**2**	**2.9**	**1.1**	**19**	1 U	**52**	**150 (1,2)**	**870 (1,2,3)**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**1.7 (3)**
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**2.6**
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	4.1 U	2.7 U	4.2 U	3.5 U	2.9 U	1 U	1 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	**1.3**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	**12 (1,2,3)**	1 U	**3.7 (2,3)**	1 U	1 U	1 U	1 UJ	1 UJ
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	1 U	**1.4**	1 U	**19**	**13**	**7.6**
Trichloroethene	5	2.8	1.7	**2.2 (3)**	**6.5 (1,2,3)**	**2.6 (3)**	**4.1 (2,3)**	1 U	**11 (1,2,3)**	**6.6 (1,2,3)**	**170 (1,2,3)**
Vinyl chloride	2	0.015	0.016	1 U	**19 (1,2,3)**	1 U	**18 (1,2,3)**	1 U	**88 (1,2,3)**	**31 (1,2,3)**	**190 (1,2,3)**

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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	51EX13	51EX16	51EX17	51EX18	51EX19	51GW02	52GW01	52GW07
Sample ID				OU1-51EX13-0309	OU1-51EX16-0309	OU1-51EX17-0309	OU1-51EX18-0309	OU1-51EX19-0309	OU1-51GW02-0309	OU1-52GW01-0309	OU1-52GW07-0309
Sample Date				03/25/09	03/25/09	03/25/09	03/28/09	03/28/09	03/26/09	03/24/09	03/24/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	**10**	1 U	1 U	**9.2 (3)**	**1.7**	10 U
1,1-Dichloroethene	7	7	340	**5**	**2.5**	**2.5**	1 U	1 U	1 U	**1.3**	10 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Benzene	5	1	0.41	**51 (1,2,3)**	**3.6 (2,3)**	**1 (3)**	**1.1 (2,3)**	**1.7 (2,3)**	1 U	1 U	10 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
cis-1,2-Dichloroethene	70	70	370	**980 (1,2,3)**	**430 (1,2,3)**	**320 (1,2)**	**190 (1,2)**	**200 (1,2)**	**18**	**45**	**77 (1,2)**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Methylene chloride	5	4.6	4.8	1 U	1 U	1 U	1 U	1 U	3.7 U	1 U	10 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	10 U
trans-1,2-Dichloroethene	100	100	110	**18**	**120 (1,2,3)**	**28**	**30**	**39**	**2.9**	**11**	**11**
Trichloroethene	5	2.8	1.7	**180 (1,2,3)**	**52 (1,2,3)**	**200 (1,2,3)**	**15 (1,2,3)**	**70 (1,2,3)**	1 U	**200 (1,2,3)**	**370 (1,2,3)**
Vinyl chloride	2	0.015	0.016	**77 (1,2,3)**	**650 (1,2,3)**	**35 (1,2,3)**	**43 (1,2,3)**	**47 (1,2,3)**	**110 (1,2,3)**	1 U	10 U

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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW08	52GW10	52GW11	52GW15	52GW16	52GW17[1]		52GW18
Sample ID				OU1-52GW08-0309	OU1-52GW10-0309	OU1-52GW11-0309	OU1-52GW15-0309	OU1-52GW16-0309	OU1-52GW17-0309	OU1-52GW17P-0309	OU1-52GW18-0309
Sample Date				03/24/09	03/24/09	03/24/09	03/20/09	03/22/09	03/22/09	03/22/09	03/22/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
1,1,1-Trichloroethane	200	200	9,100	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
1,1-Dichloroethane	--	70	2.4	**66 (3)**	1 U	1 U	1 U	1 U	10 U	10 U	1 U
1,1-Dichloroethene	7	7	340	50 U	1 U	1 U	1 U	1 U	10 U	10 U	**15 (1,2)**
1,2,4-Trimethylbenzene	--	350	15	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
1,3,5-Trimethylbenzene	--	350	12	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Benzene	5	1	0.41	50 U	1 U	1 U	1 U	1 U	**56 (1,2,3)**	**54 (1,2,3)**	**77 (1,2,3)**
Chlorobenzene	100	50	91	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Chloroform	80	70	0.19	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Chloromethane	--	2.6	190	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
cis-1,2-Dichloroethene	70	70	370	**1100 (1,2,3)**	**2.1**	**18**	1 U	**35**	**140 (1,2)**	**130 (1,2)**	**4200 (1,2,3)**
Ethylbenzene	700	550	1.5	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Hexachlorobutadiene	--	0.44	0.86	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Isopropylbenzene	--	70	680	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
m- and p-Xylene	--	530	--	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Methylene chloride	5	4.6	4.8	50 U	1 U	1 U	1 U	**2.2**	**23 (1,2,3)**	**22 (1,2,3)**	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Naphthalene	--	21	0.14	50 U	1 U	1 U	1 U	1 U	**24 (2,3)**	**27 (2,3)**	1 U
n-Propylbenzene	--	70	--	50 U	1 U	1 U	1 U	1 U	10 U	10 U	1 U
Tetrachloroethene	5	0.7	0.11	50 U	1 U	1 U	1 UJ	1 U	10 U	10 U	1 U
trans-1,2-Dichloroethene	100	100	110	50 U	1 U	1 U	1 U	**4**	10 U	10 U	**10**
Trichloroethene	5	2.8	1.7	**2000 (1,2,3)**	**5.5 (1,2,3)**	**30 (1,2,3)**	1 U	**24 (1,2,3) J**	**360 (1,2,3)**	**340 (1,2,3)**	**430 (1,2,3)**
Vinyl chloride	2	0.015	0.016	**110 (1,2,3)**	1 U	1 U	1 U	**2.3**	10 U	10 U	**400 (1,2,3)**

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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW19[1]		52GW20	52GW21[1]		52GW22	52GW23	52GW24
Sample ID				OU1-52GW19-0309	OU1-52GW19P-0309	OU1-52GW20-0309	OU1-52GW21-0309	OU1-52GW21P-0309	OU1-52GW22-0309	OU1-52GW23-0309	OU1-52GW24-0309
Sample Date				03/22/09	03/22/09	03/23/09	03/24/09	03/24/09	03/23/09	03/23/09	03/20/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	50 U	50 U	**1.2**	10 U	10 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	50 U	50 U	**1.1**	10 U	10 U	**0.89 J**	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Benzene	5	1	0.41	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Chlorobenzene	100	50	91	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Chloroform	80	70	0.19	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**610 (1,2,3)**	**590 (1,2,3)**	**62**	**380 (1,2,3)**	**390 (1,2,3)**	**190 (1,2)**	**2**	**84 (1,2)**
Ethylbenzene	700	550	1.5	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	**110 (1,2,3)**	**110 (1,2,3)**	**2.4**	10 U	10 U	**2**	1 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 UJ
trans-1,2-Dichloroethene	100	100	110	**86**	**81**	**9.2**	**32**	**33**	**7.8**	1 U	1 U
Trichloroethene	5	2.8	1.7	**260 (1,2,3)**	**260 (1,2,3)**	**36 (1,2,3)**	**110 (1,2,3)**	**110 (1,2,3)**	**31 (1,2,3)**	**1.6**	**2.9 (2,3)**
Vinyl chloride	2	0.015	0.016	50 U	50 U	1 U	10 U	10 U	1 U	1 U	1 U

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

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4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

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9. NA - Not analyzed
10. "--" - No screening criteria exists
11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW26[1]		52GW27	52GW28[1]		52GW29	52GW30	52GW31
Sample ID				OU1-52GW26-0309	OU1-52GW26P-0309	OU1-52GW27-0309	OU1-52GW28-0309	OU1-52GW28P-0309	OU1-52GW29-0309	OU1-52GW30-0309	OU1-52GW31-0309
Sample Date				03/23/09	03/23/09	03/20/09	03/20/09	03/20/09	03/20/09	03/24/09	03/24/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
1,1-Dichloroethane	--	70	2.4	**1.2**	**1.3**	**6.6 (3)**	**370 (2,3)**	**360 (2,3)**	1 U	1 U	50 U
1,1-Dichloroethene	7	7	340	1 U	1 U	**2.7**	50 U	50 U	1 U	1 U	50 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Benzene	5	1	0.41	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Chloroform	80	70	0.19	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
cis-1,2-Dichloroethene	70	70	370	**10**	**12**	**70**	**400 (1,2,3)**	**390 (1,2,3)**	**1.7**	**3.4**	**410 (1,2,3)**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Methylene chloride	5	4.6	4.8	**2.2**	**2.3**	**2.9**	50 U	**110 (1,2,3)**	1 U	**2.7**	**110 (1,2,3)**
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 UJ	50 UJ	50 UJ	1 UJ	1 U	50 U
trans-1,2-Dichloroethene	100	100	110	**1.6**	**1.8**	**7.1**	50 U	50 U	1 U	1 U	50 U
Trichloroethene	5	2.8	1.7	**14 (1,2,3)**	**18 (1,2,3)**	**100 (1,2,3)**	**920 (1,2,3)**	**970 (1,2,3)**	**3.3 (2,3)**	**12 (1,2,3)**	**820 (1,2,3)**
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	50 U	50 U	1 U	1 U	50 U

Notes:

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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW32	52GW33	52GW34	52GW35	52GW36	52GW37	52GW38	52GW39
Sample ID				OU1-52GW32-0309	OU1-52GW33-0309	OU1-52GW34-0309	OU1-52GW35-0309	OU1-52GW36-0309	OU1-52GW37-0309	OU1-52GW38-0309	OU1-52GW39-0309
Sample Date				03/19/09	03/19/09	03/17/09	03/17/09	03/17/09	03/17/09	03/18/09	03/18/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	**0.91 J**	**64 (3)**	1 U	50 U	1 U	50 U	1 U	**5 (3)**
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	50 U	1 U	50 U	1 U	**2**
Chloroform	80	70	0.19	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**21**	**48**	**24**	**560 (1,2,3)**	1 U	**200 (1,2)**	**1.1**	**5.6**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Methylene chloride	5	4.6	4.8	1 U	**2.6**	1 U	**170 (1,2,3)**	**3.2**	**160 (1,2,3)**	2.2 U	2.2 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	**2 (2,3)**	1 U	50 U	1 U	50 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	**1.8**	1 U	1 U	50 U	1 U	50 U	1 U	1 U
Trichloroethene	5	2.8	1.7	**45 (1,2,3)**	**390 (1,2,3)**	**110 (1,2,3)**	**540 (1,2,3)**	1 U	**950 (1,2,3)**	**1.4**	**1.3**
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	50 U	1 U	50 U	1 U	1 U

Notes:

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11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW40	52GW41[1]		52GW42	52GW43	52GW44[1]		52GW45
Sample ID				OU1-52GW40-0309	OU1-52GW41-0309	OU1-52GW41P-0309	OU1-52GW42-0309	OU1-52GW43-0309	OU1-52GW44-0309	OU1-52GW44P-0309	OU1-52GW45-0309
Sample Date				03/17/09	03/17/09	03/17/09	03/18/09	03/19/09	03/19/09	03/19/09	03/17/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	**1.1**	**0.84 J**	1 U	1 U	1 U	50 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 UJ	1 U	1 U	50 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
cis-1,2-Dichloroethene	70	70	370	**3.1**	**4.2**	**3.8**	1 U	1 U	**1900 (1,2,3)**	**1200 (1,2,3)**	1 U
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Methylene chloride	5	4.6	4.8	**3.4**	**3.7**	**2.4**	1 U	**2.4**	**2.6**	50 U	**3.4**
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	1 U	1 U	1 U	**33**	**60**	1 U
Trichloroethene	5	2.8	1.7	**2.6 (3)**	**18 (1,2,3)**	**19 (1,2,3)**	1 U	**1.1**	**160 (1,2,3)**	**100 (1,2,3)**	1 U
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	1 U	1 U	1 U	50 U	1 U

Notes:

1. Bold indicates detections

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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW46[1]		52GW47	52GW48	52GW49[1]		52GW50	52GW51
Sample ID				OU1-52GW46-0309	OU1-52GW46P-0309	OU1-52GW47-0309	OU1-52GW48-0309	OU1-52GW49-0309	OU1-52GW49P-0309	OU1-52GW50-0309	OU1-52GW51-0309
Sample Date				03/16/09	03/16/09	03/18/09	03/18/09	03/30/09	03/30/09	03/17/09	03/17/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
1,1,1-Trichloroethane	200	200	9,100	10 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	50 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	10 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	50 U
1,1-Dichloroethane	--	70	2.4	10 U	1 U	1 U	**0.8 J**	1 U	1 U	1 U	50 U
1,1-Dichloroethene	7	7	340	10 UJ	**11 (1,2) J**	1 U	**2.2**	1 U	1 U	1 U	50 U
1,2,4-Trimethylbenzene	--	350	15	10 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	50 U
1,3,5-Trimethylbenzene	--	350	12	10 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	50 U
1,4-Dichlorobenzene	75	1.4	0.43	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
Benzene	5	1	0.41	10 UJ	1 UJ	1 UJ	1 U	1 U	1 U	1 U	50 U
Chlorobenzene	100	50	91	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
Chloroform	80	70	0.19	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
Chloromethane	--	2.6	190	10 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	50 U
cis-1,2-Dichloroethene	70	70	370	**1900 (1,2,3)**	**2100 (1,2,3)**	1 U	**2.7**	1 U	1 U	**1.3**	**250 (1,2)**
Ethylbenzene	700	550	1.5	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
Hexachlorobutadiene	--	0.44	0.86	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
Isopropylbenzene	--	70	680	10 U	**0.88 J**	1 U	1 U	1 U	1 U	1 U	50 U
m- and p-Xylene	--	530	--	10 U	**1.9**	1 U	1 U	1 U	1 U	1 U	50 U
Methylene chloride	5	4.6	4.8	10 R	3.3 U	1 U	2.6 U	2.5 U	2.5 U	1 U	**170 (1,2,3)**
Methyl-tert-butyl ether (MTBE)	--	200	12	10 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	50 U
Naphthalene	--	21	0.14	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
n-Propylbenzene	--	70	--	10 U	1 U	1 U	1 U	1 U	1 U	1 U	50 U
Tetrachloroethene	5	0.7	0.11	**14 (1,2,3)**	**19 (1,2,3)**	1 U	1 U	1 U	1 U	1 U	50 U
trans-1,2-Dichloroethene	100	100	110	**46 J**	**4.7 J**	1 U	1 U	1 U	1 U	1 U	50 U
Trichloroethene	5	2.8	1.7	**17000 (1,2,3)**	**20000 (1,2,3)**	**1.1**	**30 (1,2,3)**	1 U	1 U	**0.95 J**	**1800 (1,2,3)**
Vinyl chloride	2	0.015	0.016	**68 (1,2,3) J**	**28 (1,2,3) J**	1 U	1 U	1 U	1 U	1 U	50 U

Notes:

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TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW52	52GW53	52GW54	52GW55	52GW56
Sample ID				OU1-52GW52-0309	OU1-52GW53-0309	OU1-52GW54-0309	OU1-52GW55-0309	OU1-52GW56-0309
Sample Date				03/17/09	03/17/09	03/19/09	03/18/09	03/18/09
Chemical Name								
Volatile Organic Compounds (UG/L)								
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	**3.8 (1,2)**	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	**600 (1,2,3)**	1 U	1 U	**1.6**
Ethylbenzene	700	550	1.5	1 U	**2 (3)**	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	**3.7**	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	**3.4**	1 U	**2.2**	2.2 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	**2 (3)**	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	**10 (1,2,3) J**	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	**3.6**	1 U	1 U	1 U
Trichloroethene	5	2.8	1.7	**8.1 (1,2,3)**	**9700 (1,2,3)**	1 U	**8.3 (1,2,3)**	**8.6 (1,2,3)**
Vinyl chloride	2	0.015	0.016	1 U	**21 (1,2,3)**	1 U	1 U	1 U

Notes:

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2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

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TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW57	52GW58	52GW59	52GW60	52GW61	52GW62	52GW63	52GW64
Sample ID				OU1-52GW57-0309	OU1-52GW58-0309	OU1-52GW59-0309	OU1-52GW60-0309	OU1-52GW61-0309	OU1-52GW62-0309	OU1-52GW63-0309	OU1-52GW64-0309
Sample Date				03/18/09	03/18/09	03/19/09	03/17/09	03/16/09	03/16/09	03/19/09	03/19/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**1.8**	**980 (1,2,3)**	1 U	**1.3**	**2**	**1100 (1,2,3)**	1 U	**8.2**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Methylene chloride	5	4.6	4.8	2.2 U	2.1 U	**2.4**	1 U	1 U	170 U	**2.3**	**2.3**
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	**2.4 (2,3)**	1 U	1 U	1 U	50 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	**17**	1 U	1 U	1 U	**75**	1 U	1 U
Trichloroethene	5	2.8	1.7	**4.9 (2,3)**	**9300 (1,2,3)**	1 U	1 U	**5.5 (1,2,3)**	**2200 (1,2,3)**	1 U	**190 (1,2,3)**
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

3. Red bolding indicates exceedance of RSLs

4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected

6. J - Reported value is estimated

7. J+ - Reported value is estimated biased high

8. UJ - Analyte not detected. Quanitation limit is imprecise

9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Volatile Organic Compounds
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW65	52GW66	52GW67	52GW68	52GW69	52GW70	52GW71	52GW72
Sample ID				OU1-52GW65-0309	OU1-52GW66-0309	OU1-52GW67-0309	OU1-52GW68-0309	OU1-52GW69-0309	OU1-52GW70-0309	OU1-52GW71-0309	OU1-52GW72-0309
Sample Date				03/19/09	03/19/09	03/19/09	03/19/09	03/17/09	03/17/09	03/18/09	03/18/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	1 U	1 U	**23**	1 U	**1.4**	1 U	1 U
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	1 U	1 U	**2**	**2.1**	1 U	1 U	1 U	2.4 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	2.8	1.7	1 U	1 U	1 U	**11 (1,2,3)**	1 U	**380 (1,2,3)**	1 U	1 U
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

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4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected
6. J - Reported value is estimated
7. J+ - Reported value is estimated biased high
8. UJ - Analyte not detected. Quanitation limit is imprecise

9. NA - Not analyzed
10. "--" - No screening criteria exists
11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW73	52GW74	52GW76	OU1-GW75	OU1-GW76	OU1-MW01		OU1-MW12
Sample ID				OU1-52GW73-0309	OU1-52GW74-0309	OU1-52GW76-0309	OU1-GW75-0309	OU1-GW76-0309	OU1-MW01-0309	OU1-MW01P-0309	OU1-MW12-0309
Sample Date				03/19/09	03/19/09	03/23/09	03/30/09	03/27/09	03/25/09	03/25/09	03/11/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	**11 (3)**	**2.3**	**23 (3)**	**1.6**	**1.6**	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	**1.3**	**55 (1,2)**	**2.4**	**2.6**	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	**1.1**	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	**0.69 J**	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	**0.83 (3) J**	1 U	**2.2 (2,3)**	**2 (2,3)**	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	1 U	**12**	**120 (1,2)**	**270 (1,2)**	**27**	**27**	1 U
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	**2.1**	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	**2.2**	1 U	**2.2**	3.4 U	2.2 U	1 U	1 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 UJ	1 UJ	**2.6 (2,3)**	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	1 U	**2.7**	**32**	**2.6**	**2.9**	1 U
Trichloroethene	5	2.8	1.7	1 U	1 U	**38 (1,2,3)**	**9.5 (1,2,3)**	**38 (1,2,3)**	**19 (1,2,3)**	**19 (1,2,3)**	1 U
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	**8.7 (1,2,3)**	**52 (1,2,3)**	1 U	1 U	1 U

Notes:

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9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	OU1-MW20	OU1-MW21	OU1-MW23		OU1-MW28	OU1-MW37	OU1-MW38	OU1-MW39
Sample ID				OU1-MW20-0309	OU1-MW21-0309	OU1-MW23-0309	OU1-MW23P-0309	OU1-MW28-0309	OU1-MW37-0309	OU1-MW38-0309	OU1-MW39-0309
Sample Date				03/26/09	03/26/09	03/26/09	03/26/09	03/12/09	03/27/09	03/13/09	03/13/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	**2.7 J**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	**2**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	**7.2 (3)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	1 U	**7.5**	**7**	**31**	1 U	**1.2**	**3.8**
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	3.2 U	3.8 U	3.2 U	3.3 U	3.2 U	2.6 U	1 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	**5**
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 U	1 U	**1.6 (2,3)**	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	**2.2**	**2.4**	1 U	1 U	1 U	1 U
Trichloroethene	5	2.8	1.7	1 U	1 U	**4.3 (2,3)**	**4.8 (2,3)**	**10 (1,2,3)**	1 U	1 U	**1.7**
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	**2.1 (1,2,3)**	1 U	1 U	1 U	1 U

Notes:

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TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	OU1-MW40	OU1-MW41	OU1-MW42	OU1-MW43	OU1-MW44	OU1-MW45	OU1-MW48	OU1-MW50
Sample ID				OU1-MW40-0309	OU1-MW41-0309	OU1-MW42-0309	OU1-MW43-0309	OU1-MW44-0309	OU1-MW45-0309	OU1-MW48-0309	OU1-MW50-0309
Sample Date				03/29/09	03/29/09	03/29/09	03/29/09	03/29/09	03/29/09	03/11/09	03/10/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	**3.1**	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	1 U	1 U	1 U	1 U	1 U	**30**	1 U
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	**2.8**	**2.3**	1 U	**2.3**	1 U	1 U	1 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 UJ	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene	5	2.8	1.7	1 U	1 U	1 U	1 U	1 U	1 U	**1.6**	1 U
Vinyl chloride	2	0.015	0.016	1 U	1 U	1 U	1 U	1 U	1 U	**9 (1,2,3)**	1 U

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

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TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	OU1-MW51	OU1-MW53		OU1-MW55	OU1-MW58	OU1-MW59	OU1-MW64	OU1-MW73
Sample ID				OU1-MW51-0309	OU1-MW53-0309	OU1-MW53P-0309	OU1-MW55-0309	OU1-MW58-0309	OU1-MW59-0309	OU1-MW64-0309	OU1-MW73-0309
Sample Date				03/10/09	03/15/09	03/15/09	03/15/09	03/28/09	03/16/09	03/24/09	03/27/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	1 U	1 U	1 U	**46 (3)**	**1.1**	1 U
1,1-Dichloroethene	7	7	340	1 U	**1.8 J**	**1.6 J**	1 U	1 U	**110 (1,2) J**	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U	**24 (1,2,3)**
Chlorobenzene	100	50	91	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	1 U	**350 (1,2)**	**340 (1,2)**	1 U	1 U	**190 (1,2)**	**14**	1 U
Ethylbenzene	700	550	1.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	1 U	3 U	1 R	3.4 U	**2.6**	1 R	1 U	1 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 UJ	1 UJ	1 U	1 U	1 UJ	1 U	1 U
Naphthalene	--	21	0.14	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 U	**1 (2,3)**	1 U	1 UJ	**1 (2,3)**	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	1 U	**140 (1,2,3)**	**150 (1,2,3)**	1 U	1 U	**46**	**1.1**	**3.8**
Trichloroethene	5	2.8	1.7	1 U	**510 (1,2,3)**	**500 (1,2,3)**	1 U	1 U	**5.7 (1,2,3) J**	**26 (1,2,3)**	1 U
Vinyl chloride	2	0.015	0.016	1 U	**8.5 (1,2,3) J**	**8.9 (1,2,3) J**	1 U	1 U	**160 (1,2,3) J**	1 U	1 U

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

3. Red bolding indicates exceedance of RSLs

4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected

6. J - Reported value is estimated

7. J+ - Reported value is estimated biased high

8. UJ - Analyte not detected. Quanitation limit is imprecise

9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	N2GW07	N2GW15	N2GW17	N2GW18	N2GW25	N2GW27	N2GW28	N2GW29
Sample ID				OU1-N2GW07-0309	OU1-N2GW15-0309	OU1-N2GW17-0309	OU1-N2GW18-0309	OU1-N2GW25-0309	OU1-N2GW27-0309	OU1-N2GW28-0309	OU1-N2GW29-0309
Sample Date				03/23/09	03/22/09	03/20/09	03/24/09	03/29/09	03/22/09	03/22/09	03/20/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	**3.5 (3) J**	20 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	**2.6**	**4.1**	**3.4 J**	20 U	1 U	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	**0.85 J**	1 U	**160 (3) J**	**2000 (2,3)**	1 U	**110 (3)**	1 U	**9.1**
1,3,5-Trimethylbenzene	--	350	12	**1.2**	1 U	**52 (3)**	**780 (2,3)**	1 U	**110 (3)**	1 U	**9.6**
1,4-Dichlorobenzene	75	1.4	0.43	1 U	1 U	1 U	20 U	1 U	**74 (2,3)**	1 U	1 U
Benzene	5	1	0.41	**110 (1,2,3)**	**33 (1,2,3)**	**50 (1,2,3) J**	**26 (1,2,3)**	1 U	**39 (1,2,3)**	1 U	1 U
Chlorobenzene	100	50	91	1 U	1 U	1 U	20 U	1 U	**490 (1,2,3)**	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**310 (1,2)**	**970 (1,2,3)**	**260 (1,2)**	20 U	**2**	**5.6**	1 U	1 U
Ethylbenzene	700	550	1.5	**9.4 (3)**	1 U	**1 J**	**130 (3)**	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	20 U	1 U	**200 (3) J**	1 U	1 U
Isopropylbenzene	--	70	680	**13**	1 U	**11 J**	20 U	1 U	**80 (2)**	1 U	**2.8**
m- and p-Xylene	--	530	--	**0.65 J**	1 U	**3.9 J**	**560 (2)**	1 U	**19**	1 U	1 U
Methylene chloride	5	4.6	4.8	1 U	1 U	**2.3 J**	20 U	1 U	1 U	**2.4**	**2.2**
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	20 U	1 U	1 U	1 U	1 U
Naphthalene	--	21	0.14	**3.7 (3)**	1 U	**4.9 (3) J**	**680 (2,3)**	**3.5 (3)**	**300 (2,3)**	1 U	1 U
n-Propylbenzene	--	70	--	**5.4**	1 U	**7.4 J**	**180 (2)**	1 U	**120 (2)**	1 U	**6.8**
Tetrachloroethene	5	0.7	0.11	1 U	1 U	1 UJ	20 U	1 U	1 U	1 U	1 UJ
trans-1,2-Dichloroethene	100	100	110	**0.92 J**	**1.5**	**8.2 J**	20 U	1 U	**1.3**	1 U	1 U
Trichloroethene	5	2.8	1.7	**130 (1,2,3)**	**17 (1,2,3)**	**170 (1,2,3) J**	20 U	**14 (1,2,3)**	1 U	1 U	**3.2 (2,3)**
Vinyl chloride	2	0.015	0.016	**260 (1,2,3)**	**37 (1,2,3)**	**61 (1,2,3) J**	20 U	1 U	**45 (1,2,3)**	1 U	1 U

Notes:

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TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	N2GW36	N2GW41	N2GW44	N4GW07	N4GW09	N4GW14		N5GW03
Sample ID				OU1-N2GW36-0309	OU1-N2GW41-0309	OU1-N2GW44-0309	OU1-N4GW07-0309	OU1-N4GW09-0309	OU1-N4GW14-0309	OU1-N4GW14P-0309	OU1-N5GW03-0309
Sample Date				03/29/09	03/20/09	03/24/09	03/16/09	03/16/09	03/30/09	03/30/09	03/30/09
Chemical Name											
Volatile Organic Compounds (UG/L)											
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane	--	70	2.4	1 U	1 U	**3.4 (3)**	1 U	1 UJ	1 U	1 U	1 U
1,1-Dichloroethene	7	7	340	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	75	1.4	0.43	**39 (2,3)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5	1	0.41	**45 (1,2,3)**	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
Chlorobenzene	100	50	91	**500 (1,2,3)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	80	70	0.19	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
Chloromethane	--	2.6	190	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
cis-1,2-Dichloroethene	70	70	370	**1.8**	1 U	**99 (1,2)**	1 U	**0.97 J**	**34**	**36**	1 U
Ethylbenzene	700	550	1.5	**73 (3)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Isopropylbenzene	--	70	680	**72 (2)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
m- and p-Xylene	--	530	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	5	4.6	4.8	1 U	1 U	**2.6**	1 U	1 UJ	3 U	2.9 U	2.8 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U
Naphthalene	--	21	0.14	**260 (2,3)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
n-Propylbenzene	--	70	--	**110 (2)**	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene	5	0.7	0.11	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U
trans-1,2-Dichloroethene	100	100	110	**0.68 J**	1 U	**3.3**	1 U	1 UJ	**1.9**	**0.83 J**	1 U
Trichloroethene	5	2.8	1.7	**0.95 J**	1 U	**96 (1,2,3)**	1 U	**2.7 (3)**	1 U	1 U	1 U
Vinyl chloride	2	0.015	0.016	1 U	1 U	**1.9 (2,3)**	1 U	1 UJ	**9.7 (1,2,3)**	**11 (1,2,3)**	1 U

Notes:

1. Bold indicates detections

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4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected

6. J - Reported value is estimated

7. J+ - Reported value is estimated biased high

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9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 8

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

Volatile Organic Compounds

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	OU1-S3W3
Sample ID				OU1-S3W3-0309
Sample Date				03/12/09
Chemical Name				
Volatile Organic Compounds (UG/L)				
1,1,1,2-Tetrachloroethane	--	--	0.52	1 U
1,1,1-Trichloroethane	200	200	9,100	1 U
1,1,2,2-Tetrachloroethane	--	0.17	0.067	1 U
1,1-Dichloroethane	--	70	2.4	1 U
1,1-Dichloroethene	7	7	340	1 U
1,2,4-Trimethylbenzene	--	350	15	1 U
1,3,5-Trimethylbenzene	--	350	12	1 U
1,4-Dichlorobenzene	75	1.4	0.43	1 U
Benzene	5	1	0.41	**2.5 (2,3)**
Chlorobenzene	100	50	91	1 U
Chloroform	80	70	0.19	1 U
Chloromethane	--	2.6	190	1 U
cis-1,2-Dichloroethene	70	70	370	**180 (1,2)**
Ethylbenzene	700	550	1.5	1 U
Hexachlorobutadiene	--	0.44	0.86	1 U
Isopropylbenzene	--	70	680	1 U
m- and p-Xylene	--	530	--	1 U
Methylene chloride	5	4.6	4.8	2.8 U
Methyl-tert-butyl ether (MTBE)	--	200	12	1 U
Naphthalene	--	21	0.14	1 U
n-Propylbenzene	--	70	--	1 U
Tetrachloroethene	5	0.7	0.11	1 U
trans-1,2-Dichloroethene	100	100	110	**13**
Trichloroethene	5	2.8	1.7	**56 (1,2,3)**
Vinyl chloride	2	0.015	0.016	**34 (1,2,3)**

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

3. Red bolding indicates exceedance of RSLs

TABLE 9
Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event
Semi-Volatile Organic Compounds and Pesticides/Polychlorinated Biphenyls
Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW49		17GW03	
Sample ID				OU1-16GW49-0509	OU1-16GW49P-0509	OU1-17GW03-0509	OU1-17GW03P-0509
Sample Date				05/06/09	05/06/09	05/06/09	05/06/09
Chemical Name							
Semivolatile Organic Compounds (UG/L)							
2-Methylnaphthalene	--	14	150	0.22 U	0.22 U	NA	NA
Acenaphthene	--	80	2,200	0.22 U	0.22 U	NA	NA
Acenaphthylene	--	210	2,200	0.22 U	0.22 U	NA	NA
Anthracene	--	2,100	11,000	0.22 U	0.22 U	NA	NA
Benzo(a)anthracene	--	0.0479	0.029	0.22 U	0.22 U	NA	NA
Benzo(a)pyrene	0.2	0.00479	0.0029	0.22 UJ	0.22 UJ	NA	NA
Benzo(b)fluoranthene	--	0.0479	0.029	0.22 UJ	0.22 UJ	NA	NA
Benzo(g,h,i)perylene	--	210	1,100	0.22 UJ	0.22 UJ	NA	NA
Benzo(k)fluoranthene	--	0.479	0.29	0.22 UJ	0.22 UJ	NA	NA
Chrysene	--	4.79	2.9	0.22 U	0.22 U	NA	NA
Dibenz(a,h)anthracene	--	0.0047	0.0029	0.22 U	0.22 U	NA	NA
Fluoranthene	--	280	1,500	0.22 U	0.22 U	NA	NA
Fluorene	--	280	1,500	0.22 U	0.22 U	NA	NA
Indeno(1,2,3-cd)pyrene	--	0.0479	0.029	0.22 UJ	0.22 UJ	NA	NA
Naphthalene	--	21	0.14	0.22 UJ	0.22 UJ	NA	NA
Phenanthrene	--	210	11,000	0.22 U	0.22 U	NA	NA
Pyrene	--	210	1,100	0.22 UJ	0.22 UJ	NA	NA
Pesticide/Polychlorinated Biphenyls (UG/L)							
4,4'-DDD	--	0.14	0.28	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDE	--	--	0.2	0.05 U	0.05 U	0.05 U	0.05 U
4,4'-DDT	--	0.1	0.2	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin	--	--	0.004	0.05 U	0.05 U	0.05 U	0.05 U
alpha-BHC	--	0.019	0.011	0.05 U	0.05 U	0.05 U	0.05 U
alpha-Chlordane	--	0.1	0.19	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016	0.5	--	0.96	NA	NA	0.5 U	0.5 U
Aroclor-1221	0.5	--	0.0068	NA	NA	0.5 U	0.5 U
Aroclor-1232	0.5	--	0.0068	NA	NA	0.5 U	0.5 U
Aroclor-1242	0.5	--	0.034	NA	NA	0.5 U	0.5 U
Aroclor-1248	0.5	--	0.034	NA	NA	0.5 U	0.5 U
Aroclor-1254	0.5	--	0.034	NA	NA	0.5 U	0.5 U
Aroclor-1260	0.5	--	0.034	NA	NA	0.5 U	0.5 U
beta-BHC	--	0.019	0.037	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC	--	0.019	0.037	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	--	0.0022	0.0042	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I	--	--	220	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	--	42	220	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan sulfate	--	--	220	0.05 U	0.05 U	0.05 U	0.05 U
Endrin	2	2	11	0.05 U	0.05 U	0.05 U	0.05 U
Endrin aldehyde	2	2.1	11	0.05 UJ	0.05 U	0.05 U	0.05 U
Endrin ketone	2	2.1	11	0.05 U	0.05 U	0.05 U	0.05 U
gamma-BHC (Lindane)	0.2	0.2	0.061	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane	--	0.1	0.19	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.4	0.0078	0.015	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.2	0.0038	0.0074	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	40	35	180	0.05 U	0.05 U	0.05 U	0.05 U
Toxaphene	3	0.031	0.061	1 U	1 U	1 U	1 U

Notes:

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4. Both screening criteria have been assigned a reference number listed in parentheses in the column header.

The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected

6. J - Reported value is estimated

7. J+ - Reported value is estimated biased high

8. UJ - Analyte not detected. Quanitation limit is imprecise

9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	14GW18	14GW49	14GW51	14GW53	16GW01	16GW02	16GW03	16GW04	16GW05
Sample ID				OU1-14GW18-0309	OU1-14GW49-0309	OU1-14GW51-0309	OU1-14GW53-0509	OU1-16GW01-0309	OU1-16GW02-0309	OU1-16GW03-0309	OU1-16GW04-0309	OU1-16GW05-0309
Sample Date				03/27/09	03/28/09	03/27/09	05/06/09	03/10/09	03/11/09	03/11/09	03/11/09	03/30/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	3.9 U	3.8 UJ	12 U	**8**	7.4 UJ	**30**	**34 J**	13 UJ	11 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	**50**	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	**8**	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	3.3 U	3.3 U	**2,000 J**	73 U	3.3 U	**1,500 J**	**790 J**	**650**	3.3 U
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	**0.15**	**0.11 J**	0.1 UJ	0.1 UJ	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 UJ	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**2.8**	**3.8**	**3.8**	**2.8**	**3.1**	**6.5**	**2.1**	**2.7**	**26**

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9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW06	16GW08		16GW09	16GW10	16GW11	16GW16	16GW21	16GW28
Sample ID				OU1-16GW06-0309	OU1-16GW08-0309	OU1-16GW08P-0309	OU1-16GW09-0309	OU1-16GW10-0309	OU1-16GW11-0309	OU1-16GW16-0309	OU1-16GW21-0309	OU1-16GW28-0309
Sample Date				03/13/09	03/28/09	03/28/09	03/11/09	03/15/09	03/16/09	03/10/09	03/24/09	03/13/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	8.4 U	7.5 UJ	7.8 UJ	8.2 UJ	6.1 U	6.4 U	15 UJ	6.3 U	8.8 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	**5 J**
Ethene (UG/L)	--	--	--	**5.2 J**	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**100 J**	**88 J**	**130 J**	17 U	3.9 U	3.3 U	11 U	**2,000 J**	**970 J**
Nitrate (MG/L)	--	--	--	0.1 U	**0.35**	**0.21**	0.1 UJ	**0.56 J**	**1.3 J**	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**2.1**	**1.5**	**1.6**	**3.2**	**1.4**	**2.1**	**7**	**2.7**	**3.4**

Notes:

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11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW29	16GW30	16GW31	16GW32	16GW33	16GW34	16GW35	16GW36	16GW37
Sample ID				OU1-16GW29-0309	OU1-16GW30-0309	OU1-16GW31-0309	OU1-16GW32-0309	OU1-16GW33-0309	OU1-16GW34-0309	OU1-16GW35-0309	OU1-16GW36-0309	OU1-16GW37-0309
Sample Date				03/13/09	03/12/09	03/12/09	03/13/09	03/12/09	03/13/09	03/13/09	03/28/09	03/28/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	15 U	8.2 UJ	**21 J**	10 U	**24 J**	29 U	19 U	7.5 UJ	6.4 UJ
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**8,200 J**	**910 J**	**4,300 J**	6.1 U	**3,500 J**	**280 J**	14 U	**3,300 J**	**980 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	**0.26**	0.1 U	0.1 U	**0.1**	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**14**	**4.6**	**5.2**	**8.7**	**48**	**2.6**	**5.8**	**4.3**	**1.7**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	16GW40	16GW41	16GW42	16GW49		16GW50	16GW51	16GW52	42GW05
Sample ID				OU1-16GW40-0309	OU1-16GW41-0309	OU1-16GW42-0309	OU1-16GW49-0509	OU1-16GW49P-0509	OU1-16GW50-0509	OU1-16GW51-0509	OU1-16GW52-0509	OU1-42GW05-0309
Sample Date				03/11/09	03/11/09	03/11/09	05/06/09	05/06/09	05/07/09	05/06/09	05/06/09	03/25/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	12 UJ	13 UJ	9.6 UJ	**14**	NA	**9.7**	**10**	**7.2**	**20**
Ethane (UG/L)	--	--	--	6.2 U	**5.9 J**	**4.2 J**	6.2 UJ	NA	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 UJ	NA	5.8 U	5.8 U	5.8 U	**230 J**
Methane (UG/L)	--	--	--	**150 J**	**1,400 J**	**1,100 J**	160 U	NA	**370 J**	100 U	30 U	**6,000 J**
Nitrate (MG/L)	--	--	--	**0.32 J**	0.1 UJ	0.1 UJ	**0.15**	NA	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 UJ	0.1 UJ	0.1 UJ	0.1 U	NA	0.1 UJ	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.1**	**3.2**	**3.2**	**4.8**	NA	**2**	**2.2**	**1.5**	**8.8**

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Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	42GW08	42GW15	42GW16	42GW17		42GW18	42GW19	42GW20	42GW21
Sample ID				OU1-42GW08-0309	OU1-42GW15-0309	OU1-42GW16-0509	OU1-42GW17-0509	OU1-42GW17P-0509	OU1-42GW18-0509	OU1-42GW19-0509	OU1-42GW20-0509	OU1-42GW21-0509
Sample Date				03/25/09	03/28/09	05/05/09	05/06/09	05/06/09	05/05/09	05/05/09	05/05/09	05/05/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	7.7 U	9.5 UJ	**8.9**	**9.3**	**9.4**	**9.7**	**7.7**	**10 J**	**8.7**
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	3.3 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	9.2 U	**460 J**	**86**	64 U	78 U	**320**	**1,300 J**	**960 J**	87 U
Nitrate (MG/L)	--	--	--	**0.46 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.7**	**1.9**	**1.1**	**2.2**	**2.2**	**2.6**	**1.8**	**4.7**	1 U

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	42GW22	42GW23	47GW05	47GW06	47GW07	47GW08	47GW09		47GW10
Sample ID				OU1-42GW22-0509	OU1-42GW23-0509	OU1-47GW05-0309	OU1-47GW06-0309	OU1-47GW07-0309	OU1-47GW08-0309	OU1-47GW09-0309	OU1-47GW09P-0309	OU1-47GW10-0309
Sample Date				05/05/09	05/05/09	03/26/09	03/26/09	03/26/09	03/26/09	03/27/09	03/27/09	03/27/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	**15**	**11**	56 U	6.4 U	**30**	7.4 U	**25**	**24**	5.3 U
Ethane (UG/L)	--	--	--	**17**	6.2 U	**570 J**	6.2 U	**42**	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	**12**	5.8 U	**58**	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**2,400**	**940**	**10,000 J**	**1,000 J**	**6,300 J**	**1,200 J**	**740 J**	**680 J**	**48 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 UJ	0.1 UJ	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**2.8**	**2.3**	**10**	**4.7**	**5.8**	**3.7**	**8.8**	**8.8**	**3.7**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	47GW10	47GW11	47GW12	47GW17	47GW18	47GW19	47GW20	47GW25	51EX10
Sample ID				OU1-47GW10P-0309	OU1-47GW11-0309	OU1-47GW12-0309	OU1-47GW17-0309	OU1-47GW18-0309	OU1-47GW19-0309	OU1-47GW20-0309	OU1-47GW25-0309	OU1-51EX10-0309
Sample Date				03/27/09	03/26/09	03/26/09	03/26/09	03/26/09	03/26/09	03/27/09	03/26/09	03/27/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	5.2 U	12 U	15 U	7.8 U	**25**	8.8 U	10 U	8.9 U	13 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	**20**	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**80 J**	**310 J**	**240 J**	**5,500 J**	**29**	**7,600 J**	**100 J**	**10,000 J**	**2,700 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 UJ	0.1 UJ	**0.68 J**	**1.4 J**	0.1 UJ	**2.1**	0.1 UJ	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**3.5**	**5.7**	**1.9**	**5.8**	**3.4**	**4.7**	**3.2**	**4.9**	**5.2**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	51EX12	51EX13	51EX16	51EX17	51EX18	51EX19	51GW02	52GW01	52GW07
Sample ID				OU1-51EX12-0309	OU1-51EX13-0309	OU1-51EX16-0309	OU1-51EX17-0309	OU1-51EX18-0309	OU1-51EX19-0309	OU1-51GW02-0309	OU1-52GW01-0309	OU1-52GW07-0309
Sample Date				03/29/09	03/25/09	03/25/09	03/25/09	03/28/09	03/28/09	03/26/09	03/24/09	03/24/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	14 U	14 U	13 U	17 U	9.9 UJ	9.9 UJ	**24**	14 U	**22**
Ethane (UG/L)	--	--	--	**65 J**	**2,900 J**	**34**	6.2 U	6.2 U	**10**	**8.4**	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**4,300 J**	3.3 U	**660 J**	**2,900**	**1,200 J**	**1,600 J**	**8,300 J**	**6,100 J**	**100 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	**0.2 J**	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	**0.13**
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**6.4**	**3.8**	**9.1**	**5.7**	**3.3**	**8.4**	**21**	**4**	**4.9**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW08	52GW10	52GW11	52GW15	52GW16	52GW17		52GW18	52GW19
Sample ID				OU1-52GW08-0309	OU1-52GW10-0309	OU1-52GW11-0309	OU1-52GW15-0309	OU1-52GW16-0309	OU1-52GW17-0309	OU1-52GW17P-0309	OU1-52GW18-0309	OU1-52GW19-0309
Sample Date				03/24/09	03/24/09	03/24/09	03/20/09	03/22/09	03/22/09	03/22/09	03/22/09	03/22/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	**34**	**21**	**44**	9.1 U	9.2 U	**22**	**23**	**22**	8.4 U
Ethane (UG/L)	--	--	--	**460 J**	6.2 U	6.2 U	6.2 U	6.2 UJ	**16**	**14**	**32**	6.2 U
Ethene (UG/L)	--	--	--	**24**	5.8 U	5.8 U	5.8 U	5.8 UJ	5.8 U	5.8 U	**6.2**	5.8 U
Methane (UG/L)	--	--	--	**3,200 J**	**1,300 J**	**5,800 J**	**38 J**	**140 J**	**4,100 J**	**3,400 J**	**4,800 J**	**110 J**
Nitrate (MG/L)	--	--	--	**0.38**	**0.56**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**5.8**	**16**	**11**	**4.8**	**1.4**	**5**	**5.2**	**4.4**	**2.1**

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TABLE 10

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General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW19	52GW20	52GW21		52GW22	52GW23	52GW24	52GW26	
Sample ID				OU1-52GW19P-0309	OU1-52GW20-0309	OU1-52GW21-0309	OU1-52GW21P-0309	OU1-52GW22-0309	OU1-52GW23-0309	OU1-52GW24-0309	OU1-52GW26-0309	OU1-52GW26P-0309
Sample Date				03/22/09	03/23/09	03/24/09	03/24/09	03/23/09	03/23/09	03/20/09	03/23/09	03/23/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	8.3 U	7.7 U	7.5 U	12 U	7.3 U	7.2 U	7.2 U	8 U	7.9 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 UJ	6.2 U	6.2 U	6.2 UJ	6.2 UJ	6.2 U	6.2 UJ	6.2 UJ
Ethene (UG/L)	--	--	--	5.8 U	5.8 UJ	5.8 U	5.8 U	5.8 UJ	5.8 UJ	5.8 U	5.8 UJ	5.8 UJ
Methane (UG/L)	--	--	--	**120 J**	**61 J**	**60 J**	**69 J**	**48 J**	**38 J**	**86 J**	**33 J**	**49 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**2.5**	**2.5**	**2.6**	**2.9**	**1.3**	**1.9**	**2.5**	**1.4**	**1.4**

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11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW27	52GW28		52GW29	52GW30	52GW31	52GW32	52GW33	52GW34
Sample ID				OU1-52GW27-0309	OU1-52GW28-0309	OU1-52GW28P-0309	OU1-52GW29-0309	OU1-52GW30-0309	OU1-52GW31-0309	OU1-52GW32-0309	OU1-52GW33-0309	OU1-52GW34-0309
Sample Date				03/20/09	03/20/09	03/20/09	03/20/09	03/24/09	03/24/09	03/19/09	03/19/09	03/17/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	11 U	**29**	**30**	9.3 U	8.7 U	16 U	8.6 U	7.8 U	7.4 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 UJ	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	**4.9 J**	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**350 J**	**120 J**	**110 J**	**79 J**	**49 J**	**1,600 J**	**200 J**	**170 J**	**160 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**2.2**	**4.6**	**4.8**	**1.8**	1 U	**4.2**	**1.7**	**2.6**	**2.3**

Notes:

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW35	52GW36	52GW37	52GW38	52GW39	52GW40	52GW41		52GW42
Sample ID				OU1-52GW35-0309	OU1-52GW36-0309	OU1-52GW37-0309	OU1-52GW38-0309	OU1-52GW39-0309	OU1-52GW40-0309	OU1-52GW41-0309	OU1-52GW41P-0309	OU1-52GW42-0309
Sample Date				03/17/09	03/17/09	03/17/09	03/18/09	03/18/09	03/17/09	03/17/09	03/17/09	03/18/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	13 U	7.9 U	16 U	8.4 U	3.8 U	8.2 U	5.2 U	5.4 U	9 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**900 J**	22 U	**250 J**	**47 J**	**120 J**	**160 J**	**73 J**	**77 J**	**45 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**10**	**1.2**	**1.9**	**2.4**	**4.4**	**1.5**	**4.1**	**4.1**	**1.3**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW43	52GW44		52GW45	52GW46		52GW47	52GW48	52GW49
Sample ID				OU1-52GW43-0309	OU1-52GW44-0309	OU1-52GW44P-0309	OU1-52GW45-0309	OU1-52GW46-0309	OU1-52GW46P-0309	OU1-52GW47-0309	OU1-52GW48-0309	OU1-52GW49-0309
Sample Date				03/19/09	03/19/09	03/19/09	03/17/09	03/16/09	03/16/09	03/18/09	03/18/09	03/30/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	8 U	13 U	13 U	9.8 U	15 U	15 U	10 U	10 U	10 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 UJ	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	**28**	**40**	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**48 J**	**20,000 J**	**16,000 J**	13 U	**110 J**	**160 J**	**44 J**	**61 J**	**58 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.1**	**6.7**	**6.9**	**1.4**	**2.2**	**2.2**	**2**	**3.1**	**1.8**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW49	52GW50	52GW51	52GW52	52GW53	52GW54	52GW55	52GW56
Sample ID				OU1-52GW49P-0309	OU1-52GW50-0309	OU1-52GW51-0309	OU1-52GW52-0309	OU1-52GW53-0309	OU1-52GW54-0309	OU1-52GW55-0309	OU1-52GW56-0309
Sample Date				03/30/09	03/17/09	03/17/09	03/17/09	03/17/09	03/19/09	03/18/09	03/18/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	10 U	7 U	6.4 U	11 U	10 U	9.4 U	0.1 U	5.4 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	**110 J**	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**63 J**	**86 J**	**110 J**	**33**	**400 J**	**130 J**	**89 J**	**170 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**8.3 J**	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.4**	**1.4**	**5.2**	**1.4**	**2.9**	**1.6**	**1.3**	**5.8**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW57	52GW58	52GW59	52GW60	52GW61	52GW62	52GW63	52GW64
Sample ID				OU1-52GW57-0309	OU1-52GW58-0309	OU1-52GW59-0309	OU1-52GW60-0309	OU1-52GW61-0309	OU1-52GW62-0309	OU1-52GW63-0309	OU1-52GW64-0309
Sample Date				03/18/09	03/18/09	03/19/09	03/17/09	03/16/09	03/16/09	03/19/09	03/19/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	7.6 U	6.8 U	6.6 U	8.9 U	11 U	9.7 U	9.2 U	**26**
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	**26**	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**210 J**	**81 J**	**90 J**	**150 J**	**41 J**	**130 J**	**68 J**	**52 J**
Nitrate (MG/L)	--	--	--	0.1 UJ	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.8**	**3.2**	**1.9**	**1.6**	**1.5**	**5**	**1.2**	**1.9**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW65	52GW66	52GW67	52GW68	52GW69	52GW70	52GW71	52GW72
Sample ID				OU1-52GW65-0309	OU1-52GW66-0309	OU1-52GW67-0309	OU1-52GW68-0309	OU1-52GW69-0309	OU1-52GW70-0309	OU1-52GW71-0309	OU1-52GW72-0309
Sample Date				03/19/09	03/19/09	03/19/09	03/19/09	03/17/09	03/17/09	03/18/09	03/18/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	8.5 U	12 U	10 U	9.6 U	7.2 U	6.3 U	0.1 U	0.1 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	**5.2 J**	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**120 J**	**66 J**	**100 J**	**270 J**	**120 J**	**28**	**300 J**	25 U
Nitrate (MG/L)	--	--	--	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**8.4 J**	0.1 UJ
Nitrogen (MG/L)	--	--	--	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	**6.1 J**
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1**	**1.5**	**1.9**	**2.3**	**1.2**	**2.1**	**1.5**	**1.8**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	52GW73	52GW74	52GW76	OU1-GW75	OU1-GW76	OU1-MW01		OU1-MW12	OU1-MW20
Sample ID				OU1-52GW73-0309	OU1-52GW74-0309	OU1-52GW76-0309	OU1-GW75-0309	OU1-GW76-0309	OU1-MW01-0309	OU1-MW01P-0309	OU1-MW12-0309	OU1-MW20-0309
Sample Date				03/19/09	03/19/09	03/23/09	03/30/09	03/27/09	03/25/09	03/25/09	03/11/09	03/26/09
Chemical Name												
Wet Chemistry												
Chloride (MG/L)	--	--	--	11 U	7.2 U	17 U	8.1 U	11 U	16 U	16 U	**43**	10 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 UJ	6.2 U	**8.4**	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 UJ	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**33**	27 U	**1,200 J**	**550 J**	**1,300 J**	**8,300**	**2,600 J**	**980 J**	8.5 U
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	**0.24 J**
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.5**	**2.6**	**6.8**	**1.3**	**2.1**	**4.4**	**4.3**	**14**	**3**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	OU1-MW21	OU1-MW23		OU1-MW28	OU1-MW37	OU1-MW38	OU1-MW39	OU1-MW40
Sample ID				OU1-MW21-0309	OU1-MW23-0309	OU1-MW23P-0309	OU1-MW28-0309	OU1-MW37-0309	OU1-MW38-0309	OU1-MW39-0309	OU1-MW40-0309
Sample Date				03/26/09	03/26/09	03/26/09	03/12/09	03/27/09	03/13/09	03/13/09	03/29/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	4.9 U	6.6 U	6.3 U	10 UJ	7.8 U	12 U	12 U	6.4 U
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**110 J**	**560 J**	**530 J**	8 U	**63 J**	14 U	**730 J**	**43 J**
Nitrate (MG/L)	--	--	--	0.1 UJ	0.1 UJ	0.1 UJ	**1.3**	**0.29**	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**2.4**	**3.8**	**3.7**	**1**	**1.1**	**5.4**	**6.8**	**1.2**

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TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	OU1-MW41	OU1-MW42	OU1-MW43	OU1-MW44	OU1-MW45	OU1-MW48	OU1-MW50	OU1-MW51
Sample ID				OU1-MW41-0309	OU1-MW42-0309	OU1-MW43-0309	OU1-MW44-0309	OU1-MW45-0309	OU1-MW48-0309	OU1-MW50-0309	OU1-MW51-0309
Sample Date				03/29/09	03/29/09	03/29/09	03/29/09	03/29/09	03/11/09	03/10/09	03/10/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	6.6 U	180 U	6.3 U	14 U	6.9 U	9 UJ	19 UJ	13 UJ
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**2,900 J**	**2,800 J**	**3,100 J**	**75 J**	**2,400 J**	**760 J**	**420 J**	**1,200 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	**10**	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**5.4**	**58**	**7.2**	**1.4**	**6**	**4.5**	**9.5**	**5.3**

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General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	OU1-MW53		OU1-MW55	OU1-MW58	OU1-MW59	OU1-MW64	OU1-MW73	N2GW07
Sample ID				OU1-MW53-0309	OU1-MW53P-0309	OU1-MW55-0309	OU1-MW58-0309	OU1-MW59-0309	OU1-MW64-0309	OU1-MW73-0309	OU1-N2GW07-0309
Sample Date				03/15/09	03/15/09	03/15/09	03/28/09	03/16/09	03/24/09	03/27/09	03/23/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	10 U	9.9 U	7.7 U	8.9 UJ	13 U	9 U	7.4 U	**21**
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	**12**	6.2 U	6.2 U	**27 J**
Ethene (UG/L)	--	--	--	**3.9 J**	**4.2 J**	5.8 U	5.8 U	5.8 U	5.8 U	**1,100**	**5.2 J**
Methane (UG/L)	--	--	--	**85 J**	**79 J**	**180 J**	4.8 U	**5,100 J**	**76 J**	**700 J**	**6,800 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.7**	**1.5**	**2.7**	**4.3**	**3**	**21**	**7.3**	**11**

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

3. Red bolding indicates exceedance of RSLs

4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected

6. J - Reported value is estimated

7. J+ - Reported value is estimated biased high

8. UJ - Analyte not detected. Quanitation limit is imprecise

9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	N2GW15	N2GW17	N2GW18	N2GW25	N2GW27	N2GW28	N2GW29	N2GW36
Sample ID				OU1-N2GW15-0309	OU1-N2GW17-0309	OU1-N2GW18-0309	OU1-N2GW25-0309	OU1-N2GW27-0309	OU1-N2GW28-0309	OU1-N2GW29-0309	OU1-N2GW36-0309
Sample Date				03/22/09	03/20/09	03/24/09	03/29/09	03/22/09	03/22/09	03/20/09	03/29/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	15 U	17 U	13 U	12 U	**33**	**27**	13 U	10 U
Ethane (UG/L)	--	--	--	6.2 U	**130 J**	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	**6**
Methane (UG/L)	--	--	--	**5,800 J**	**2,700 J**	**4,500 J**	**290 J**	**9,100 J**	**600 J**	**5,400 J**	**2,900 J**
Nitrate (MG/L)	--	--	--	0.1 U	0.1 U	2 U	**0.17**	0.1 U	0.1 U	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	2 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	**2.6**	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**4.8**	**5.4**	**28**	**2.1**	**41**	**9.9**	**2.4**	**6.6**

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

3. Red bolding indicates exceedance of RSLs

4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected

6. J - Reported value is estimated

7. J+ - Reported value is estimated biased high

8. UJ - Analyte not detected. Quanitation limit is imprecise

9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

TABLE 10

Groundwater Results Exceeding Screening Criteria, Spring 2009 Sampling Event

General Parameters

Marine Corps Air Station Cherry Point, North Carolina

Station ID	**MCL**	**NC2L**	**RSLs for Tapwater**	N2GW41	N2GW44	N4GW07	N4GW09	N4GW14		N5GW03	OU1-S3W3
Sample ID				OU1-N2GW41-0309	OU1-N2GW44-0309	OU1-N4GW07-0309	OU1-N4GW09-0309	OU1-N4GW14-0309	OU1-N4GW14P-0309	OU1-N5GW03-0309	OU1-S3W3-0309
Sample Date				03/20/09	03/24/09	03/16/09	03/16/09	03/30/09	03/30/09	03/30/09	03/12/09
Chemical Name											
Wet Chemistry											
Chloride (MG/L)	--	--	--	8.6 U	8.1 U	12 U	8.7 U	6 U	6.1 U	9.9 U	10 UJ
Ethane (UG/L)	--	--	--	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U	6.2 U
Ethene (UG/L)	--	--	--	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U	5.8 U
Methane (UG/L)	--	--	--	**37 J**	**62 J**	**33**	**82 J**	16 U	13 U	**110 J**	**300 J**
Nitrate (MG/L)	--	--	--	0.1 U	**0.15**	0.1 U	0.1 U	**1.1**	**1.1**	0.1 U	0.1 U
Nitrogen (MG/L)	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Sulfide (MG/L)	--	--	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Total organic carbon (TOC) (MG/L)	--	--	--	**1.5**	**1.7**	**1.7**	**1**	**2.3**	**2.4**	**2.1**	**3.7**

Notes:

1. Bold indicates detections

2. Blue bolding indicates exceedance of MCL or NC2LGW and possibly RSLs

3. Red bolding indicates exceedance of RSLs

4. Both screening criteria have been assigned a reference number listed in parentheses in the column header. The reference number is used to identify which criteria has been exceeded in a particular samples.

5. U - Analyte not detected

6. J - Reported value is estimated

7. J+ - Reported value is estimated biased high

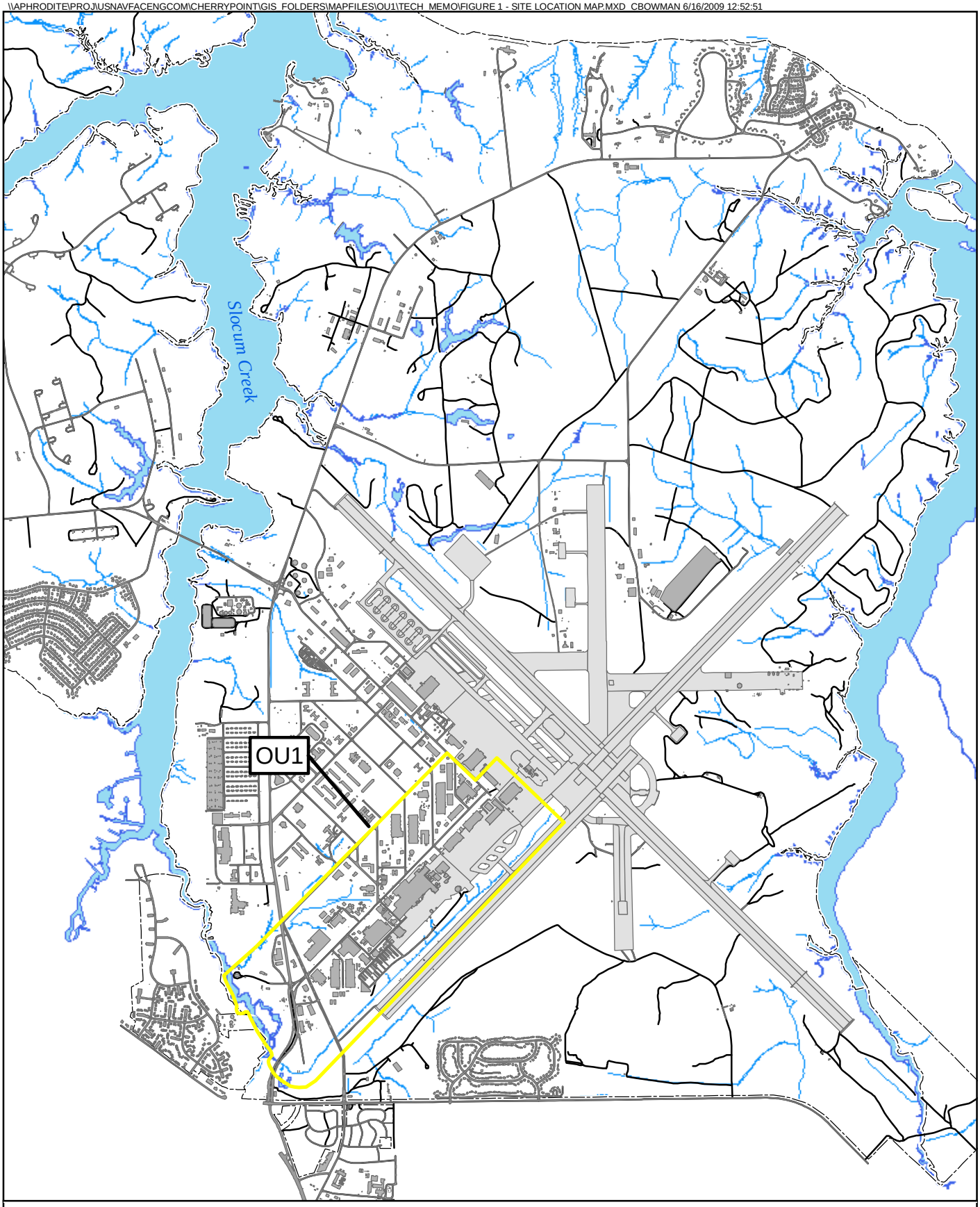
8. UJ - Analyte not detected. Quanitation limit is imprecise

9. NA - Not analyzed

10. "--" - No screening criteria exists

11. [1] Duplicate sample taken at location, most conservative value reported

Figures



Legend

- OU Boundary
- Base Boundary
- Buildings
- Runway
- Road
- Surface Water

N
W E
S

0 1,500 3,000
Feet

Figure 1
OU1 - Site Location Map
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

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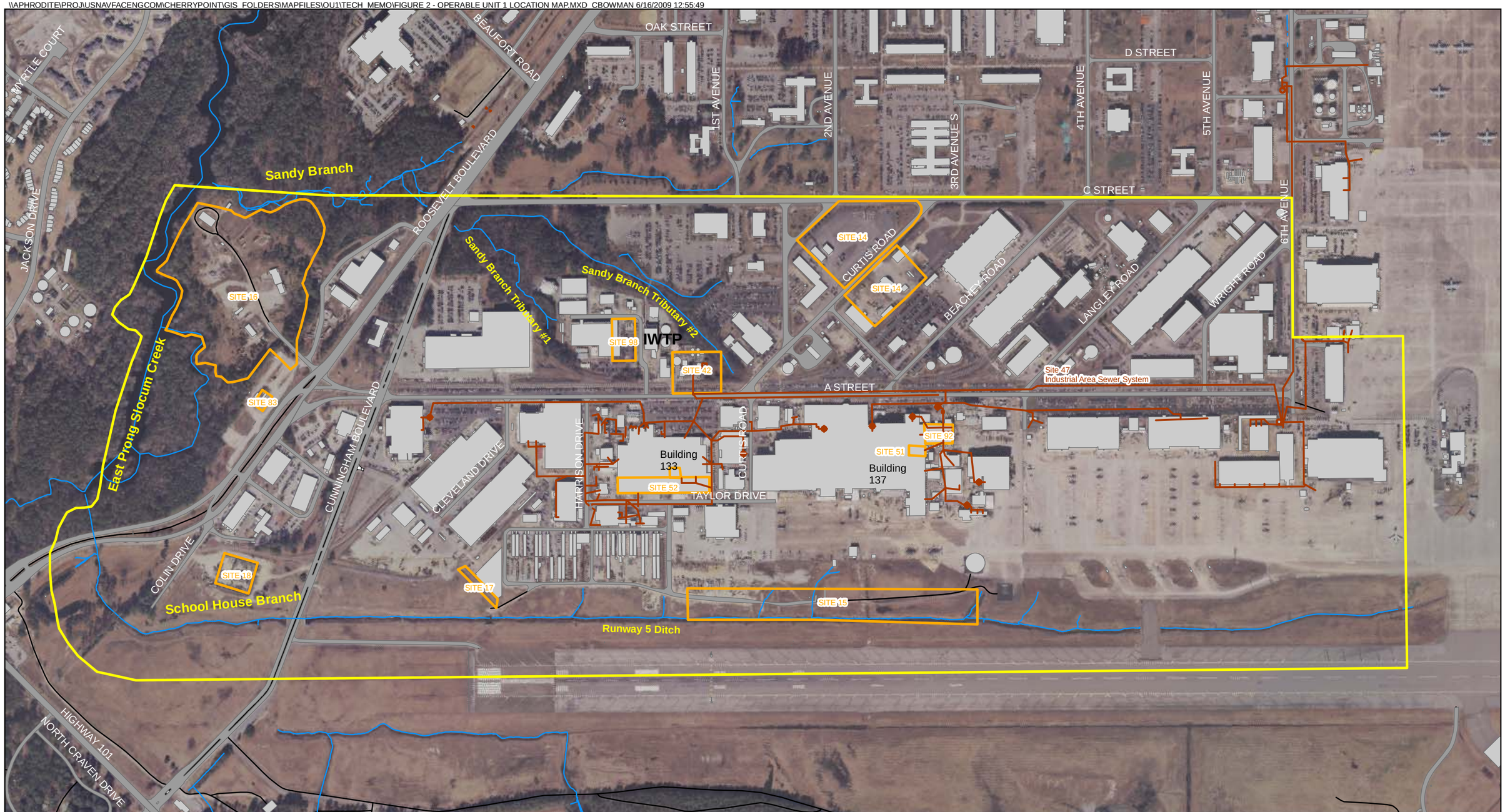
\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 2 - OPERABLE UNIT 1 LOCATION MAP.MXD CBOWMAN 6/16/2009 12:55:49



Legend

- Surface Water
- Industrial Area Sewer System
- Site Boundary
- OU1 Boundary
- Existing Buildings

IWTP - Industrial Wastewater Treatment Plant

N
W E
S

0 500 1,000
Feet

Figure 2
Operable Unit 1 Location Map
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

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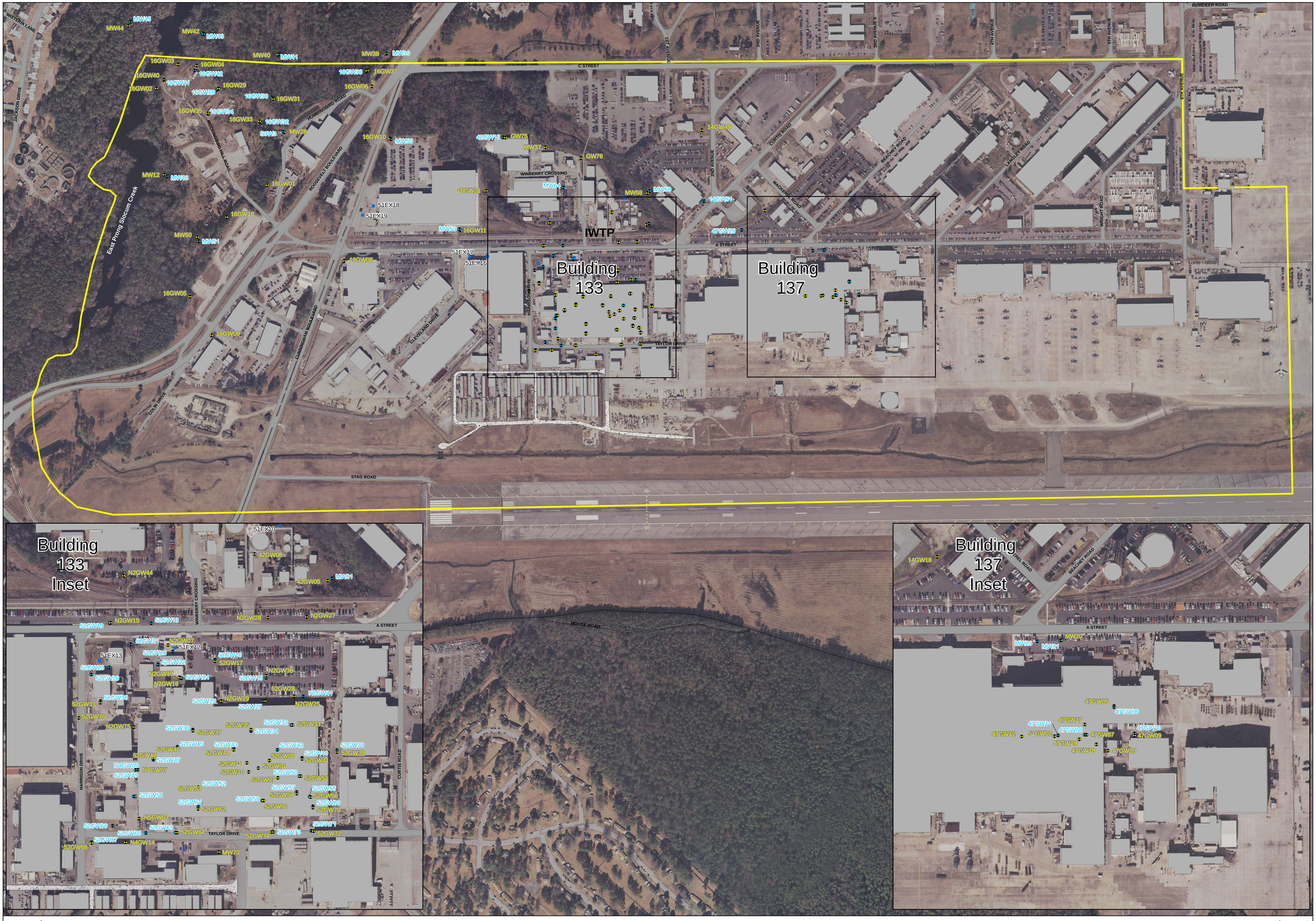
\\APHRODITE\PROJ\US\NAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 3 - 2009 OU1 MONITORING WELL NETWORK.MXD CBOWMAN 5/28/2009 11:32:16



Legend

- Extraction Well
- Upper Surficial Monitoring Well
- Lower Surficial Monitoring Well
- Existing Buildings
- OU1 Boundary

IWTP - Industrial Wastewater Treatment Plant

0 210 420 630 840 1,050 1,260 Feet

0 100 200 300 Feet

Figure 3
Groundwater Monitoring Event, Monitoring Well Locations
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

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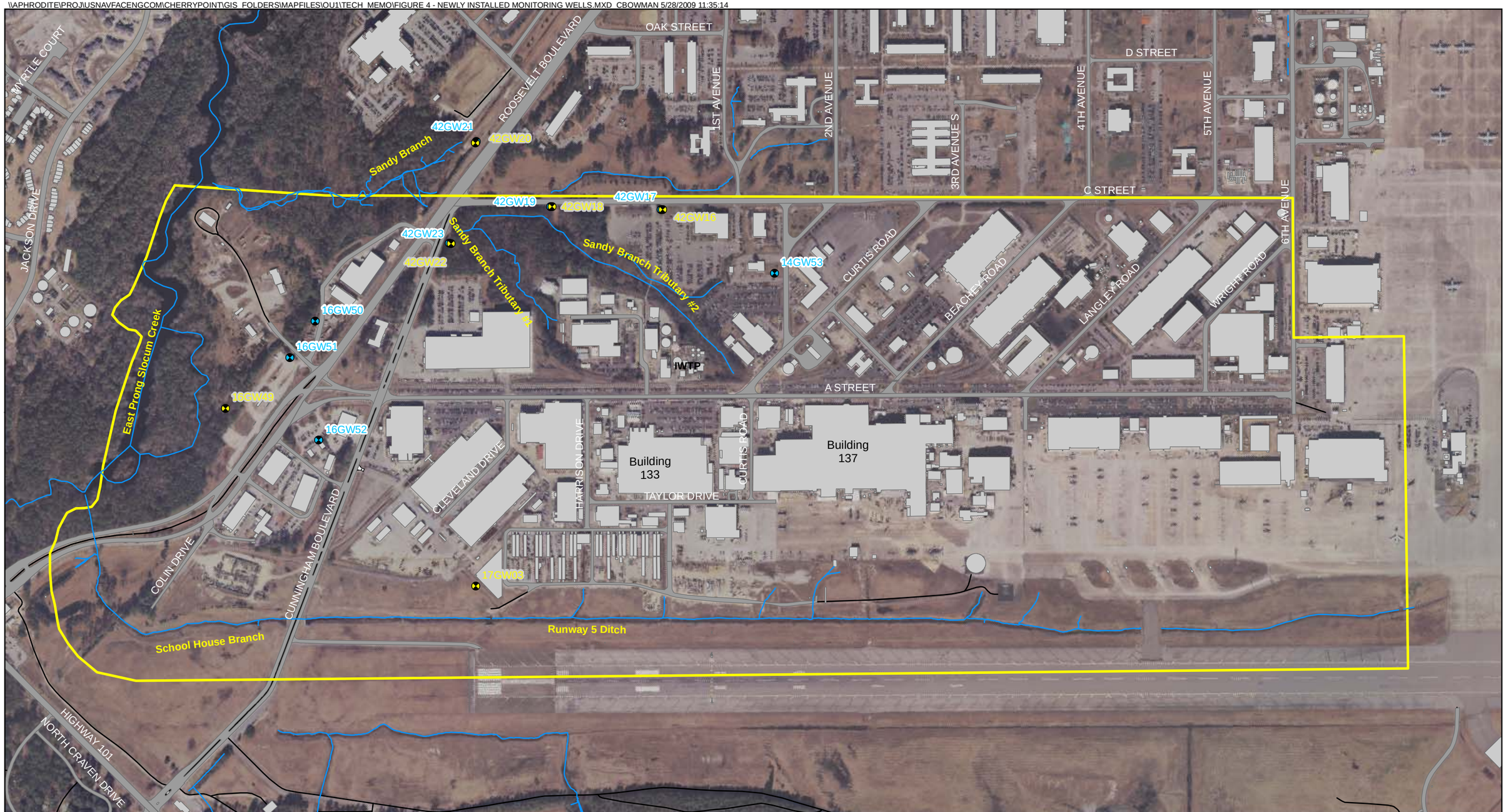
\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 4 - NEWLY INSTALLED MONITORING WELLS.MXD CBOWMAN 5/28/2009 11:35:14



Legend

- Lower Surficial Monitoring Well
- Upper Surficial Monitoring Well
- Surface Water
- OU1 Boundary
- Existing Buildings

N W E S

0 600 1,200 Feet

Figure 4
Newly Installed Monitoring Wells
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

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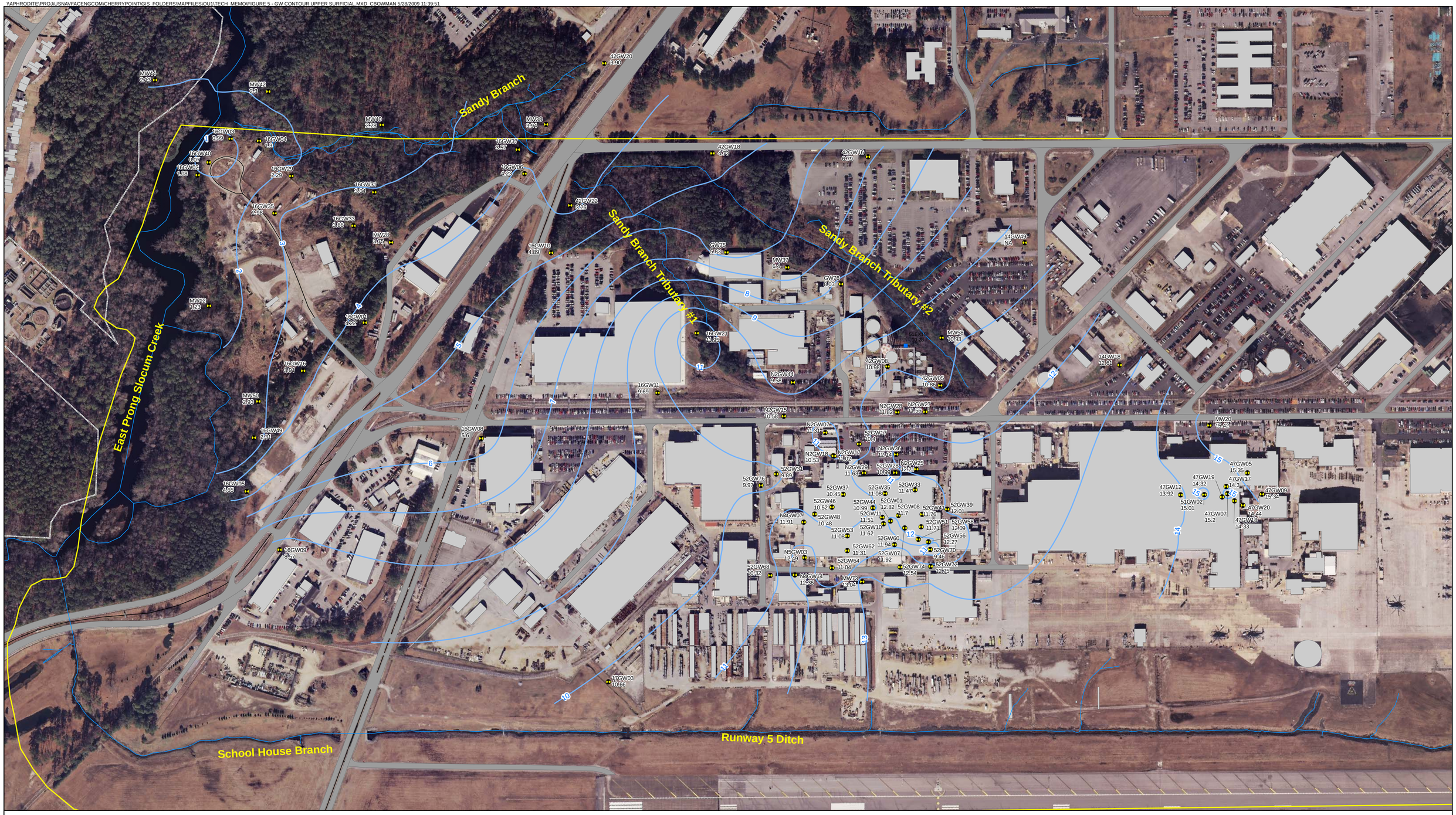
\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 5 - GW CONTOUR UPPER SURFICIAL.MXD CBOWMAN 5/28/2009 11:39:51



Legend

- Extraction Well
- Monitoring Well
- Groundwater Elevation Contour (ft msl)
- Surface Water
- Operable Unit (OU) Boundary
- Existing Buildings
- Paved

Notes:
1. ft msl - feet (relative to) mean sea level
2. NU - Not used in contouring

N W E S

0 200 400 Feet

Figure 5
Groundwater Elevation Map
Upper Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

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\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 6 - GW CONTOUR LOWER SURFICIAL .MXD CBOWMAN 5/28/2009 11:41:32

Legend

- Extraction Well
- Monitoring Well
- Groundwater Elevation Contour (ft msl)
- Surface Water
- Operable Unit (OU) Boundary
- Existing Buildings
- Paved

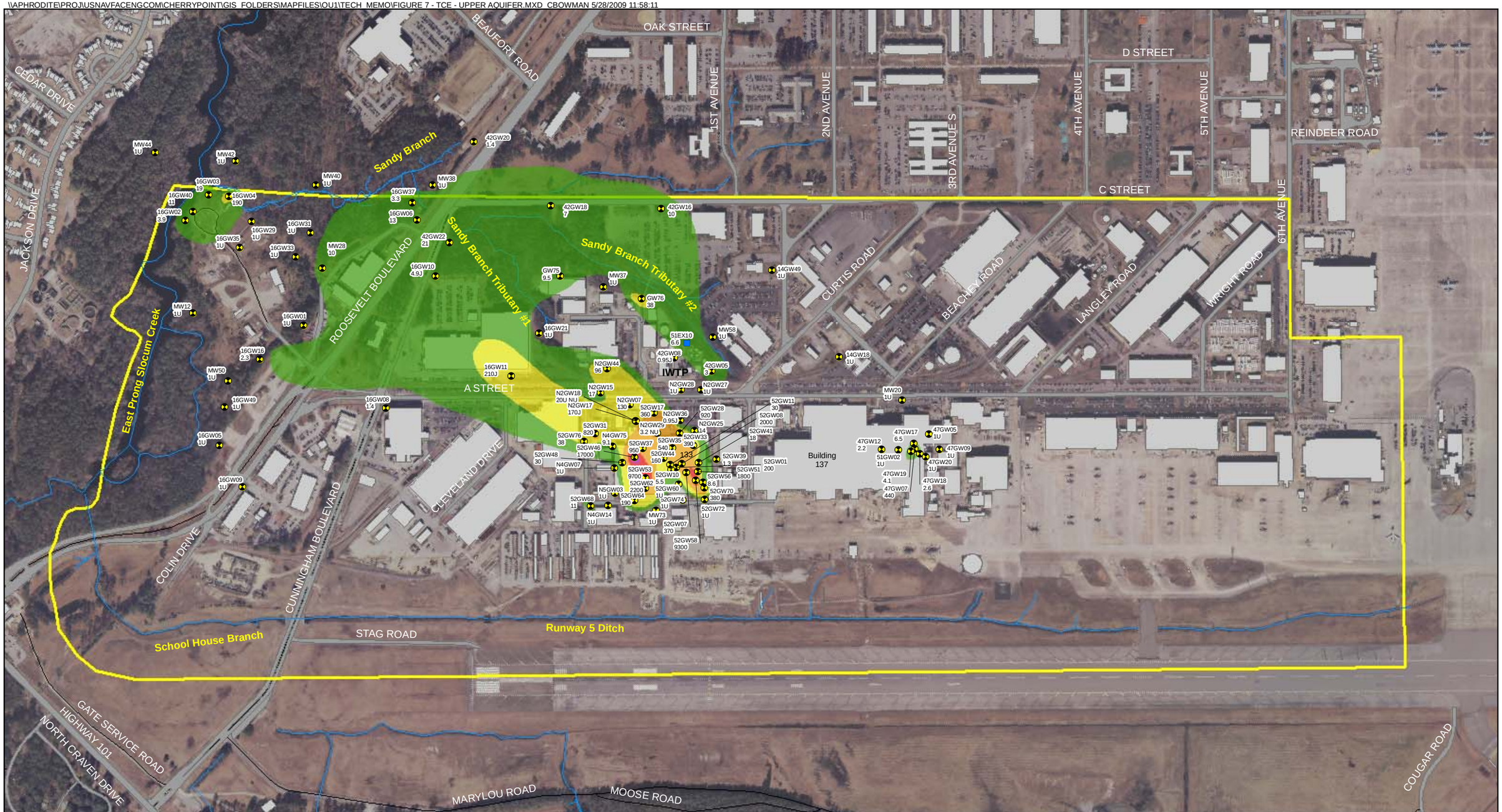
Notes:
1. ft msl - feet (relative to) mean sea level
2. NU - Not used in contouring

N
W E
S

0 200 400
Feet

Figure 6
Groundwater Elevation Map
Lower Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL



Legend

- Extraction Well
- Monitoring Well - Upper Aquifer
- Surface Water
- OU1 Boundary
- Existing Buildings
- NC2L - 10x NC2L
- 10x NC2L - 100x NC2L
- 100x NC2L - 1000x NC2L
- 1000x NC2L - 11,000 µg/L
- > 11,000 µg/L

IWTP - Industrial Wastewater Treatment Plant

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 3 µg/L (Jan 2010)
NU = Not Used
Concentrations are from the Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

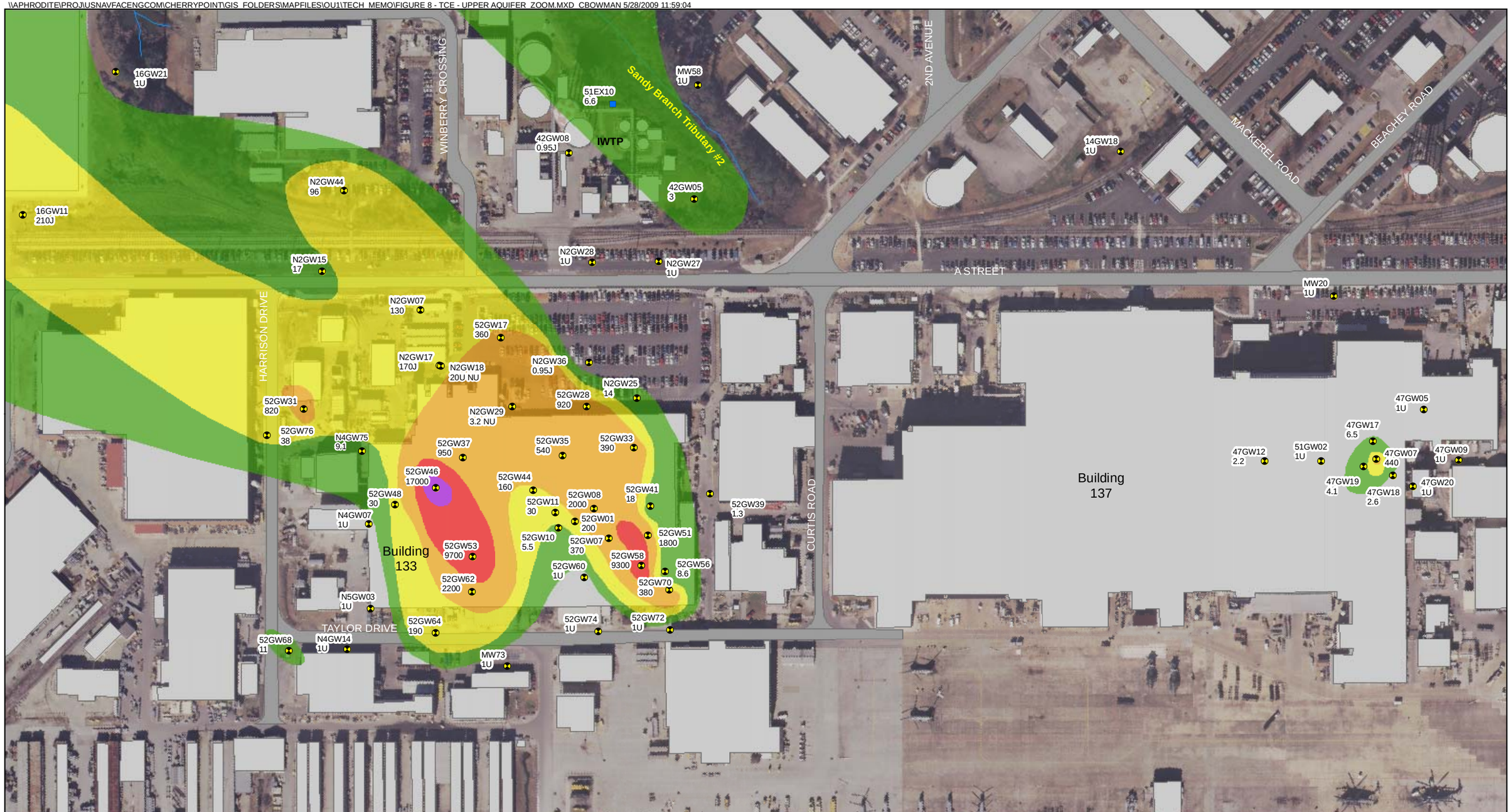
N W E S

0 600 1,200 Feet

Figure 7
Trichloroethene (TCE) Isoconcentration Map
Upper Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

CH2MHILL

\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 8 - TCE - UPPER AQUIFER_ZOOM.MXD CBOWMAN 5/28/2009 11:59:04



Legend

- Extraction Well
- Monitoring Well - Upper Aquifer
- Surface Water
- OU1 Boundary
- Existing Buildings
- NC2L - 10x NC2L
- 10x NC2L - 100x NC2L
- 100x NC2L - 1000x NC2L
- 1000x NC2L - 11,000 µg/L
- > 11,000 µg/L

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 3 µg/L (Jan 2010)
NU = Not Used
Concentrations are from the Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

N W E S

0 180 360 Feet

Figure 8
Trichloroethene (TCE) Isoconcentration Map
Upper Surficial Aquifer
Buildings 133 and 137
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

CH2MHILL

\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 9 - TCE - LOWER AQUIFER.MXD CBOWMAN 12/18/2009 12:07:23

Legend

- Extraction Well
- Monitoring Well - Lower Aquifer
- Surface Water
- OU1 Boundary
- Existing Buildings
- NC2L - 10x NC2L
- 10x NC2L - 100x NC2L
- 100x NC2L - 1000x NC2L

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 3 µg/L (Jan 2010)
NU = Not Used
Concentrations are from Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

N W E S

0 600 1,200 Feet

Figure 9
Trichloroethene (TCE) Isoconcentration Map
Lower Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

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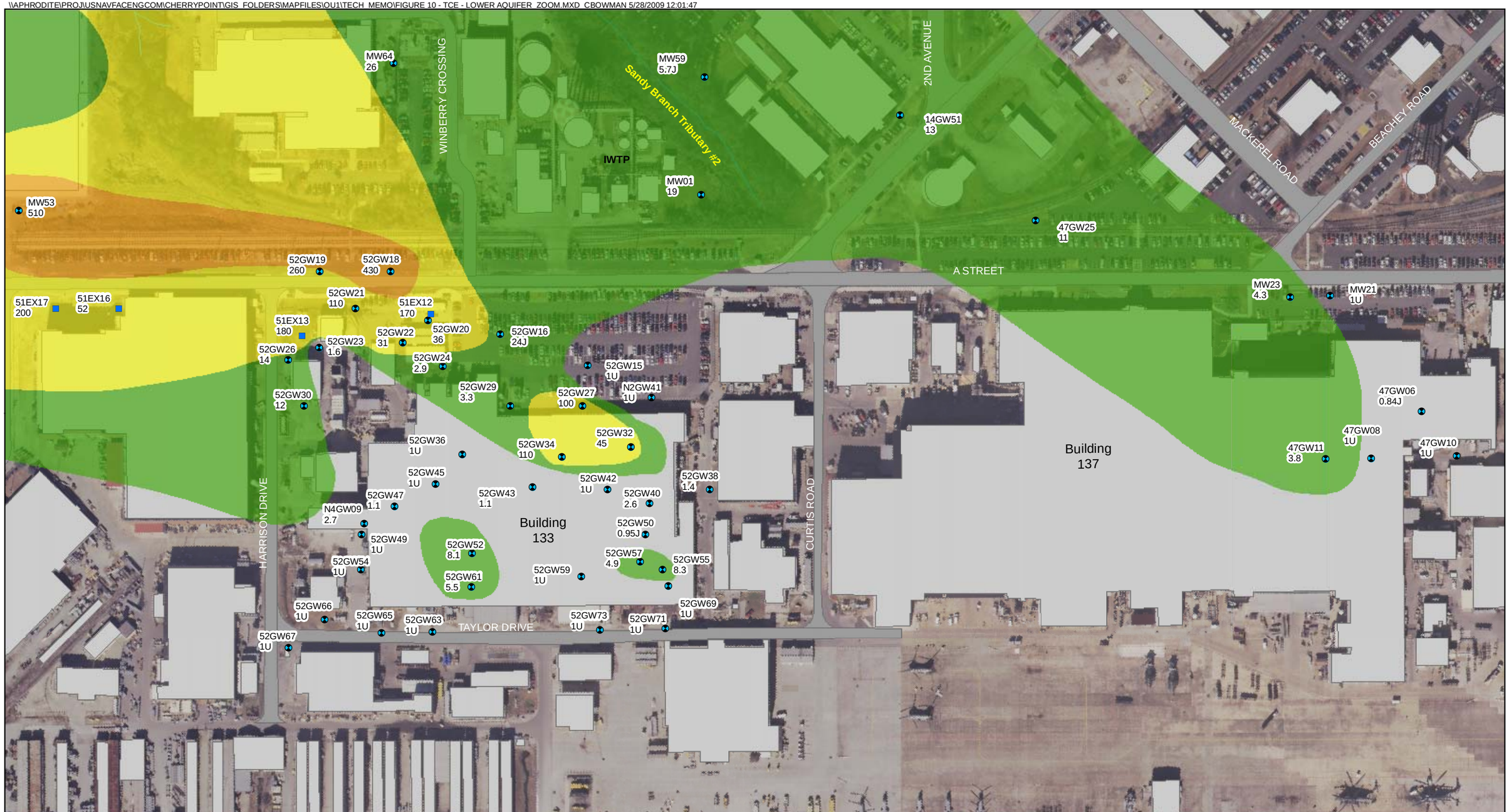
\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 10 - TCE - LOWER AQUIFER_ZOOM.MXD CBOWMAN 5/28/2009 12:01:47



Legend

- Extraction Well
- Monitoring Well - Lower Aquifer
- Surface Water
- NC2L - 10x NC2L
- 10x NC2L - 100x NC2L
- 100x NC2L - 1000x NC2L
- OU1 Boundary
- Existing Buildings

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 3 µg/L (Jan 2010)
NU = Not Used
Concentrations are from the Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

N W E S

0 180 360 Feet

Figure 10
Trichloroethene (TCE) Isoconcentration Map
Lower Surficial Aquifer
Buildings 133 and 137
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

CH2MHILL

Legend

- Extraction Well
- Monitoring Well
- Surface Water
- OU1 Boundary
- Existing Buildings
- NC2L - 10x NC2L
- 10x NC2L - 100x NC2L

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 70 µg/L (Jan 2010)
NU = Not Used
Concentrations are from the Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

N W E S

0 600 1,200 Feet

Figure 11
1,2-dichloroethene (1,2 DCE) Isoconcentration Map
Upper Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

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\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 12 - 1_2_DCE - LOWER AQUIFER.MXD CBOWMAN 5/28/2009 12:06:12

Legend

- Extraction Well
- Monitoring Well
- Surface Water
- OU1 Boundary
- Existing Buildings
- NC2L - 10x NC2L
- 10 NC2L - 100x NC2L

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 70 µg/L (Jan 2010)
NU = Not Used
Concentrations are from the Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

N W E S

0 600 1,200 Feet

Figure 12
1,2-dichloroethene (1,2 DCE) Isoconcentration Map
Lower Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

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\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 13 - VC - UPPER AQUIFER.MXD CBOWMAN 5/28/2009 12:07:57

Legend

- Extraction Well
- Monitoring Well - Upper Aquifer
- Surface Water
- OU1 Boundary
- Existing Buildings
- NC2L - 1000x NC2L
- 1000x NC2L - 10,000x NC2L
- 10,000x NC2L - 100,000 NC2L

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 0.03 µg/L (Jan 2010)
NU = Not Used
Concentrations are from the Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

N W E S

0 600 1,200 Feet

Figure 13
Vinyl Chloride Isoconcentration Map
Upper Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

CH2MHILL

\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 14 - VC - LOWER AQUIFER.MXD CBOWMAN 5/28/2009 12:08:59

Legend

- Extraction Well
- Monitoring Well - Lower Aquifer
- Surface Water
- OU1 Boundary
- Existing Buildings
- NC2L - 1000x NC2L
- 1000x NC2L - 10,000x NC2L
- 10,000x NC2L - 100,000x NC2L

Notes:
NC2L - North Carolina Groundwater Standard
NC2L = 0.03 µg/L (Jan 2010)
NU = Not Used
Concentrations are from the Spring 2009 sampling event
µg/L = micrograms per liter
U - analyte not detected above detection limit
J - concentration is estimated

N W E S

0 600 1,200 Feet

Figure 14
Vinyl Chloride Isoconcentration Map
Lower Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

IWTP - Industrial Wastewater Treatment Plant

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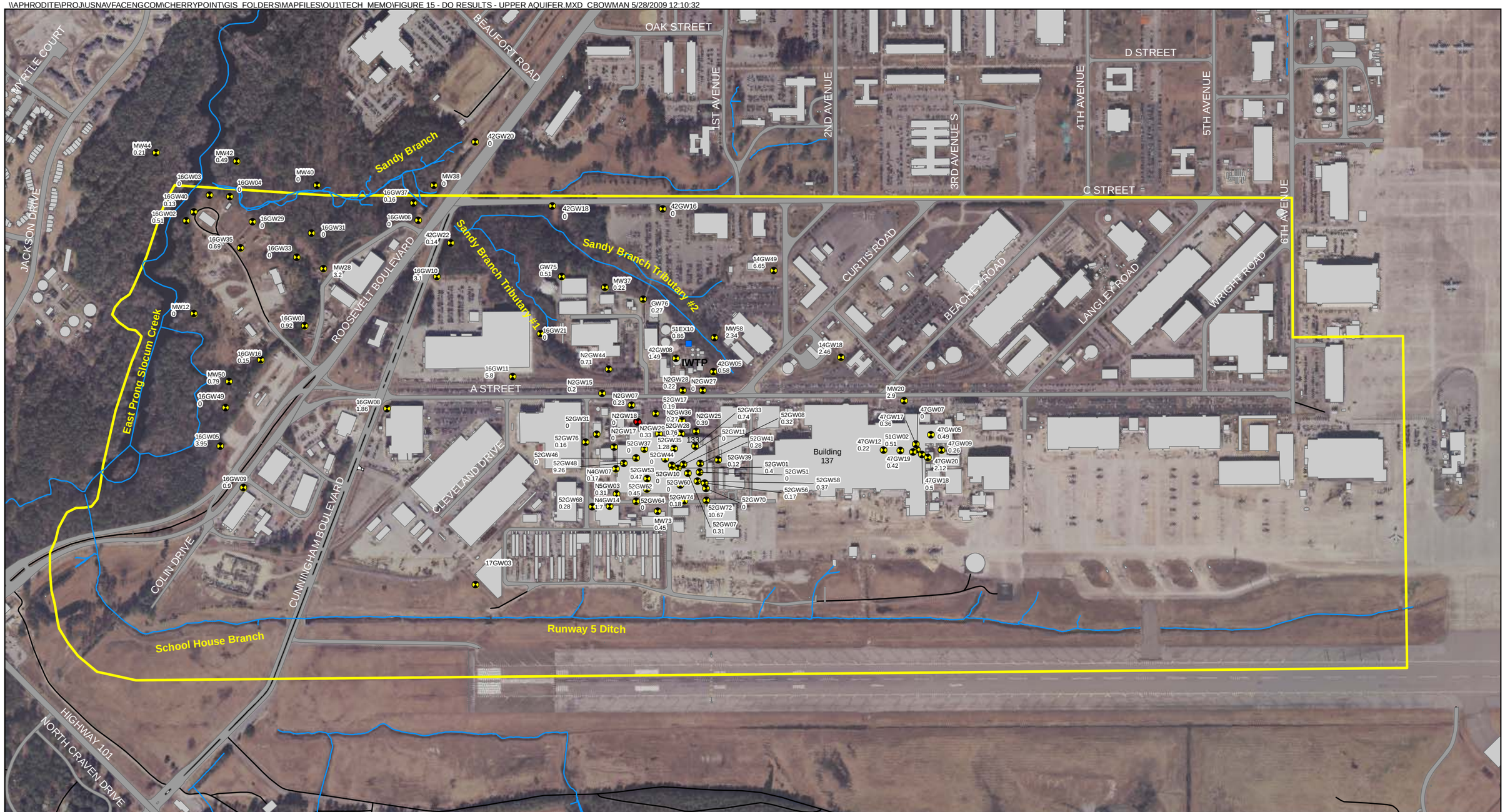
\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 15 - DO RESULTS - UPPER AQUIFER.MXD CBOWMAN 5/28/2009 12:10:32



Legend

- Extraction Well
- Free Product Monitoring Well
- Monitoring Well - Upper Aquifer
- Surface Water
- OU1 Boundary
- Existing Buildings

IWTP - Industrial Wastewater Treatment Plant

N W E S

0 600 1,200 Feet

Figure 15
Dissolved Oxygen Results
Upper Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

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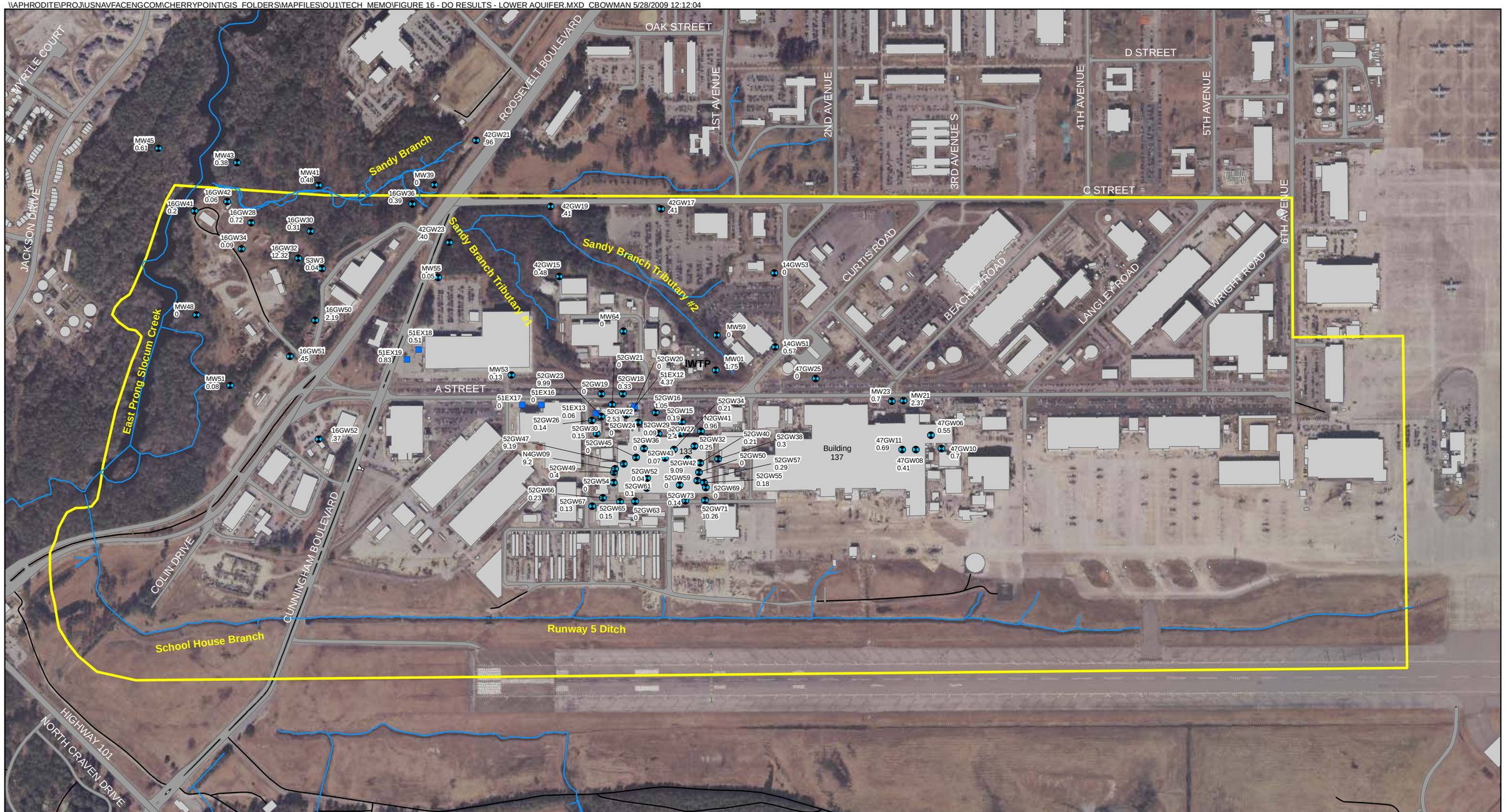
\\APHRODITE\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\OU1\TECH_MEMO\FIGURE 16 - DO RESULTS - LOWER AQUIFER.MXD CBOWMAN 5/28/2009 12:12:04



Legend

- Extraction Well
- Monitoring Well - Lower Aquifer
- Surface Water
- OU1 Boundary
- Existing Buildings

IWTP - Industrial Wastewater Treatment Plant

N W E S

0 600 1,200 Feet

Figure 16
Dissolved Oxygen Results
Lower Surficial Aquifer
Marine Corps Air Station Cherry Point
Cherry Point, North Carolina

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Attachment A
Boring and Well Construction Logs

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

STREET ADDRESS Po Bx 692

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable)

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED 21 APR 09

TIME COMPLETED 2100 AM ☐ PM ☑

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

146W53
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE N 34° 89.666
LONGITUDE W 76° 89.909

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. WELL OWNER

OWNER'S NAME Navy

STREET ADDRESS PSC Bx 8006

Cherry Point NC 28533
City or Town State Zip Code

( ) -
Area code - Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 43

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

From	To	From	To
0	43		

7. CASING:

From	To	Ft.	Diameter	Thickness/ Weight	Material
0	32		2	Sch 40	PVC

8. GROUT:

From	To	Ft.	Material	Method
0	27		Cement	Pumped
27	30.5		Sur Plug	Gravity

9. SCREEN:

From	To	Ft.	Diameter	Slot Size	Material
33	43		2 in.	.010 in.	PVC
			in.	in.	
			in.	in.	

10. SAND/GRAVEL PACK:

From	To	Ft.	Size	Material
30.5	50		#1	Sand

11. DRILLING LOG

From	To	Formation Description
0	10	Tan Silty Fine Sand
10	20	Orange Silty Sand
20	30	grey Orange Silty Sand
30	45	grey Shelly Med sand
45	50	Dark Clay

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

[signature] 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1a
Rev. 3/07

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	14GW53	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling Inc. | LOCATION : Site 14

ELEVATION : 18.47 feet amsl | NORTHING: 424015.05 | EASTING: 2629877.07

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/21/2009 1300 | END : 4/21/2009 1420 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	24"	Sonic Cutting		Construction fill	4.9ppm
10	10'-20'	120"	Sonic Cutting		Silty Sand (SM), yellow (2.5Y 7/8), dry, loose	0.0ppm
					Lean Clay (CL), gray (10YR 6/1), dry, medium dense, plastic Poorly Graded Sand (SP), gray (10YR 5/1), saturated, loose, fine grained	
20	20'-30'	60"	Sonic Cutting		Silty Sand (SM), brownish yellow (10YR 6/8), saturated, low density, some clay	0.0ppm
30	30-40'	120"	Sonic Cutting		Poorly Graded Sand (SP), gray (10YR 5/1), saturated, loose, coarse grained, some shell fragments	0.0ppm
40	40-50"	36"	Sonic Cutting		Same as above, shells and phosphate nodules	0.0ppm
					Lean Clay (CL), dark bluish gray (Gley2 4/10B), dry, medium plastic End of boring at 43 feet bgs	
50						
60						

PROJECT NUMBER	WELL NUMBER		
386383.FI.MW.MW	14GW53	SHEET 1	OF 1

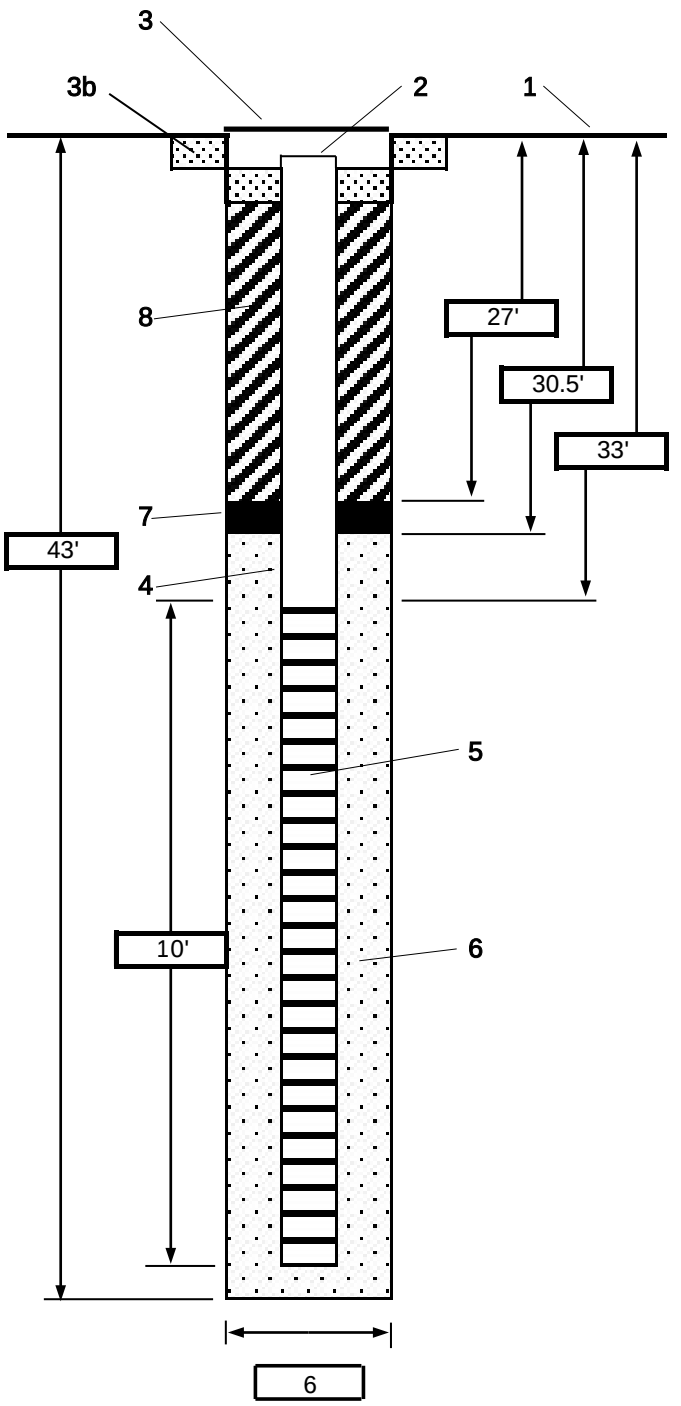
WELL COMPLETION DIAGRAM

PROJECT : CTO-208 LOCATION Cherry Point Site 14

DRILLING CONTRACTOR : Miller Drilling Inc. NORTHING: 424015.05 EASTING: 2629877.07

DRILLING METHOD AND EQUIPMENT USED : 6 inch Rotosonic

WATER LEVELS : 8.0' bgs START : 04/21/2009 1420 END :04/21/2009 15 LOGGER : Mark Ost



1- Ground elevation at well	18.47 feet amsl
2- Top of casing elevation	18.11 feet amsl
3- Wellhead protection cover type:	Flushmount
a) drain tube?	No
b) concrete pad dimensions	2 ft. Square
4- Dia./type of well casing	2" PVC Sch 40
5- Type/slot size of screen	2" Sch 40 PVC .01 slot
6- Type screen filter	#1 Filter Sand
a) Quantity used	5 bags
7- Type of Seal	Shur Plug 3/8" chips
a) Quantity used	1/2 bag
8- Grout	
a) Grout mix used	Portland cement/Bentonite
b) Method of placement	Tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.50 hours
Estimated purge volume	55 gallons

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (individual) Name

Morton Well + Pump
Well Contractor Company Name

STREET ADDRESS Po BX 692

Morehead City NC 28557
City or Town / State Zip Code

(252)- 342-3746
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable)

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED 24 APR 09

TIME COMPLETED 1:00 AM ☐ PM ☑

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

16 GW 49
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE N 34 88.844
LONGITUDE W 76 90.555

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☑ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. WELL OWNER

OWNER'S NAME Navy

STREET ADDRESS PSC BX 8006

Cherry Point NC 28533
City or Town State Zip Code

( )-
Area code - Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 18'

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

From	To	From	To
0	20		

7. CASING:

From	To	Depth	Diameter Ft.	Thickness/ Weight	Material
+2	7		2	Sch 40	PVC

8. GROUT:

From	To	Depth	Material	Method
0	6	Ft.	Surplug	Gravity

9. SCREEN:

From	To	Depth	Diameter Ft.	in.	Slot Size	in.	Material
8	18		2		.10		PVC

10. SAND/GRAVEL PACK:

From	To	Depth	Size	Material
6	20	Ft.	#1	Sand

11. DRILLING LOG

From	To	Formation Description
0	10	Dirt Soil
10	20	Grey Silty Sand fine

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 28 APR 09

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1a
Rev. 3/07

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	16GW49	SHEET 1 OF 1

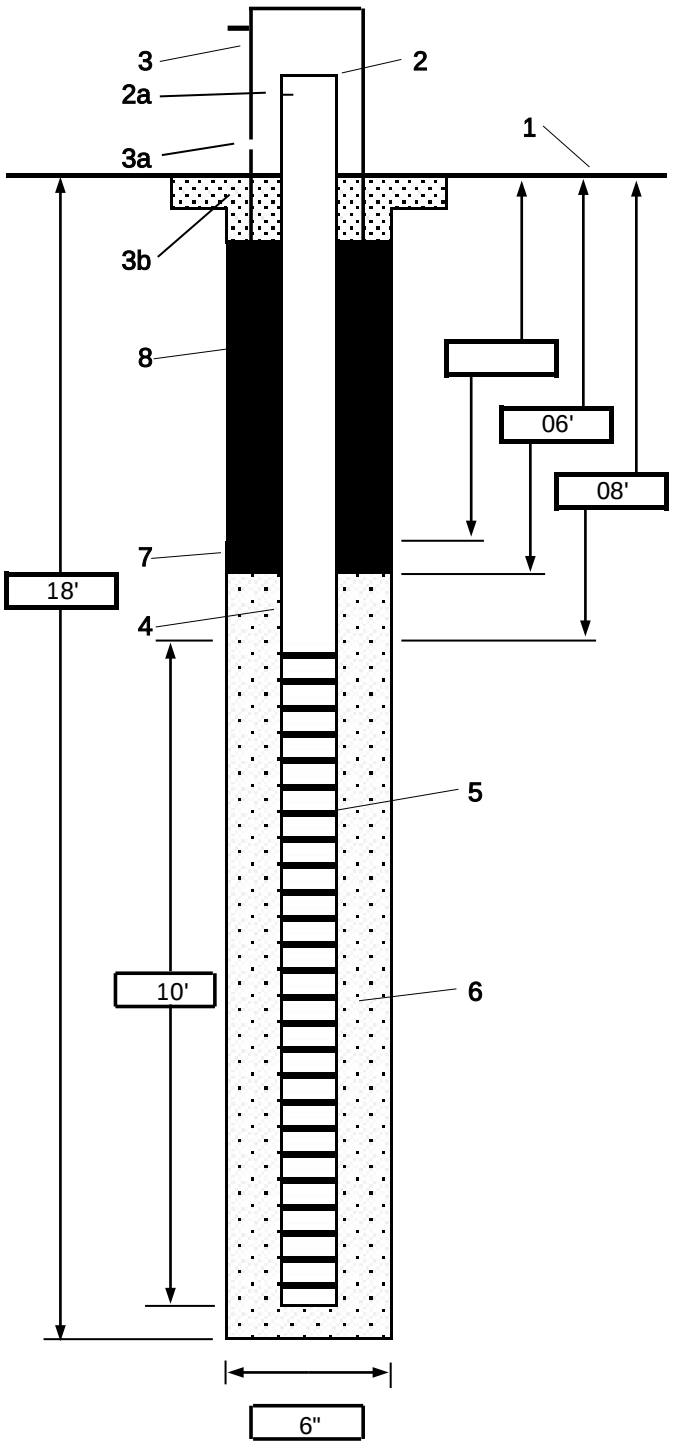
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 | LOCATION : Cherry Point Site 16

DRILLING CONTRACTOR : Miller Drilling Inc. | Northings: 420939.06 | Eastings: 2628045.21

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' | START : 04/24/2009 1238 | END : 04/24/2009 13 | LOGGER : Mark Ost



1- Ground elevation at well	3.81 feet amsl
2- Top of casing elevation	6.11 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	3,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1, 50# bag
8- Grout	
a) Grout mix used	No grout used. Bentonite to surface
b) Method of placement	
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

STREET ADDRESS Po Bx 692

Morehead City NC 28557
City or Town / State / Zip Code

(252) 342-3746
Area code- Phone number

2. WELL INFORMATION:

SITE WELL ID #(if applicable)

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED Apr 22 09

TIME COMPLETED 10:00 AM ☑ PM ☐

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

16 G W 50
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING:
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
(check appropriate box)

LATITUDE 34 N 53.436
LONGITUDE W 76 54.324

May be in degrees, minutes, seconds or in a decimal format

Latitude/longitude source: ☒ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map and attached to this form if not using GPS)

5. WELL OWNER

OWNER'S NAME Navy

STREET ADDRESS PSC Bx 8006

Cherry Point NC 28533
City or Town / State / Zip Code

( )-
Area code - Phone number

6. WELL DETAILS:

a. TOTAL DEPTH: 50

b. DOES WELL REPLACE EXISTING WELL? YES ☐ NO ☑

c. WATER LEVEL Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. TOP OF CASING IS 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. YIELD (gpm): _____ METHOD OF TEST _____

f. DISINFECTION: Type _____ Amount _____

g. WATER ZONES (depth):

From	To	From	To
0	50		

7. CASING:

From	To	Depth	Diameter	Thickness/ Weight	Material
2	39	Ft.	2	Sch 40	PVC
		Ft.			
		Ft.			

8. GROUT:

From	To	Depth	Material	Method
0	35	Ft.	Cement	Pumped
35	37	Ft.	Surplug	Gravity
		Ft.		

9. SCREEN:

From	To	Depth	Diameter	Slot Size	Material
40	50	Ft.	2 in.	.10 in.	PVC
		Ft.	in.	in.	
		Ft.	in.	in.	

10. SAND/GRAVEL PACK:

From	To	Depth	Size	Material
37	50	Ft.	#1	Sand
		Ft.		
		Ft.		

11. DRILLING LOG

From	To	Formation Description
0	10	Gravel fine Sand
10	20	Tan Silty Sand
20	30	Tan Sand Coarse
30	40	Tan Coarse Sand
40	50	Light Grey Coarse Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

[signature] 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit the original to the Division of Water Quality within 30 days. Attn: Information Mgt., 1617 Mail Service Center – Raleigh, NC 27699-1617 Phone No. (919) 733-7015 ext 568.

Form GW-1b
Rev. 3/07

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	16GW50	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling, Inc. | LOCATION : Site 16

ELEVATION : 21.94 feet asml | NORTHING: 421730.74 | EASTING: 2628050.21

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/24/2009 0914 | END : 4/24/2009 1238 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY,	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION, OVM (ppm): Breathing Zone Above Hole
	0-10	0"	Sonic Cutting		no recovery	0.0 ppm
10	10'-20'	12"	Sonic Cutting		Poorly Graded Sand (SP), yellowish brown (10YR 6/6), dry	0.0ppm
20	20'-30'	48"	Sonic Cutting		Same as above	18.0ppm
30	30-40'	120"	Sonic Cutting		Poorly Graded Sand (SP), pale yellow brown (10YR 8/4), saturated, medium grained sand	19.0ppm
40	40-50"	120"	Sonic Cutting		Same as above, gray (10YR 5/1)	0.0ppm
50					End of boring at 50 feet bgs	
60						

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	16GW50	SHEET 1 OF 1

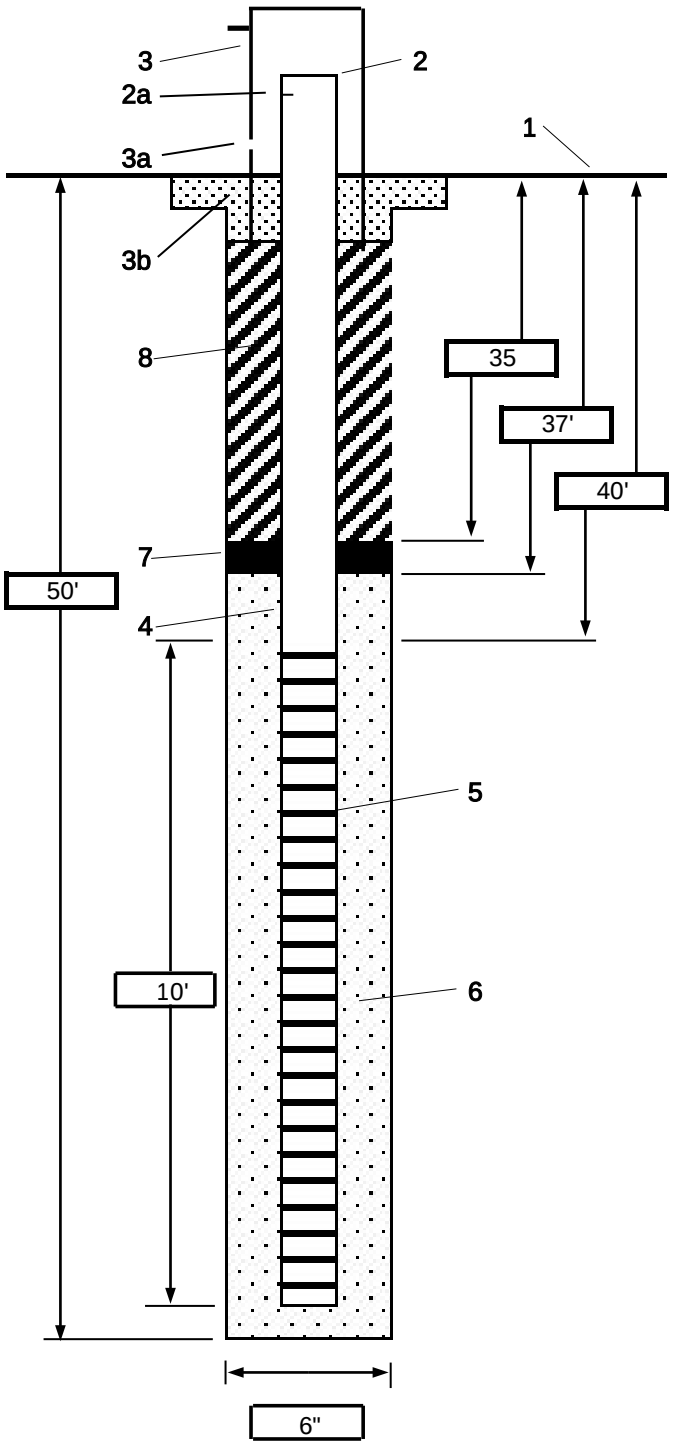
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 16

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 421730.74 Easting: 2628050.21

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/24/2009 1028 END : 04/24/2009 11 LOGGER : Mark Ost



1- Ground elevation at well	21.94 feet amsl
2- Top of casing elevation	24.41 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	3,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	Tremie Pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED 21 APR 09

TIME COMPLETED 10:00 AM ☑ PM ☐

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

166W51
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other

LATITUDE 36 34.53.390 " DMS OR 3x.xxxxxxxxx DD

LONGITUDE 75 76.54.317 " DMS OR 7x.xxxxxxxxx DD

Latitude/longitude source: ☑ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

PSC Bx 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 50'

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" If Above Top of Casing)

d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 50	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 2	Bottom 39 Ft.	2	Sch 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0	Bottom 34.5 Ft.	Cement	Pumped
Top 34.5	Bottom 38 Ft.	Surplug	Gravity
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 40	Bottom 50 Ft.	2 in.	.10 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 38	Bottom 50 Ft.	#1	Sand
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan Silty Sand
10	20	Tan Silty Sand
20	30	light grey orange Silty Sands
30	40	light grey Med Sand
40	50	dark grey Med Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

[signature] 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntson
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 1/08

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	16GW51	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling, Inc. | LOCATION : Site 16

ELEVATION : 24.30 feet amsl | NORTHING: 421454.56 | EASTING: 2628102.14

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/21/2009 0815 | END : 4/21/2009 1010 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	0"	Sonic Cutting		No recovery	0ppm
10	10'-20'	120"	Sonic Cutting		Silty Sand (SM), gray (10YR 6/1), saturated, medium grained. dense	320.0ppm, hydrocarbon odor
					Lean Clay (CL), yellowish brown (10YR/5/4), dry, dense Poorly Graded Sand (SP), white (10YR 8/1), saturated, loose	
20	20'-30'	60"	Sonic Cutting		Poorly Graded Sand (SP), very pale brown (10YR 7/4), saturated, loose, iron stain	5.0ppm, no odor
30	30-40'	120"	Sonic Cutting		Poorly Graded Sand (SP), brownish yellow (10YR 6/6), saturated, loose	10.07ppm
40	40-50'	120"	Sonic Cutting		Poorly Graded Sand (SP), gray (10YR 5/1), saturated, loose, some shell fragments	5.2ppm
50					End of boring at 50 feet bgs	
60						

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	16GW51	SHEET 1 OF 1

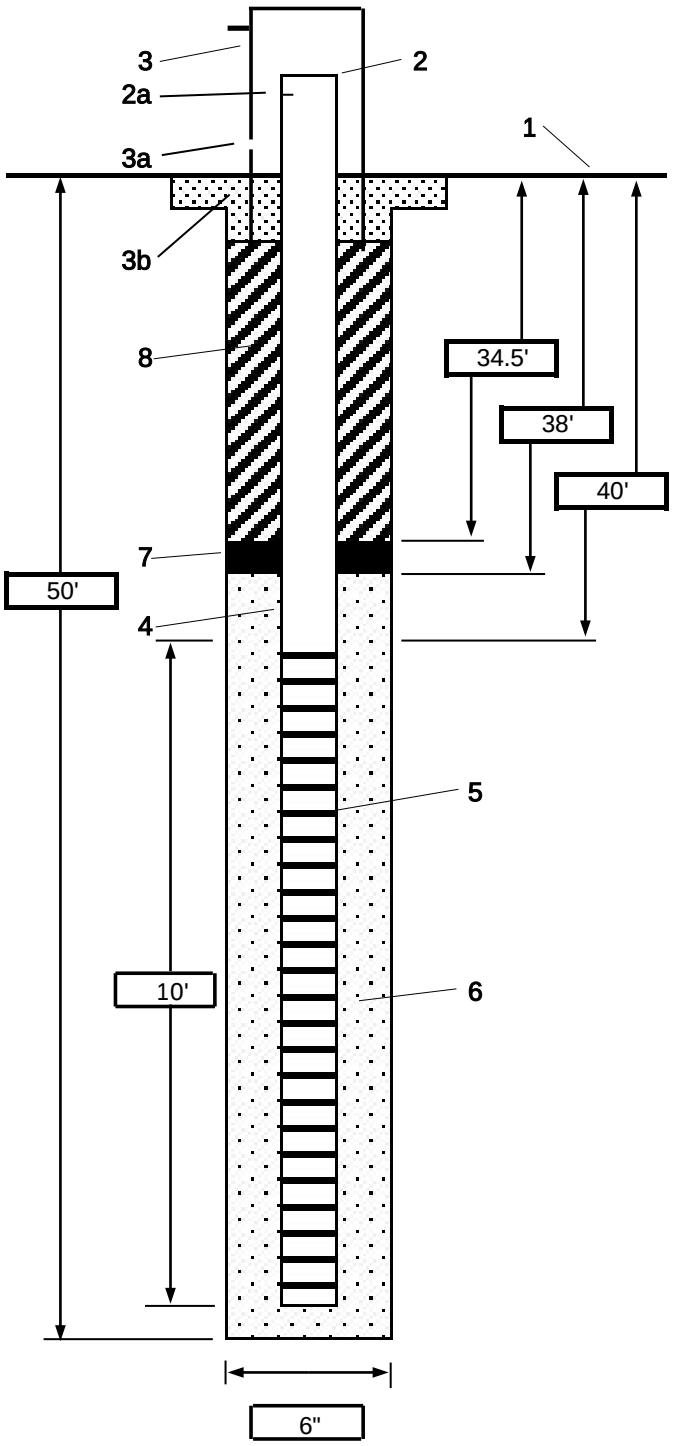
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 16

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 421454.56 Easting: 2628102.14

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/21/2009 1010 END : 04/19/2009 13 LOGGER : Mark Ost



1- Ground elevation at well	24.30 feet amsl
2- Top of casing elevation	26.73 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	2,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/3, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED Apr 20 09

TIME COMPLETED 10:00 AM ☑ PM ☐

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

16 GW52
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other

LATITUDE 36 34·88·916 " DMS OR 3x.xxxxxxxxx DD

LONGITUDE 75 76·90·371 " DMS OR 7x.xxxxxxxxx DD

Latitude/longitude source: ☑ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

PSC Bx 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 45

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 50	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 34	Ft. 2	Sch 40	PVC
Top	Bottom	Ft.		
Top	Bottom	Ft.		

8. GROUT:

Depth		Material	Method
Top 0	Bottom 31	Ft. Cement	Pumped
Top 31	Bottom 33	Ft. Surplug	Gravity
Top	Bottom	Ft.	

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 35	Bottom 45	Ft. 2 in.	.10 in.	PVC
Top	Bottom	Ft. in.	in.	
Top	Bottom	Ft. in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 33	Bottom 50	Ft. #1	Sand
Top	Bottom	Ft.	
Top	Bottom	Ft.	

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Rock Fill
10	15	Sandy Silty Sand
15	20	Grey Clay
20	30	light grey Silty Sand
30	40	Orange Silty Sands
40	50	light grey Med Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

T Morton 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 2/09

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	16GW52	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling Inc. | LOCATION : Site 16

ELEVATION : 23.11 | NORTHING: 421217.68 | EASTING: 2628603.83

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/20/2009 0830 | END : 4/19/2009 1130 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	12"	Sonic Cutting		Construction fill	0ppm
10	10'-20'	120"	Sonic Cutting		Silty Sand (SM), gray (2.5Y 6/1), saturated, loose Lean Clay (CL), gray (2.5Y 6/1), saturated, low density Silty Sand (SM), gray (2.5Y 6/1), saturated, low density, some clay	5.7ppm
20	20'-30'	120"	Sonic Cutting		Poorly Graded Sand (SP), gray (2.5Y 6/1), saturated, loose Same as above, pale yellow (2.5Y 7/4) Same as above, gray (2.5Y 6/1) Same as above, olive yellow (2.5Y 6/8), trace clay in lower section	9.0ppm
30	30-40'	60"	Sonic Cutting		Same as above, light gray (10YR 7/2), fine grained Same as above, brownish yellow (10YR 6/6), iron stain	0.0ppm
40	40-50"	60"	Sonic Cutting		Same as above, coarse grained, shell fragmants Same as above gray (10YR 5/1), some shell fragments	0.0ppm
50					End of boring at 45 feet bgs	
60						

PROJECT NUMBER	WELL NUMBER		
386383.FI.MW.MW	16GW52	SHEET 1	OF 1

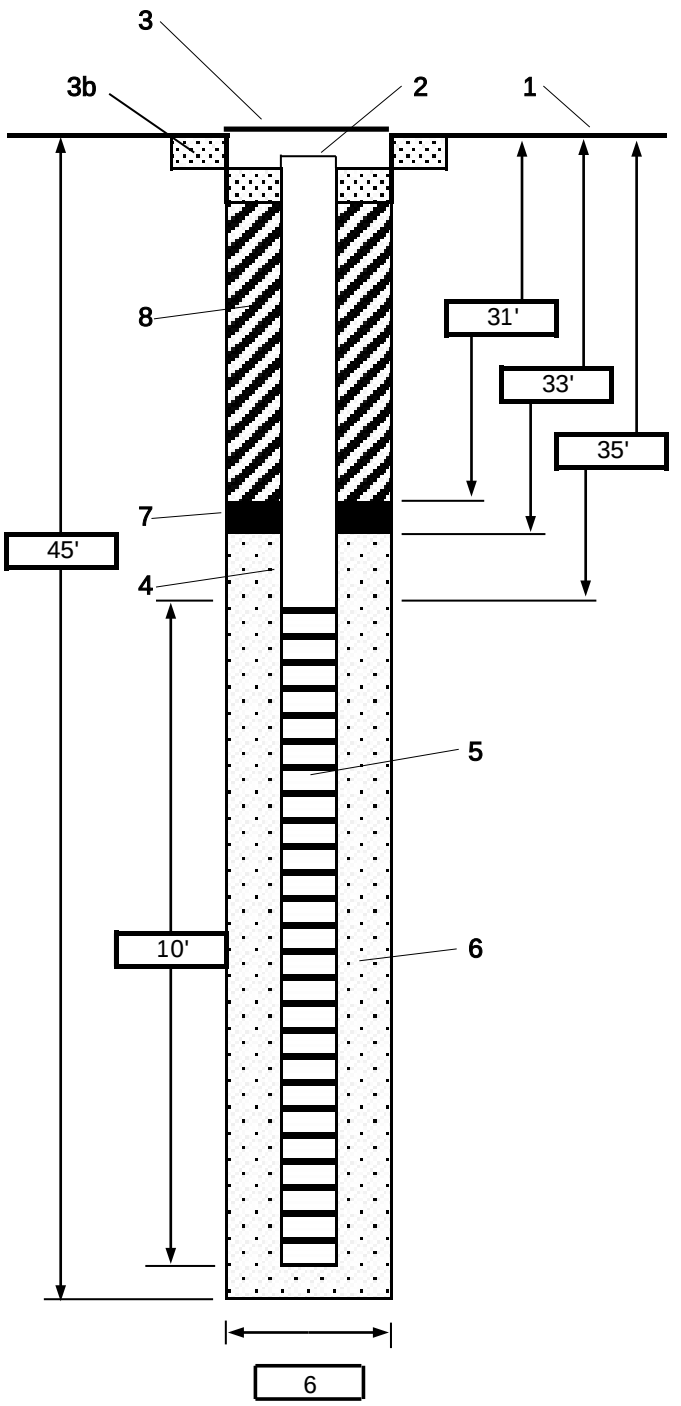
WELL COMPLETION DIAGRAM

PROJECT : CTO-208 LOCATION Cherry Point Site 16

DRILLING CONTRACTOR : Miller Drilling Inc. NORTHING: 421217.68 EASTING: 2628603.83

DRILLING METHOD AND EQUIPMENT USED : 6 inch Rotosonic

WATER LEVELS : 8.0' bgs START : 04/20/2009 1130 END :04/20/2009 14: LOGGER : Mark Ost



1- Ground elevation at well	23.11 feet amsl
2- Top of casing elevation	22.77 feet amsl
3- Wellhead protection cover type:	Flushmount
a) drain tube?	No
b) concrete pad dimensions	2 ft. Square
4- Dia./type of well casing	2" PVC Sch 40
5- Type/slot size of screen	2" Sch 40 PVC .01 slot
6- Type screen filter	#1 Filter Sand
a) Quantity used	4 bags
7- Type of Seal	Shur Plug 3/8" chips
a) Quantity used	1/2 bag
8- Grout	
a) Grout mix used	Portland cement/Bentonite
b) Method of placement	Tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.50 hours
Estimated purge volume	55 gallons

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:
Tommy Morton
Well Contractor (Individual) Name
Morton Well + Pump
Well Contractor Company Name
Po Bx 692
Street Address
Morehead City NC 28557
City or Town State Zip Code
(252) 342-3746
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT#
OTHER ASSOCIATED PERMIT#(if applicable)
SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐
DATE DRILLED 17 APR 09
TIME COMPLETED 3:00 AM ☐ PM ☑

4. WELL LOCATION:
CITY: Havelock COUNTY Craven
17GW03
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
LATITUDE 36 34·53·342 " DMS OR 3x.xxxxxxxx DD
LONGITUDE 75 76·53·938 " DMS OR 7x.xxxxxxxx DD
Latitude/longitude source: ☑ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER
Navy
Owner Name
PSC Bx 8006
Street Address
Cherry Point NC 28533
City or Town State Zip Code
( )
Area code Phone number

6. WELL DETAILS:
a. **TOTAL DEPTH:** 18'
b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑
c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" If Above Top of Casing)
d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. **YIELD (gpm):** _____ **METHOD OF TEST** _____
f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 20	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top +2	Bottom 8 Ft.	2"	Sch 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0	Bottom 6 Ft.	Surplug	gravity
Top	Bottom Ft.		
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 8	Bottom 18 Ft.	2 in.	.10 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 6	Bottom 20 Ft.	#1	Sand
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan Silty Sand
10	15	Tan Silty Sand
15	20	Light Grey Sandy Clay

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

T Morton — 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntson
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 2/09

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	17GW03	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling Inc. | LOCATION : Site 17

ELEVATION : 16.33 feet amsl | NORTHING: 421279.21 | EASTING: 2629956.41

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/17/2009 1535 | END : 4/17/2009 1613 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	0"	Sonic Cutting		No recovery	0ppm
10	10'-20'	120"	Sonic Cutting		Silty Sand (SM), very pale brown (10YR 7/3), saturated, loose	0ppm
					Silty Sand (SM), very dark bluish gray (Gley 2 4/5PB), loose	0ppm
20	20'-30'				End of boring at 20 feet bgs	
30						
40						
50						
60						

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	17GW03	SHEET 1 OF 1

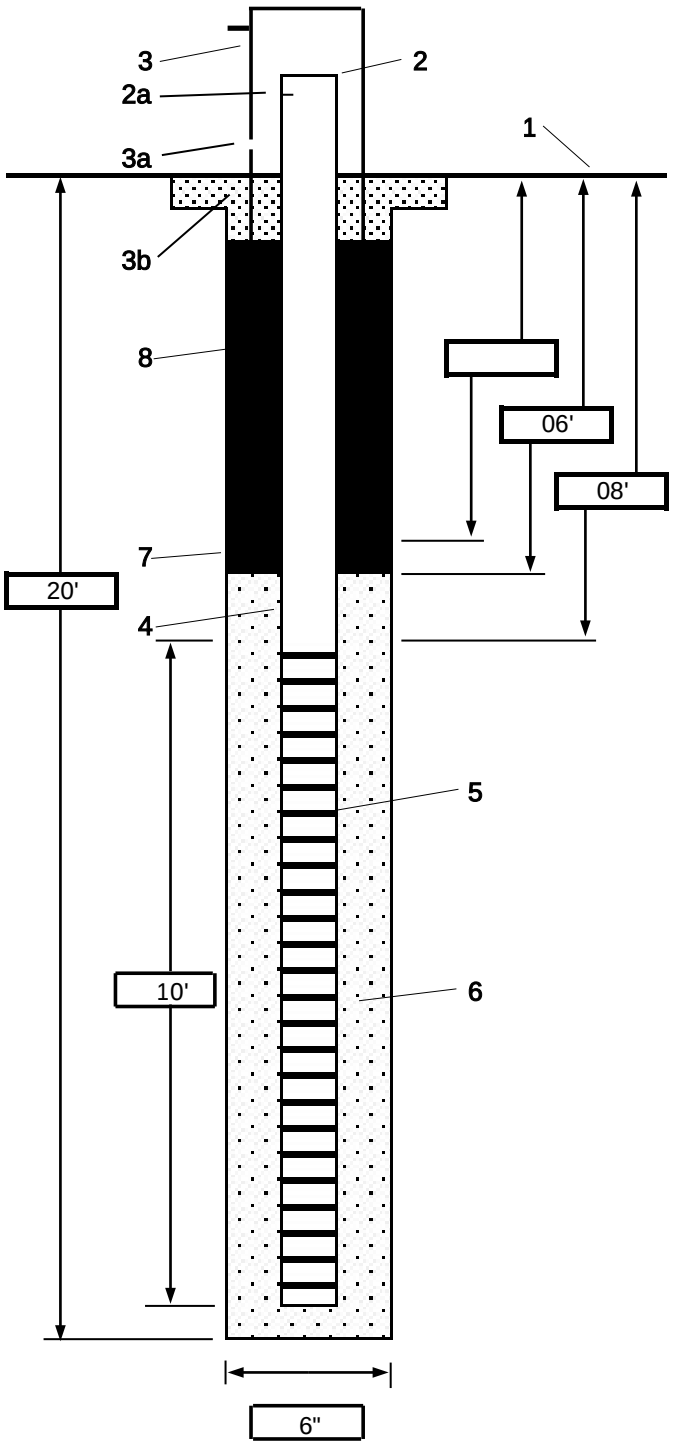
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 17

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 421279.21 Easting: 2629956.41

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/17/2009 1613 END : 04/17/2009 16 LOGGER : Mark Ost



1- Ground elevation at well	16.33 feet amsl
2- Top of casing elevation	19.15 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	1 1/2,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	No Grout. Bentonite to surface
b) Method of placement	
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED Apr 16 09

TIME COMPLETED 10:00 AM ☑ PM ☐

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

42 Lw 16
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐Slope ☐Valley ☑Flat ☐Ridge ☐Other

LATITUDE 36 34 · 89 · 604 " DMS OR 3X.XXXXXXXX DD

LONGITUDE 75 77 · 90 · 190 " DMS OR 7X.XXXXXXXX DD

Latitude/longitude source: ☑GPS ☐Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

Psc Bx 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 30'

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 30	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 20 Ft.	2"	Sch 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0	Bottom 14 Ft.	Cement	Pumped
Top 14	Bottom 17 Ft.	Surplug	Gravity
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 20	Bottom 30 Ft.	2 in.	.10 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 17	Bottom 30 Ft.	#1	Sand
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan Silty Sand
10	15	Tan Silty Sand
15	20	Grey Med Sand
20	30	Grey Med Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 28 APR 09

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 1/08

PROJECT NUMBER	WELL NUMBER		
386383.FI.MW.MW	42GW16	SHEET 1	OF 1

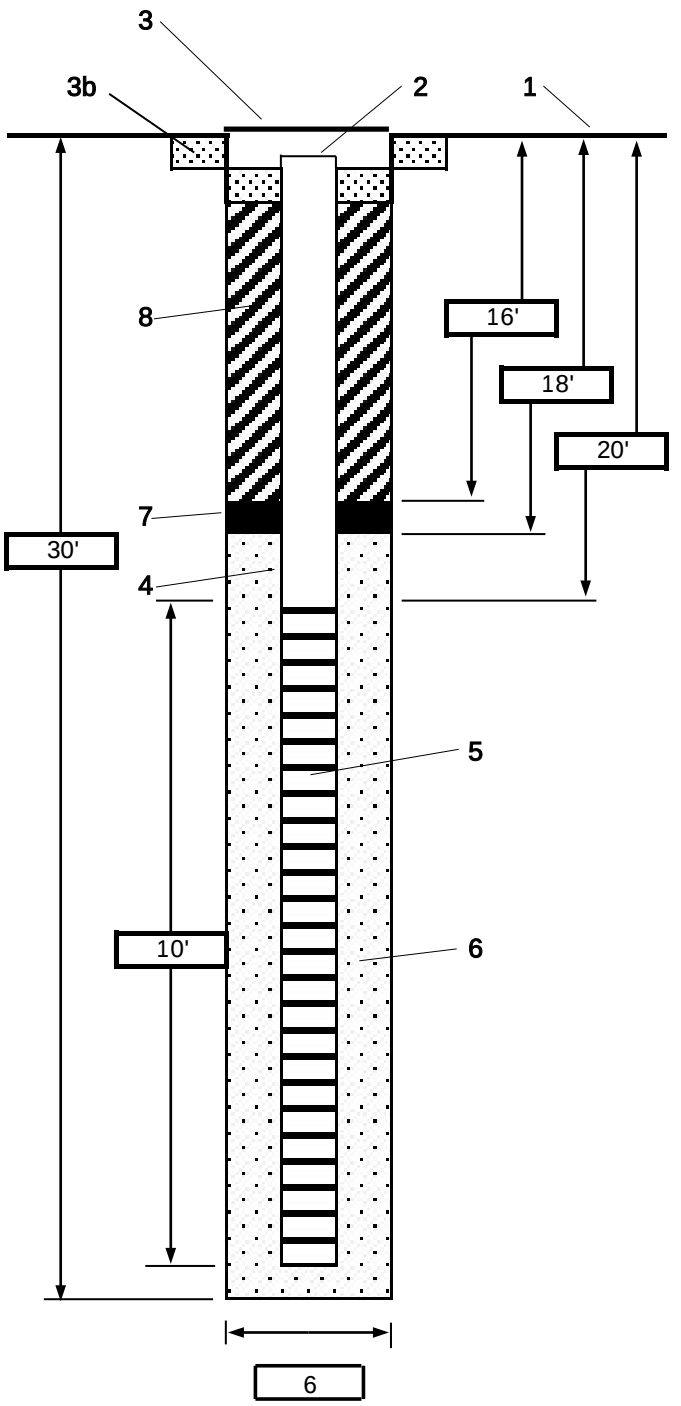
WELL COMPLETION DIAGRAM

PROJECT : CTO-208 LOCATION Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. NORTHING: 423793.86 EASTING:2629092.31

DRILLING METHOD AND EQUIPMENT USED : 6 inch Rotosonic

WATER LEVELS : 8.0' bgs START : 04/16/2009 0938 END :04/16/2009 10 LOGGER : Mark Ost



1- Ground elevation at well	13.25 feet amsl
2- Top of casing elevation	12.89 feet amsl
3- Wellhead protection cover type:	Flushmount
a) drain tube?	No
b) concrete pad dimensions	2 ft. Square
4- Dia./type of well casing	2" PVC Sch 40
5- Type/slot size of screen	2" Sch 40 PVC .01 slot
6- Type screen filter	#1 Filter Sand
a) Quantity used	1 1/2 bags
7- Type of Seal	Shur Plug 3/8" chips
a) Quantity used	1/2 bag
8- Grout	
a) Grout mix used	Portland cement/Bentonite
b) Method of placement	Tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.50 hours
Estimated purge volume	55 gallons

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED Apr 15

TIME COMPLETED 10:00 AM ☑ PM ☐

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

426W17
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐Slope ☐Valley ☑Flat ☐Ridge ☐Other

LATITUDE 36 34·53·769 " DMS OR 3x.XXXXXXXXX DD

LONGITUDE 75 76·54·098 " DMS OR 7x.XXXXXXXXX DD

Latitude/longitude source: ☑GPS ☐Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

PSC Bx 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 47'

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: 10 FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 0 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 47	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 37	Ft. 2	Sch 40	PVC
Top	Bottom	Ft.		
Top	Bottom	Ft.		

8. GROUT:

Depth		Material	Method
Top 30	Bottom 33	Ft. Surplug	Gravity
Top 0	Bottom 33	Ft. Cement	Pumped
Top	Bottom	Ft.	

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 37	Bottom 47	Ft. 2 in.	10 in.	PVC
Top	Bottom	Ft. in.	in.	
Top	Bottom	Ft. in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 33	Bottom 50	Ft. #1	Sand
Top	Bottom	Ft.	
Top	Bottom	Ft.	

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan silty Sand
10	15	Tan silty Sand
15	20	Grey Med Sand
20	30	Grey Med Sand
30	40	Dark Grey Med Sand
40	45	Sandy shells
45	50	Silty clay

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

TM 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 1/08

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	42GW17	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling Inc. | LOCATION : Site 42

ELEVATION : 13.23 feet amsl | NORTHING: 423787.09 | EASTING: 2629084.55

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/15/2009 1454 | END : 4/15/2009 1800 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	0"	Sonic Cutting		No recovery	0ppm
10	10'-20'	120"	Sonic Cutting		Silty Sand (SM), very pale brown (10YR 8/4), moist, loose	0ppm
					Lean Clay (CL), gray (10YR 5/1), saturated, loose, high plasticity	
						0ppm
					Poorly Graded Sand (SP), gray (10YR 5/1), saturated, loose, fine grained, some silt	
20	20'-30'	36"	Sonic Cutting		Same as above, medium grained	0ppm
30	30-40'	120"	Sonic Cutting		Same as above, shell fragments	0ppm
40	40-50"	84"	Sonic Cutting		Same as above, shell hash and coral, wood fragments	0ppm
					Silt (ML), very dark greenish gray (Gley 1 3/5G) medium dense, slightly plastic	
					End of boring at 47 feet bgs	
50						
60						

PROJECT NUMBER	WELL NUMBER	
386383.FI.MW.MW	42GW17	SHEET 1 OF 1

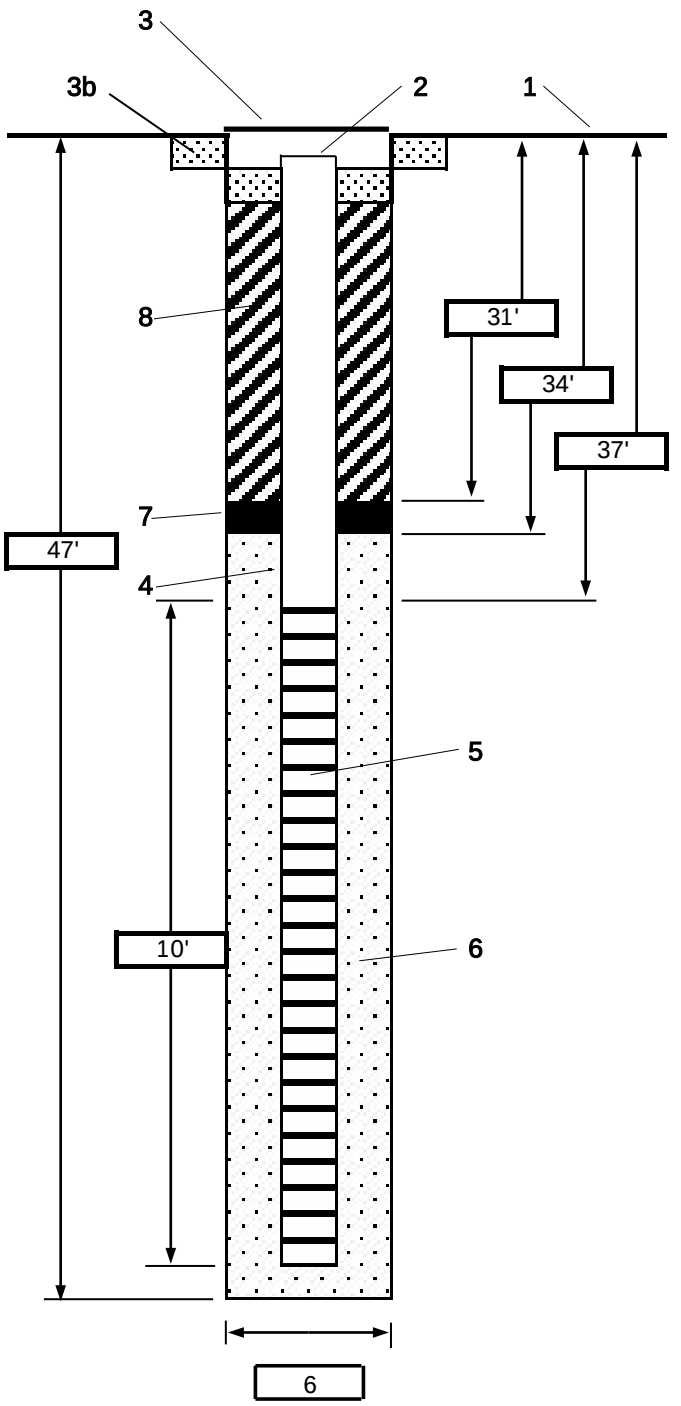
WELL COMPLETION DIAGRAM

PROJECT : CTO-208 LOCATION Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. NORTHING: 423787.09 EASTING:2629084.55

DRILLING METHOD AND EQUIPMENT USED : 6 inch Rotosonic

WATER LEVELS : 4.0' bgs START : 04/16/2009 0750 END :04/16/2009 10 LOGGER : Mark Ost



1- Ground elevation at well	13.23 feet amsl
2- Top of casing elevation	12.72 feet amsl
3- Wellhead protection cover type:	Flushmount
a) drain tube?	No
b) concrete pad dimensions	2 ft. Square
4- Dia./type of well casing	2" PVC Sch 40
5- Type/slot size of screen	2" Sch 40 PVC .01 slot
6- Type screen filter	#1 Filter Sand
a) Quantity used	5 bags
7- Type of Seal	Shur Plug 3/8" chips
a) Quantity used	1/2 bag
8- Grout	
a) Grout mix used	Portland cement/Bentonite
b) Method of placement	Tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.50 hours
Estimated purge volume	55 gallons

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED 19 APR 09

TIME COMPLETED 2:00 AM ☐ PM ☑

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

426W18
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐Slope ☐Valley ☑Flat ☐Ridge ☐Other

LATITUDE 36 34 · 89 · 479 " DMS OR 3x.xxxxxxxx DD

LONGITUDE 75 76 · 90 · 365 " DMS OR 7x.xxxxxxxx DD

Latitude/longitude source: ☑GPS ☐Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

PSC BX 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 23

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" If Above Top of Casing)

d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 20	Bottom 30	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top +2	Bottom 13	Ft. 2	Sch 40	PVC
Top	Bottom	Ft.		
Top	Bottom	Ft.		

8. GROUT:

Depth		Material	Method
Top 0	Bottom 9	Ft. Cement	Pressure
Top 9	Bottom 11	Ft. Surplug	Gravity
Top	Bottom	Ft.	

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 13	Bottom 23	Ft. 2 in.	.10 in.	PVC
Top	Bottom	Ft. in.	in.	
Top	Bottom	Ft. in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 11	Bottom 25	Ft. #1	Sand
Top	Bottom	Ft.	
Top	Bottom	Ft.	

11. DRILLING LOG

Top	Bottom	Formation Description
0	20	Dirt
20	30	Grey fine Silty Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

T Mat — 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 2/09

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	42GW18	SHEET 1 OF 1

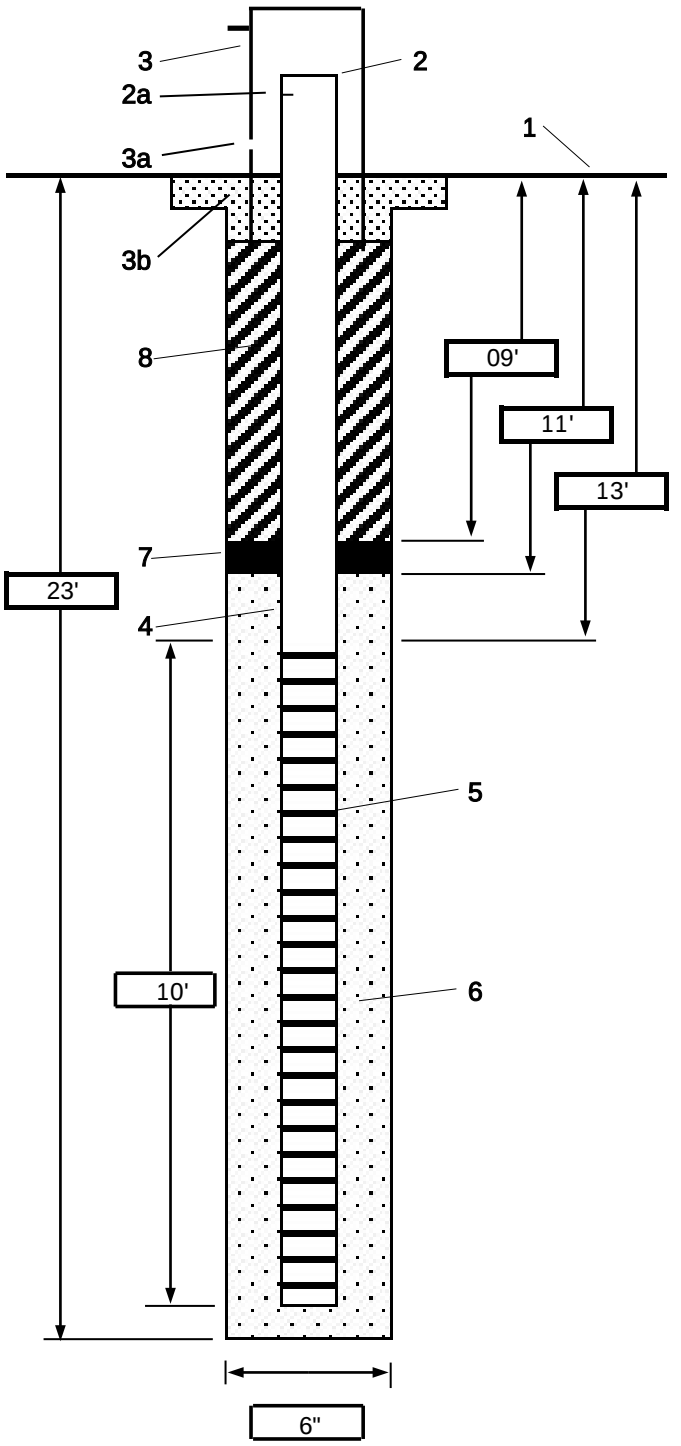
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 423307.25 Easting: 2628522.99

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/19/2009 1410 END : 04/19/2009 15 LOGGER : Mark Ost



1- Ground elevation at well	9.58 feet amsl
2- Top of casing elevation	12.18 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	3 1/2,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:
Tommy Morton
Well Contractor (Individual) Name
Morton Well + Pump
Well Contractor Company Name
Po Bx 692
Street Address
Morehead City NC 28557
City or Town State Zip Code
(252) 342-3746
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT#
OTHER ASSOCIATED PERMIT#(if applicable)
SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐
DATE DRILLED 19 APR 09
TIME COMPLETED 10:00 AM ☑ PM ☐

4. WELL LOCATION:
CITY: Havelock COUNTY Craven
42GW19
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐Slope ☐Valley ☑Flat ☐Ridge ☐Other
LATITUDE 36 34 89.479 " DMS OR 3x.xxxxxxxx DD
LONGITUDE 75 76 90 365 " DMS OR 7x.xxxxxxxx DD
Latitude/longitude source: ☑GPS ☐Topographic map
(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER
Navy
Owner Name
PSC BX 8006
Street Address
Cherry Point NC 28533
City or Town State Zip Code
( )
Area code Phone number

6. WELL DETAILS:
a. **TOTAL DEPTH:** 41
b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑
c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)
d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. **YIELD (gpm):** _____ **METHOD OF TEST** _____
f. **DISINFECTION:** Type _____ Amount _____

9. WATER ZONES (depth):

Top 0	Bottom 41	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

	Depth		Diameter	Thickness/ Weight	Material
Top 2	Bottom 30	Ft.	2	Sch 40	PVC
Top	Bottom	Ft.			
Top	Bottom	Ft.			

8. GROUT:

	Depth		Material	Method
Top 0	Bottom 26	Ft.	Cement	Pumped
Top 26	Bottom 28	Ft.	Surplug	Gravity
Top	Bottom	Ft.		

9. SCREEN:

	Depth		Diameter	Slot Size	Material
Top 31	Bottom 40	Ft.	2 in.	.10 in.	PVC
Top	Bottom	Ft.	in.	in.	
Top	Bottom	Ft.	in.	in.	

10. SAND/GRAVEL PACK:

	Depth		Size	Material
Top 28	Bottom 50	Ft.	#1	Sand
Top	Bottom	Ft.		
Top	Bottom	Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	20	Dirt
20	40	Grey fine silty Sand
40	50	Light Grey clay

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 28 APR 09

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 2/09

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	42GW19	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling Inc. | LOCATION : Site 42

ELEVATION : 9.59 feet amsl | NORTHING: 423300.24 | EASTING: 2628582.28

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/18/2009 0905 | END : 4/19/2009 1144 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	36"	Sonic Cutting		Top soil	0ppm
10	10'-20'	48"	Sonic Cutting		Top Soil and Construction fill	0ppm
20	20'-30'	120"	Sonic Cutting		Poorly Graded Sand (SP), light gray (10YR 7/1), saturated, loose, some shell fragments	1.5ppm
30	30-40'	120"	Sonic Cutting		Same as above, gray (2.5Y 5/1)	12.8ppm
40	40-50"	12"	Sonic Cutting		Lean Clay (CL), very dark greenish gray (Gley 1 3/5G), dry, medium dense, low plasticity End of boring at 41 feet bgs	9.0ppm
50						
60						

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	42GW19	SHEET 1 OF 1

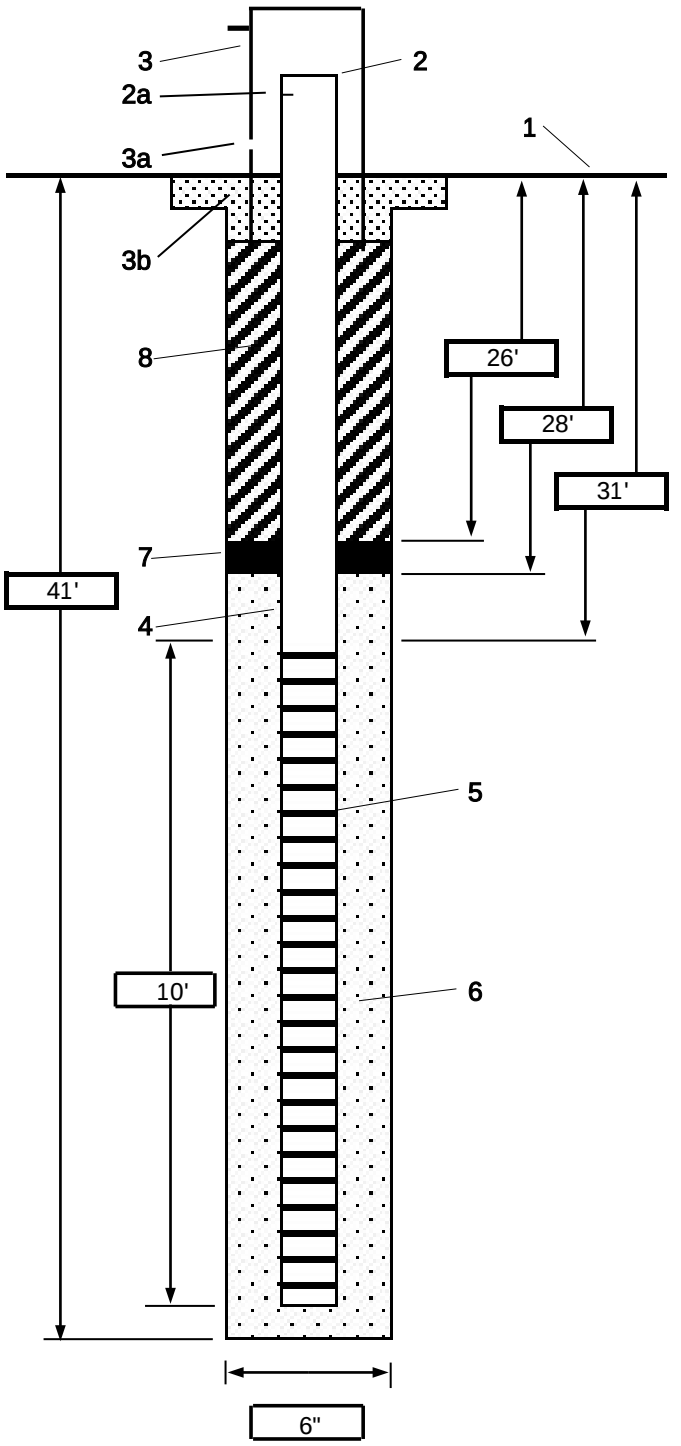
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 423300.24 Northing: 2628582.28

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/19/2009 1144 END : 04/19/2009 13 LOGGER : Mark Ost



1- Ground elevation at well	9.59 feet amsl
2- Top of casing elevation	12.19 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	4 1/2,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED Apr 16 09

TIME COMPLETED 4:00 AM ☐ PM ☑

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

42 GW 20
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other

LATITUDE 36 34:89:478 " DMS OR 3x.XXXXXXXXX DD

LONGITUDE 75 76:90:562 " DMS OR 7x.XXXXXXXXX DD

Latitude/longitude source: ☒ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

PSC Bx 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 25

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 25	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 15 Ft.	2	Sch 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0	Bottom ~~12.5~~ 10 Ft.	Cement	Pumped
Top 10	Bottom 12.5 Ft.	Surplug	Gravity
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 15	Bottom 25 Ft.	2 in.	.10 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 12.5	Bottom 25 Ft.	#1	Sand
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan Silty Sand
10	20	Silty Grey Med Sand
20	25	Silty/orange/yellow Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 28 APR 09

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 1/08

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	42GW20	SHEET 1 OF 1

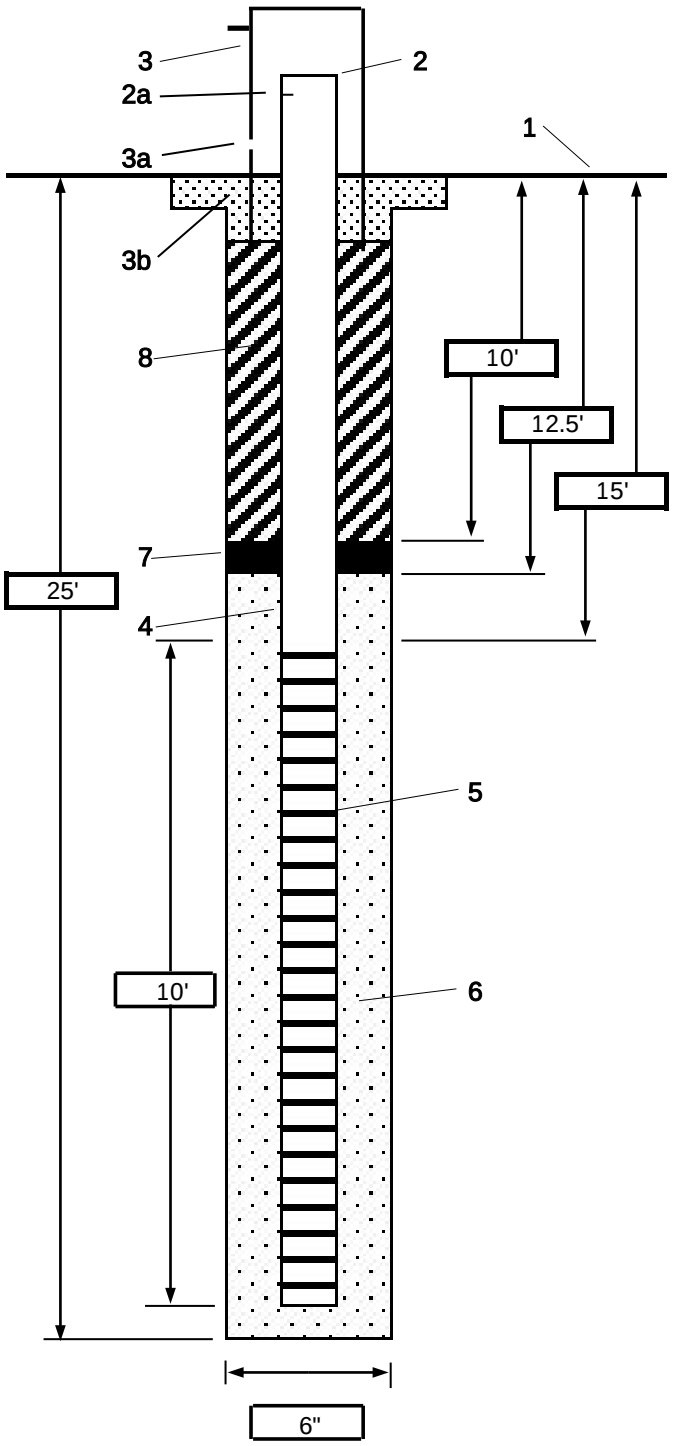
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 423245.49 Easting: 2627957.41

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/16/2009 1725 END : 04/16/2009 21 LOGGER : Mark Ost



1- Ground elevation at well	11.77 feet amsl
2- Top of casing elevation	14.40 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	2 1/2,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:
Tommy Morton
Well Contractor (Individual) Name
Morton Well + Pump
Well Contractor Company Name
Po Bx 692
Street Address
Morehead City NC 28557
City or Town State Zip Code
(252) 342-3746
Area code Phone number

2. WELL INFORMATION:
WELL CONSTRUCTION PERMIT#
OTHER ASSOCIATED PERMIT#(if applicable)
SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐
DATE DRILLED Apr 16 09
TIME COMPLETED 2:00 AM ☐ PM ☑

4. WELL LOCATION:
CITY: Havelock COUNTY Craven
426 W 21
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)
TOPOGRAPHIC / LAND SETTING: (check appropriate box)
☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other
LATITUDE 36 34 · 89 · 478 " DMS OR 3X.XXXXXXXX DD
LONGITUDE 75 76 · 90 · 562 " DMS OR 7X.XXXXXXXX DD
Latitude/longitude source: ☑ GPS ☐ Topographic map
(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER
Navy
Owner Name
PSC Bx 8006
Street Address
Cherry Point NC 28533
City or Town State Zip Code
( )
Area code Phone number

6. WELL DETAILS:
a. **TOTAL DEPTH:** 41'
b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑
c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)
d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.
e. **YIELD (gpm):** _____ **METHOD OF TEST** _____
f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 40	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 2	Bottom 30 Ft.	2"	Sch 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0	Bottom 27 Ft.	Cement	Pumped
Top 27	Bottom 29 Ft.	Surplug	Gravity
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 31	Bottom 40 Ft.	.10 in.	.10 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 29	Bottom 50 Ft.	#1	Sand
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan Silty Sand
10	20	Silty Grey Med Sand
20	30	Silty orange Med Sand
30	40	Orange/yellow Med Sand
40	50	Olive grey Fine silty Clay

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 28 APR 09

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 1/08

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	42GW21	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling Inc. | LOCATION : Site 42

ELEVATION : 11.72 feet amsl | NORTHING: 423255.04 | EASTING: 2627955.92

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/16/2009 1445 | END : 4/16/2009 1618 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	12"	Sonic Cutting		Poorly Graded Sand (SP), yellow (2.5Y 7/8), moist, loose	0ppm
10	10'-20'	72"	Sonic Cutting		Silty Sand (SM), light gray (7.5YR 7/1), saturated, loose	0ppm
					Poorly Graded Sand (SP), very pale brown (10YR7/3), saturated, loose, medium sand, iron stain at 15 feet	
					Poorely Gradaed Sand (SP), gray (10YR 5/1), saturated, loose, fine grained, some silt	
20	20'-30'	72"	Sonic Cutting		Same as above	0ppm
30	30-40'	36"	Sonic Cutting		Same as above	0ppm
40	40-50"	120"	Sonic Cutting		Lean Clay (CL), very dark greenish gray (Gley 2 3/10BG), dry, shell fragments and gravel	0ppm
					Silt (ML), very dark greenish gray (Gley 1 3/5G), medium dense	
50					End of boring	
60						

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	42GW21	SHEET 1 OF 1

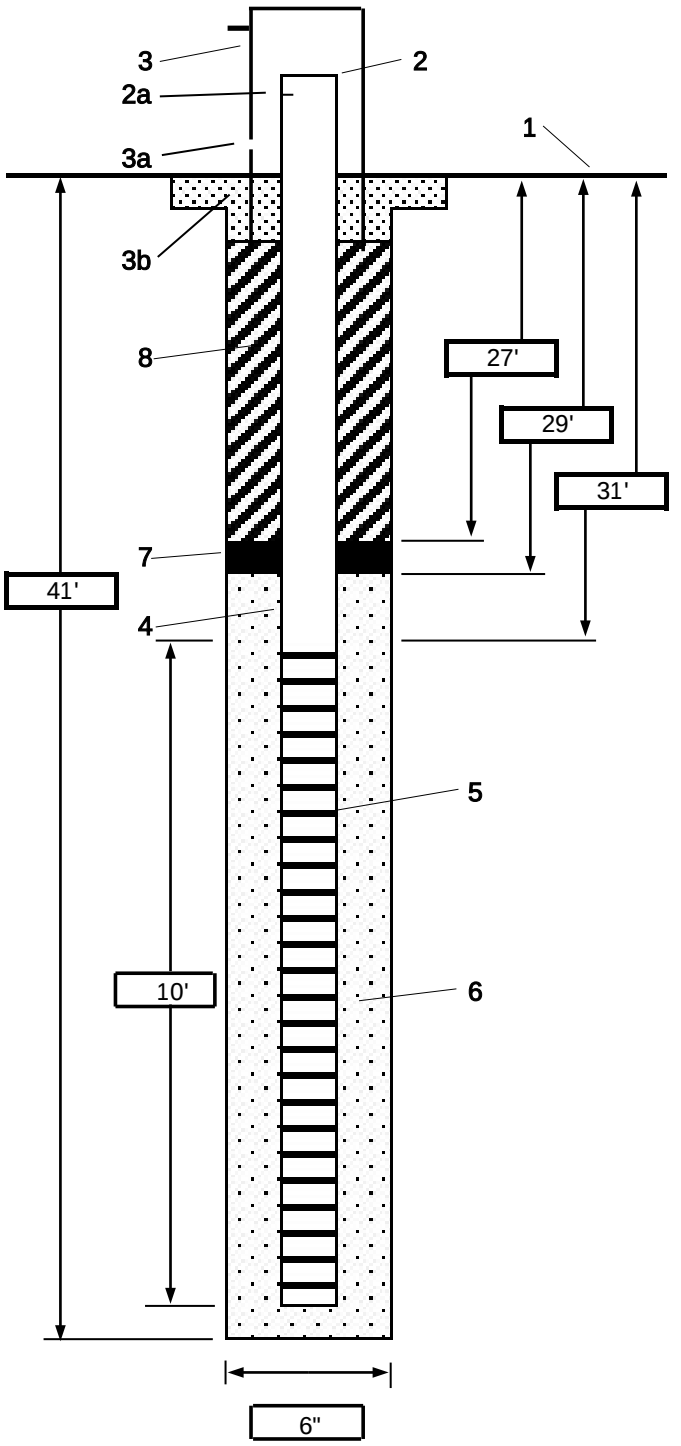
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 423255.04 Easting: 2627955.92

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/16/2009 1618 END : 04/16/2009 17 LOGGER : Mark Ost



1- Ground elevation at well	11.72 feet amsl
2- Top of casing elevation	14.15 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	4,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED 17 APR 09

TIME COMPLETED 2:00 AM ☐ PM ☑

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

42 G W 22
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other

LATITUDE 36 34·53·586 " DMS OR 3x.xxxxxxxxx DD

LONGITUDE 75 76·54·273 " DMS OR 7x.xxxxxxxxx DD

Latitude/longitude source: ☒ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

PSC Bx 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 30

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 30	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 20 Ft.	2	Sch 40	PVC
Top	Bottom Ft.			
Top	Bottom Ft.			

8. GROUT:

Depth		Material	Method
Top 0	Bottom 15 Ft.	Cement	Pumped
Top 15	Bottom 17 Ft.	Surplug	Gravity
Top	Bottom Ft.		

9. SCREEN:

Depth		Diameter	Slot Size	Material
Top 20	Bottom 30 Ft.	2 in.	.10 in.	PVC
Top	Bottom Ft.	in.	in.	
Top	Bottom Ft.	in.	in.	

10. SAND/GRAVEL PACK:

Depth		Size	Material
Top 17	Bottom 30 Ft.	#1	Sand
Top	Bottom Ft.		
Top	Bottom Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan Silty Sand
10	20	yellowish Fine Sand
20	25	Grey fine Silty Sand
25	30	Dark yellow Med Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

[signature] 28 APR 09
SIGNATURE OF CERTIFIED WELL CONTRACTOR DATE

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 1/08

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	42GW22	SHEET 1 OF 1

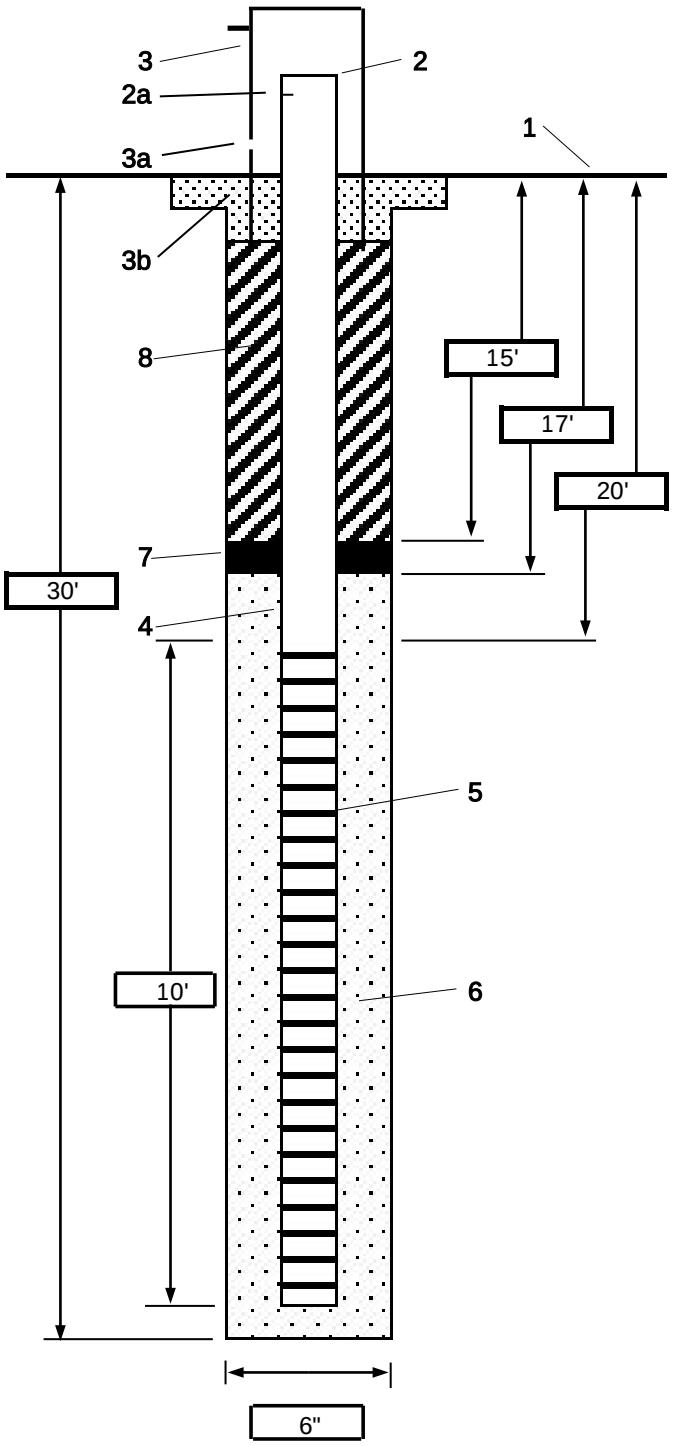
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 422686.79 Easting: 2628303.76

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/17/2009 1208 END : 04/17/2009 14 LOGGER : Mark Ost



1- Ground elevation at well	15.89 feet amsl
2- Top of casing elevation	18.83 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	3,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

RESIDENTIAL WELL CONSTRUCTION RECORD

North Carolina Department of Environment and Natural Resources- Division of Water Quality

WELL CONTRACTOR CERTIFICATION # 3196

1. WELL CONTRACTOR:

Tommy Morton
Well Contractor (Individual) Name

Morton Well + Pump
Well Contractor Company Name

Po Bx 692
Street Address

Morehead City NC 28557
City or Town State Zip Code

(252) 342-3746
Area code Phone number

2. WELL INFORMATION:

WELL CONSTRUCTION PERMIT#

OTHER ASSOCIATED PERMIT#(if applicable)

SITE WELL ID #(if applicable)

3. WELL USE (Check Applicable Box): Residential Water Supply ☐

DATE DRILLED 17 APR 09

TIME COMPLETED 10:00 AM ☑ PM ☐

4. WELL LOCATION:

CITY: Havelock COUNTY Craven

426W23
(Street Name, Numbers, Community, Subdivision, Lot No., Parcel, Zip Code)

TOPOGRAPHIC / LAND SETTING: (check appropriate box)

☐ Slope ☐ Valley ☑ Flat ☐ Ridge ☐ Other

LATITUDE 36 34·53·586 " DMS OR 3X.XXXXXXXXX DD

LONGITUDE 75 76·54·273 " DMS OR 7X.XXXXXXXXX DD

Latitude/longitude source: ☑ GPS ☐ Topographic map

(location of well must be shown on a USGS topo map andattached to this form if not using GPS)

5. WELL OWNER

Navy
Owner Name

PSC Bx 8006
Street Address

Cherry Point NC 28533
City or Town State Zip Code

( )
Area code Phone number

6. WELL DETAILS:

a. **TOTAL DEPTH:** 50'

b. **DOES WELL REPLACE EXISTING WELL?** YES ☐ NO ☑

c. **WATER LEVEL** Below Top of Casing: _____ FT.
(Use "+" if Above Top of Casing)

d. **TOP OF CASING IS** 2 FT. Above Land Surface*
*Top of casing terminated at/or below land surface may require a variance in accordance with 15A NCAC 2C .0118.

e. **YIELD (gpm):** _____ **METHOD OF TEST** _____

f. **DISINFECTION: Type** _____ **Amount** _____

g. **WATER ZONES** (depth):

Top 0	Bottom 50	Top	Bottom
Top	Bottom	Top	Bottom
Top	Bottom	Top	Bottom

7. CASING:

	Depth		Diameter	Thickness/ Weight	Material
Top 0	Bottom 40	Ft.	2	Sch 40	PVC
Top	Bottom	Ft.			
Top	Bottom	Ft.			

8. GROUT:

	Depth		Material	Method
Top 0	Bottom 36	Ft.	Cement	Pumped
Top 36	Bottom 38	Ft.	Surplug	Gravity
Top	Bottom	Ft.		

9. SCREEN:

	Depth		Diameter	Slot Size	Material
Top 40	Bottom 50	Ft.	2 in.	.10 in.	PVC
Top	Bottom	Ft.	in.	in.	
Top	Bottom	Ft.	in.	in.	

10. SAND/GRAVEL PACK:

	Depth		Size	Material
Top 38	Bottom 50	Ft.	#1	Sand
Top	Bottom	Ft.		
Top	Bottom	Ft.		

11. DRILLING LOG

Top	Bottom	Formation Description
0	10	Tan Silty Sand
10	20	yellow/orange Fine Sand
20	25	Grey fine Silty Sand
25	30	Dark yellow Med Sand
30	40	Light Grey Med Sand
40	50	Light Grey Med Sand

12. REMARKS:

I DO HEREBY CERTIFY THAT THIS WELL WAS CONSTRUCTED IN ACCORDANCE WITH 15A NCAC 2C, WELL CONSTRUCTION STANDARDS, AND THAT A COPY OF THIS RECORD HAS BEEN PROVIDED TO THE WELL OWNER.

SIGNATURE OF CERTIFIED WELL CONTRACTOR — DATE 28 APR 09

Harry Huntoon
PRINTED NAME OF PERSON CONSTRUCTING THE WELL

Submit within 30 days of completion to: Division of Water Quality - Information Processing, 1617 Mail Service Center, Raleigh, NC 27699-161, Phone : (919) 807-6300

Form GW-1a
Rev. 1/08

PROJECT NUMBER	BORING NUMBER	
386383.FI.MW.MW	42GW23	SHEET 1 OF 1

SOIL BORING LOG

PROJECT : MCAS Cherry Point | DRILLING CONTRACTOR : Miller Drilling Inc. | LOCATION : Site 42

ELEVATION : 15.92 feet amsl | NORTHING: 422680.60 | EASTING: 2628295.75

DRILLING METHOD AND EQUIPMENT USED : Rotosonic 4 inch diameter cores, 6 inch overcore

WATER LEVELS : 08 ' | START : 4/17/2009 0909 | END : 4/17/2009 1106 | LOGGER : Mark Ost

DEPTH BELOW SURFACE (FT)	INTERVAL (FT)	RECOVERY (IN)	#/TYPE	STANDARD PENETRATION TEST RESULTS 6"-6"-6"-6" (N)	CORE DESCRIPTION: SOIL NAME, USCS GROUP SYMBOL, COLOR, MOISTURE CONTENT, RELATIVE DENSITY, OR CONSISTENCY, SOIL STRUCTURE, MINERALOGY.	COMMENTS: DEPTH OF CASING, DRILLING RATE, DRILLING FLUID LOSS, TESTS, AND INSTRUMENTATION. OVM (ppm): Breathing Zone Above Hole
	0-10	72"	Sonic Cutting		Silty Sand (SM), very pale brown (10YR 8/4), dry, loose	0ppm
10	10'-20'	84"	Sonic Cutting		Poorly Graded Sand (SP), very pale brown (10YR 8/4), saturated, loose, iron stain and dark mottling	0ppm
					Same as above, moist	
20	20'-30'	120"	Sonic Cutting		Same as above	6.0ppm
					Poorly Graded Sand (SP), yellowish brown (10YR 5/6), saturated, medium grained, dark mottling, loose	4.7ppm
					Poorly Graded Sand (SP), gray (10YR 5/1), saturated, very fine grained	
30	30-40'	120"	Sonic Cutting		same as above	8.7ppm
40	40-50"	120"	Sonic Cutting		Poorly Graded Sand (SP), gray (10YR 5/1), saturated, loose, shall fragments from 49 to 50 feet	0ppm
50					End of boring at 50 feet bgs	
60						

PROJECT NUMBER	WELL NUMBER	
368383.FI.MW.MW	42GW23	SHEET 1 OF 1

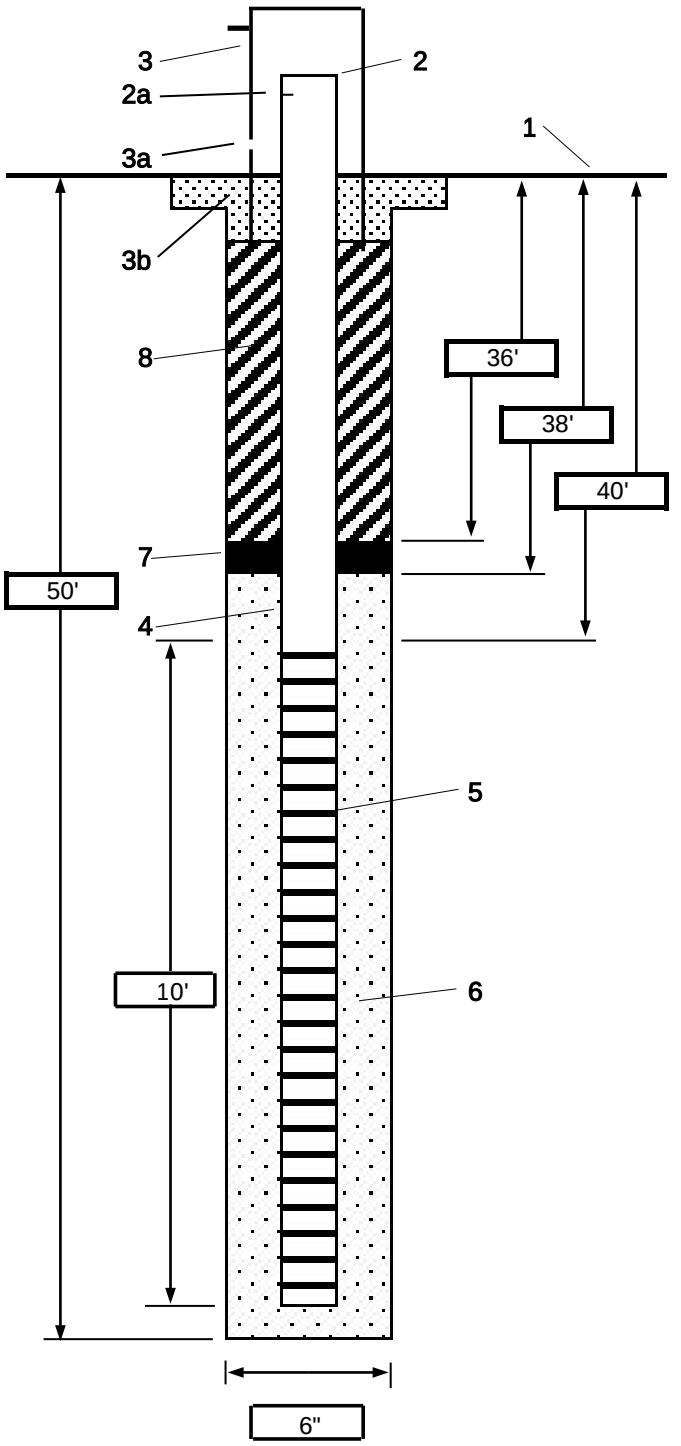
WELL COMPLETION DIAGRAM

PROJECT : MCAS Cherry Point CTO-208 LOCATION : Cherry Point Site 42

DRILLING CONTRACTOR : Miller Drilling Inc. Northing: 422680.60 Easting: 2628295.75

DRILLING METHOD AND EQUIPMENT USED : 6' rotosonic

WATER LEVELS : 4' START : 04/17/2009 1106 END : 04/17/2009 12 LOGGER : Mark Ost



1- Ground elevation at well	15.92 feet amsl
2- Top of casing elevation	18.78 feet amsl
a) vent hole?	No
3- Wellhead protection cover type	Stick-up
a) Bollards	Four bollards
b) concrete pad dimensions	2' x 2' concrete pad
4- Dia./type of well casing	2" Sch 40 PVC
5- Type/slot size of screen	2" PVC Sch 40 10 slot
6- Type screen filter	#1 silica pack
a) Quantity used	2 1/2,50# bags
7- Type of seal	Bentonite 3/8" chips
a) Quantity used	1/2, 50# bag
8- Grout	
a) Grout mix used	Portland Cement, Bentonite grout
b) Method of placement	tremie pipe
c) Vol. of well casing grout	
Development method	Whale Pump
Development time	0.5 hours
Estimated purge volume	55 gal.

Comments

Attachment B
Survey Data

LANIER
SURVEYING COMPANY

134 Cedar Point Boulevard
Cedar Point NC, 28584

Date: 05-06-09, Revised 06-08-09 Corrected Well Id's
Reference: CTO-059
MONITORING WELLS OPERABLE UNIT 1
Marine Corps Air Station Cherry Point
Havelock, North Carolina

DATUM: STATE PLANE NAD 83 NORTH CAROLINA 3200 (NSRS2007) FEET
ELEVATION DATUM: NAVD 88 FEET
Control Reference: North Carolina Geodetic Network
Jacksonville CORS
Castle Hayne CORS
Morehead City CORS

POINT ID	NORTHING	EASTING	PVC	GROUND
42GW-21	423255.04	2627955.92	14.15	11.72
42GW-20	423245.49	2627957.41	14.40	11.77
42GW-18	423307.25	2628588.99	12.18	9.58
42GW-19	423300.24	2628582.28	12.19	9.59
42GW-16	423793.86	2629092.31	12.89	13.25
42GW-17	423787.09	2629084.55	12.72	13.23
14GW-53	424015.05	2629877.07	18.11	18.47
17GW-03	421279.21	2629956.41	19.15	16.33
42GW-23	422680.60	2628295.75	18.78	15.92
42GW-22	422686.79	2628303.76	18.83	15.89
16GW-49	420939.06	2628045.21	6.11	3.81
16GW-52	421217.68	2628603.83	22.77	23.11
16GW-50	421730.74	2628050.21	24.41	21.94
16GW-51	421454.56	2628102.14	26.73	24.30

NORTH CAROLINA PROFESSIONAL SEAL L-3611 LAND SURVEYOR BRENT A. LANIER

6/08/09

Attachment C
Laboratory Analytical Reports

Appendix C is provided electronically on the CD-ROM

Attachment D
Data Validation Reports

ENVIRONMENTAL
Data Services, Inc.

TOTAL & DISSOLVED METALS
USEPA Region IV - Level IV Review

Site: MCAS Cherry Point, CTO-201 SDG #: Cherry 201_002

Client: CH2M HILL, Inc., Virginia Beach, Virginia Date: July 27, 2009

Laboratory: Empirical Laboratories, Nashville, Tennessee Reviewer: Nancy Weaver

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1T	STR01-SS01-0509	0905187-01	Soil
1TMS	STR01-SS01-0509MS	0905187-01MS	Soil
1TMSD	STR01-SS01-0509MSD	0905187-01MSD	Soil
2T	STR01-SS02-0509	0905187-02	Soil
3T	STR01-SS03-0509	0905187-03	Soil
4T	STR01-SS03-P-0509	0905187-04	Soil
5T	STR01-SS04-0509	0905187-05	Soil
6T	STR01-SS05-0509	0905187-06	Soil
7T	STR01-EB-051909	0905187-07	Water
8T	STR01-SW03-0509	0905202-01	Water
8TMS	STR01-SW03-0509MS	0905202-01MS	Water
8TMSD	STR01-SW03-0509MSD	0905202-01MSD	Water
8D	STR01-SW03-0509	0905202-01	Water
8DMS	STR01-SW03-0509MS	0905202-01MS	Water
8DMSD	STR01-SW03-0509MSD	0905202-01MSD	Water
9T	STR01-EB-052009	0905202-02	Water
9D	STR01-EB-052009	0905202-02	Water
10T	STR01-SW01-0509	0905202-03	Water
10D	STR01-SW01-0509	0905202-03	Water
11T	STR01-SW02-0509	0905202-04	Water
11D	STR01-SW02-0509	0905202-04	Water
12T	STR01-SW02-P-0509	0905202-05	Water
12D	STR01-SW02-P-0509	0905202-05	Water

The USEPA "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004, and professional judgement were used in evaluating the data in this summary report.

Holding Times - All samples were prepared and analyzed within 28 days for mercury and 180 days for all other metals.

Calibration - Several ICV and CCV %R values were slightly outside of QC limits but the samples were not affected (1% rule), non-detect or already qualified. No further action was required.

CRDL Standard - The CRDL standards exhibited acceptable %R values.

Method and Calibration Blanks - The method blanks and continuing calibration blanks exhibited contamination for several compounds, however, all sample results are non-detect or greater than 5X the blank concentration with the exception of the following:

Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
Aluminum	51.0	255	U	8D, 10T, 10D, 11D, 12D

Field and Equipment Blank - Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level mg/kg	Qualifier	Affected Samples
STR01-EB-051909	Lead	2.8	2.8	None	All >5X
STR01-EB-052009 (T)	None - ND	-	-	-	-
STR01-EB-052009 (D)	None - ND	-	-	-	-

ICP Interference Check Sample - All %R values were acceptable.

MS/MSD - The MS/MSD sample exhibited acceptable %R and RPD values except the following.

MS/MSD Sample ID	Compound	MS/MSD %R/RPD	Qualifier	Affected Samples
1T	Antimony	70.8%/47.0%/40.3	J/UJ	1T-6T
	Aluminum	Ok/Ok/50	J	1T-6T
	Iron	Ok/Ok/66	J	1T-6T
	Magnesium	Ok/Ok/21	J	1T, 3T, 4T, 6T
8T	Antimony	130.2%/Ok/Ok	None	All ND
	Arsenic	131.3%/133.0%/Ok	None	All ND
	Barium	126.9%/127.1%/Ok	J	8T, 10T, 11T, 12T
	Cadmium	139.6%/140.2%/Ok	J	8T, 10T, 11T, 12T
	Selenium	131.8%/132.8%/Ok	J	10T, 11T, 12T
8D	Antimony	135.1%/134.2%/Ok	None	All ND
	Arsenic	134.7%/133.5%/Ok	None	All ND
	Cadmium	139.6%/138.1%/Ok	J/UJ	8D, 10D, 11D, 12D
	Selenium	134.8%/132.8%/Ok	J/UJ	10D, 11D

LCS - The LCS samples exhibited acceptable %R values.

ICP Serial Dilution - The ICP serial dilution sample exhibited acceptable %D values except the following.

ICP Sample ID	Compound	%D	Qualifier	Affected Samples
8T	Calcium	15.3%	J	8T, 10T, 11T, 12T
8D	Calcium	15.8%	J	8D, 10D, 11D, 12D

Field Duplicates - Field duplicate results are summarized below.

Compound	STR01-SS03-0509 mg/kg	STR01-SS03-P-0509 mg/kg	RPD	Qualifier
Aluminum	7280	7820	7%	None
Arsenic	3.7	3.0	21%	None
Barium	25.3	25.8	2%	None
Beryllium	0.32	0.32	0%	None
Calcium	1240	1260	2%	None
Chromium	12.6	13.4	6%	None
Cobalt	2.5	2.8	11%	None
Copper	2.5 U	1.2	NC	None
Iron	12400	11600	7%	None
Lead	5.8	6.0	3%	None
Magnesium	1080	1100	2%	None
Manganese	50.2	49.0	2%	None
Nickel	3.9	3.9	0%	None
Potassium	539	549	2%	None
Selenium	0.87	0.74	16%	None
Sodium	463	475	3%	None
Vanadium	18.7	18.4	2%	None
Zinc	19.1	19.9	4%	None

Compound	STR01-SW02-0509 (T) ug/L	STR01-SW02-P-0509 (T) ug/L	RPD	Qualifier
Aluminum	350	352	1%	None
Barium	38.4	39.3	2%	None
Cadmium	1.7	1.6	6%	None
Calcium	121000	125000	3%	None
Iron	311	316	2%	None
Magnesium	352000	363000	3%	None
Manganese	143	149	4%	None
Nickel	4.9	3.9	23%	None
Potassium	112000	113000	1%	None
Selenium	3.1	4.2	30%	None
Sodium	2880000	2940000	2%	None

Compound	STR01-SW02-0509 (D) ug/L	STR01-SW02-P-0509 (D) ug/L	RPD	Qualifier
Barium	39.7	39.6	0%	None
Cadmium	2.3	2.2	4%	None
Calcium	134000	135000	1%	None

Compound	STR01-SW02-0509 (D) ug/L	STR01-SW02-P-0509 (D) ug/L	RPD	Qualifier
Magnesium	389000	392000	1%	None
Manganese	3.5	5.1	37%	None
Potassium	120000	116000	3%	None
Selenium	3.5	5.0 U	NC	None
Sodium	2930000	2930000	0%	None

Compound Quantitation - No discrepancies were identified.

USEPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

1T

EPA SAMPLE NO.

STR01-SS01-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905187-01

evel (low/med): LOW Date Received: 05/20/09

Solids: 83.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3980		~~*~~ J	P	MDP
7440-36-0	Antimony	3.4	~~U~~	~~N*~~ UJ	P	MSL
7440-38-2	Arsenic	2.4			P	
7440-39-3	Barium	7.6	J		P	
7440-41-7	Beryllium	1.1	U		P	
7440-43-9	Cadmium	1.1	U		P	
7440-70-2	Calcium	360	J		P	
7440-47-3	Chromium	7.0			P	
7440-48-4	Cobalt	3.4	U		P	
7440-50-8	Copper	2.3	U		P	
7439-89-6	Iron	4520		~~*~~ J	P	MDP
7439-92-1	Lead	7.1			P	
7439-95-4	Magnesium	329	J	~~N*~~ J	P	MDP
7439-96-5	Manganese	18.1			P	
7439-97-6	Mercury	0.037	U		AV	
7440-02-0	Nickel	1.3	J		P	
7440-09-7	Potassium	371	J	~~N~~	P	
7782-49-2	Selenium	1.1	U		P	
7440-22-4	Silver	2.3	U		P	
7440-23-5	Sodium	1150	U		P	
7440-28-0	Thallium	2.3	U		P	
7440-62-2	Vanadium	10.0			P	
7440-66-6	Zinc	5.5			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

Form I - IN MW 7/27/09

USEPA - CLP

2T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SS02-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905187-02

evel (low/med): LOW Date Received: 05/20/09

Solids: 84.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1170		~~*~~ J	P	MDP
7440-36-0	Antimony	3.5	~~B~~	~~N*~~ UJ	P	MSL
7440-38-2	Arsenic	0.82	J		P	
7440-39-3	Barium	4.5	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	288	J		P	
7440-47-3	Chromium	2.8			P	
7440-48-4	Cobalt	3.5	U		P	
7440-50-8	Copper	2.3	U		P	
7439-89-6	Iron	1970		~~*~~ J	P	MDP
7439-92-1	Lead	3.0			P	
7439-95-4	Magnesium	1170	U	~~N*~~	P	
7439-96-5	Manganese	9.7			P	
7439-97-6	Mercury	0.041	U		AV	
7440-02-0	Nickel	0.87	J		P	
7440-09-7	Potassium	1170	U	~~N~~	P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.3	U		P	
7440-23-5	Sodium	1170	U		P	
7440-28-0	Thallium	2.3	U		P	
7440-62-2	Vanadium	4.1			P	
7440-66-6	Zinc	2.9	J		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 MW 7/27/09

USEPA - CLP

3T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SS03-0509

b Name: Empirical Laboratories Contract: CH2M Hill

b Code: Case No.: SAS No.: SDG No.: Cherry201_00

trix (soil/water): SOIL Lab Sample ID: 0905187-03

vel (low/med): LOW Date Received: 05/20/09

Solids: 81.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	7280		~~*~~ J	P	MDP
7440-36-0	Antimony	3.7	~~U~~	~~N*~~ UJ	P	MSL
7440-38-2	Arsenic	3.7			P	
7440-39-3	Barium	25.3			P	
7440-41-7	Beryllium	0.32	J		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	1240			P	
7440-47-3	Chromium	12.6			P	
7440-48-4	Cobalt	2.5	J		P	
7440-50-8	Copper	2.5	U		P	
7439-89-6	Iron	12400		~~*~~ J	P	MDP
7439-92-1	Lead	5.8			P	
7439-95-4	Magnesium	1080	~~J~~	~~N*~~ J	P	MDP
7439-96-5	Manganese	50.2			P	
7439-97-6	Mercury	0.036	U		AV	
7440-02-0	Nickel	3.9			P	
7440-09-7	Potassium	539	J	~~N~~	P	
7782-49-2	Selenium	0.87	J		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	463	J		P	
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	18.7			P	
7440-66-6	Zinc	19.1			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 LW 7/27/09

USEPA - CLP

4T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SS03-P-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905187-04

evel (low/med): LOW Date Received: 05/20/09

Solids: 82.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	7820		~~N~~ J	P	MDP
7440-36-0	Antimony	3.4	~~U~~	~~N*~~ UJ	P	MSL
7440-38-2	Arsenic	3.0			P	
7440-39-3	Barium	25.8			P	
7440-41-7	Beryllium	0.32	J		P	
7440-43-9	Cadmium	1.1	U		P	
7440-70-2	Calcium	1260			P	
7440-47-3	Chromium	13.4			P	
7440-48-4	Cobalt	2.8	J		P	
7440-50-8	Copper	1.2	J		P	
7439-89-6	Iron	11600		~~N~~ J	P	MDP
7439-92-1	Lead	6.0			P	
7439-95-4	Magnesium	1100	~~J~~	~~N*~~ J	P	MDP
7439-96-5	Manganese	49.0			P	
7439-97-6	Mercury	0.042	U		AV	
7440-02-0	Nickel	3.9			P	
7440-09-7	Potassium	549	J	~~N~~	P	
7782-49-2	Selenium	0.74	J		P	
7440-22-4	Silver	2.3	U		P	
7440-23-5	Sodium	475	J		P	
7440-28-0	Thallium	2.3	U		P	
7440-62-2	Vanadium	18.4			P	
7440-66-6	Zinc	19.9			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

Form I - IN

UW 7/27/09

USEPA - CLP

5T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SS04-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905187-05

evel (low/med): LOW Date Received: 05/20/09

Solids: 88.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1160		~~*~~ J	P	MDP
7440-36-0	Antimony	3.3	~~U~~	~~N*~~ UJ	P	MSL
7440-38-2	Arsenic	0.69	J		P	
7440-39-3	Barium	3.6	J		P	
7440-41-7	Beryllium	1.1	U		P	
7440-43-9	Cadmium	1.1	U		P	
7440-70-2	Calcium	292	J		P	
7440-47-3	Chromium	2.6			P	
7440-48-4	Cobalt	3.3	U		P	
7440-50-8	Copper	2.2	U		P	
7439-89-6	Iron	2150		~~*~~ J	P	MDP
7439-92-1	Lead	8.1			P	
7439-95-4	Magnesium	1090	U	~~N*~~	P	
7439-96-5	Manganese	13.1			P	
7439-97-6	Mercury	0.034	U		AV	
7440-02-0	Nickel	0.84	J		P	
7440-09-7	Potassium	1090	U	~~N~~	P	
7782-49-2	Selenium	1.1	U		P	
7440-22-4	Silver	2.2	U		P	
7440-23-5	Sodium	1090	U		P	
7440-28-0	Thallium	2.2	U		P	
7440-62-2	Vanadium	4.1			P	
7440-66-6	Zinc	11.4			P	

olor Before: _____ Clarity Before: _____ Texture: _____

olor After: _____ Clarity After: _____ Artifacts: _____

omments: _____

Form I - IN

AW 7/27/09

USEPA - CLP

INORGANIC ANALYSES DATA SHEET

6T

EPA SAMPLE NO.

STR01-SS05-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905187-06

evel (low/med): LOW Date Received: 05/20/09

Solids: 82.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	5510		~~*~~ J	P	MDP
7440-36-0	Antimony	3.5	~~U~~	~~N*~~ UJ	P	MSL
7440-38-2	Arsenic	2.9			P	
7440-39-3	Barium	12.7			P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	473	J		P	
7440-47-3	Chromium	10.0			P	
7440-48-4	Cobalt	3.5	U		P	
7440-50-8	Copper	2.3	U		P	
7439-89-6	Iron	7880		~~*~~ J	P	MDP
7439-92-1	Lead	11.0			P	
7439-95-4	Magnesium	423	~~J~~	~~N*~~ J	P	MDP
7439-96-5	Manganese	18.2			P	
7439-97-6	Mercury	0.024	J		AV	
7440-02-0	Nickel	2.3	J		P	
7440-09-7	Potassium	388	J	~~N~~	P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.3	U		P	
7440-23-5	Sodium	1160	U		P	
7440-28-0	Thallium	2.3	U		P	
7440-62-2	Vanadium	16.6			P	
7440-66-6	Zinc	10.1			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

KW 7/27/09

USEPA - CLP

7T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-EB-051909

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905187-07

evel (low/med): LOW Date Received: 05/20/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U		P
7440-36-0	Antimony	15.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	40.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	2.8	J		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5000	U		P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

olor Before: _____ Clarity Before: _____ Texture: _____

olor After: _____ Clarity After: _____ Artifacts: _____

omments: _____

 NW 7/27/09

USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SW03-0509

ıb Name: Empirical Laboratories Contract: CH2M Hill

ıb Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

.trix (soil/water): WATER Lab Sample ID: 0905202-01

ıvel (low/med): LOW Date Received: 05/21/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	339			P	
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	41.8		~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	1.3	~~U~~	~~N~~ J	P	MSH
7440-70-2	Calcium	95100		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	417			P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	279000			P	
7439-96-5	Manganese	115			P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	5.7	J		P	
7440-09-7	Potassium	95600			P	
7782-49-2	Selenium	5.0	U	~~N~~	P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	2200000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 LW 7/27/09

USEPA - CLP

8D

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SW03-0509Soluble

ıb Name: Empirical Laboratories Contract: CH2M Hill

ıb Code: Case No.: SAS No.: SDG No.: Cherry201_00

.trix (soil/water): WATER Lab Sample ID: 0905202-01Soluble

:vel (low/med): LOW Date Received: 05/21/09

Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	200 ~~132~~	✓	U	P	BL
7440-36-0	Antimony	15.0	U	✓	P	
7440-38-2	Arsenic	10.0	U	✓	P	
7440-39-3	Barium	38.2	J		P	
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	1.8	✓	~~N~~ J	P	MSH
7440-70-2	Calcium	101000		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U	✓	P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	100	U		P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	288000			P	
7439-96-5	Manganese	15.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	87000		✓	P	
7782-49-2	Selenium	5.0	U	✓	P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	2230000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 LW 7/27/09

USEPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

9T

EPA SAMPLE NO.

STR01-EB-052009

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905202-02

evel (low/med): LOW Date Received: 05/21/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U		P
7440-36-0	Antimony	15.0	U	N	P
7440-38-2	Arsenic	10.0	U	N	P
7440-39-3	Barium	40.0	U	N	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U	N	P
7440-70-2	Calcium	5000	U	N	P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U	N	P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5000	U	N	P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 MW 7/27/09

USEPA - CLP

9 D

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-EB-052009Soluble

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905202-02Soluble

evel (low/med): LOW Date Received: 05/21/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U		P
7440-36-0	Antimony	15.0	U	N	P
7440-38-2	Arsenic	10.0	U	N	P
7440-39-3	Barium	40.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U	N	P
7440-70-2	Calcium	5000	U	N	P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U	N	P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5000	U	N	P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

olor Before: _____ Clarity Before: _____ Texture: _____

olor After: _____ Clarity After: _____ Artifacts: _____

omments: _____

 MW 7/27/09

USEPA - CLP

10T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SW01-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905202-03

evel (low/med): LOW Date Received: 05/21/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	215		U	P	BL
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	39.1	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	1.7	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	113000		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	210			P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	330000			P	
7439-96-5	Manganese	77.7			P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	4.2	J		P	
7782-49-2	Selenium	3.3	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	5000	U	~~N~~	P	
7440-23-5	Sodium	2690000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

olor Before: _____ Clarity Before: _____ Texture: _____

olor After: _____ Clarity After: _____ Artifacts: _____

omments: _____

 MW 7/27/09

10D

USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SW01-0509Soluble

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905202-03Soluble

evel (low/med): LOW Date Received: 05/21/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	280 ~~126~~	~~J~~	U	P	BL
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	41.8			P	
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.1	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	129000		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	100	U		P	
7439-92-1	Lead	6.0	U		P	
7439-95-4	Magnesium	375000			P	
7439-96-5	Manganese	15.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	109000			P	
7782-49-2	Selenium	3.1	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	2860000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 NW 7/27/09

USEPA - CLP

IMT

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SW02-0509

ıb Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

ıtrix (soil/water): WATER Lab Sample ID: 0905202-04

ıvel (low/med): LOW Date Received: 05/21/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	350			P	
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	38.4	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	1.7	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	121000		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	311			P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	352000			P	
7439-96-5	Manganese	143			P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	4.9	J		P	
7440-09-7	Potassium	112000			P	
7782-49-2	Selenium	3.1	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	2880000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 MW 7/27/09

USEPA - CLP

11D

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SW02-0509Soluble

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905202-04Soluble

evel (low/med): LOW Date Received: 05/21/09

Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	200 ~~139~~	~~J~~	~~U~~	P	BL
7440-36-0	Antimony	15.0	U	~~U~~	P	
7440-38-2	Arsenic	10.0	U	~~U~~	P	
7440-39-3	Barium	39.7	J		P	
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.3	~~J~~	~~U~~ J	P	MSH
7440-70-2	Calcium	134000		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	100	U		P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	389000			P	
7439-96-5	Manganese	3.5	J		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	120000			P	
7782-49-2	Selenium	3.5	~~J~~	~~U~~ J	P	MSH
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	2930000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 7/27/09

USEPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

12T

EPA SAMPLE NO.

STR01-SW02-P-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905202-05

evel (low/med): LOW Date Received: 05/21/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	352			P	
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	39.3	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	1.6	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	125000		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	316			P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	363000			P	
7439-96-5	Manganese	149			P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	3.9	J		P	
7440-09-7	Potassium	113000			P	
7782-49-2	Selenium	4.2	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	2940000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

Form I - IN

RW 7/27/09

USEPA - CLP

12D

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SW02-P-0509Soluble

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): WATER Lab Sample ID: 0905202-05Soluble

evel (low/med): LOW Date Received: 05/21/09

Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	~~137~~ 200	J	U	P	BL
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	39.6	J		P	
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.2	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	135000		~~E~~ J	P	SD
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U		P	
7439-89-6	Iron	100	U		P	
7439-92-1	Lead	3.0	U		P	
7439-95-4	Magnesium	392000			P	
7439-96-5	Manganese	5.1	J		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	116000			P	
7782-49-2	Selenium	5.0	U	~~N~~	P	
7440-22-4	Silver	10.0	U		P	
7440-23-5	Sodium	2930000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	20.0	U		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 lw 7/27/09

ENVIRONMENTAL
Data Services, Inc.

POLYNUCLEAR AROMATIC HYDRCARBONS
USEPA Region IV - Level IV Review

Site: MCAS Cherry Point, CTO-201 SDG #: Cherry 201_002

Client: CH2M HILL, Inc., Virginia Beach, Virginia Date: July 27, 2009

Laboratory: Empirical Laboratories, Nashville, Tennessee Reviewer: Nancy Weaver

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	STR01-SS01-0509	0905187-01	Soil
1MS	STR01-SS01-0509MS	0905187-01MS	Soil
1MSD	STR01-SS01-0509MSD	0905187-01MSD	Soil
2	STR01-SS02-0509	0905187-02	Soil
3	STR01-SS03-0509	0905187-03	Soil
4	STR01-SS03-P-0509	0905187-04	Soil
5	STR01-SS04-0509	0905187-05	Soil
6	STR01-SS05-0509	0905187-06	Soil
7	STR01-EB-051909	0905187-07	Soil
8	STR01-SW03-0509	0905202-01	Water
8MS	STR01-SW03-0509MS	0905202-01MS	Water
8MSD	STR01-SW03-0509MSD	0905202-01MSD	Water
9	STR01-EB-052009	0905202-02	Water
10	STR01-SW01-0509	0905202-03	Water
11	STR01-SW02-0509	0905202-04	Water
12	STR01-SW02-P-0509	0905202-05	Water

The USEPA "Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999, and professional judgement were used in evaluating the data in this summary report.

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days for all samples.

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria.

Initial Calibration - The initial calibrations exhibited acceptable %RSD and mean RRF values.

Continuing Calibration - The continuing calibrations exhibited acceptable %D and RRF values.

Surrogates - All samples exhibited acceptable surrogate recoveries except the following.

Sample ID	Surrogate	%R	Qualifier
8	Terphenyl-d14	179%	None for 1 out
9	Terphenyl-d14	171%	None for 1 out
11	Terphenyl-d14	182%	None for 1 out
12	Terphenyl-d14	178%	None for 1 out

MS/MSD - The MS/MSD sample exhibited acceptable %R and RPD values except the following.

MS/MSD Sample ID	Compound	MS/MSD %R/RPD	Qualifier
1	Anthracene	49%/49%/Ok	J/UJ
	Benzo (a) anthracene	35%/33%/Ok	J/UJ
	Benzo (b) fluoranthene	19%/15%/Ok	J/UJ
	Benzo (k) fluoranthene	32%/31%/Ok	J/UJ
	Benzo (a) pyrene	28%/26%/Ok	J/UJ
	Chrysene	22%/20%/Ok	J/UJ
	Fluoranthene	14%/12%/Ok	J/UJ
	Phenanthrene	42%/41%/Ok	J/UJ
	Pyrene	19%/16%/Ok	J/UJ

Laboratory Control Sample - The LCS samples exhibited acceptable %R values except the following.

LCS ID	Compound	%R	Qualifier	Affected Samples
SBLK0522BS1	Chrysene	49%	J/UJ	2-6

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria except the following.

Sample ID	Internal Standard	Area Count	Qualifier
7	Perylene-d12	Low	J/UJ - Associated compounds
8	Phenanthrene-d10	Low	J/UJ - Associated compounds
	Perylene-d12	Low	J/UJ - Associated compounds
9	Perylene-d12	Low	J/UJ - Associated compounds
11	Perylene-d10	Low	J/UJ - Associated compounds
12	Phenanthrene-d10	Low	J/UJ - Associated compounds
	Perylene-d12	Low	J/UJ - Associated compounds

Method Blank - The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/kg	Action Level ug/kg	Qualifier	Affected Samples
SBLK0522BS1	Benzo (a) anthracene	34	340	U	1-6

Field, Equipment Blank - Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
SBLK0522BW1	Anthracene	0.63	3.15	U	7-12
	Benzo (a) anthracene	0.51	2.55	U	7-12
	Benzo (g,h,i) perylene	0.28	1.40	U	7-12
	Benzo (a) pyrene	0.70	3.50	U	7, 9-12
	Fluoranthene	0.30	1.50	U	7-12
	Fluorene	0.58	2.9	U	7-12
	2-Methylnaphthalene	0.014	0.07	U	7-12
	Naphthalene	0.023	0.115	U	7-12
	Phenanthrene	0.054	0.27	U	7-12
	Pyrene	0.13	0.65	U	7-12
STR01-EB-051909	Acenaphthylene	0.020	0.10	None	All associated samples ND
	Benzo (b) fluoranthene	0.65	3.25	None	All associated samples ND
	Benzo (k) fluoranthene	0.77	3.85	None	All associated samples ND
	Dibenz (a,h) anthracene	0.52	2.6	None	All associated samples ND
	Indeno (1,2,3-cd) pyrene	0.52	2.6	None	All associated samples ND
STR01-EB-052009	None - ND	-	-	-	-

Field Duplicates - Field duplicate results are summarized below.

Compound	STR01-SS03-0509 ug/kg	STR01-SS03-P-0509 ug/kg	RPD	Qualifier
Anthracene	51	51	0%	None
Benzo (g,h,i) perylene	81 U	22	NC	None
Benzo (a) pyrene	57	8.1 U	NC	None
Fluoranthene	23	23	0%	None
Fluorene	47	47	0%	None

Compound	STR01-SW02-0509 ug/L	STR01-SW02-P-0509 ug/L	RPD	Qualifier
Acenaphthylene	0.074	1.1 U	NC	None
Benzo (b) fluoranthene	0.67	0.70	4%	None
Benzo (k) fluoranthene	0.79	0.87	10%	None
Dibenz (a,h) anthracene	0.55	0.056 U	NC	None

Tentatively Identified Compounds (TICs) - TICs were not reported.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

STR01-SS01-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) SOIL Lab Sample ID: 0905187-01

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0518701

% Moisture: 16 decanted: (Y/N) N Date Sampled: 05/19/09 09:37

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 23:07

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	80		U
208-96-8	Acenaphthylene	1.4	80		U
120-12-7	Anthracene	0.96	80	J 54	~~J~~ MSL
56-55-3	Benzo(a)anthracene	1.7	80	UJ 100	~~BX~~ ~~BL~~ MSL
205-99-2	Benzo(b)fluoranthene	1.8	80	J 130	MSL
207-08-9	Benzo(k)fluoranthene	1.5	80	J 88	MSL
191-24-2	Benzo(g,h,i)perylene	1.8	80	69	~~J~~
50-32-8	Benzo(a)pyrene	1.2	8.0	J 120	MSL
218-01-9	Chrysene	1.3	80	J 38	~~J~~ MSL
53-70-3	Dibenz(a,h)anthracene	1.8	8.0	53	
206-44-0	Fluoranthene	2.0	80	J 92	MSL
86-73-7	Fluorene	1.4	80	46	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.8	80	83	
91-57-6	2-Methylnaphthalene	2.0	80		U
91-20-3	Naphthalene	2.8	80		U
85-01-8	Phenanthrene	2.0	80	J 23	J MSL
129-00-0	Pyrene	1.8	80	J 70	J MSL

lw
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 2

STR01-SS02-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) SOIL Lab Sample ID: 0905187-02

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0518702

% Moisture: 15 decanted: (Y/N) N Date Sampled: 05/19/09 10:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted:05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 23:43

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	79		U
208-96-8	Acenaphthylene	1.3	79		U
120-12-7	Anthracene	0.94	79		U
56-55-3	Benzo(a)anthracene	1.6	79	79 U ~~45~~ ~~JB~~	BL
205-99-2	Benzo(b)fluoranthene	1.8	79	55	J
207-08-9	Benzo(k)fluoranthene	1.5	79	63	J
191-24-2	Benzo(g,h,i)perylene	1.7	79	25	J
50-32-8	Benzo(a)pyrene	1.2	7.9	58	
218-01-9	Chrysene	1.3	79	UJ	~~U~~ BSL
53-70-3	Dibenz(a,h)anthracene	1.8	7.9		U
206-44-0	Fluoranthene	2.0	79	26	J
86-73-7	Fluorene	1.4	79	45	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.8	79	41	J
91-57-6	2-Methylnaphthalene	2.0	79		U
91-20-3	Naphthalene	2.8	79		U
85-01-8	Phenanthrene	2.0	79		U
129-00-0	Pyrene	1.8	79		U

NW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 3

STR01-SS03-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) SOIL Lab Sample ID: 0905187-03

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0518703

% Moisture: 18 decanted: (Y/N) N Date Sampled: 05/19/09 09:55

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted:05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/13/09 00:18

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	81		U
208-96-8	Acenaphthylene	1.4	81		U
120-12-7	Anthracene	0.98	81	51	J
56-55-3	Benzo(a)anthracene	1.7	81	81U ~~41~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	1.9	81		U
207-08-9	Benzo(k)fluoranthene	1.5	81		U
191-24-2	Benzo(g,h,i)perylene	1.8	81		U
50-32-8	Benzo(a)pyrene	1.2	8.1	57	
218-01-9	Chrysene	1.3	81	41J	~~J~~ BSL
53-70-3	Dibenz(a,h)anthracene	1.9	8.1		U
206-44-0	Fluoranthene	2.0	81	23	J
86-73-7	Fluorene	1.5	81	47	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	81		U
91-57-6	2-Methylnaphthalene	2.0	81		U
91-20-3	Naphthalene	2.8	81		U
85-01-8	Phenanthrene	2.0	81		U
129-00-0	Pyrene	1.9	81		U

CW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 4

STR01-SS
03-P-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) SOIL Lab Sample ID: 0905187-04

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0518704

% Moisture: 18 decanted: (Y/N) N Date Sampled: 05/19/09 09:55

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted:05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/13/09 00:54

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	81		U
208-96-8	Acenaphthylene	1.4	81		U
120-12-7	Anthracene	0.97	81	51	J
56-55-3	Benzo(a)anthracene	1.7	81	81u ~~41~~ ~~JD~~	BL
205-99-2	Benzo(b)fluoranthene	1.9	81		U
207-08-9	Benzo(k)fluoranthene	1.5	81		U
191-24-2	Benzo(g,h,i)perylene	1.8	81	22	J
50-32-8	Benzo(a)pyrene	1.2	8.1		U
218-01-9	Chrysene	1.3	81	41J	~~J~~ BSL
53-70-3	Dibenz(a,h)anthracene	1.9	8.1		U
206-44-0	Fluoranthene	2.0	81	23	J
86-73-7	Fluorene	1.4	81	47	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	81		U
91-57-6	2-Methylnaphthalene	2.0	81		U
91-20-3	Naphthalene	2.8	81		U
85-01-8	Phenanthrene	2.0	81		U
129-00-0	Pyrene	1.9	81		U

DW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 5

STR01-SS04-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) SOIL Lab Sample ID: 0905187-05

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0518705

% Moisture: 12 decanted: (Y/N) N Date Sampled: 05/19/09 09:10

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/13/09 01:30

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	76		U
208-96-8	Acenaphthylene	1.3	76		U
120-12-7	Anthracene	0.91	76	52	J
56-55-3	Benzo(a)anthracene	1.6	76	h 130	~~BX~~ BL
205-99-2	Benzo(b)fluoranthene	1.7	76	240	
207-08-9	Benzo(k)fluoranthene	1.4	76	110	
191-24-2	Benzo(g,h,i)perylene	1.7	76	150	
50-32-8	Benzo(a)pyrene	1.1	7.6	190	
218-01-9	Chrysene	1.2	76	J 88	BSL
53-70-3	Dibenz(a,h)anthracene	1.7	7.6	71	
206-44-0	Fluoranthene	1.9	76	120	
86-73-7	Fluorene	1.4	76	44	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.7	76	150	
91-57-6	2-Methylnaphthalene	1.9	76		U
91-20-3	Naphthalene	2.6	76		U
85-01-8	Phenanthrene	1.9	76	32	J
129-00-0	Pyrene	1.7	76	100	

lw 7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 6

STR01-SS05-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) SOIL Lab Sample ID: 0905187-06

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0518706

% Moisture: 18 decanted: (Y/N) N Date Sampled: 05/19/09 09:21

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted:05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/13/09 02:06

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	81		U
208-96-8	Acenaphthylene	1.4	81		U
120-12-7	Anthracene	0.97	81	52	J
56-55-3	Benzo(a)anthracene	1.7	81	814 ~~76~~ ~~JB~~	BL
205-99-2	Benzo(b)fluoranthene	1.9	81	130	
207-08-9	Benzo(k)fluoranthene	1.5	81	84	
191-24-2	Benzo(g,h,i)perylene	1.8	81	71	J
50-32-8	Benzo(a)pyrene	1.2	8.1	110	
218-01-9	Chrysene	1.3	81	J 17	~~J~~ BSL
53-70-3	Dibenz(a,h)anthracene	1.9	8.1	55	
206-44-0	Fluoranthene	2.0	81	60	J
86-73-7	Fluorene	1.4	81	47	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	81	85	
91-57-6	2-Methylnaphthalene	2.0	81		U
91-20-3	Naphthalene	2.8	81		U
85-01-8	Phenanthrene	2.0	81		U
129-00-0	Pyrene	1.9	81	44	J

LW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 7

STR01-EB-051909

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) WATER Lab Sample ID: 0905187-07

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0518707

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/19/09 10:20

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 05/22/09

Concentrated Extract Volume: 1000.0 (uL) Date Analyzed: 06/12/09 11:40

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0056	0.92		U
208-96-8	Acenaphthylene	0.0046	0.92	0.020	J
120-12-7	Anthracene	0.0092	0.92	0.92U ~~0.63~~	~~JB~~ BL
56-55-3	Benzo(a)anthracene	0.012	0.046	UJ 0.58	~~B~~ ~~BL~~, ISL
205-99-2	Benzo(b)fluoranthene	0.011	0.046	J 0.65	ISL
207-08-9	Benzo(k)fluoranthene	0.0083	0.23	J 0.77	↓
191-24-2	Benzo(g,h,i)perylene	0.0065	0.92	0.92UJ ~~0.30~~	~~JB~~ ~~BL~~ ISL
50-32-8	Benzo(a)pyrene	0.0056	0.046	UJ 0.70	~~B~~ ~~BL~~ ISL
218-01-9	Chrysene	0.010	0.92	UJ	~~U~~ ISL
53-70-3	Dibenz(a,h)anthracene	0.0046	0.046	J 0.52	ISL
206-44-0	Fluoranthene	0.012	0.92	0.92U ~~0.34~~	~~JB~~ BL
86-73-7	Fluorene	0.0065	0.92	0.92U 0.58	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0037	0.046	J 0.52	ISL
91-57-6	2-Methylnaphthalene	0.0056	0.92	0.92U 0.044	~~JB~~ BL
91-20-3	Naphthalene	0.012	0.46	0.46U 0.052	~~JB~~
85-01-8	Phenanthrene	0.0074	0.92	0.92U 0.089	~~JB~~
129-00-0	Pyrene	0.012	0.92	0.92U 0.18	~~JB~~

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 8

STR01-SW03-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) WATER Lab Sample ID: 0905202-01

Sample wt/vol: 1020 (g/mL) ML Lab File ID: 0520201

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/20/09 12:25

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 12:16

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0059	0.98	UJ	U ISL
208-96-8	Acenaphthylene	0.0049	0.98	↓	U ↓
120-12-7	Anthracene	0.0098	0.98	0.98UJ ~~0.62~~	~~JB~~ BL ISL
56-55-3	Benzo(a)anthracene	0.013	0.049	UJ 0.52	~~B~~ BL ISL
205-99-2	Benzo(b)fluoranthene	0.012	0.049	UJ	U
207-08-9	Benzo(k)fluoranthene	0.0088	0.24	UJ	U
191-24-2	Benzo(g,h,i)perylene	0.0069	0.98	0.98UJ ~~0.28~~	~~JB~~ BL
50-32-8	Benzo(a)pyrene	0.0059	0.049	UJ	U
218-01-9	Chrysene	0.011	0.98	↓	U
53-70-3	Dibenz(a,h)anthracene	0.0049	0.049		U
206-44-0	Fluoranthene	0.013	0.98	0.98UJ ~~0.31~~	~~JB~~ BL
86-73-7	Fluorene	0.0069	0.98	0.98UJ ~~0.57~~	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0039	0.049	UJ	U
91-57-6	2-Methylnaphthalene	0.0059	0.98	0.98UJ 0.018	JB BL
91-20-3	Naphthalene	0.013	0.49	0.49 0.027	JB
85-01-8	Phenanthrene	0.0078	0.98	0.98 0.044	JB
129-00-0	Pyrene	0.013	0.98	0.98 0.13	JB

FORM I SV

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 9

STR01-EB-052009

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) WATER Lab Sample ID: 0905202-02

Sample wt/vol: 1020 (g/mL) ML Lab File ID: 0520202

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/20/09 14:55

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 12:53

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0059	0.98		U
208-96-8	Acenaphthylene	0.0049	0.98		U
120-12-7	Anthracene	0.0098	0.98	0.98U ~~0.62~~	~~JB~~ BL
56-55-3	Benzo(a)anthracene	0.013	0.049	UJ 0.50	~~B~~ BL ISL
205-99-2	Benzo(b)fluoranthene	0.012	0.049	UJ	~~U~~ ISL
207-08-9	Benzo(k)fluoranthene	0.0088	0.24	UJ	~~U~~ ↓
191-24-2	Benzo(g,h,i)perylene	0.0069	0.98	0.98U ~~0.27~~	~~JB~~ BL ISL
50-32-8	Benzo(a)pyrene	0.0059	0.049	UJ 0.69	~~B~~ BL ISL
218-01-9	Chrysene	0.011	0.98	UJ	~~U~~ ISL
53-70-3	Dibenz(a,h)anthracene	0.0049	0.049	UJ	~~U~~ ↓
206-44-0	Fluoranthene	0.013	0.98	0.98U ~~0.29~~	~~JB~~ BL
86-73-7	Fluorene	0.0069	0.98	0.98U ~~0.57~~	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0039	0.049	UJ	~~U~~ ISL
91-57-6	2-Methylnaphthalene	0.0059	0.98	0.98U ~~0.016~~	~~JB~~ BL
91-20-3	Naphthalene	0.013	0.49	0.49U ~~0.038~~	~~JB~~ ↓
85-01-8	Phenanthrene	0.0078	0.98	0.98U ~~0.025~~	~~JB~~ ↓
129-00-0	Pyrene	0.013	0.98	0.98U ~~0.12~~	~~JB~~ ↓

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

10

STR01-SW01-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) WATER Lab Sample ID: 0905202-03

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: 0520203

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/20/09 14:05

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 13:29

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0067	1.1		U
208-96-8	Acenaphthylene	0.0056	1.1		U
120-12-7	Anthracene	0.011	1.1	1.1u ~~0.71~~	~~JB~~ BL
56-55-3	Benzo(a)anthracene	0.014	0.056	0.56u ~~0.56~~	~~B~~ BL
205-99-2	Benzo(b)fluoranthene	0.013	0.056	0.71	
207-08-9	Benzo(k)fluoranthene	0.010	0.28	0.87	
191-24-2	Benzo(g,h,i)perylene	0.0078	1.1	1.1u ~~0.33~~	~~JB~~ BL
50-32-8	Benzo(a)pyrene	0.0067	0.056	u 0.80	~~B~~ BL
218-01-9	Chrysene	0.012	1.1		U
53-70-3	Dibenz(a,h)anthracene	0.0056	0.056	0.61	
206-44-0	Fluoranthene	0.014	1.1	1.1u ~~0.35~~	~~JB~~ BL
86-73-7	Fluorene	0.0078	1.1	1.1u ~~0.66~~	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0044	0.056	0.56	
91-57-6	2-Methylnaphthalene	0.0067	1.1	1.1 u ~~0.023~~	~~JB~~ BL
91-20-3	Naphthalene	0.014	0.56	0.56 ~~0.028~~	~~JB~~
85-01-8	Phenanthrene	0.0089	1.1	1.1 ~~0.050~~	~~JB~~
129-00-0	Pyrene	0.014	1.1	1.1 ~~0.16~~	~~JB~~

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

STR01-SW02-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) WATER Lab Sample ID: 0905202-04

Sample wt/vol: 1000 (g/mL) ML Lab File ID: 0520204

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/20/09 13:30

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 14:05

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0060	1.0		U
208-96-8	Acenaphthylene	0.0050	1.0	0.074	J
120-12-7	Anthracene	0.010	1.0	1.0U ~~0.70~~	~~JB~~ BL
56-55-3	Benzo(a)anthracene	0.013	0.050	UJ 0.55	~~B~~ BL JS
205-99-2	Benzo(b)fluoranthene	0.012	0.050	J 0.67	ISL
207-08-9	Benzo(k)fluoranthene	0.0090	0.25	J 0.79	↓
191-24-2	Benzo(g,h,i)perylene	0.0070	1.0	1.0UJ ~~0.32~~	~~JB~~ BL IS
50-32-8	Benzo(a)pyrene	0.0060	0.050	UJ 0.73	~~B~~ BL IS
218-01-9	Chrysene	0.011	1.0	UJ	~~J~~ ISL
53-70-3	Dibenz(a,h)anthracene	0.0050	0.050	J 0.55	ISL
206-44-0	Fluoranthene	0.013	1.0	1.0U ~~0.36~~	~~JB~~ BL
86-73-7	Fluorene	0.0070	1.0	1.0U ~~0.67~~	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0040	0.050	UJ	~~J~~ ISL
91-57-6	2-Methylnaphthalene	0.0060	1.0	1.0 U ~~0.12~~	JB BL
91-20-3	Naphthalene	0.013	0.50	0.50 ~~0.10~~	JB
85-01-8	Phenanthrene	0.0080	1.0	1.0 ~~0.12~~	JB
129-00-0	Pyrene	0.013	1.0	1.0 ~~0.18~~	JB

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 12

STR01-SW
02-P-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_002

Matrix: (soil/water) WATER Lab Sample ID: 0905202-05

Sample wt/vol: 900.0 (g/mL) ML Lab File ID: 0520205

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/20/09 13:30

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 05/22/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 14:42

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0067	1.1	UJ	U
208-96-8	Acenaphthylene	0.0056	1.1	↓	U
120-12-7	Anthracene	0.011	1.1	1.1UJ ~~0.71~~	~~JB~~ BL
56-55-3	Benzo(a)anthracene	0.014	0.056	UJ 0.60	~~B~~ BL
205-99-2	Benzo(b)fluoranthene	0.013	0.056	J 0.70	
207-08-9	Benzo(k)fluoranthene	0.010	0.28	J 0.87	
191-24-2	Benzo(g,h,i)perylene	0.0078	1.1	1.1UJ ~~0.32~~	~~JB~~ BL
50-32-8	Benzo(a)pyrene	0.0067	0.056	UJ 0.79	~~B~~ BL
218-01-9	Chrysene	0.012	1.1	UJ	U
53-70-3	Dibenz(a,h)anthracene	0.0056	0.056	UJ	U
206-44-0	Fluoranthene	0.014	1.1	1.1UJ ~~0.34~~	~~JB~~ BL
86-73-7	Fluorene	0.0078	1.1	1.1UJ ~~0.65~~	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0044	0.056	UJ	U
91-57-6	2-Methylnaphthalene	0.0067	1.1	1.1 UJ ~~0.029~~	JB BL
91-20-3	Naphthalene	0.014	0.56	0.56UJ ~~0.034~~	JB
85-01-8	Phenanthrene	0.0089	1.1	1.1 UJ ~~0.044~~	JB
129-00-0	Pyrene	0.014	1.1	1.1 UJ ~~0.14~~	JB

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ENVIRONMENTAL
Data Services, Inc.

PERCHLORATE

USEPA Region IV - Level IV Review

Site: MCAS Cherry Point, CTO-201 SDG #: Cherry 201_002

Client: CH2M HILL, Inc., Virginia Beach, Virginia Date: July 29, 2009

Laboratory: Columbia Analytical Services, Inc., Rochester, NY Reviewer: Nancy Weaver

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	STR01-SS01-0509	R0903023-001	Soil
1MS	STR01-SS01-0509MS	R0903023-001MS	Soil
1MSD	STR01-SS01-0509MSD	R0903023-001MSD	Soil
2	STR01-SS02-0509	R0903023-002	Soil
3	STR01-SS03-0509	R0903023-003	Soil
4	STR01-SS03-D-0509	R0903023-004	Soil
5	STR01-SS04-0509	R0903023-005	Soil
6	STR01-SS05-0509	R0903023-006	Soil
7	STR01-EB-051909	R0903023-007	Water

The USEPA "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004, and professional judgement were used in evaluating the data in this summary report.

Holding Times - All samples were prepared and analyzed within 28 days for perchlorate.

Calibration - The ICV and CCV %R values were acceptable.

Method and Calibration Blanks - The method blanks and continuing calibration blanks were free of contamination.

Field and Equipment Blank - Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
STR01-EB-051909	None - ND	-	-	-	-

Matrix Spike/Duplicate - The matrix spike/duplicate sample exhibited acceptable %R and RPD values.

LCS - The LCS samples exhibited acceptable %R values.

Field Duplicates - Field duplicate results are summarized below.

Compound	STR01-SS03-0509 ug/kg	STR01-SS03-D-0509 ug/kg	RPD	Qualifier
None	ND	ND	-	-

Compound Quantitation - No discrepancies were identified.

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Empirical Labs	**Service Request:**	R0903023
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_002	**Date Collected:**	5/19/09 0937
Sample Matrix:	Soil	**Date Received:**	5/30/09
Sample Name:	STR01-SS01-0509	**Units:**	µg/Kg
Lab Code:	R0903023-001	**Basis:**	Dry
		Percent Solids:	83.9

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.4	U	2.4	0.22	1	6/ 2/09	6/3/09 12:45	88661	156094	

Comments:

MW 7/29/09

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

2

Client:	Empirical Labs	**Service Request:**	R0903023
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_002	**Date Collected:**	5/19/09 1005
Sample Matrix:	Soil	**Date Received:**	5/30/09
Sample Name:	STR01-SS02-0509	**Units:**	µg/Kg
Lab Code:	R0903023-002	**Basis:**	Dry
		Percent Solids:	78.6

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.5	U	2.5	0.23	1	6/ 2/09	6/3/09 13:50	88661	156094	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

3

Client:	Empirical Labs	**Service Request:**	R0903023
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_002	**Date Collected:**	5/19/09 0955
Sample Matrix:	Soil	**Date Received:**	5/30/09
Sample Name:	STR01-SS03-0509	**Units:**	µg/Kg
Lab Code:	R0903023-003	**Basis:**	Dry
		Percent Solids:	75.8

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.6	U	2.6	0.24	1	6/ 2/09	6/3/09 14:12	88661	156094	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

4

Client:	Empirical Labs	**Service Request:**	R0903023
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_002	**Date Collected:**	5/19/09 0955
Sample Matrix:	Soil	**Date Received:**	5/30/09
Sample Name:	STR01-SS03-D-0509	**Units:**	µg/Kg
Lab Code:	R0903023-004	**Basis:**	Dry
		Percent Solids:	75.7

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.6	U	2.6	0.24	1	6/ 2/09	6/3/09 14:55	88661	156094	

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Empirical Labs	**Service Request:**	R0903023
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_002	**Date Collected:**	5/19/09 0910
Sample Matrix:	Soil	**Date Received:**	5/30/09
Sample Name:	STR01-SS04-0509	**Units:**	µg/Kg
Lab Code:	R0903023-005	**Basis:**	Dry
		Percent Solids:	89.1

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.2	U	2.2	0.21	1	6/ 2/09	6/3/09 15:17	88661	156094	

Comments:

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Empirical Labs	**Service Request:**	R0903023
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_002	**Date Collected:**	5/19/09 0921
Sample Matrix:	Soil	**Date Received:**	5/30/09
Sample Name:	STR01-SS05-0509	**Units:**	µg/Kg
Lab Code:	R0903023-006	**Basis:**	Dry
		Percent Solids:	83.2

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	2.4	U	2.4	0.22	1	6/ 2/09	6/3/09 15:39	88661	156094	

Comments:

LW 7/29/09

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COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

7

Client:	Empirical Labs	**Service Request:**	R0903023
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_002	**Date Collected:**	5/19/09 1020
Sample Matrix:	Water	**Date Received:**	5/30/09
Sample Name:	STR01-EB-051909	**Units:**	µg/L
Lab Code:	R0903023-007	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	0.20	U	0.20	0.027	1	6/ 2/09	6/2/09 14:34	88612	155913	

Comments:

ENVIRONMENTAL
Data Services, Inc.

TOTAL & DISSOLVED METALS
USEPA Region IV - Level IV Review

Site: MCAS Cherry Point, CTO-201 SDG #: Cherry 201_003

Client: CH2M HILL, Inc., Virginia Beach, Virginia Date: July 27, 2009

Laboratory: Empirical Laboratories, Nashville, Tennessee Reviewer: Nancy Weaver

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1T	STR01-EB-052109	0905219-01	Water
2T	STR01-FB-052109	0905219-02	Water
2D	STR01-FB-052109	0905219-02	Water
3	STR01-SD05-0-1-0509	0905228-01	Soil
3MS	STR01-SD05-0-1-0509MS	0905228-01MS	Soil
3MSD	STR01-SD05-0-1-0509MSD	0905228-01MSD	Soil
4	STR01-SD09-0-1-0509	0905228-02	Soil
5	STR01-SD09-P-0-1-0509	0905228-03	Soil
6	STR01-SD08-0-1-0509	0905228-04	Soil
7	STR01-SSD08-1-2-0509	0905228-05	Soil
8	STR01-SSD08-2-3-0509	0905228-06	Soil
8MS	STR01-SSD08-2-3-0509MS	0905228-06MS	Soil
8MSD	STR01-SSD08-2-3-0509MSD	0905228-06MSD	Soil
9	STR01-SSD08-3-4-0509	0905228-07	Soil
10	STR01-SSD08-4-5-0509	0905228-08	Soil
11	STR01-SSD08-5-6-0509	0905228-09	Soil
12	STR01-SD02-0-1-0509	0905228-10	Soil
13	STR01-SSD02-1-2-0509	0905228-11	Soil
14	STR01-SSD02-2-3-0509	0905228-12	Soil
15	STR01-SD03-0-1-0509	0905228-13	Soil
16	STR01-SD03-P-0-1-0509	0905228-14	Soil
17	STR01-SSD03-1-2-0509	0905228-15	Soil
18	STR01-SSD03-P-1-2-0509	0905228-16	Soil
19	STR01-SSD03-2-3-0509	0905228-17	Soil
20	STR01-SSD03-P-2-3-0509	0905228-18	Soil
21	STR01-SD10-0-1-0509	0905228-19	Soil
22	STR01-SSD10-1-2-0509	0905228-20	Soil
23	STR01-SSD05-1-2-0509	0905228-21	Soil
24	STR01-SSD05-2-3-0509	0905228-22	Soil
25	STR01-SSD12-2-3-0509	0905228-23	Soil
26	STR01-SSD12-1-2-0509	0905228-24	Soil
27	STR01-SD12-0-1-0509	0905228-25	Soil
28	STR01-SSD09-2-3-0509	0905228-26	Soil
29	STR01-SSD09-1-2-0509	0905228-27	Soil
30	STR01-SSD06-2-3-0509	0905228-28	Soil

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
31	STR01-SD06-0-1-0509	0905228-29	Soil
32	STR01-SSD06-1-2-0509	0905228-30	Soil
33	STR01-SD01-0-1-0509	0905228-31	Soil
34	STR01-SSD01-1-2-0509	0905228-32	Soil
35	STR01-SSD01-2-3-0509	0905228-33	Soil
36	STR01-SSD07-4-5-0509	0905228-34	Soil
37	STR01-SSD07-3-4-0509	0905228-35	Soil
38	STR01-SSD07-5-6-0509	0905228-36	Soil
39	STR01-SSD07-2-3-0509	0905228-37	Soil
40	STR01-SSD07-1-2-0509	0905228-38	Soil
41	STR01-SSD07-P-1-2-0509	0905228-39	Soil
42	STR01-SD07-0-1-0509	0905228-40	Soil
42MS	STR01-SD07-0-1-0509MS	0905228-40MS	Soil
42MSD	STR01-SD07-0-1-0509MSD	0905228-40MSD	Soil
43	STR01-SSD11-1-2-0509	0905228-41	Soil
44	STR01-SSD11-2-3-0509	0905228-42	Soil
45	STR01-SD04-0-1-0509	0905228-43	Soil
46	STR01-SSD04-1-2-0509	0905228-44	Soil
46MS	STR01-SSD04-1-2-0509MS	0905228-44MS	Soil
46MSD	STR01-SSD04-1-2-0509MSD	0905228-44MSD	Soil
47	STR01-SD11-0-1-0509	0905228-45	Soil
48	STR01-SSD04-2-3-0509	0905228-46	Soil

The USEPA "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004, and professional judgement were used in evaluating the data in this summary report.

Holding Times - All samples were prepared and analyzed within 28 days for mercury and 180 days for all other metals.

Calibration - Several ICV and CCV %R values were slightly outside of QC limits but the samples were not affected (1% rule), non-detect or already qualified. No further action was required.

CRDL Standard - The CRDL standards exhibited acceptable %R values.

Method and Calibration Blanks - The method blanks and continuing calibration blanks exhibited contamination for several compounds, however, all sample results are non-detect or greater than 5X the blank concentration with the exception of the following:

Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
Aluminum	50.965	254.825	U	1T

Field and Equipment Blank - Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level mg/kg	Qualifier	Affected Samples
STR01-FB-052109 (D)	None - ND	-	-	-	-
STR01-EB-0521-0 (T)	None - ND	-	-	-	-
STR01-FB-052109 (T)	None - ND	-	-	-	-

ICP Interference Check Sample - All %R values were acceptable.

MS/MSD - The MS/MSD sample exhibited acceptable %R and RPD values except the following.

MS/MSD Sample ID	Compound	MS/MSD %R/RPD	Qualifier	Affected Samples
3	Aluminum	183.2%/214.5%/Ok	J	3-6, 12, 13, 15-18, 21-23, 26, 27, 29, 31
8	Aluminum	415.3%/431.2%/Ok	J	7-11, 14, 19, 20, 24, 25, 28, 30
	Potassium	125.2%/131.3%/Ok	J	8-11, 14, 19, 25, 28
42	Aluminum	279.9%/277.2%/Ok	J	32-34, 40-43, 45-47
	Calcium	183.3%/Ok/Ok	J	33, 34, 40, 47
46	Aluminum	317.8%/346.1%/Ok	J	35-39, 44, 48
	Potassium	125.5%/126.2%/Ok	J	35, 38, 39

LCS - The LCS samples exhibited acceptable %R values.

ICP Serial Dilution - The ICP serial dilution sample exhibited acceptable %D values.

Field Duplicates - Field duplicate results are summarized below.

Compound	STR01-SD09-0-1-0509 mg/kg	STR01-SD09-P-0-1-0509 mg/kg	RPD	Qualifier
Aluminum	5690	5680	0%	None
Arsenic	2.5	2.3	8%	None
Barium	7.8	7.8	0%	None
Cadmium	0.36	0.36	0%	None
Calcium	1820	626	98%	None
Chromium	9.1	9.4	3%	None
Cobalt	1.9	2.0	5%	None
Copper	3.7	3.7	0%	None
Iron	7540	7720	2%	None
Lead	6.1	6.6	8%	None
Magnesium	1080	1060	2%	None
Manganese	111	101	9%	None

Nickel	2.7	2.8	4%	None
Potassium	605	646	7%	None
Sodium	3160	2860	10%	None
Vanadium	11.9	11.4	4%	None
Zinc	24.4	24.0	2%	None

Compound	STR01-SD03-0-1-0509 mg/kg	STR01-SD03-P-0-1-0509 mg/kg	RPD	Qualifier
Aluminum	1260	1110	13%	None
Arsenic	0.76	2.7 U	NC	None
Barium	1.8	1.9	5%	None
Chromium	2.7	4.0	39%	None
Copper	1.6	2.7 U	NC	None
Iron	1150	1300	12%	None
Lead	2.5	3.1	21%	None
Magnesium	271	1350 U	NC	None
Manganese	17.8	18.1	2%	None
Nickel	2.4 U	1.3	NC	None
Sodium	1040	658	45%	None
Vanadium	2.6	2.9	11%	None
Zinc	4.7	5.0	6%	None

Compound	STR01-SSD03-1-2-0509 mg/kg	STR01-SSD03-P-1-2-0509 mg/kg	RPD	Qualifier
Aluminum	1870	1690	10%	None
Arsenic	1.5	1.2	22%	None
Barium	3.2	2.9	10%	None
Calcium	1270	438	97%	None
Chromium	4.2	4.0	5%	None
Iron	3040	2910	4%	None
Lead	2.1	1.8	15%	None
Magnesium	533	505	5%	None
Manganese	33.3	31.3	6%	None
Nickel	1.0	1.1	10%	None
Potassium	312	311	0%	None
Sodium	1580	1520	4%	None
Vanadium	4.6	4.5	2%	None
Zinc	4.4	4.2	5%	None

Compound	STR01-SS03-2-3-0509 mg/kg	STR01-SSD03-P-2-3-0509 mg/kg	RPD	Qualifier
Aluminum	2290	1490	42%	None
Arsenic	1.2	3.1 U	NC	None
Barium	4.7	3.9	19%	None
Calcium	1120	997	12%	None
Chromium	5.2	3.5	39%	None
Iron	5760	4710	20%	None
Lead	2.3	1.5	42%	None
Magnesium	912	814	11%	None
Manganese	29.8	24.0	22%	None
Nickel	1.6	1.1	37%	None
Potassium	392	1530 U	NC	None

Compound	STR01-SS03-2-3-0509 mg/kg	STR01-SSD03-P-2-3-0509 mg/kg	RPD	Qualifier
Sodium	2310	2120	9%	None
Vanadium	6.6	4.5	38%	None
Zinc	8.1	6.0	30%	None

Compound	STR01-SSD07-1-2-0509 mg/kg	STR01-SSD07-P-1-2-0509 mg/kg	RPD	Qualifier
Aluminum	527	604	14%	None
Barium	8.3 U	1.2	NC	None
Calcium	259	990 U	NC	None
Chromium	1.2	1.5	22%	None
Iron	746	874	16%	None
Lead	0.66	0.90	31%	None
Manganese	8.7	10.2	16%	None
Sodium	386	538	33%	None
Vanadium	1.3	1.5	14%	None
Zinc	1.2	1.4	15%	None

Compound Quantitation - No discrepancies were identified.

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INORGANIC ANALYSES DATA SHEET

1T

EPA SAMPLE NO.

STR01-EB-052109

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): WATER Lab Sample ID: 0905219-01

Level (low/med): LOW Date Received: 05/23/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200U ~~110~~	~~U~~		P
7440-36-0	Antimony	15.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	40.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5000	U		P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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2T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-FB-052109

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): WATER Lab Sample ID: 0905219-02

Level (low/med): LOW Date Received: 05/23/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U		P
7440-36-0	Antimony	15.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	40.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5000	U		P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 NW 7/27/09

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INORGANIC ANALYSES DATA SHEET

2D

EPA SAMPLE NO.

STR01-FB-052109Soluble

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): WATER Lab Sample ID: 0905219-02Soluble

Level (low/med): LOW Date Received: 05/23/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U		P
7440-36-0	Antimony	15.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	40.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5000	U		P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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3

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD05-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-01

Level (low/med): LOW Date Received: 05/23/09

% Solids: 90.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	727		~~N~~ J	P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	2.1	U		P
7440-39-3	Barium	1.6	J		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	1050	U		P
7440-47-3	Chromium	2.1	J		P
7440-48-4	Cobalt	3.1	U		P
7440-50-8	Copper	2.1	U		P
7439-89-6	Iron	911			P
7439-92-1	Lead	4.2			P
7439-95-4	Magnesium	1050	U		P
7439-96-5	Manganese	10.3			P
7439-97-6	Mercury	0.034	U		AV
7440-02-0	Nickel	2.1	U		P
7440-09-7	Potassium	1050	U		P
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	2.1	U		P
7440-23-5	Sodium	389	J		P
7440-28-0	Thallium	2.1	U		P
7440-62-2	Vanadium	2.0	J		P
7440-66-6	Zinc	2.7	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 NW 7/27/09

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INORGANIC ANALYSES DATA SHEET

4

EPA SAMPLE NO.

STR01-SD09-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-02

Level (low/med): LOW Date Received: 05/23/09

% Solids: 60.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5690		~~N~~ J	P
7440-36-0	Antimony	4.9	U		P
7440-38-2	Arsenic	2.5	J		P
7440-39-3	Barium	7.8	J		P
7440-41-7	Beryllium	1.6	U		P
7440-43-9	Cadmium	0.36	J		P
7440-70-2	Calcium	1820			P
7440-47-3	Chromium	9.1			P
7440-48-4	Cobalt	1.9	J		P
7440-50-8	Copper	3.7			P
7439-89-6	Iron	7540			P
7439-92-1	Lead	6.1			P
7439-95-4	Magnesium	1080	J		P
7439-96-5	Manganese	111			P
7439-97-6	Mercury	0.050	U		AV
7440-02-0	Nickel	2.7	J		P
7440-09-7	Potassium	605	J		P
7782-49-2	Selenium	1.6	U		P
7440-22-4	Silver	3.3	U		P
7440-23-5	Sodium	3160			P
7440-28-0	Thallium	3.3	U		P
7440-62-2	Vanadium	11.9			P
7440-66-6	Zinc	24.4			P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD09-P-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-03

Level (low/med): LOW Date Received: 05/23/09

% Solids: 58.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5680		~~N~~ J	P
7440-36-0	Antimony	5.1	U		P
7440-38-2	Arsenic	2.3	J		P
7440-39-3	Barium	7.8	J		P
7440-41-7	Beryllium	1.7	U		P
7440-43-9	Cadmium	0.36	J		P
7440-70-2	Calcium	626	J		P
7440-47-3	Chromium	9.4			P
7440-48-4	Cobalt	2.0	J		P
7440-50-8	Copper	3.7			P
7439-89-6	Iron	7720			P
7439-92-1	Lead	6.6			P
7439-95-4	Magnesium	1060	J		P
7439-96-5	Manganese	101			P
7439-97-6	Mercury	0.059	U		AV
7440-02-0	Nickel	2.8	J		P
7440-09-7	Potassium	646	J		P
7782-49-2	Selenium	1.7	U		P
7440-22-4	Silver	3.4	U		P
7440-23-5	Sodium	2860			P
7440-28-0	Thallium	3.4	U		P
7440-62-2	Vanadium	11.4			P
7440-66-6	Zinc	24.0			P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

6

EPA SAMPLE NO.

STR01-SD08-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-04

Level (low/med): LOW Date Received: 05/23/09

% Solids: 79.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1160		~~N~~ J	P MSH
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	2.5	U		P
7440-39-3	Barium	2.0	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1240	U		P
7440-47-3	Chromium	2.8			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.5	U		P
7439-89-6	Iron	1470			P
7439-92-1	Lead	4.2			P
7439-95-4	Magnesium	255	J		P
7439-96-5	Manganese	14.5			P
7439-97-6	Mercury	0.039	U		AV
7440-02-0	Nickel	0.75	J		P
7440-09-7	Potassium	1240	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	931	J		P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	2.9	J		P
7440-66-6	Zinc	6.2			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD08-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-05

Level (low/med): LOW Date Received: 05/23/09

% Solids: 74.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1730		~~N~~ J	P MSH
7440-36-0	Antimony	4.0	U		P
7440-38-2	Arsenic	1.0	J		P
7440-39-3	Barium	3.0	J		P
7440-41-7	Beryllium	1.3	U		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	295	J		P
7440-47-3	Chromium	3.9			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	2.7	U		P
7439-89-6	Iron	2890			P
7439-92-1	Lead	2.6			P
7439-95-4	Magnesium	484	J		P
7439-96-5	Manganese	33.8			P
7439-97-6	Mercury	0.042	U		AV
7440-02-0	Nickel	2.7	U		P
7440-09-7	Potassium	1330	U	~~N~~	P
7782-49-2	Selenium	1.3	U		P
7440-22-4	Silver	2.7	U		P
7440-23-5	Sodium	1660			P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	4.0			P
7440-66-6	Zinc	4.3	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 7/27/09

USEPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD08-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-06

Level (low/med): LOW Date Received: 05/23/09

% Solids: 72.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2360		~~N~~ J	P	MSH
7440-36-0	Antimony	3.9	U		P	
7440-38-2	Arsenic	1.4	J		P	
7440-39-3	Barium	4.5	J		P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	1.3	U		P	
7440-70-2	Calcium	1040	J		P	
7440-47-3	Chromium	4.7			P	
7440-48-4	Cobalt	3.9	U		P	
7440-50-8	Copper	2.6	U		P	
7439-89-6	Iron	5050			P	
7439-92-1	Lead	2.2			P	
7439-95-4	Magnesium	808	J		P	
7439-96-5	Manganese	48.1			P	
7439-97-6	Mercury	0.042	U		AV	
7440-02-0	Nickel	1.7	J		P	
7440-09-7	Potassium	440	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.3	U		P	
7440-22-4	Silver	2.6	U		P	
7440-23-5	Sodium	2020			P	
7440-28-0	Thallium	2.6	U		P	
7440-62-2	Vanadium	6.2			P	
7440-66-6	Zinc	8.0			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

LW 7/27/09

USEPA - CLP

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INORGANIC ANALYSES DATA SHEET

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EPA SAMPLE NO.

STR01-SSD08-3-4-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-07

Level (low/med): LOW Date Received: 05/23/09

% Solids: 63.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	7300		~~N~~ J	P	MSH
7440-36-0	Antimony	4.7	U		P	
7440-38-2	Arsenic	2.3	J		P	
7440-39-3	Barium	11.9	J		P	
7440-41-7	Beryllium	0.42	J		P	
7440-43-9	Cadmium	1.6	U		P	
7440-70-2	Calcium	1670			P	
7440-47-3	Chromium	10.3			P	
7440-48-4	Cobalt	3.2	J		P	
7440-50-8	Copper	2.6	J		P	
7439-89-6	Iron	12800			P	
7439-92-1	Lead	3.8			P	
7439-95-4	Magnesium	1400	J		P	
7439-96-5	Manganese	129			P	
7439-97-6	Mercury	0.046	U		AV	
7440-02-0	Nickel	4.0			P	
7440-09-7	Potassium	842	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.6	U		P	
7440-22-4	Silver	3.1	U		P	
7440-23-5	Sodium	2390			P	
7440-28-0	Thallium	3.1	U		P	
7440-62-2	Vanadium	12.2			P	
7440-66-6	Zinc	17.1			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD08-4-5-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-08

Level (low/med): LOW Date Received: 05/23/09

% Solids: 49.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	12100		~~N~~ J	P	MSH
7440-36-0	Antimony	5.9	U		P	
7440-38-2	Arsenic	2.7	J		P	
7440-39-3	Barium	20.2			P	
7440-41-7	Beryllium	0.69	J		P	
7440-43-9	Cadmium	2.0	U		P	
7440-70-2	Calcium	2950			P	
7440-47-3	Chromium	16.6			P	
7440-48-4	Cobalt	5.3	J		P	
7440-50-8	Copper	4.5			P	
7439-89-6	Iron	20700			P	
7439-92-1	Lead	5.7			P	
7439-95-4	Magnesium	2010			P	
7439-96-5	Manganese	199			P	
7439-97-6	Mercury	0.070	U		AV	
7440-02-0	Nickel	6.8			P	
7440-09-7	Potassium	1290	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	2.0	U		P	
7440-22-4	Silver	3.9	U		P	
7440-23-5	Sodium	2880			P	
7440-28-0	Thallium	3.9	U		P	
7440-62-2	Vanadium	17.4			P	
7440-66-6	Zinc	29.3			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

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EPA SAMPLE NO.

STR01-SSD08-5-6-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-09

Level (low/med): LOW Date Received: 05/23/09

% Solids: 55.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	7620		~~N~~ J	P	MSH
7440-36-0	Antimony	5.3	U		P	
7440-38-2	Arsenic	2.2	J		P	
7440-39-3	Barium	13.0	J		P	
7440-41-7	Beryllium	0.47	J		P	
7440-43-9	Cadmium	1.8	U		P	
7440-70-2	Calcium	1820			P	
7440-47-3	Chromium	10.8			P	
7440-48-4	Cobalt	3.9	J		P	
7440-50-8	Copper	3.5	J		P	
7439-89-6	Iron	14500			P	
7439-92-1	Lead	4.5			P	
7439-95-4	Magnesium	1200	J		P	
7439-96-5	Manganese	130			P	
7439-97-6	Mercury	0.058	U		AV	
7440-02-0	Nickel	4.6			P	
7440-09-7	Potassium	810	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.8	U		P	
7440-22-4	Silver	3.5	U		P	
7440-23-5	Sodium	1820			P	
7440-28-0	Thallium	3.5	U		P	
7440-62-2	Vanadium	11.5			P	
7440-66-6	Zinc	21.2			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD02-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-10

Level (low/med): LOW Date Received: 05/23/09

% Solids: 77.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	777		~~N~~ J	P	MSH
7440-36-0	Antimony	3.8	U		P	
7440-38-2	Arsenic	0.86	J		P	
7440-39-3	Barium	1.8	J		P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	1.3	U		P	
7440-70-2	Calcium	1270	U		P	
7440-47-3	Chromium	2.4	J		P	
7440-48-4	Cobalt	3.8	U		P	
7440-50-8	Copper	2.5	U		P	
7439-89-6	Iron	1120			P	
7439-92-1	Lead	2.9			P	
7439-95-4	Magnesium	291	J		P	
7439-96-5	Manganese	11.7			P	
7439-97-6	Mercury	0.040	U		AV	
7440-02-0	Nickel	2.5	U		P	
7440-09-7	Potassium	1270	U		P	
7782-49-2	Selenium	1.3	U		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	1230	J		P	
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	2.4	J		P	
7440-66-6	Zinc	4.2	J		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD02-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-11

Level (low/med): LOW Date Received: 05/23/09

% Solids: 74.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1200		~~N~~ J	P MSH
7440-36-0	Antimony	4.0	U		P
7440-38-2	Arsenic	1.0	J		P
7440-39-3	Barium	2.7	J		P
7440-41-7	Beryllium	1.3	U		P
7440-43-9	Cadmium	1.3	U		P
7440-70-2	Calcium	323	J		P
7440-47-3	Chromium	3.0			P
7440-48-4	Cobalt	4.0	U		P
7440-50-8	Copper	2.7	U		P
7439-89-6	Iron	1770			P
7439-92-1	Lead	7.1			P
7439-95-4	Magnesium	384	J		P
7439-96-5	Manganese	17.7			P
7439-97-6	Mercury	0.040	U		AV
7440-02-0	Nickel	2.7	U		P
7440-09-7	Potassium	1340	U		P
7782-49-2	Selenium	1.3	U		P
7440-22-4	Silver	2.7	U		P
7440-23-5	Sodium	1390			P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	3.5	J		P
7440-66-6	Zinc	8.7			P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

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EPA SAMPLE NO.

STR01-SSD02-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-12

Level (low/med): LOW Date Received: 05/23/09

% Solids: 75.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	7340		~~N~~ J	P	MSH
7440-36-0	Antimony	3.7	U		P	
7440-38-2	Arsenic	4.4			P	
7440-39-3	Barium	12.7			P	
7440-41-7	Beryllium	0.38	J		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	602	J		P	
7440-47-3	Chromium	18.8			P	
7440-48-4	Cobalt	2.9	J		P	
7440-50-8	Copper	2.2	J		P	
7439-89-6	Iron	10900			P	
7439-92-1	Lead	6.2			P	
7439-95-4	Magnesium	1780			P	
7439-96-5	Manganese	26.8			P	
7439-97-6	Mercury	0.043	U		AV	
7440-02-0	Nickel	5.3			P	
7440-09-7	Potassium	1460		~~N~~ J	P	MSH
7782-49-2	Selenium	0.87	J		P	
7440-22-4	Silver	2.4	U		P	
7440-23-5	Sodium	1810			P	
7440-28-0	Thallium	2.4	U		P	
7440-62-2	Vanadium	18.3			P	
7440-66-6	Zinc	18.2			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD03-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-13

Level (low/med): LOW Date Received: 05/23/09

% Solids: 80.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1260		~~N~~ J	P
7440-36-0	Antimony	3.6	U		P
7440-38-2	Arsenic	0.76	J		P
7440-39-3	Barium	1.8	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1190	U		P
7440-47-3	Chromium	2.7			P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	1.6	J		P
7439-89-6	Iron	1150			P
7439-92-1	Lead	2.5			P
7439-95-4	Magnesium	271	J		P
7439-96-5	Manganese	17.8			P
7439-97-6	Mercury	0.039	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1190	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1040	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	2.6	J		P
7440-66-6	Zinc	4.7	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

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EPA SAMPLE NO.

STR01-SD03-P-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-14

Level (low/med): LOW Date Received: 05/23/09

% Solids: 72.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1110		~~N~~ J	P
7440-36-0	Antimony	4.1	U		P
7440-38-2	Arsenic	2.7	U		P
7440-39-3	Barium	1.9	J		P
7440-41-7	Beryllium	1.4	U		P
7440-43-9	Cadmium	1.4	U		P
7440-70-2	Calcium	1350	U		P
7440-47-3	Chromium	4.0			P
7440-48-4	Cobalt	4.1	U		P
7440-50-8	Copper	2.7	U		P
7439-89-6	Iron	1300			P
7439-92-1	Lead	3.1			P
7439-95-4	Magnesium	1350	U		P
7439-96-5	Manganese	18.1			P
7439-97-6	Mercury	0.041	U		AV
7440-02-0	Nickel	1.3	J		P
7440-09-7	Potassium	1350	U		P
7782-49-2	Selenium	1.4	U		P
7440-22-4	Silver	2.7	U		P
7440-23-5	Sodium	658	J		P
7440-28-0	Thallium	2.7	U		P
7440-62-2	Vanadium	2.9	J		P
7440-66-6	Zinc	5.0	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD03-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-15

Level (low/med): LOW Date Received: 05/23/09

% Solids: 79.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1870		~~N~~ J	P MSH
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	1.5	J		P
7440-39-3	Barium	3.2	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1270			P
7440-47-3	Chromium	4.2			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.5	U		P
7439-89-6	Iron	3040			P
7439-92-1	Lead	2.1			P
7439-95-4	Magnesium	533	J		P
7439-96-5	Manganese	33.3			P
7439-97-6	Mercury	0.041	U		AV
7440-02-0	Nickel	1.0	J		P
7440-09-7	Potassium	312	J		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	1580			P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	4.6			P
7440-66-6	Zinc	4.4	J		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 LW 7/27/09

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD03-P-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00 EMC 6/24

Matrix (soil/water): SOIL Lab Sample ID: 0905228-16

Level (low/med): LOW Date Received: 05/23/09

% Solids: 78.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1690		~~N~~ J	P
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	1.2	J		P
7440-39-3	Barium	2.9	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	438	J		P
7440-47-3	Chromium	4.0			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.5	U		P
7439-89-6	Iron	2910			P
7439-92-1	Lead	1.8			P
7439-95-4	Magnesium	505	J		P
7439-96-5	Manganese	31.3			P
7439-97-6	Mercury	0.040	U		AV
7440-02-0	Nickel	1.1	J		P
7440-09-7	Potassium	311	J		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	1520			P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	4.5			P
7440-66-6	Zinc	4.2	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

MW 7/27/09

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD03-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-17

Level (low/med): LOW Date Received: 05/23/09

% Solids: 65.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2290		~~N~~ J	P	MSH
7440-36-0	Antimony	4.3	U		P	
7440-38-2	Arsenic	1.2	J		P	
7440-39-3	Barium	4.7	J		P	
7440-41-7	Beryllium	1.4	U		P	
7440-43-9	Cadmium	1.4	U		P	
7440-70-2	Calcium	1120	J		P	
7440-47-3	Chromium	5.2			P	
7440-48-4	Cobalt	4.3	U		P	
7440-50-8	Copper	2.8	U		P	
7439-89-6	Iron	5760			P	
7439-92-1	Lead	2.3			P	
7439-95-4	Magnesium	912	J		P	
7439-96-5	Manganese	29.8			P	
7439-97-6	Mercury	0.050	U		AV	
7440-02-0	Nickel	1.6	J		P	
7440-09-7	Potassium	392	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.4	U		P	
7440-22-4	Silver	2.8	U		P	
7440-23-5	Sodium	2310			P	
7440-28-0	Thallium	2.8	U		P	
7440-62-2	Vanadium	6.6			P	
7440-66-6	Zinc	8.1			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

NW 7/27/09

USEPA - CLP

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INORGANIC ANALYSES DATA SHEET

20

EPA SAMPLE NO.

STR01-SSD03-P-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00 DMG 7/19/09

Matrix (soil/water): SOIL Lab Sample ID: 0905228-18

Level (low/med): LOW Date Received: 05/23/09

% Solids: 64.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1490		~~N~~ J	P MSH
7440-36-0	Antimony	4.6	U		P
7440-38-2	Arsenic	3.1	U		P
7440-39-3	Barium	3.9	J		P
7440-41-7	Beryllium	1.5	U		P
7440-43-9	Cadmium	1.5	U		P
7440-70-2	Calcium	997	J		P
7440-47-3	Chromium	3.5			P
7440-48-4	Cobalt	4.6	U		P
7440-50-8	Copper	3.1	U		P
7439-89-6	Iron	4710			P
7439-92-1	Lead	2.5			P
7439-95-4	Magnesium	814	J		P
7439-96-5	Manganese	24.0			P
7439-97-6	Mercury	0.048	U		AV
7440-02-0	Nickel	1.1	J		P
7440-09-7	Potassium	1530	U	~~N~~	P
7782-49-2	Selenium	1.5	U		P
7440-22-4	Silver	3.1	U		P
7440-23-5	Sodium	2120			P
7440-28-0	Thallium	3.1	U		P
7440-62-2	Vanadium	4.5	J		P
7440-66-6	Zinc	6.0	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

21

EPA SAMPLE NO.

STR01-SD10-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-19

Level (low/med): LOW Date Received: 05/23/09

% Solids: 81.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	657		~~N~~ J	P MSH
7440-36-0	Antimony	3.6	U		P
7440-38-2	Arsenic	2.4	U		P
7440-39-3	Barium	1.6	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1200	U		P
7440-47-3	Chromium	2.1	J		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	994			P
7439-92-1	Lead	1.5			P
7439-95-4	Magnesium	1200	U		P
7439-96-5	Manganese	11.8			P
7439-97-6	Mercury	0.037	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1200	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	571	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	2.0	J		P
7440-66-6	Zinc	2.4	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

22

EPA SAMPLE NO.

STR01-SSD10-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-20

Level (low/med): LOW Date Received: 05/23/09

% Solids: 80.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	571		~~N~~ J	P MSH
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	0.81	J		P
7440-39-3	Barium	10.0	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	380	J		P
7440-47-3	Chromium	2.5	J		P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.5	U		P
7439-89-6	Iron	1380			P
7439-92-1	Lead	0.58	J		P
7439-95-4	Magnesium	290	J		P
7439-96-5	Manganese	8.9			P
7439-97-6	Mercury	0.038	U		AV
7440-02-0	Nickel	0.88	J		P
7440-09-7	Potassium	1250	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	1300			P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	2.5	J		P
7440-66-6	Zinc	2.7	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD05-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-21

Level (low/med): LOW Date Received: 05/23/09

% Solids: 83.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	763		~~N~~ J	P MSH
7440-36-0	Antimony	3.6	U		P
7440-38-2	Arsenic	2.4	U		P
7440-39-3	Barium	1.5	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1190	U		P
7440-47-3	Chromium	1.9	J		P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	843			P
7439-92-1	Lead	1.6			P
7439-95-4	Magnesium	249	J		P
7439-96-5	Manganese	10.9			P
7439-97-6	Mercury	0.040	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1190	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1090	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	2.4	J		P
7440-66-6	Zinc	1.4	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD05-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-22

Level (low/med): LOW Date Received: 05/23/09

% Solids: 79.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	474		~~N~~ J	P MSH
7440-36-0	Antimony	3.5	U		P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	9.2	U		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1150	U		P
7440-47-3	Chromium	1.0	J		P
7440-48-4	Cobalt	3.5	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	572			P
7439-92-1	Lead	0.73			P
7439-95-4	Magnesium	1150	U		P
7439-96-5	Manganese	5.4			P
7439-97-6	Mercury	0.039	U		AV
7440-02-0	Nickel	2.3	U		P
7440-09-7	Potassium	1150	U	~~N~~	P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.3	U		P
7440-23-5	Sodium	725	J		P
7440-28-0	Thallium	2.3	U		P
7440-62-2	Vanadium	3.5	U		P
7440-66-6	Zinc	4.6	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD12-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-23

Level (low/med): LOW Date Received: 05/23/09

% Solids: 36.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	15300		~~N~~ J	P	MSH
7440-36-0	Antimony	8.0	U		P	
7440-38-2	Arsenic	3.3	J		P	
7440-39-3	Barium	23.7			P	
7440-41-7	Beryllium	0.88	J		P	
7440-43-9	Cadmium	2.7	U		P	
7440-70-2	Calcium	4140			P	
7440-47-3	Chromium	18.3			P	
7440-48-4	Cobalt	3.6	J		P	
7440-50-8	Copper	3.5	J		P	
7439-89-6	Iron	9830			P	
7439-92-1	Lead	7.5			P	
7439-95-4	Magnesium	3340			P	
7439-96-5	Manganese	71.1			P	
7439-97-6	Mercury	0.097	U		AV	
7440-02-0	Nickel	6.3			P	
7440-09-7	Potassium	1310	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.9	J		P	
7440-22-4	Silver	5.3	U		P	
7440-23-5	Sodium	5310			P	
7440-28-0	Thallium	5.3	U		P	
7440-62-2	Vanadium	27.5			P	
7440-66-6	Zinc	10.4	J		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

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EPA SAMPLE NO.

STR01-SSD12-1-2-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905228-24

evel (low/med): LOW Date Received: 05/23/09

Solids: 77.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	2230		~~N~~ J	P MSH
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	1.2	J		P
7440-39-3	Barium	3.2	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	275	J		P
7440-47-3	Chromium	3.7			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.5	U		P
7439-89-6	Iron	2510			P
7439-92-1	Lead	1.9			P
7439-95-4	Magnesium	470	J		P
7439-96-5	Manganese	31.4			P
7439-97-6	Mercury	0.042	U		AV
7440-02-0	Nickel	0.88	J		P
7440-09-7	Potassium	256	J		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	1320			P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	4.4			P
7440-66-6	Zinc	4.6	J		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD12-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-25

Level (low/med): LOW Date Received: 05/23/09

% Solids: 77.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1570		~~N~~ J	P MSH
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	2.5	U		P
7440-39-3	Barium	2.6	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	736	J		P
7440-47-3	Chromium	3.3			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.5	U		P
7439-89-6	Iron	1520			P
7439-92-1	Lead	2.5			P
7439-95-4	Magnesium	329	J		P
7439-96-5	Manganese	19.4			P
7439-97-6	Mercury	0.039	U		AV
7440-02-0	Nickel	2.5	U		P
7440-09-7	Potassium	1240	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	1310			P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	3.5	J		P
7440-66-6	Zinc	5.5			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 HW 7/27/09

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD09-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-26

Level (low/med): LOW Date Received: 05/23/09

% Solids: 59.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	11900		~~N~~ J	P	MSH
7440-36-0	Antimony	5.0	U		P	
7440-38-2	Arsenic	4.0			P	
7440-39-3	Barium	17.3			P	
7440-41-7	Beryllium	0.47	J		P	
7440-43-9	Cadmium	0.56	J		P	
7440-70-2	Calcium	1150	J		P	
7440-47-3	Chromium	18.5			P	
7440-48-4	Cobalt	3.3	J		P	
7440-50-8	Copper	7.6			P	
7439-89-6	Iron	17000			P	
7439-92-1	Lead	17.4			P	
7439-95-4	Magnesium	1780			P	
7439-96-5	Manganese	161			P	
7439-97-6	Mercury	0.062			AV	
7440-02-0	Nickel	5.2			P	
7440-09-7	Potassium	1030	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.7	U		P	
7440-22-4	Silver	3.3	U		P	
7440-23-5	Sodium	2640			P	
7440-28-0	Thallium	3.3	U		P	
7440-62-2	Vanadium	24.6			P	
7440-66-6	Zinc	40.3			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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USEPA - CLP
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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD09-1-2-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905228-27

evel (low/med): LOW Date Received: 05/23/09

Solids: 65.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	5800		~~J~~	P MSH
7440-36-0	Antimony	4.6	U		P
7440-38-2	Arsenic	2.3	J		P
7440-39-3	Barium	9.3	J		P
7440-41-7	Beryllium	1.5	U		P
7440-43-9	Cadmium	0.39	J		P
7440-70-2	Calcium	2510			P
7440-47-3	Chromium	10.0			P
7440-48-4	Cobalt	1.8	J		P
7440-50-8	Copper	3.8			P
7439-89-6	Iron	7970			P
7439-92-1	Lead	7.7			P
7439-95-4	Magnesium	1130	J		P
7439-96-5	Manganese	145			P
7439-97-6	Mercury	0.028	J		AV
7440-02-0	Nickel	2.7	J		P
7440-09-7	Potassium	566	J		P
7782-49-2	Selenium	1.5	U		P
7440-22-4	Silver	3.0	U		P
7440-23-5	Sodium	2950			P
7440-28-0	Thallium	3.0	U		P
7440-62-2	Vanadium	11.9			P
7440-66-6	Zinc	24.4			P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD06-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-28

Level (low/med): LOW Date Received: 05/23/09

% Solids: 81.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	679		~~N~~ J	P
7440-36-0	Antimony	3.5	U		P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	1.7	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1160	U		P
7440-47-3	Chromium	1.5	J		P
7440-48-4	Cobalt	3.5	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	702			P
7439-92-1	Lead	1.2			P
7439-95-4	Magnesium	238	J		P
7439-96-5	Manganese	7.8			P
7439-97-6	Mercury	0.040	U		AV
7440-02-0	Nickel	2.3	U		P
7440-09-7	Potassium	1160	U	~~N~~	P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.3	U		P
7440-23-5	Sodium	1160			P
7440-28-0	Thallium	2.3	U		P
7440-62-2	Vanadium	1.5	J		P
7440-66-6	Zinc	1.4	J		P

MSH

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

MW 7/27/09

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD06-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-29

Level (low/med): LOW Date Received: 05/23/09

% Solids: 84.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1100		~~X~~ J	P
7440-36-0	Antimony	3.5	U		P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	1.5	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	283	J		P
7440-47-3	Chromium	2.2	J		P
7440-48-4	Cobalt	3.5	U		P
7440-50-8	Copper	1.5	J		P
7439-89-6	Iron	969			P
7439-92-1	Lead	2.7			P
7439-95-4	Magnesium	1160	U		P
7439-96-5	Manganese	12.0			P
7439-97-6	Mercury	0.042	U		AV
7440-02-0	Nickel	2.3	U		P
7440-09-7	Potassium	1160	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.3	U		P
7440-23-5	Sodium	619	J		P
7440-28-0	Thallium	2.3	U		P
7440-62-2	Vanadium	2.2	J		P
7440-66-6	Zinc	3.7	J		P

MSH

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD06-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-30

Level (low/med): LOW Date Received: 05/23/09

% Solids: 79.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1160		~~N~~ J	P MSH
7440-36-0	Antimony	3.6	U		P
7440-38-2	Arsenic	2.4	U		P
7440-39-3	Barium	2.0	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1190	U	~~N~~	P
7440-47-3	Chromium	3.0			P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	1830			P
7439-92-1	Lead	1.5			P
7439-95-4	Magnesium	388	J		P
7439-96-5	Manganese	21.9			P
7439-97-6	Mercury	0.042	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1190	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1410			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	3.1	J		P
7440-66-6	Zinc	2.8	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD01-0-1-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-31

Level (low/med): LOW Date Received: 05/23/09

% Solids: 79.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	777		~~N~~ J	P	MSH
7440-36-0	Antimony	3.7	U		P	
7440-38-2	Arsenic	2.5	U		P	
7440-39-3	Barium	1.7	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	333	~~J~~	~~N~~ J	P	MSH
7440-47-3	Chromium	2.5			P	
7440-48-4	Cobalt	3.7	U		P	
7440-50-8	Copper	2.5	U		P	
7439-89-6	Iron	1330			P	
7439-92-1	Lead	2.4			P	
7439-95-4	Magnesium	285	J		P	
7439-96-5	Manganese	14.4			P	
7439-97-6	Mercury	0.039	U		AV	
7440-02-0	Nickel	2.5	U		P	
7440-09-7	Potassium	1240	U		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	911	J		P	
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	2.6	J		P	
7440-66-6	Zinc	4.2	J		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 LW 7/27/09

USEPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD01-1-2-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905228-32

evel (low/med): LOW Date Received: 05/23/09

Solids: 79.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2610		~~N~~ J	P	MSH
7440-36-0	Antimony	3.8	U		P	
7440-38-2	Arsenic	6.4			P	
7440-39-3	Barium	17.2			P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	0.54	J		P	
7440-70-2	Calcium	190000		~~N~~ J	P	MSH
7440-47-3	Chromium	7.1			P	
7440-48-4	Cobalt	1.4	J		P	
7440-50-8	Copper	1.9	J		P	
7439-89-6	Iron	6210			P	
7439-92-1	Lead	1.4			P	
7439-95-4	Magnesium	1780			P	
7439-96-5	Manganese	43.0			P	
7439-97-6	Mercury	0.039	U		AV	
7440-02-0	Nickel	2.7			P	
7440-09-7	Potassium	624	J		P	
7782-49-2	Selenium	0.96	J		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	2400			P	
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	9.1			P	
7440-66-6	Zinc	9.2			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 MW 7/27/09

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD01-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-33

Level (low/med): LOW Date Received: 05/23/09

% Solids: 77.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2490		~~N~~ J	P	MSH
7440-36-0	Antimony	3.7	U		P	
7440-38-2	Arsenic	4.6			P	
7440-39-3	Barium	17.7			P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	0.35	J		P	
7440-70-2	Calcium	185000			P	
7440-47-3	Chromium	7.2			P	
7440-48-4	Cobalt	1.3	J		P	
7440-50-8	Copper	1.9	J		P	
7439-89-6	Iron	5880			P	
7439-92-1	Lead	2.3			P	
7439-95-4	Magnesium	2040			P	
7439-96-5	Manganese	48.6			P	
7439-97-6	Mercury	0.043	U		AV	
7440-02-0	Nickel	3.1			P	
7440-09-7	Potassium	643	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	2000			P	
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	8.9			P	
7440-66-6	Zinc	12.4			P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD07-4-5-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-34

Level (low/med): LOW Date Received: 05/23/09

% Solids: 81.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	839		~~N~~ J	P MSH
7440-36-0	Antimony	3.5	U		P
7440-38-2	Arsenic	0.97	J		P
7440-39-3	Barium	1.6	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	751	J		P
7440-47-3	Chromium	2.3	J		P
7440-48-4	Cobalt	3.5	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	2000			P
7439-92-1	Lead	1.6			P
7439-95-4	Magnesium	254	J		P
7439-96-5	Manganese	24.9			P
7439-97-6	Mercury	0.040	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1180	U	~~N~~	P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1160	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	3.0	J		P
7440-66-6	Zinc	1.8	J		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD07-3-4-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-35

Level (low/med): LOW Date Received: 05/23/09

% Solids: 80.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	916		~~N~~ J	P MSH
7440-36-0	Antimony	3.6	U		P
7440-38-2	Arsenic	2.4	U		P
7440-39-3	Barium	1.7	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	323	J		P
7440-47-3	Chromium	2.5			P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	1660			P
7439-92-1	Lead	1.7			P
7439-95-4	Magnesium	294	J		P
7439-96-5	Manganese	22.6			P
7439-97-6	Mercury	0.035	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1190	U	~~N~~	P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1220			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	3.6			P
7440-66-6	Zinc	2.1	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD07-5-6-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-36

Level (low/med): LOW Date Received: 05/23/09

% Solids: 77.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1940		~~N~~ J	P	MSH
7440-36-0	Antimony	3.8	U		P	
7440-38-2	Arsenic	1.3	J		P	
7440-39-3	Barium	3.0	J		P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	1.3	U		P	
7440-70-2	Calcium	378	J		P	
7440-47-3	Chromium	4.2			P	
7440-48-4	Cobalt	3.8	U		P	
7440-50-8	Copper	2.6	U		P	
7439-89-6	Iron	3390			P	
7439-92-1	Lead	2.2			P	
7439-95-4	Magnesium	469	J		P	
7439-96-5	Manganese	36.5			P	
7439-97-6	Mercury	0.039	U		AV	
7440-02-0	Nickel	0.77	J		P	
7440-09-7	Potassium	330	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.3	U		P	
7440-22-4	Silver	2.6	U		P	
7440-23-5	Sodium	1530			P	
7440-28-0	Thallium	2.6	U		P	
7440-62-2	Vanadium	5.8			P	
7440-66-6	Zinc	3.6	J		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD07-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-37

Level (low/med): LOW Date Received: 05/23/09

% Solids: 80.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1580		~~N~~ J	P	MSH
7440-36-0	Antimony	3.6	U		P	
7440-38-2	Arsenic	1.1	J		P	
7440-39-3	Barium	2.7	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	1200	U		P	
7440-47-3	Chromium	3.8			P	
7440-48-4	Cobalt	3.6	U		P	
7440-50-8	Copper	2.4	U		P	
7439-89-6	Iron	3230			P	
7439-92-1	Lead	2.5			P	
7439-95-4	Magnesium	476	J		P	
7439-96-5	Manganese	27.4			P	
7439-97-6	Mercury	0.035	U		AV	
7440-02-0	Nickel	0.99	J		P	
7440-09-7	Potassium	302	~~J~~	~~N~~ J	P	MSH
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.4	U		P	
7440-23-5	Sodium	1360			P	
7440-28-0	Thallium	2.4	U		P	
7440-62-2	Vanadium	5.0			P	
7440-66-6	Zinc	4.7	J		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

NW 7/27/09

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD07-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-38

Level (low/med): LOW Date Received: 05/23/09

% Solids: 91.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	527		~~N~~ J	P	MSH
7440-36-0	Antimony	3.1	U		P	
7440-38-2	Arsenic	2.1	U		P	
7440-39-3	Barium	8.3	U		P	
7440-41-7	Beryllium	1.0	U		P	
7440-43-9	Cadmium	1.0	U		P	
7440-70-2	Calcium	259	~~J~~	~~N~~ J	P	MSH
7440-47-3	Chromium	1.2	J		P	
7440-48-4	Cobalt	3.1	U		P	
7440-50-8	Copper	2.1	U		P	
7439-89-6	Iron	746			P	
7439-92-1	Lead	0.66			P	
7439-95-4	Magnesium	1040	U		P	
7439-96-5	Manganese	8.7			P	
7439-97-6	Mercury	0.034	U		AV	
7440-02-0	Nickel	2.1	U		P	
7440-09-7	Potassium	1040	U		P	
7782-49-2	Selenium	1.0	U		P	
7440-22-4	Silver	2.1	U		P	
7440-23-5	Sodium	386	J		P	
7440-28-0	Thallium	2.1	U		P	
7440-62-2	Vanadium	1.3	J		P	
7440-66-6	Zinc	1.2	J		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 NW 7/27/09

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INORGANIC ANALYSES DATA SHEET

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EPA SAMPLE NO.

STR01-SSD07-P-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-39

Level (low/med): LOW Date Received: 05/23/09

% Solids: 92.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	604		~~N~~ J	P
7440-36-0	Antimony	3.0	U		P
7440-38-2	Arsenic	2.0	U		P
7440-39-3	Barium	1.2	J		P
7440-41-7	Beryllium	0.99	U		P
7440-43-9	Cadmium	0.99	U		P
7440-70-2	Calcium	990	U	~~N~~	P
7440-47-3	Chromium	1.5	J		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	2.0	U		P
7439-89-6	Iron	874			P
7439-92-1	Lead	0.90			P
7439-95-4	Magnesium	990	U		P
7439-96-5	Manganese	10.2			P
7439-97-6	Mercury	0.035	U		AV
7440-02-0	Nickel	2.0	U		P
7440-09-7	Potassium	990	U		P
7782-49-2	Selenium	0.99	U		P
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium	538	J		P
7440-28-0	Thallium	2.0	U		P
7440-62-2	Vanadium	1.5	J		P
7440-66-6	Zinc	1.4	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD07-0-1-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905228-40

evel (low/med): LOW Date Received: 05/23/09

Solids: 87.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	806		~~N~~ J	P MSH
7440-36-0	Antimony	3.4	U		P
7440-38-2	Arsenic	2.3	U		P
7440-39-3	Barium	2.0	J		P
7440-41-7	Beryllium	1.1	U		P
7440-43-9	Cadmium	1.1	U		P
7440-70-2	Calcium	1140	U	~~N~~	P
7440-47-3	Chromium	2.1	J		P
7440-48-4	Cobalt	3.4	U		P
7440-50-8	Copper	2.3	U		P
7439-89-6	Iron	1040			P
7439-92-1	Lead	4.0			P
7439-95-4	Magnesium	1140	U		P
7439-96-5	Manganese	11.0			P
7439-97-6	Mercury	0.038	U		AV
7440-02-0	Nickel	2.3	U		P
7440-09-7	Potassium	1140	U		P
7782-49-2	Selenium	1.1	U		P
7440-22-4	Silver	2.3	U		P
7440-23-5	Sodium	441	J		P
7440-28-0	Thallium	2.3	U		P
7440-62-2	Vanadium	2.1	J		P
7440-66-6	Zinc	3.8	J		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD11-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-41

Level (low/med): LOW Date Received: 05/23/09

% Solids: 78.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1440		~~N~~ J	P
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	0.86	J		P
7440-39-3	Barium	2.4	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1230	U	~~N~~	P
7440-47-3	Chromium	2.9			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.5	U		P
7439-89-6	Iron	1330			P
7439-92-1	Lead	1.8			P
7439-95-4	Magnesium	382	J		P
7439-96-5	Manganese	16.4			P
7439-97-6	Mercury	0.041	U		AV
7440-02-0	Nickel	2.5	U		P
7440-09-7	Potassium	1230	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.5	U		P
7440-23-5	Sodium	1700			P
7440-28-0	Thallium	2.5	U		P
7440-62-2	Vanadium	2.9	J		P
7440-66-6	Zinc	2.4	J		P

MSH

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 lw 7/27/09

USEPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD11-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-42

Level (low/med): LOW Date Received: 05/23/09

% Solids: 78.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1420		~~N~~ J	P
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	2.4	U		P
7440-39-3	Barium	3.0	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1220	U		P
7440-47-3	Chromium	2.8			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	1480			P
7439-92-1	Lead	1.8			P
7439-95-4	Magnesium	379	J		P
7439-96-5	Manganese	20.0			P
7439-97-6	Mercury	0.040	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1220	U	~~N~~	P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1480			P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	3.0	J		P
7440-66-6	Zinc	2.7	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

MW 7/27/09

USEPA - CLP
-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD04-0-1-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905228-43

evel (low/med): LOW Date Received: 05/23/09

Solids: 89.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	771		~~N~~ J	P
7440-36-0	Antimony	3.1	U		P
7440-38-2	Arsenic	2.1	U		P
7440-39-3	Barium	1.4	J		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	1.0	U		P
7440-70-2	Calcium	1030	U	~~N~~	P
7440-47-3	Chromium	2.2			P
7440-48-4	Cobalt	3.1	U		P
7440-50-8	Copper	2.1	U		P
7439-89-6	Iron	1130			P
7439-92-1	Lead	2.2			P
7439-95-4	Magnesium	1030	U		P
7439-96-5	Manganese	10.3			P
7439-97-6	Mercury	0.038	U		AV
7440-02-0	Nickel	2.1	U		P
7440-09-7	Potassium	1030	U		P
7782-49-2	Selenium	1.0	U		P
7440-22-4	Silver	2.1	U		P
7440-23-5	Sodium	396	J		P
7440-28-0	Thallium	2.1	U		P
7440-62-2	Vanadium	2.3	J		P
7440-66-6	Zinc	3.9	J		P

MSH

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 lw 7/27/09

USEPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD04-1-2-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-44

Level (low/med): LOW Date Received: 05/23/09

% Solids: 80.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1290		~~N~~ J	P
7440-36-0	Antimony	3.6	U		P
7440-38-2	Arsenic	2.4	U		P
7440-39-3	Barium	2.1	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	1210	U	~~N~~	P
7440-47-3	Chromium	3.0			P
7440-48-4	Cobalt	3.6	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	2010			P
7439-92-1	Lead	1.7			P
7439-95-4	Magnesium	373	J		P
7439-96-5	Manganese	22.5			P
7439-97-6	Mercury	0.043	U		AV
7440-02-0	Nickel	2.4	U		P
7440-09-7	Potassium	1210	U		P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1090	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	3.2	J		P
7440-66-6	Zinc	3.2	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 MW 7/27/09

USEPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SD11-0-1-0509

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

atrix (soil/water): SOIL Lab Sample ID: 0905228-45

evel (low/med): LOW Date Received: 05/23/09

Solids: 80.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1250		~~N~~ J	P	MSH
7440-36-0	Antimony	3.6	U		P	
7440-38-2	Arsenic	2.4	U		P	
7440-39-3	Barium	2.1	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	409	~~J~~	~~N~~ J	P	MSH
7440-47-3	Chromium	2.8			P	
7440-48-4	Cobalt	3.6	U		P	
7440-50-8	Copper	2.4	U		P	
7439-89-6	Iron	1200			P	
7439-92-1	Lead	2.1			P	
7439-95-4	Magnesium	291	J		P	
7439-96-5	Manganese	14.7			P	
7439-97-6	Mercury	0.039	U		AV	
7440-02-0	Nickel	2.4	U		P	
7440-09-7	Potassium	1200	U		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.4	U		P	
7440-23-5	Sodium	1200	J		P	
7440-28-0	Thallium	2.4	U		P	
7440-62-2	Vanadium	2.7	J		P	
7440-66-6	Zinc	4.0	J		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

Form I - IN

LW 7/27/09

USEPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

STR01-SSD04-2-3-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_00

Matrix (soil/water): SOIL Lab Sample ID: 0905228-46

Level (low/med): LOW Date Received: 05/23/09

% Solids: 81.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	1390		~~N~~ J	P
7440-36-0	Antimony	3.7	U		P
7440-38-2	Arsenic	0.78	J		P
7440-39-3	Barium	2.6	J		P
7440-41-7	Beryllium	1.2	U		P
7440-43-9	Cadmium	1.2	U		P
7440-70-2	Calcium	292	J		P
7440-47-3	Chromium	3.1			P
7440-48-4	Cobalt	3.7	U		P
7440-50-8	Copper	2.4	U		P
7439-89-6	Iron	2270			P
7439-92-1	Lead	1.8			P
7439-95-4	Magnesium	432	J		P
7439-96-5	Manganese	20.2			P
7439-97-6	Mercury	0.039	U		AV
7440-02-0	Nickel	0.84	J		P
7440-09-7	Potassium	1220	U	~~N~~	P
7782-49-2	Selenium	1.2	U		P
7440-22-4	Silver	2.4	U		P
7440-23-5	Sodium	1170	J		P
7440-28-0	Thallium	2.4	U		P
7440-62-2	Vanadium	4.1			P
7440-66-6	Zinc	3.4	J		P

MSH

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

MW 7/27/09

ENVIRONMENTAL
Data Services, Inc.

POLYNUCLEAR AROMATIC HYDRCARBONS

USEPA Region IV - Level IV Review

Site: MCAS Cherry Point, CTO-201 SDG #: Cherry 201_003

Client: CH2M HILL, Inc., Virginia Beach, Virginia Date: July 27, 2009

Laboratory: Empirical Laboratories, Nashville, Tennessee Reviewer: Nancy Weaver

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	STR01-EB-052109	0905219-01	Water
2	STR01-FB-052109	0905219-02	Water
3	STR01-SD05-0-1-0509	0905228-01	Soil
3MS	STR01-SD05-0-1-0509MS	0905228-01MS	Soil
3MSD	STR01-SD05-0-1-0509MSD	0905228-01MSD	Soil
4	STR01-SD09-0-1-0509	0905228-02	Soil
5	STR01-SD09-P-0-1-0509	0905228-03	Soil
6	STR01-SD08-0-1-0509	0905228-04	Soil
7	STR01-SSD08-1-2-0509	0905228-05	Soil
7MS	STR01-SSD08-1-2-0509MS	0905228-05MS	Soil
7MSD	STR01-SSD08-1-2-0509MSD	0905228-05MSD	Soil
8	STR01-SSD08-2-3-0509	0905228-06	Soil
9	STR01-SSD08-3-4-0509	0905228-07	Soil
10	STR01-SSD08-4-5-0509	0905228-08	Soil
11	STR01-SSD08-5-6-0509	0905228-09	Soil
12	STR01-SD02-0-1-0509	0905228-10	Soil
13	STR01-SSD02-1-2-0509	0905228-11	Soil
14	STR01-SSD02-2-3-0509	0905228-12	Soil
15	STR01-SD03-0-1-0509	0905228-13	Soil
16	STR01-SD03-P-0-1-0509	0905228-14	Soil
17	STR01-SSD03-1-2-0509	0905228-15	Soil
18	STR01-SSD03-P-1-2-0509	0905228-16	Soil
19	STR01-SSD03-2-3-0509	0905228-17	Soil
20	STR01-SSD03-P-2-3-0509	0905228-18	Soil
21	STR01-SD10-0-1-0509	0905228-19	Soil
22	STR01-SSD10-1-2-0509	0905228-20	Soil
23	STR01-SSD05-1-2-0509	0905228-21	Soil
24	STR01-SSD05-2-3-0509	0905228-22	Soil
25	STR01-SSD12-2-3-0509	0905228-23	Soil
26	STR01-SSD12-1-2-0509	0905228-24	Soil
27	STR01-SD12-0-1-0509	0905228-25	Soil
28	STR01-SSD09-2-3-0509	0905228-26	Soil
29	STR01-SSD09-1-2-0509	0905228-27	Soil
30	STR01-SSD06-2-3-0509	0905228-28	Soil
31	STR01-SD06-0-1-0509	0905228-29	Soil
32	STR01-SSD06-1-2-0509	0905228-30	Soil

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
33	STR01-SD01-0-1-0509	0905228-31	Soil
33DL	STR01-SD01-0-1-0509DL	0905228-31DL	Soil
34	STR01-SSD01-1-2-0509	0905228-32	Soil
35	STR01-SSD01-2-3-0509	0905228-33	Soil
36	STR01-SSD07-4-5-0509	0905228-34	Soil
37	STR01-SSD07-3-4-0509	0905228-35	Soil
38	STR01-SSD07-5-6-0509	0905228-36	Soil
39	STR01-SSD07-2-3-0509	0905228-37	Soil
40	STR01-SSD07-1-2-0509	0905228-38	Soil
41	STR01-SSD07-P-1-2-0509	0905228-39	Soil
42	STR01-SD07-0-1-0509	0905228-40	Soil
42MS	STR01-SD07-0-1-0509MS	0905228-40MS	Soil
42MSD	STR01-SD07-0-1-0509MSD	0905228-40MSD	Soil
43	STR01-SSD11-1-2-0509	0905228-41	Soil
44	STR01-SSD11-2-3-0509	0905228-42	Soil
45	STR01-SD04-0-1-0509	0905228-43	Soil
46	STR01-SSD04-1-2-0509	0905228-44	Soil
46MS	STR01-SSD04-1-2-0509MS	0905228-44MS	Soil
46MSD	STR01-SSD04-1-2-0509MSD	0905228-44MSD	Soil
47	STR01-SD11-0-1-0509	0905228-45	Soil
48	STR01-SSD04-2-3-0509	0905228-46	Soil

The USEPA "Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999, and professional judgement were used in evaluating the data in this summary report.

Holding Times - All samples were extracted within 7 days for water samples and 14 days for soil samples and analyzed within 40 days for all samples.

GC/MS Tuning - All of the DFTPP tunes in the initial and continuing calibrations met the percent relative abundance criteria.

Initial Calibration - The initial calibrations exhibited acceptable %RSD and mean RRF values.

Continuing Calibration - The continuing calibrations exhibited acceptable %D and RRF values except the following.

CCAL Date	Compound	%D/RRF	Qualifier	Affected Samples
06/14/09	Benzo (a) anthracene	35.4%	J/UJ	8-11, 14, 19, 20, 24, 25, 28, 30, 35, 36, 38, 39, 44
	Chrysene	32.9%	J/UJ	

Surrogates - Several samples exhibited a high %R for one of the two surrogates. No action was required for one out.

MS/MSD - The MS/MSD sample exhibited acceptable %R and RPD values except the following.

Sample ID	Surrogate	%R	Qualifier
7	Benzo (a) anthracene	Ok/359%/112	None - All ND
	Benzo (b) fluoranthene	Ok/391%/111	None - All ND
	Benzo (k) fluoranthene	Ok/191%/77	None - All ND
	Benzo (g,h,i) perylene	Ok/215%/64	J
	Benzo (a) pyrene	Ok/334%/103	None - All ND
	Chrysene	Ok/327%/119	None - All ND
	Dibenz (a,h) anthracene	Ok/158%/Ok	None - All ND
	Fluoranthene	Ok/501%/133	None - All ND
	Indeno (1,2,3-cd) pyrene	Ok/236%/64	None - All ND
	Phenanthrene	Ok/283%/110	None - All ND
	Pyrene	Ok/448%/124	J

Laboratory Control Sample - The LCS samples exhibited acceptable %R values.

Internal Standard (IS) Area Performance - All internal standards met response and retention time (RT) criteria except the following.

Sample ID	Internal Standard	Area Count	Qualifier
1	Perylene-d12	Low	J/UJ - All associated compounds
2	Perylene-d12	Low	J/UJ - All associated compounds

Method Blank - The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
SBLK0602BS1	Benzo (a) anthracene	4.0 ug/kg	20.0 ug/kg	U	40, 42, 46
SBLK0528BW1	Anthracene	0.63	3.15	U	1
	Benzo (a) anthracene	0.52	2.6	U	1, 2
	Benzo (b) fluoranthene	0.63	3.15	None	None - All ND
	Benzo (k) fluoranthene	0.77	3.85	None	None - All ND
	Benzo (g,h,i) perylene	0.28	1.4	U	1
	Benzo (a) pyrene	0.84	4.2	U	1
	Fluoranthene	0.30	1.5	U	1, 2
	Fluorene	0.58	2.9	U	1, 2
	2-Methylnaphthalene	0.015	0.075	U	1, 2
	Naphthalene	0.027	0.135	U	1, 2
	Phenanthrene	0.040	0.20	U	1, 2
	Pyrene	0.12	0.60	U	1, 2
SBLK0601SB1	Benzo (a) anthracene	3.8	19.0	U	3-7, 12, 13, 15, 17, 18, 21, 23, 26, 27, 29, 31, 32, 41, 43, 47
	Fluoranthene	2.4	12.0	U	3, 4, 6, 7, 13, 15, 17, 18, 21, 22, 23, 26, 27, 29, 31, 32, 41, 43, 47

Field, Equipment Blank - Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level ug/kg	Qualifier	Affected Samples
STR01-EB-052109	Indeno (1,2,3-cd) pyrene	0.45	75	U	3-6, 12, 15, 28, 29, 31, 42
STR01-FB-052109	None - ND	-	-	-	-

Field Duplicates - Field duplicate results are summarized below.

Compound	STR01-SD09-0-1-0509 ug/kg	STR01-SD09-P-0-1-0509 ug/kg	RPD	Qualifier
Anthracene	110 U	11	NC	None
Benzo (b) fluoranthene	20	16	22%	None
Benzo (k) fluoranthene	14	14	0%	None
Benzo (g,h,i) perylene	13	8.6	41%	None
Benzo (a) pyrene	19	16	17%	None
Chrysene	2.1	110 U	NC	None
Dibenz (a,h) anthracene	8.7	11 U	NC	None
Fluoranthene	110 U	16	NC	None
Phenanthrene	3.4	6.9	68%	None
Pyrene	11	12	9%	None

Compound	STR01-SD03-0-1-0509 ug/kg	STR01-SD03-P-0-1-0509 ug/kg	RPD	Qualifier
Acenaphthene	83 U	15	NC	None
Benzo (a) anthracene	83 U	320	NC	None
Benzo (b) fluoranthene	7.2	470	194%	J
Benzo (k) fluoranthene	8.4	92 U	NC	None
Benzo (g,h,i) perylene	3.4	240	194%	J
Benzo (a) pyrene	7.8	370	192%	J
Chrysene	83 U	340	NC	None
Dibenz (a,h) anthracene	8.3 U	36	NC	None
Fluoranthene	83 U	420	NC	None
Fluorene	83 U	12	NC	None
Indeno (1,2,3-cd) pyrene	83 U	230	NC	None
Naphthalene	83 U	6.6	NC	None
Phenanthrene	83 U	110	NC	None
Pyrene	2.1	380	198%	J

Compound	STR01-SSD03-1-2-0509 ug/kg	STR01-SSD03-P-1-2-0509 ug/kg	RPD	Qualifier
Anthracene	6.7	6.9	3%	None
Benzo (b) fluoranthene	84 U	7.1	NC	None
Benzo (k) fluoranthene	84 U	8.4	NC	None
Fluorene	6.2	6.3	2%	None
Pyrene	84 U	2.2	NC	None

Compound	STR01-SSD03-2-3-0509 ug/kg	STR01-SSD03-P-2-3-0509 ug/kg	RPD	Qualifier
Fluoranthene	4.0	4.1	2%	None
Fluorene	7.6	7.7	1%	None

Compound	STR01-SSD03-2-3-0509 ug/kg	STR01-SSD03-P-2-3-0509 ug/kg	RPD	Qualifier
Pyrene	8.7	16	59%	None

Compound	STR01-SSD07-1-2-0509 ug/kg	STR01-SSD07-P-1-2-0509 ug/kg	RPD	Qualifier
Anthracene	73 U	5.7	NC	None
Benzo (g,h,i) perylene	73 U	2.8	NC	None
Benzo (a) pyrene	7.3 U	6.4	NC	None
Fluoranthene	2.7	72 U	NC	None
Fluorene	5.3	5.3	0%	None

Tentatively Identified Compounds (TICs) - TICs were not reported.

Compound Quantitation - EDS sample #33 exhibited high concentrations of target compounds over the calibration range and were flagged (E) by the laboratory. The laboratory reanalyzed the sample at a 5X dilution. Use original Form Is for reporting purposes.

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

STR01-EB-052109

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) WATER Lab Sample ID: 0905219-01

Sample wt/vol: 1080 (g/mL) ML Lab File ID: 0521901

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/21/09 17:40

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:05/28/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/12/09 18:20

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0056	0.92		U
208-96-8	Acenaphthylene	0.0046	0.92		U
120-12-7	Anthracene	0.0092	0.92	0.92U ~~0.58~~	~~JB~~ BL
56-55-3	Benzo(a)anthracene	0.012	0.046	UJ 0.48	~~B~~ ~~BL~~ IS
205-99-2	Benzo(b)fluoranthene	0.011	0.046	UJ	~~U~~ ISL
207-08-9	Benzo(k)fluoranthene	0.0083	0.23	UJ	~~U~~ ISL
191-24-2	Benzo(g,h,i)perylene	0.0065	0.92	0.92U ~~0.27~~	~~JB~~ BL
50-32-8	Benzo(a)pyrene	0.0056	0.046	UJ 0.66	~~B~~ ~~BL~~ IS
218-01-9	Chrysene	0.010	0.92	UJ	~~U~~ ISL
53-70-3	Dibenz(a,h)anthracene	0.0046	0.046	UJ	~~U~~ ISL
206-44-0	Fluoranthene	0.012	0.92	0.92U ~~0.33~~	~~JB~~ BL
86-73-7	Fluorene	0.0065	0.92	0.92U ~~0.54~~	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0037	0.046	J 0.45	ISL
91-57-6	2-Methylnaphthalene	0.0056	0.92	0.92U 0.022	~~JB~~ BL
91-20-3	Naphthalene	0.012	0.46	0.46U 0.045	~~JB~~
85-01-8	Phenanthrene	0.0074	0.92	0.92U 0.051	~~JB~~
129-00-0	Pyrene	0.012	0.92	0.92U 0.14	~~JB~~

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 2

STR01-FB-052109

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) WATER Lab Sample ID: 0905219-02

Sample wt/vol: 1070 (g/mL) ML Lab File ID: 0521902

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/21/09 17:30

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 05/28/09

Concentrated Extract Volume: 1000.0 (uL) Date Analyzed: 06/12/09 18:57

Injection Volume: 0.5 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	0.0056	0.93		U
208-96-8	Acenaphthylene	0.0047	0.93		U
120-12-7	Anthracene	0.0093	0.93		U
56-55-3	Benzo(a)anthracene	0.012	0.047	UJ 0.47	~~B~~ BL ISL
205-99-2	Benzo(b)fluoranthene	0.011	0.047	UJ	U
207-08-9	Benzo(k)fluoranthene	0.0084	0.23	UJ	U
191-24-2	Benzo(g,h,i)perylene	0.0065	0.93	UJ	U
50-32-8	Benzo(a)pyrene	0.0056	0.047	UJ	~~U~~ ISL
218-01-9	Chrysene	0.010	0.93	UJ	~~U~~ ISL
53-70-3	Dibenz(a,h)anthracene	0.0047	0.047	UJ	~~U~~ ISL
206-44-0	Fluoranthene	0.012	0.93	0.93U ~~0.29~~	~~JB~~ BL
86-73-7	Fluorene	0.0065	0.93	0.93U ~~0.54~~	~~JB~~ BL
193-39-5	Indeno(1,2,3-cd)pyrene	0.0037	0.047	UJ	~~U~~ ISL
91-57-6	2-Methylnaphthalene	0.0056	0.93	0.93U ~~0.045~~	~~JB~~ BL
91-20-3	Naphthalene	0.012	0.47	0.47U ~~0.050~~	JB
85-01-8	Phenanthrene	0.0075	0.93	0.93U ~~0.026~~	JB
129-00-0	Pyrene	0.012	0.93	0.93U ~~0.11~~	JB

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 3

STR01-SD
05-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-01

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522801

% Moisture: 9 decanted: (Y/N) N Date Sampled: 05/21/09 11:25

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/17/09 08:22

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.3	73		U
208-96-8	Acenaphthylene	1.2	73		U
120-12-7	Anthracene	0.88	73		U
56-55-3	Benzo(a)anthracene	1.5	73	734 ~~4.5~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	1.7	73	6.3	J
207-08-9	Benzo(k)fluoranthene	1.4	73	7.3	J
191-24-2	Benzo(g,h,i)perylene	1.6	73	3.1	J
50-32-8	Benzo(a)pyrene	1.1	7.3	6.8	J
218-01-9	Chrysene	1.2	73		U
53-70-3	Dibenz(a,h)anthracene	1.7	7.3		U
206-44-0	Fluoranthene	1.8	73	734 ~~3.3~~	~~JB~~ BL
86-73-7	Fluorene	1.3	73	5.4	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.7	73	734 ~~4.8~~	~~J~~ BL
91-57-6	2-Methylnaphthalene	1.8	73		U
91-20-3	Naphthalene	2.6	73		U
85-01-8	Phenanthrene	1.8	73		U
129-00-0	Pyrene	1.7	73	1.7	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 4

STR01-SD0
9-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-02

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522802

% Moisture: 39 decanted: (Y/N) N Date Sampled: 05/21/09 12:50

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/17/09 08:58

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	2.0	110		U
208-96-8	Acenaphthylene	1.9	110		U
120-12-7	Anthracene	1.3	110		U
56-55-3	Benzo(a)anthracene	2.3	110	110u ~~12~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	2.5	110	20	J
207-08-9	Benzo(k)fluoranthene	2.1	110	14	J
191-24-2	Benzo(g,h,i)perylene	2.4	110	13	J
50-32-8	Benzo(a)pyrene	1.6	11	19	
218-01-9	Chrysene	1.8	110	2.1	J
53-70-3	Dibenz(a,h)anthracene	2.5	11	8.7	J
206-44-0	Fluoranthene	2.7	110	110u ~~13~~	~~JB~~ BL
86-73-7	Fluorene	2.0	110		U
193-39-5	Indeno(1,2,3-cd)pyrene	2.5	110	110u ~~13~~	~~J~~ BL
91-57-6	2-Methylnaphthalene	2.7	110		U
91-20-3	Naphthalene	3.8	110		U
85-01-8	Phenanthrene	2.7	110	3.4	J
129-00-0	Pyrene	2.5	110	11	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 5

STR01-SD0
9-P-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-03

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522803

% Moisture: 41 decanted: (Y/N) N Date Sampled: 05/21/09 12:50

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/17/09 09:34

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	2.0	110		U
208-96-8	Acenaphthylene	1.9	110		U
120-12-7	Anthracene	1.4	110	11	J
56-55-3	Benzo(a)anthracene	2.4	110	110u ~~12~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	2.6	110	16	J
207-08-9	Benzo(k)fluoranthene	2.2	110	14	J
191-24-2	Benzo(g,h,i)perylene	2.5	110	8.6	J
50-32-8	Benzo(a)pyrene	1.7	11	16	
218-01-9	Chrysene	1.8	110		U
53-70-3	Dibenz(a,h)anthracene	2.6	11		U
206-44-0	Fluoranthene	2.8	110	16	J~~B~~
86-73-7	Fluorene	2.0	110		U
193-39-5	Indeno(1,2,3-cd)pyrene	2.6	110	110u ~~10~~	~~J~~ BL
91-57-6	2-Methylnaphthalene	2.8	110		U
91-20-3	Naphthalene	4.0	110		U
85-01-8	Phenanthrene	2.8	110	6.9	J
129-00-0	Pyrene	2.6	110	12	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 6

STR01-SD0
8-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-04

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522804

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/17/09 10:11

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	84		U
208-96-8	Acenaphthylene	1.4	84		U
120-12-7	Anthracene	1.0	84	6.9	J
56-55-3	Benzo(a)anthracene	1.8	84	844 ~~5.6~~ ~~JB~~	BL
205-99-2	Benzo(b)fluoranthene	1.9	84	7.9	J
207-08-9	Benzo(k)fluoranthene	1.6	84	8.6	J
191-24-2	Benzo(g,h,i)perylene	1.8	84	4.0	J
50-32-8	Benzo(a)pyrene	1.2	8.4	8.3	J
218-01-9	Chrysene	1.3	84		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.4		U
206-44-0	Fluoranthene	2.1	84	844 ~~4.6~~ ~~JB~~	BL
86-73-7	Fluorene	1.5	84	6.3	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	84	844 ~~5.9~~ ~~J~~	BL
91-57-6	2-Methylnaphthalene	2.1	84		U
91-20-3	Naphthalene	2.9	84		U
85-01-8	Phenanthrene	2.1	84		U
129-00-0	Pyrene	1.9	84	2.8	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 7

STR01-SS
D08-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-05

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522805

% Moisture: 25 decanted: (Y/N) N Date Sampled: 05/21/09 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/17/09 10:47

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.6	89		U
208-96-8	Acenaphthylene	1.5	89		U
120-12-7	Anthracene	1.1	89	7.4	J
56-55-3	Benzo(a)anthracene	1.9	89	89u ~~6.2~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	2.0	89		U
207-08-9	Benzo(k)fluoranthene	1.7	89		U
191-24-2	Benzo(g,h,i)perylene	2.0	89	J 3.5	~~J~~ MSH
50-32-8	Benzo(a)pyrene	1.3	8.9		U
218-01-9	Chrysene	1.4	89		U
53-70-3	Dibenz(a,h)anthracene	2.0	8.9		U
206-44-0	Fluoranthene	2.2	89	89u ~~4.0~~	~~JB~~ BL
86-73-7	Fluorene	1.6	89		U
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	89		U
91-57-6	2-Methylnaphthalene	2.2	89		U
91-20-3	Naphthalene	3.1	89		U
85-01-8	Phenanthrene	2.2	89		U
129-00-0	Pyrene	2.0	89	J 2.4	~~J~~ MSH

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FORM 1
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CLIENT SAMPLE NO. 8

STR01-SSD
08-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-06

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522806

% Moisture: 28 decanted: (Y/N) N Date Sampled: 05/21/09 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 13:48

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.6	92		U
208-96-8	Acenaphthylene	1.6	92		U
120-12-7	Anthracene	1.1	92		U
56-55-3	Benzo(a)anthracene	1.9	92	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	2.1	92		U
207-08-9	Benzo(k)fluoranthene	1.7	92		U
191-24-2	Benzo(g,h,i)perylene	2.0	92		U
50-32-8	Benzo(a)pyrene	1.4	9.2		U
218-01-9	Chrysene	1.5	92	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	2.1	9.2		U
206-44-0	Fluoranthene	2.3	92	3.5	J
86-73-7	Fluorene	1.6	92	6.8	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.1	92		U
91-57-6	2-Methylnaphthalene	2.3	92		U
91-20-3	Naphthalene	3.2	92		U
85-01-8	Phenanthrene	2.3	92		U
129-00-0	Pyrene	2.1	92		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 9

STR01-SSD
08-3-4-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-07

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522807

% Moisture: 37 decanted: (Y/N) N Date Sampled: 05/21/09 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 14:25

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.9	100		U
208-96-8	Acenaphthylene	1.8	100		U
120-12-7	Anthracene	1.3	100		U
56-55-3	Benzo(a)anthracene	2.2	100	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	2.4	100		U
207-08-9	Benzo(k)fluoranthene	2.0	100		U
191-24-2	Benzo(g,h,i)perylene	2.3	100		U
50-32-8	Benzo(a)pyrene	1.6	10		U
218-01-9	Chrysene	1.7	100	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	2.4	10		U
206-44-0	Fluoranthene	2.6	100	4.3	J
86-73-7	Fluorene	1.9	100	7.8	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.4	100		U
91-57-6	2-Methylnaphthalene	2.6	100		U
91-20-3	Naphthalene	3.7	100		U
85-01-8	Phenanthrene	2.6	100		U
129-00-0	Pyrene	2.4	100		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 10

STR01-SSD
08-4-5-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-08

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522808

% Moisture: 51 decanted: (Y/N) N Date Sampled: 05/21/09 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 15:01

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	2.4	140		U
208-96-8	Acenaphthylene	2.3	140		U
120-12-7	Anthracene	1.6	140		U
56-55-3	Benzo(a)anthracene	2.8	140	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	3.1	140		U
207-08-9	Benzo(k)fluoranthene	2.6	140		U
191-24-2	Benzo(g,h,i)perylene	3.0	140		U
50-32-8	Benzo(a)pyrene	2.0	14		U
218-01-9	Chrysene	2.2	140	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	3.1	14		U
206-44-0	Fluoranthene	3.4	140	5.5	J
86-73-7	Fluorene	2.4	140	10	J
193-39-5	Indeno(1,2,3-cd)pyrene	3.1	140		U
91-57-6	2-Methylnaphthalene	3.4	140		U
91-20-3	Naphthalene	4.7	140		U
85-01-8	Phenanthrene	3.4	140		U
129-00-0	Pyrene	3.1	140		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 11

STR01-SSD
08-5-6-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-09

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522809

% Moisture: 44 decanted: (Y/N) N Date Sampled: 05/21/09 12:28

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 15:37

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	2.2	120		U
208-96-8	Acenaphthylene	2.0	120		U
120-12-7	Anthracene	1.4	120		U
56-55-3	Benzo(a)anthracene	2.5	120	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	2.7	120		U
207-08-9	Benzo(k)fluoranthene	2.3	120		U
191-24-2	Benzo(g,h,i)perylene	2.6	120		U
50-32-8	Benzo(a)pyrene	1.8	12		U
218-01-9	Chrysene	1.9	120	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	2.7	12		U
206-44-0	Fluoranthene	3.0	120	4.9	J
86-73-7	Fluorene	2.2	120	8.9	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.7	120		U
91-57-6	2-Methylnaphthalene	3.0	120		U
91-20-3	Naphthalene	4.2	120		U
85-01-8	Phenanthrene	3.0	120		U
129-00-0	Pyrene	2.7	120	2.9	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 12

STR01-SD0
2-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-10

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522810

% Moisture: 23 decanted: (Y/N) N Date Sampled: 05/21/09 09:27

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/17/09 11:23

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	86		U
208-96-8	Acenaphthylene	1.5	86		U
120-12-7	Anthracene	1.0	86		U
56-55-3	Benzo(a)anthracene	1.8	86	86u ~~9.8~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	2.0	86	15	J
207-08-9	Benzo(k)fluoranthene	1.6	86	10	J
191-24-2	Benzo(g,h,i)perylene	1.9	86	7.4	J
50-32-8	Benzo(a)pyrene	1.3	8.6	13	
218-01-9	Chrysene	1.4	86	2.0	J
53-70-3	Dibenz(a,h)anthracene	2.0	8.6		U
206-44-0	Fluoranthene	2.2	86	17	J~~B~~
86-73-7	Fluorene	1.5	86	6.5	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	86	86u ~~8.4~~	~~J~~ BL
91-57-6	2-Methylnaphthalene	2.2	86		U
91-20-3	Naphthalene	3.0	86		U
85-01-8	Phenanthrene	2.2	86	5.0	J
129-00-0	Pyrene	2.0	86	12	J

NG
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 13

STR01-SSD
02-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-11

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522811R

% Moisture: 26 decanted: (Y/N) N Date Sampled: 05/21/09 09:27

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 18:23

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.6	89		U
208-96-8	Acenaphthylene	1.5	89		U
120-12-7	Anthracene	1.1	89		U
56-55-3	Benzo(a)anthracene	1.9	89	894 ~~6.0~~ ~~JB~~ BL	
205-99-2	Benzo(b)fluoranthene	2.0	89		U
207-08-9	Benzo(k)fluoranthene	1.7	89		U
191-24-2	Benzo(g,h,i)perylene	2.0	89		U
50-32-8	Benzo(a)pyrene	1.3	8.9		U
218-01-9	Chrysene	1.4	89		U
53-70-3	Dibenz(a,h)anthracene	2.0	8.9		U
206-44-0	Fluoranthene	2.2	89	894 ~~3.6~~ ~~JB~~ BL	
86-73-7	Fluorene	1.6	89	6.6	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	89		U
91-57-6	2-Methylnaphthalene	2.2	89		U
91-20-3	Naphthalene	3.1	89		U
85-01-8	Phenanthrene	2.2	89		U
129-00-0	Pyrene	2.0	89		U

RW 7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 14

STR01-SSD
02-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-12

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522812

% Moisture: 25 decanted: (Y/N) N Date Sampled: 05/21/09 09:27

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 16:13

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.6	88		U
208-96-8	Acenaphthylene	1.5	88		U
120-12-7	Anthracene	1.1	88		U
56-55-3	Benzo(a)anthracene	1.8	88	J 5.6	~~J~~ CCH
205-99-2	Benzo(b)fluoranthene	2.0	88		U
207-08-9	Benzo(k)fluoranthene	1.7	88		U
191-24-2	Benzo(g,h,i)perylene	1.9	88		U
50-32-8	Benzo(a)pyrene	1.3	8.8		U
218-01-9	Chrysene	1.4	88	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	2.0	8.8		U
206-44-0	Fluoranthene	2.2	88	3.3	J
86-73-7	Fluorene	1.6	88		U
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	88		U
91-57-6	2-Methylnaphthalene	2.2	88		U
91-20-3	Naphthalene	3.1	88		U
85-01-8	Phenanthrene	2.2	88		U
129-00-0	Pyrene	2.0	88		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 15

STR01-SD0
3-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-13

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522813R

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 09:52

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 19:00

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	83		U
208-96-8	Acenaphthylene	1.4	83		U
120-12-7	Anthracene	0.99	83		U
56-55-3	Benzo(a)anthracene	1.7	83	834 ~~5.7~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	1.9	83	7.2	~~J~~ J FD
207-08-9	Benzo(k)fluoranthene	1.6	83	8.4	J
191-24-2	Benzo(g,h,i)perylene	1.8	83	3.4	~~J~~ J FD
50-32-8	Benzo(a)pyrene	1.2	8.3	7.8	~~J~~ J FD
218-01-9	Chrysene	1.3	83		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.3		U
206-44-0	Fluoranthene	2.1	83	834 ~~3.9~~	~~JB~~ BL
86-73-7	Fluorene	1.5	83		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	83	834 ~~5.2~~	~~J~~ BL
91-57-6	2-Methylnaphthalene	2.1	83		U
91-20-3	Naphthalene	2.9	83		U
85-01-8	Phenanthrene	2.1	83		U
129-00-0	Pyrene	1.9	83	2.1	~~J~~ J FD

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 16

STR01-SD0
3-P-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-14

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522814R

% Moisture: 27 decanted: (Y/N) N Date Sampled: 05/21/09 09:52

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 19:37

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.6	92	15	J
208-96-8	Acenaphthylene	1.6	92		U
120-12-7	Anthracene	1.1	92		U
56-55-3	Benzo(a)anthracene	1.9	92	320	~~B~~
205-99-2	Benzo(b)fluoranthene	2.1	92	470	J FD
207-08-9	Benzo(k)fluoranthene	1.7	92		U
191-24-2	Benzo(g,h,i)perylene	2.0	92	240	J FD
50-32-8	Benzo(a)pyrene	1.4	9.2	370	J FD
218-01-9	Chrysene	1.5	92	340	
53-70-3	Dibenz(a,h)anthracene	2.1	9.2	36	
206-44-0	Fluoranthene	2.3	92	420	~~B~~
86-73-7	Fluorene	1.6	92	12	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.1	92	230	
91-57-6	2-Methylnaphthalene	2.3	92		U
91-20-3	Naphthalene	3.2	92	6.6	J
85-01-8	Phenanthrene	2.3	92	110	
129-00-0	Pyrene	2.1	92	380	J FD

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 17

STR01-SSD
03-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-15

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522815R

% Moisture: 21 decanted: (Y/N) N Date Sampled: 05/21/09 09:52

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 20:14

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	84		U
208-96-8	Acenaphthylene	1.4	84		U
120-12-7	Anthracene	1.0	84	6.7	J
56-55-3	Benzo(a)anthracene	1.8	84	84u ~~5.4~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	1.9	84		U
207-08-9	Benzo(k)fluoranthene	1.6	84		U
191-24-2	Benzo(g,h,i)perylene	1.8	84		U
50-32-8	Benzo(a)pyrene	1.3	8.4		U
218-01-9	Chrysene	1.3	84		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.4		U
206-44-0	Fluoranthene	2.1	84	84u ~~3.3~~	~~JB~~ BL
86-73-7	Fluorene	1.5	84	6.2	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	84		U
91-57-6	2-Methylnaphthalene	2.1	84		U
91-20-3	Naphthalene	2.9	84		U
85-01-8	Phenanthrene	2.1	84		U
129-00-0	Pyrene	1.9	84		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 18

STR01-SSD
03-P-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-16

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522816R

% Moisture: 22 decanted: (Y/N) N Date Sampled: 05/21/09 09:52

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 20:50

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	85		U
208-96-8	Acenaphthylene	1.4	85		U
120-12-7	Anthracene	1.0	85	6.9	J
56-55-3	Benzo(a)anthracene	1.8	85	85u ~~6.1~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	2.0	85	7.1	J
207-08-9	Benzo(k)fluoranthene	1.6	85	8.4	J
191-24-2	Benzo(g,h,i)perylene	1.9	85		U
50-32-8	Benzo(a)pyrene	1.3	8.5		U
218-01-9	Chrysene	1.4	85		U
53-70-3	Dibenz(a,h)anthracene	2.0	8.5		U
206-44-0	Fluoranthene	2.1	85	85u ~~4.3~~	~~JB~~ BL
86-73-7	Fluorene	1.5	85	6.3	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	85		U
91-57-6	2-Methylnaphthalene	2.1	85		U
91-20-3	Naphthalene	3.0	85		U
85-01-8	Phenanthrene	2.1	85		U
129-00-0	Pyrene	2.0	85	2.2	J

NW
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 19

STR01-SSD
03-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-17

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522817

% Moisture: 35 decanted: (Y/N) N Date Sampled: 05/21/09 09:52

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 16:49

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.8	100		U
208-96-8	Acenaphthylene	1.7	100		U
120-12-7	Anthracene	1.2	100		U
56-55-3	Benzo(a)anthracene	2.2	100	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	2.4	100		U
207-08-9	Benzo(k)fluoranthene	1.9	100		U
191-24-2	Benzo(g,h,i)perylene	2.2	100		U
50-32-8	Benzo(a)pyrene	1.5	10		U
218-01-9	Chrysene	1.6	100	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	2.4	10		U
206-44-0	Fluoranthene	2.6	100	4.0	J
86-73-7	Fluorene	1.8	100	7.6	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.4	100		U
91-57-6	2-Methylnaphthalene	2.6	100		U
91-20-3	Naphthalene	3.6	100		U
85-01-8	Phenanthrene	2.6	100		U
129-00-0	Pyrene	2.4	100	8.7	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 20

STR01-SSD
03-P-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-18

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522818

% Moisture: 35 decanted: (Y/N) N Date Sampled: 05/21/09 09:52

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 17:25

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.8	100		U
208-96-8	Acenaphthylene	1.8	100		U
120-12-7	Anthracene	1.2	100		U
56-55-3	Benzo(a)anthracene	2.2	100	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	2.4	100		U
207-08-9	Benzo(k)fluoranthene	2.0	100		U
191-24-2	Benzo(g,h,i)perylene	2.3	100		U
50-32-8	Benzo(a)pyrene	1.5	10		U
218-01-9	Chrysene	1.6	100	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	2.4	10		U
206-44-0	Fluoranthene	2.6	100	4.1	J
86-73-7	Fluorene	1.8	100	7.7	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.4	100		U
91-57-6	2-Methylnaphthalene	2.6	100		U
91-20-3	Naphthalene	3.6	100		U
85-01-8	Phenanthrene	2.6	100		U
129-00-0	Pyrene	2.4	100	16	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 21

STR01-SD1
0-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-19

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522819R

% Moisture: 18 decanted: (Y/N) N Date Sampled: 05/21/09 08:03

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 21:27

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	81		U
208-96-8	Acenaphthylene	1.4	81		U
120-12-7	Anthracene	0.98	81	6.5	J
56-55-3	Benzo(a)anthracene	1.7	81	81u ~~5.3~~ ~~JB~~ BL	
205-99-2	Benzo(b)fluoranthene	1.9	81	6.7	J
207-08-9	Benzo(k)fluoranthene	1.5	81	8.0	J
191-24-2	Benzo(g,h,i)perylene	1.8	81		U
50-32-8	Benzo(a)pyrene	1.2	8.1		U
218-01-9	Chrysene	1.3	81		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.1		U
206-44-0	Fluoranthene	2.0	81	81u ~~3.4~~ ~~JB~~ BL	
86-73-7	Fluorene	1.5	81	6.0	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	81		U
91-57-6	2-Methylnaphthalene	2.0	81		U
91-20-3	Naphthalene	2.8	81		U
85-01-8	Phenanthrene	2.0	81		U
129-00-0	Pyrene	1.9	81		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 22

STR01-SSD
10-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-20

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522820R

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 08:03

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 22:03

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	83		U
208-96-8	Acenaphthylene	1.4	83		U
120-12-7	Anthracene	1.00	83		U
56-55-3	Benzo(a)anthracene	1.7	83		U
205-99-2	Benzo(b)fluoranthene	1.9	83		U
207-08-9	Benzo(k)fluoranthene	1.6	83		U
191-24-2	Benzo(g,h,i)perylene	1.8	83		U
50-32-8	Benzo(a)pyrene	1.2	8.3		U
218-01-9	Chrysene	1.3	83		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.3		U
206-44-0	Fluoranthene	2.1	83	834 ~~4.6~~ ~~JB~~ BL	
86-73-7	Fluorene	1.5	83	6.2	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	83		U
91-57-6	2-Methylnaphthalene	2.1	83		U
91-20-3	Naphthalene	2.9	83		U
85-01-8	Phenanthrene	2.1	83		U
129-00-0	Pyrene	1.9	83	18	J

FORM I SV

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 23

STR01-SSD
05-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-21

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522821R

% Moisture: 17 decanted: (Y/N) N Date Sampled: 05/21/09 11:25

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 22:39

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	80		U
208-96-8	Acenaphthylene	1.4	80		U
120-12-7	Anthracene	0.96	80	6.5	J
56-55-3	Benzo(a)anthracene	1.7	80	80u ~~5.1~~ ~~JB~~	BL
205-99-2	Benzo(b)fluoranthene	1.8	80		U
207-08-9	Benzo(k)fluoranthene	1.5	80		U
191-24-2	Benzo(g,h,i)perylene	1.8	80	3.1	J
50-32-8	Benzo(a)pyrene	1.2	8.0		U
218-01-9	Chrysene	1.3	80		U
53-70-3	Dibenz(a,h)anthracene	1.8	8.0		U
206-44-0	Fluoranthene	2.0	80	80u 3 ~~.1~~ ~~JB~~	BL
86-73-7	Fluorene	1.4	80	6.0	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.8	80		U
91-57-6	2-Methylnaphthalene	2.0	80		U
91-20-3	Naphthalene	2.8	80		U
85-01-8	Phenanthrene	2.0	80		U
129-00-0	Pyrene	1.8	80		U

MW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 24

STR01-SSD
05-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-22

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522822

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 11:25

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 18:02

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	84		U
208-96-8	Acenaphthylene	1.4	84		U
120-12-7	Anthracene	1.0	84		U
56-55-3	Benzo(a)anthracene	1.8	84	J 5.9	~~J~~ CCH
205-99-2	Benzo(b)fluoranthene	1.9	84		U
207-08-9	Benzo(k)fluoranthene	1.6	84		U
191-24-2	Benzo(g,h,i)perylene	1.8	84	3.3	J
50-32-8	Benzo(a)pyrene	1.2	8.4		U
218-01-9	Chrysene	1.3	84	45	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	1.9	8.4		U
206-44-0	Fluoranthene	2.1	84	4.2	J
86-73-7	Fluorene	1.5	84	6.3	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	84		U
91-57-6	2-Methylnaphthalene	2.1	84		U
91-20-3	Naphthalene	2.9	84		U
85-01-8	Phenanthrene	2.1	84	2.2	J
129-00-0	Pyrene	1.9	84	2.3	J

AW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 25

STR01-SSD
12-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-23

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522823

% Moisture: 63 decanted: (Y/N) N Date Sampled: 05/21/09 13:18

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 18:38

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	3.3	180		U
208-96-8	Acenaphthylene	3.1	180		U
120-12-7	Anthracene	2.2	180		U
56-55-3	Benzo(a)anthracene	3.8	180	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	4.2	180		U
207-08-9	Benzo(k)fluoranthene	3.4	180		U
191-24-2	Benzo(g,h,i)perylene	4.0	180		U
50-32-8	Benzo(a)pyrene	2.7	18		U
218-01-9	Chrysene	2.9	180	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	4.2	18		U
206-44-0	Fluoranthene	4.5	180	14	J
86-73-7	Fluorene	3.3	180	14	J
193-39-5	Indeno(1,2,3-cd)pyrene	4.2	180		U
91-57-6	2-Methylnaphthalene	4.5	180		U
91-20-3	Naphthalene	6.3	180	9.1	J
85-01-8	Phenanthrene	4.5	180	9.3	J
129-00-0	Pyrene	4.2	180	8.5	J

AW
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 26

STR01-SSD
12-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-24

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522824R

% Moisture: 22 decanted: (Y/N) N Date Sampled: 05/21/09 13:18

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 23:15

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	86		U
208-96-8	Acenaphthylene	1.4	86		U
120-12-7	Anthracene	1.0	86	6.9	J
56-55-3	Benzo(a)anthracene	1.8	86	86u ~~6.0~~ ~~JB~~ BL	
205-99-2	Benzo(b)fluoranthene	2.0	86		U
207-08-9	Benzo(k)fluoranthene	1.6	86		U
191-24-2	Benzo(g,h,i)perylene	1.9	86		U
50-32-8	Benzo(a)pyrene	1.3	8.6		U
218-01-9	Chrysene	1.4	86		U
53-70-3	Dibenz(a,h)anthracene	2.0	8.6		U
206-44-0	Fluoranthene	2.1	86	86u ~~3.6~~ ~~JB~~ BL	
86-73-7	Fluorene	1.5	86	6.4	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	86		U
91-57-6	2-Methylnaphthalene	2.1	86		U
91-20-3	Naphthalene	3.0	86		U
85-01-8	Phenanthrene	2.1	86		U
129-00-0	Pyrene	2.0	86		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 27

STR01-SD1
2-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-25

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522825R

% Moisture: 23 decanted: (Y/N) N Date Sampled: 05/21/09 13:18

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 23:51

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	86		U
208-96-8	Acenaphthylene	1.5	86		U
120-12-7	Anthracene	1.0	86		U
56-55-3	Benzo(a)anthracene	1.8	86	86u ~~5.9~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	2.0	86	7.1	J
207-08-9	Benzo(k)fluoranthene	1.6	86		U
191-24-2	Benzo(g,h,i)perylene	1.9	86		U
50-32-8	Benzo(a)pyrene	1.3	8.6		U
218-01-9	Chrysene	1.4	86		U
53-70-3	Dibenz(a,h)anthracene	2.0	8.6		U
206-44-0	Fluoranthene	2.2	86	86u ~~3.8~~	~~JB~~ BL
86-73-7	Fluorene	1.5	86	6.8	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	86		U
91-57-6	2-Methylnaphthalene	2.2	86	2.8	J
91-20-3	Naphthalene	3.0	86	3.6	J
85-01-8	Phenanthrene	2.2	86		U
129-00-0	Pyrene	2.0	86		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 28

STR01-SSD
09-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-26

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522826

% Moisture: 41 decanted: (Y/N) N Date Sampled: 05/21/09 12:50

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 19:14

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	2.0	110		U
208-96-8	Acenaphthylene	1.9	110		U
120-12-7	Anthracene	1.4	110		U
56-55-3	Benzo(a)anthracene	2.4	110	J 15	~~J~~ CCH
205-99-2	Benzo(b)fluoranthene	2.6	110	23	J
207-08-9	Benzo(k)fluoranthene	2.1	110	15	J
191-24-2	Benzo(g,h,i)perylene	2.5	110	12	J
50-32-8	Benzo(a)pyrene	1.7	11	20	
218-01-9	Chrysene	1.8	110	J 4.7	~~J~~ CCH
53-70-3	Dibenz(a,h)anthracene	2.6	11		U
206-44-0	Fluoranthene	2.8	110	16	J
86-73-7	Fluorene	2.0	110	9.0	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.6	110	110U ~~13~~ ~~J~~	BL
91-57-6	2-Methylnaphthalene	2.8	110		U
91-20-3	Naphthalene	3.9	110		U
85-01-8	Phenanthrene	2.8	110	5.7	J
129-00-0	Pyrene	2.6	110	15	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 29

STR01-SSD
09-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-27

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522827R

% Moisture: 35 decanted: (Y/N) N Date Sampled: 05/21/09 12:50

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/20/09 00:28

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.8	100		U
208-96-8	Acenaphthylene	1.7	100		U
120-12-7	Anthracene	1.2	100	10	J
56-55-3	Benzo(a)anthracene	2.1	100	100u ~~10~~ ~~JB~~	BL
205-99-2	Benzo(b)fluoranthene	2.4	100	14	J
207-08-9	Benzo(k)fluoranthene	1.9	100	13	J
191-24-2	Benzo(g,h,i)perylene	2.2	100	8.6	J
50-32-8	Benzo(a)pyrene	1.5	10	13	
218-01-9	Chrysene	1.6	100		U
53-70-3	Dibenz(a,h)anthracene	2.4	10	10	J
206-44-0	Fluoranthene	2.6	100	100u ~~11~~ ~~JB~~	BL
86-73-7	Fluorene	1.8	100	8.9	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.4	100	100u ~~11~~ ~~J~~	BL
91-57-6	2-Methylnaphthalene	2.6	100		U
91-20-3	Naphthalene	3.6	100		U
85-01-8	Phenanthrene	2.6	100	3.6	J
129-00-0	Pyrene	2.4	100	8.8	J

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 36

STR01-SSD
06-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-28

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522828

% Moisture: 19 decanted: (Y/N) N Date Sampled: 05/21/09 11:07

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 19:50

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	82		U
208-96-8	Acenaphthylene	1.4	82		U
120-12-7	Anthracene	0.98	82		U
56-55-3	Benzo(a)anthracene	1.7	82		~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	1.9	82		U
207-08-9	Benzo(k)fluoranthene	1.6	82		U
191-24-2	Benzo(g,h,i)perylene	1.8	82		U
50-32-8	Benzo(a)pyrene	1.2	8.2		U
218-01-9	Chrysene	1.3	82		~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	1.9	8.2		U
206-44-0	Fluoranthene	2.0	82		U
86-73-7	Fluorene	1.5	82		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	82		U
91-57-6	2-Methylnaphthalene	2.0	82		U
91-20-3	Naphthalene	2.9	82		U
85-01-8	Phenanthrene	2.0	82		U
129-00-0	Pyrene	1.9	82		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 31

STR01-SD0
6-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-29

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522829R

% Moisture: 16 decanted: (Y/N) N Date Sampled: 05/21/09 11:07

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/20/09 01:04

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	79		U
208-96-8	Acenaphthylene	1.3	79		U
120-12-7	Anthracene	0.95	79	7.6	J
56-55-3	Benzo(a)anthracene	1.7	79	79u ~~11~~	~~JB~~ BU
205-99-2	Benzo(b)fluoranthene	1.8	79	13	J
207-08-9	Benzo(k)fluoranthene	1.5	79	10	J
191-24-2	Benzo(g,h,i)perylene	1.7	79	7.3	J
50-32-8	Benzo(a)pyrene	1.2	7.9	13	
218-01-9	Chrysene	1.3	79	3.3	J
53-70-3	Dibenz(a,h)anthracene	1.8	7.9		U
206-44-0	Fluoranthene	2.0	79	79u ~~10~~	~~JB~~ BU
86-73-7	Fluorene	1.4	79	6.6	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.8	79	79u ~~9.5~~	~~J~~ BU
91-57-6	2-Methylnaphthalene	2.0	79		U
91-20-3	Naphthalene	2.8	79		U
85-01-8	Phenanthrene	2.0	79	2.8	J
129-00-0	Pyrene	1.8	79	7.3	J

LW
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 32

STR01-SSD
06-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-30

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522830

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 11:07

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/17/09 23:54

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	83		U
208-96-8	Acenaphthylene	1.4	83		U
120-12-7	Anthracene	1.0	83	6.6	J
56-55-3	Benzo(a)anthracene	1.8	83	83u ~~5.2~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	1.9	83		U
207-08-9	Benzo(k)fluoranthene	1.6	83		U
191-24-2	Benzo(g,h,i)perylene	1.8	83		U
50-32-8	Benzo(a)pyrene	1.2	8.3		U
218-01-9	Chrysene	1.3	83		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.3		U
206-44-0	Fluoranthene	2.1	83	83u ~~3.2~~	~~JB~~ BL
86-73-7	Fluorene	1.5	83	6.1	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	83		U
91-57-6	2-Methylnaphthalene	2.1	83		U
91-20-3	Naphthalene	2.9	83		U
85-01-8	Phenanthrene	2.1	83		U
129-00-0	Pyrene	1.9	83		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 33

STR01-SD0
1-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-31

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522831

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 09:01

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/18/09 00:30

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	83	13	J
208-96-8	Acenaphthylene	1.4	83		U
120-12-7	Anthracene	1.0	83	17	J
56-55-3	Benzo(a)anthracene	1.8	83	590	~~B~~
205-99-2	Benzo(b)fluoranthene	1.9	420 ~~83~~	1900 ~~940~~	~~E~~
207-08-9	Benzo(k)fluoranthene	1.6	83	550	
191-24-2	Benzo(g,h,i)perylene	1.8	83	800	
50-32-8	Benzo(a)pyrene	1.2	42 ~~8.3~~	1400 ~~990~~	~~E~~
218-01-9	Chrysene	1.3	83	670	
53-70-3	Dibenz(a,h)anthracene	1.9	8.3		U
206-44-0	Fluoranthene	2.1	83	300	~~B~~
86-73-7	Fluorene	1.5	83	14	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	83	790	
91-57-6	2-Methylnaphthalene	2.1	83	4.8	J
91-20-3	Naphthalene	2.9	83	18	J
85-01-8	Phenanthrene	2.1	83	39	J
129-00-0	Pyrene	1.9	83	370	

LW
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 33DL

STR01-SD0
1-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-31DL

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522831D

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 09:01

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/20/09 01:41

Injection Volume: 0.5(uL) Dilution Factor: 5.0

use orig. vol

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	7.5	420	13	JD
208-96-8	Acenaphthylene	7.1	420		UD
120-12-7	Anthracene	5.0	420	42	JD
56-55-3	Benzo(a)anthracene	8.8	420	800	DB
205-99-2	Benzo(b)fluoranthene	9.6	420	1900	D
207-08-9	Benzo(k)fluoranthene	7.9	420	540	D
191-24-2	Benzo(g,h,i)perylene	9.2	420	990	D
50-32-8	Benzo(a)pyrene	6.2	420	1400	D
218-01-9	Chrysene	6.7	420	980	D
53-70-3	Dibenz(a,h)anthracene	9.6	42	200	D
206-44-0	Fluoranthene	10	420	280	JDB
86-73-7	Fluorene	7.5	420	37	JD
193-39-5	Indeno(1,2,3-cd)pyrene	9.6	420	970	D
91-57-6	2-Methylnaphthalene	10	420		UD
91-20-3	Naphthalene	15	420	19	JD
85-01-8	Phenanthrene	10	420	35	JD
129-00-0	Pyrene	9.6	420	300	JD

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 34

STR01-SSD
01-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-32

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522832R

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 09:01

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted:06/02/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/22/09 12:30

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	84		U
208-96-8	Acenaphthylene	1.4	84		U
120-12-7	Anthracene	1.0	84		U
56-55-3	Benzo(a)anthracene	1.8	84		U
205-99-2	Benzo(b)fluoranthene	1.9	84		U
207-08-9	Benzo(k)fluoranthene	1.6	84		U
191-24-2	Benzo(g,h,i)perylene	1.8	84		U
50-32-8	Benzo(a)pyrene	1.2	8.4		U
218-01-9	Chrysene	1.3	84		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.4		U
206-44-0	Fluoranthene	2.1	84	3.0	J
86-73-7	Fluorene	1.5	84		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	84		U
91-57-6	2-Methylnaphthalene	2.1	84		U
91-20-3	Naphthalene	2.9	84		U
85-01-8	Phenanthrene	2.1	84		U
129-00-0	Pyrene	1.9	84		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 35

STR01-SSD
01-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-33

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522833

% Moisture: 22 decanted: (Y/N) N Date Sampled: 05/21/09 09:01

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 20:26

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	86		U
208-96-8	Acenaphthylene	1.5	86		U
120-12-7	Anthracene	1.0	86		U
56-55-3	Benzo(a)anthracene	1.8	86		~~U~~ UJ CCH
205-99-2	Benzo(b)fluoranthene	2.0	86		U
207-08-9	Benzo(k)fluoranthene	1.6	86		U
191-24-2	Benzo(g,h,i)perylene	1.9	86		U
50-32-8	Benzo(a)pyrene	1.3	8.6		U
218-01-9	Chrysene	1.4	86		~~U~~ UJ CCH
53-70-3	Dibenz(a,h)anthracene	2.0	8.6		U
206-44-0	Fluoranthene	2.1	86	3.1	J
86-73-7	Fluorene	1.5	86		U
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	86		U
91-57-6	2-Methylnaphthalene	2.1	86		U
91-20-3	Naphthalene	3.0	86		U
85-01-8	Phenanthrene	2.1	86		U
129-00-0	Pyrene	2.0	86		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 36

STR01-SSD
07-4-5-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-34

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522834

% Moisture: 19 decanted: (Y/N) N Date Sampled: 05/21/09 12:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 21:03

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	82		U
208-96-8	Acenaphthylene	1.4	82		U
120-12-7	Anthracene	0.98	82		U
56-55-3	Benzo(a)anthracene	1.7	82	J 5.2	~~J~~ CCH
205-99-2	Benzo(b)fluoranthene	1.9	82		U
207-08-9	Benzo(k)fluoranthene	1.6	82		U
191-24-2	Benzo(g,h,i)perylene	1.8	82		U
50-32-8	Benzo(a)pyrene	1.2	8.2		U
218-01-9	Chrysene	1.3	82	U5	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	1.9	8.2		U
206-44-0	Fluoranthene	2.0	82	3.0	J
86-73-7	Fluorene	1.5	82		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	82		U
91-57-6	2-Methylnaphthalene	2.0	82		U
91-20-3	Naphthalene	2.9	82		U
85-01-8	Phenanthrene	2.0	82		U
129-00-0	Pyrene	1.9	82		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 37

STR01-SSD
07-3-4-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-35

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522835

% Moisture: 19 decanted: (Y/N) N Date Sampled: 05/21/09 12:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/19/09 10:15

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	82		U
208-96-8	Acenaphthylene	1.4	82		U
120-12-7	Anthracene	0.99	82		U
56-55-3	Benzo(a)anthracene	1.7	82	5.1	J
205-99-2	Benzo(b)fluoranthene	1.9	82		U
207-08-9	Benzo(k)fluoranthene	1.6	82		U
191-24-2	Benzo(g,h,i)perylene	1.8	82		U
50-32-8	Benzo(a)pyrene	1.2	8.2		U
218-01-9	Chrysene	1.3	82		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.2		U
206-44-0	Fluoranthene	2.1	82	3.0	J
86-73-7	Fluorene	1.5	82		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	82		U
91-57-6	2-Methylnaphthalene	2.1	82		U
91-20-3	Naphthalene	2.9	82		U
85-01-8	Phenanthrene	2.1	82		U
129-00-0	Pyrene	1.9	82		U

hw
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 38

STR01-SSD
07-5-6-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-36

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522836

% Moisture: 22 decanted: (Y/N) N Date Sampled: 05/21/09 12:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 22:14

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	86		U
208-96-8	Acenaphthylene	1.5	86		U
120-12-7	Anthracene	1.0	86		U
56-55-3	Benzo(a)anthracene	1.8	86	J 5.4	~~J~~ ccd
205-99-2	Benzo(b)fluoranthene	2.0	86		U
207-08-9	Benzo(k)fluoranthene	1.6	86		U
191-24-2	Benzo(g,h,i)perylene	1.9	86		U
50-32-8	Benzo(a)pyrene	1.3	8.6		U
218-01-9	Chrysene	1.4	86	UJ	~~U~~ ccd
53-70-3	Dibenz(a,h)anthracene	2.0	8.6		U
206-44-0	Fluoranthene	2.1	86	3.2	J
86-73-7	Fluorene	1.5	86	6.3	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	86		U
91-57-6	2-Methylnaphthalene	2.1	86		U
91-20-3	Naphthalene	3.0	86		U
85-01-8	Phenanthrene	2.1	86		U
129-00-0	Pyrene	2.0	86		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 39

STR01-SSD
07-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-37

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522837

% Moisture: 19 decanted: (Y/N) N Date Sampled: 05/21/09 12:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 22:50

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	82		U
208-96-8	Acenaphthylene	1.4	82		U
120-12-7	Anthracene	0.99	82		U
56-55-3	Benzo(a)anthracene	1.7	82	UJ	~~U~~ CCH
205-99-2	Benzo(b)fluoranthene	1.9	82		U
207-08-9	Benzo(k)fluoranthene	1.6	82		U
191-24-2	Benzo(g,h,i)perylene	1.8	82		U
50-32-8	Benzo(a)pyrene	1.2	8.2		U
218-01-9	Chrysene	1.3	82	UJ	~~U~~ CCH
53-70-3	Dibenz(a,h)anthracene	1.9	8.2		U
206-44-0	Fluoranthene	2.1	82	3.0	J
86-73-7	Fluorene	1.5	82		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	82		U
91-57-6	2-Methylnaphthalene	2.1	82		U
91-20-3	Naphthalene	2.9	82		U
85-01-8	Phenanthrene	2.1	82		U
129-00-0	Pyrene	1.9	82		U

FORM I SV

MW
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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 40

STR01-SSD
07-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-38

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522838R

% Moisture: 8 decanted: (Y/N) N Date Sampled: 05/21/09 12:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/02/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/22/09 13:09

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.3	73		U
208-96-8	Acenaphthylene	1.2	73		U
120-12-7	Anthracene	0.87	73		U
56-55-3	Benzo(a)anthracene	1.5	73	734 ~~4.4~~ ~~JB~~	B
205-99-2	Benzo(b)fluoranthene	1.7	73		U
207-08-9	Benzo(k)fluoranthene	1.4	73		U
191-24-2	Benzo(g,h,i)perylene	1.6	73		U
50-32-8	Benzo(a)pyrene	1.1	7.3		U
218-01-9	Chrysene	1.2	73		U
53-70-3	Dibenz(a,h)anthracene	1.7	7.3		U
206-44-0	Fluoranthene	1.8	73	2.7	J
86-73-7	Fluorene	1.3	73	5.3	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.7	73		U
91-57-6	2-Methylnaphthalene	1.8	73		U
91-20-3	Naphthalene	2.5	73		U
85-01-8	Phenanthrene	1.8	73		U
129-00-0	Pyrene	1.7	73		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 41

STR01-SSD
07-P-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-39

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522839

% Moisture: 7 decanted: (Y/N) N Date Sampled: 05/21/09 12:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/18/09 02:19

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.3	72		U
208-96-8	Acenaphthylene	1.2	72		U
120-12-7	Anthracene	0.86	72	5.7	J
56-55-3	Benzo(a)anthracene	1.5	72	72u ~~4.4~~ ~~JB~~	BL
205-99-2	Benzo(b)fluoranthene	1.6	72		U
207-08-9	Benzo(k)fluoranthene	1.4	72		U
191-24-2	Benzo(g,h,i)perylene	1.6	72	2.8	J
50-32-8	Benzo(a)pyrene	1.1	7.2	6.4	J
218-01-9	Chrysene	1.2	72		U
53-70-3	Dibenz(a,h)anthracene	1.6	7.2		U
206-44-0	Fluoranthene	1.8	72	72u ~~2.7~~ ~~JB~~	BL
86-73-7	Fluorene	1.3	72	5.3	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.6	72		U
91-57-6	2-Methylnaphthalene	1.8	72		U
91-20-3	Naphthalene	2.5	72		U
85-01-8	Phenanthrene	1.8	72		U
129-00-0	Pyrene	1.6	72		U

MW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 42

STR01-SD0
7-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-40

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522840R

% Moisture: 13 decanted: (Y/N) N Date Sampled: 05/21/09 12:05

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/02/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/22/09 13:47

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.4	76		U
208-96-8	Acenaphthylene	1.3	76		U
120-12-7	Anthracene	0.92	76		U
56-55-3	Benzo(a)anthracene	1.6	76	76U ~~5.1~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	1.8	76		U
207-08-9	Benzo(k)fluoranthene	1.4	76	7.6	J
191-24-2	Benzo(g,h,i)perylene	1.7	76		U
50-32-8	Benzo(a)pyrene	1.1	7.6		U
218-01-9	Chrysene	1.2	76		U
53-70-3	Dibenz(a,h)anthracene	1.8	7.6		U
206-44-0	Fluoranthene	1.9	76	3.5	J
86-73-7	Fluorene	1.4	76		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.8	76	76U ~~4.8~~	~~J~~ BL
91-57-6	2-Methylnaphthalene	1.9	76		U
91-20-3	Naphthalene	2.7	76		U
85-01-8	Phenanthrene	1.9	76		U
129-00-0	Pyrene	1.8	76	1.8	J

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8/3/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 43

STR01-SSD
11-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-41

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522841

% Moisture: 22 decanted: (Y/N) N Date Sampled: 05/21/09 13:42

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/18/09 03:31

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	85		U
208-96-8	Acenaphthylene	1.4	85		U
120-12-7	Anthracene	1.0	85	6.9	J
56-55-3	Benzo(a)anthracene	1.8	85	85U ~~5.4~~	~~JB~~ BL
205-99-2	Benzo(b)fluoranthene	2.0	85		U
207-08-9	Benzo(k)fluoranthene	1.6	85		U
191-24-2	Benzo(g,h,i)perylene	1.9	85	3.2	J
50-32-8	Benzo(a)pyrene	1.3	8.5		U
218-01-9	Chrysene	1.4	85		U
53-70-3	Dibenz(a,h)anthracene	2.0	8.5		U
206-44-0	Fluoranthene	2.1	85	85U ~~3.3~~	~~JB~~ BL
86-73-7	Fluorene	1.5	85	6.4	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	85		U
91-57-6	2-Methylnaphthalene	2.1	85		U
91-20-3	Naphthalene	3.0	85		U
85-01-8	Phenanthrene	2.1	85		U
129-00-0	Pyrene	2.0	85		U

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FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 44

STR01-SSD
11-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-42

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522842

% Moisture: 21 decanted: (Y/N) N Date Sampled: 05/21/09 13:42

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/14/09 23:26

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	85		U
208-96-8	Acenaphthylene	1.4	85		U
120-12-7	Anthracene	1.0	85		U
56-55-3	Benzo(a)anthracene	1.8	85	J 5.3	~~U~~ CCM
205-99-2	Benzo(b)fluoranthene	2.0	85		U
207-08-9	Benzo(k)fluoranthene	1.6	85		U
191-24-2	Benzo(g,h,i)perylene	1.9	85		U
50-32-8	Benzo(a)pyrene	1.3	8.5		U
218-01-9	Chrysene	1.4	85	UJ	~~U~~ CCM
53-70-3	Dibenz(a,h)anthracene	2.0	8.5		U
206-44-0	Fluoranthene	2.1	85	3.1	J
86-73-7	Fluorene	1.5	85	6.2	J
193-39-5	Indeno(1,2,3-cd)pyrene	2.0	85		U
91-57-6	2-Methylnaphthalene	2.1	85		U
91-20-3	Naphthalene	3.0	85		U
85-01-8	Phenanthrene	2.1	85		U
129-00-0	Pyrene	2.0	85		U

FORM I SV

MW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 45

STR01-SD0
4-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-43

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522843

% Moisture: 10 decanted: (Y/N) N Date Sampled: 05/21/09 11:47

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/18/09 04:07

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.3	74	2.0	J
208-96-8	Acenaphthylene	1.3	74		U
120-12-7	Anthracene	0.89	74	8.9	J
56-55-3	Benzo(a)anthracene	1.6	74	56	J
205-99-2	Benzo(b)fluoranthene	1.7	74	160	
207-08-9	Benzo(k)fluoranthene	1.4	74	38	J
191-24-2	Benzo(g,h,i)perylene	1.6	74	120	
50-32-8	Benzo(a)pyrene	1.1	7.4	120	
218-01-9	Chrysene	1.2	74	55	J
53-70-3	Dibenz(a,h)anthracene	1.7	7.4		U
206-44-0	Fluoranthene	1.9	74	74	J
86-73-7	Fluorene	1.3	74	6.2	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.7	74	110	
91-57-6	2-Methylnaphthalene	1.9	74		U
91-20-3	Naphthalene	2.6	74		U
85-01-8	Phenanthrene	1.9	74	19	J
129-00-0	Pyrene	1.7	74	72	J

nw
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 46

STR01-SSD
04-1-2-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-44

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522844R

% Moisture: 19 decanted: (Y/N) N Date Sampled: 05/21/09 11:47

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/02/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/22/09 14:25

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	82		U
208-96-8	Acenaphthylene	1.4	82		U
120-12-7	Anthracene	0.99	82		U
56-55-3	Benzo(a)anthracene	1.7	82	82u ~~5.5~~	~~JB~~ U
205-99-2	Benzo(b)fluoranthene	1.9	82		U
207-08-9	Benzo(k)fluoranthene	1.6	82	8.2	J
191-24-2	Benzo(g,h,i)perylene	1.8	82		U
50-32-8	Benzo(a)pyrene	1.2	8.2		U
218-01-9	Chrysene	1.3	82		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.2		U
206-44-0	Fluoranthene	2.1	82		U
86-73-7	Fluorene	1.5	82		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	82		U
91-57-6	2-Methylnaphthalene	2.1	82		U
91-20-3	Naphthalene	2.9	82		U
85-01-8	Phenanthrene	2.1	82		U
129-00-0	Pyrene	1.9	82		U

7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 47

STR01-SD1
1-0-1-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-45

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522845

% Moisture: 20 decanted: (Y/N) N Date Sampled: 05/21/09 13:42

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/01/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/18/09 05:19

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	83		U
208-96-8	Acenaphthylene	1.4	83		U
120-12-7	Anthracene	1.0	83	6.6	J
56-55-3	Benzo(a)anthracene	1.7	83	83U ~~5.1~~	~~JB~~ BU
205-99-2	Benzo(b)fluoranthene	1.9	83		U
207-08-9	Benzo(k)fluoranthene	1.6	83		U
191-24-2	Benzo(g,h,i)perylene	1.8	83	3.2	J
50-32-8	Benzo(a)pyrene	1.2	8.3		U
218-01-9	Chrysene	1.3	83		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.3		U
206-44-0	Fluoranthene	2.1	83	83U ~~3.3~~	~~JB~~ BU
86-73-7	Fluorene	1.5	83	6.1	J
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	83		U
91-57-6	2-Methylnaphthalene	2.1	83		U
91-20-3	Naphthalene	2.9	83		U
85-01-8	Phenanthrene	2.1	83		U
129-00-0	Pyrene	1.9	83		U

LW
7/27/09

FORM 1
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 48

STR01-SS
D04-2-3-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: NA Case No.: NA SAS No.: NA SDG No.: CHERRY201_003

Matrix: (soil/water) SOIL Lab Sample ID: 0905228-46

Sample wt/vol: 15.0 (g/mL) G Lab File ID: 0522846

% Moisture: 19 decanted: (Y/N) N Date Sampled: 05/21/09 13:42

Extraction: (SepF/Cont/Sonc/Soxh) SOXH Date Extracted: 06/04/09

Concentrated Extract Volume: 1000.0(uL) Date Analyzed: 06/15/09 01:47

Injection Volume: 0.5(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
83-32-9	Acenaphthene	1.5	82		U
208-96-8	Acenaphthylene	1.4	82		U
120-12-7	Anthracene	0.99	82		U
56-55-3	Benzo(a)anthracene	1.7	82		U
205-99-2	Benzo(b)fluoranthene	1.9	82		U
207-08-9	Benzo(k)fluoranthene	1.6	82		U
191-24-2	Benzo(g,h,i)perylene	1.8	82		U
50-32-8	Benzo(a)pyrene	1.2	8.2		U
218-01-9	Chrysene	1.3	82		U
53-70-3	Dibenz(a,h)anthracene	1.9	8.2		U
206-44-0	Fluoranthene	2.0	82	3.0	J
86-73-7	Fluorene	1.5	82		U
193-39-5	Indeno(1,2,3-cd)pyrene	1.9	82		U
91-57-6	2-Methylnaphthalene	2.0	82		U
91-20-3	Naphthalene	2.9	82		U
85-01-8	Phenanthrene	2.0	82		U
129-00-0	Pyrene	1.9	82		U

NW
7/27/09

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Empirical Labs	**Service Request:**	R0903026
Project:	Cherry Point 201 Cat Island Skeet Range/Cherry201_003	**Date Collected:**	5/21/09 1730
Sample Matrix:	Water	**Date Received:**	5/30/09
Sample Name:	STR01-FB-052109	**Units:**	µg/L
Lab Code:	R0903026-001	**Basis:**	NA

Perchlorates in Water, Soils, Solid Wastes Using High Performance LC/Electrospray/Mass Spectrometry

Analytical Method: 6850
Prep Method: Method

Analyte Name	Result	Q	MRL	MDL	Dilution Factor	Date Extracted	Date Analyzed	Extraction Lot	Analysis Lot	Note
Perchlorate	0.20	U	0.20	0.027	1	6/ 2/09	6/2/09 14:56	88612	155913	

MM
8/10/09

Comments:

ENVIRONMENTAL
Data Services, Inc.

TOTAL & DISSOLVED METALS
USEPA Region IV - Level IV Review

Site: MCAS Cherry Point, CTO-201 SDG #: Cherry 201_004

Client: CH2M HILL, Inc., Virginia Beach, Virginia Date: June 29, 2009

Laboratory: Empirical Laboratories, Nashville, Tennessee Reviewer: Nancy Weaver

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1T	CI-FB-052809T	0905249-01	Water
1D	CI-FB-052809D	0905249-01	Water
2T	CI-SW03-0509T	0905249-02	Water
2TMS	CI-SW03-0509TMS	0905249-02MS	Water
2TMSD	CI-SW03-0509TMSD	0905249-02MSD	Water
2D	CI-SW03-0509D	0905249-02	Water
2DMS	CI-SW03-0509DMS	0905249-02MS	Water
2DMSD	CI-SW03-0509DMSD	0905249-02MSD	Water
3T	CI-SW06-0509T	0905249-03	Water
3D	CI-SW06-0509D	0905249-03	Water
4T	CI-SW02-P-0509T	0905249-04	Water
4D	CI-SW02-P-0509D	0905249-04	Water
5T	CI-SW02-0509T	0905249-05	Water
5D	CI-SW02-0509D	0905249-05	Water
6T	CI-EB-052809-01T	0905249-06	Water
6D	CI-EB-052809-01D	0905249-06	Water
7T	CI-SW01-0509T	0905249-07	Water
7D	CI-SW01-0509D	0905249-07	Water
8T	CI-SD08-0509T	0905249-08	Soil
9T	CI-SD12-0509T	0905249-09	Soil
10T	CI-SD06-0509T	0905249-10	Soil
11T	CI-SD10-0509T	0905249-11	Soil
12T	CI-SD07-0509T	0905249-13	Soil
13T	CI-SD09-0509T	0905249-14	Soil
13TMS	CI-SD09-0509TMS	0905249-14MS	Soil
13TMSD	CI-SD09-0509TMSD	0905249-14MSD	Soil
14T	CI-SD03-0509T	0905249-15	Soil
15T	CI-EB-052809-02T	0905249-16	Water
16T	CI-SD04-0509T	0905249-17	Soil
17T	CI-SD02-0509T	0905249-18	Soil
18T	CI-SD05-0509T	0905249-20	Soil
19T	CI-SD11-0509T	0905249-21	Soil
20T	CI-SD03-P-0509T	0905249-22	Soil
21T	CI-SD01-0509T	0905249-23	Soil
22T	CI-SD05-P-0509T	0905249-24	Soil

The USEPA "Contract Laboratory Program National Functional Guidelines for Inorganic Data Review," October 2004, and professional judgement were used in evaluating the data in this summary report.

Holding Times - All samples were prepared and analyzed within 28 days for mercury and 180 days for all other metals.

Calibration - Several ICV and CCV %R values were slightly outside of QC limits but the samples were not affected (1% rule), non-detect or already qualified. No further action was required.

CRDL Standard - The CRDL standards exhibited acceptable %R values.

Method and Calibration Blanks - The method blanks and continuing calibration blanks were free of contamination except the following.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
MBLK	Aluminum	50.965	254.825	U	2D, 3D, 4D, 5D, 7D

Field and Equipment Blank - Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level	Qualifier	Affected Samples
CI-FB-052809T	None - ND	-	-	-	-
CI-FB-052809D	None - ND	-	-	-	-
CI-EB-052809-01T	Sodium	8550	42750 ug/L	None	All >5X
CI-EB-052809-01D	Sodium	7150	35750 ug/L	None	All >5X
CI-EB-052809-02T	Sodium	7700	7700 mg/kg	U	8T-14T, 16T-22T
	Zinc	7.7	7.7 mg/kg	U	8T-14T, 16T, 17T, 20T-22T

ICP Interference Check Sample - All %R values were acceptable.

MS/MSD - The MS/MSD sample exhibited acceptable %R and RPD values except the following.

MS/MSD Sample ID	Compound	MS/MSD %R/RPD	Qualifier	Affected Samples
2T	Aluminum	134%/130%/Ok	J	2T-5T, 7T
	Antimony	166%/161%/Ok	None	All ND
	Arsenic	173%/171%/Ok	None	All ND
	Barium	126%/126%/Ok	J	2T-5T, 7T

MS/MSD Sample ID	Compound	MS/MSD %R/RPD	Qualifier	Affected Samples
2T	Cadmium	201%/199%/Ok	J	2T-5T, 7T
	Copper	136%/134%/Ok	None	All ND
	Selenium	169%/168%/Ok	J	2T-5T, 7T
	Silver	176%/171%/Ok	J	2T-5T, 7T
2D	Antimony	155%/160%/Ok	None	All ND
	Arsenic	163%/173%/Ok	None	All ND
	Barium	Ok/126%/Ok	J	2D-5D, 7D
	Cadmium	184%/197%/Ok	J	2D-5D, 7D
	Copper	132%/135%/Ok	None	All ND
	Selenium	162%/175%/Ok	J	3D-5D, 7D
	Silver	160%/169%/Ok	J	2D-5D, 7D
13T	Aluminum	211%/218%/Ok	J	8T-14T, 16T-22T
	Iron	214%/187%/Ok	J	8T-14T, 16T-22T

LCS - The LCS samples exhibited acceptable %R values.

ICP Serial Dilution - The ICP serial dilution sample exhibited acceptable %D values.

Field Duplicates - Field duplicate results are summarized below.

Compound	CI-SW02-0509T ug/L	CI-SW02-P-0509T ug/L	RPD	Qualifier
Aluminum	669	436	42%	None
Barium	15.3	14.3	7%	None
Cadmium	2.4	2.3	4%	None
Calcium	406000	385000	5%	None
Iron	491	302	48%	None
Magnesium	1160000	1110000	4%	None
Nickel	4.7	5.2	10%	None
Potassium	398000	381000	4%	None
Selenium	4.4	5.8	27%	None
Silver	1.7	1.1	43%	None
Sodium	9760000	9110000	7%	None
Vanadium	5.4	5.3	2%	None

Compound	CI-SW02-0509D ug/L	CI-SW02-P-0509D ug/L	RPD	Qualifier
Barium	14.0	13.9	1%	None
Cadmium	2.4	2.4	0%	None
Calcium	402000	392000	3%	None
Magnesium	1310000	1300000	1%	None
Potassium	445000	438000	2%	None
Selenium	5.1	5.0	2%	None
Silver	1.3	1.3	0%	None
Sodium	10300000	10100000	2%	None

Compound	CI-SD03-0509T mg/kg	CI-SD03-P-0509T mg/kg	RPD	Qualifier
Aluminum	490	741	41%	None
Barium	9.1 U	1.5	NC	None
Calcium	524	460	13%	None
Chromium	2.6	3.0	14%	None
Iron	734	1130	42%	None
Lead	1.1	1.6	37%	None
Magnesium	499	616	21%	None
Manganese	3.3	5.5	50%	None
Vanadium	2.0	2.4 U	NC	None

Compound	CI-SD05-0509T mg/kg	CI-SD05-P-0509T mg/kg	RPD	Qualifier
Aluminum	1030	1720	50%	None
Arsenic	1.2	0.97	21%	None
Barium	2.0	3.0	40%	None
Calcium	448	678	41%	None
Chromium	4.3	7.0	48%	None
Iron	1270	1780	33%	None
Lead	1.7	1.8	6%	None
Magnesium	726	903	22%	None
Manganese	6.4	9.0	34%	None
Nickel	0.92	1.4	41%	None
Potassium	305	480	45%	None
Vanadium	4.4	5.8	27%	None

Compound Quantitation - No discrepancies were identified.

1T

USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-FB-052809

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-01

Level (low/med): LOW Date Received: 05/30/09

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U	N	P
7440-36-0	Antimony	15.0	U	N	P
7440-38-2	Arsenic	10.0	U	N	P
7440-39-3	Barium	40.0	U	N	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U	N	P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U	N	P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U	N	P
7440-22-4	Silver	10.0	U	N	P
7440-23-5	Sodium	5000	U		P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

LW 7/29/09

USEPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

10

EPA SAMPLE NO.

CI-FB-052809Soluble

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherrry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-01Soluble

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U		P
7440-36-0	Antimony	15.0	U		P
7440-38-2	Arsenic	10.0	U		P
7440-39-3	Barium	40.0	U		P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U		P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U		P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U		P
7440-22-4	Silver	10.0	U		P
7440-23-5	Sodium	5000	U		P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 NW 7/29/09

USEPA - CLP

2T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW03-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherrry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-02

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	608		~~N~~ J	P	MSH
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	15.2	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.4	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	409000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	500	J		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1150000			P	
7439-96-5	Manganese	17.7	J		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	4.9	J		P	
7440-09-7	Potassium	393000			P	
7782-49-2	Selenium	6.5		~~N~~ J	P	MSH
7440-22-4	Silver	1.6	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	9780000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	5.7	J		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 MW 7/29/09

USEPA - CLP

2D

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW03-0509Soluble

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherrry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-02Soluble

Level (low/med): LOW Date Received: 05/30/09

% Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	200 ~~122~~	~~J~~	U	P	BL
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	13.8	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.1	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	392000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	500	U		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1310000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	445000			P	
7782-49-2	Selenium	5.0	U	~~N~~	P	
7440-22-4	Silver	1.4	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	10300000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	29.6	J		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 KW 7/29/09

3T

USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW06-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-03

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	669		~~N~~ J	P	MSH
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	15.3	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.4	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	406000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	491	J		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1160000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	4.7	J		P	
7440-09-7	Potassium	398000			P	
7782-49-2	Selenium	4.4	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	1.7	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	9760000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	5.4	J		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 MM 7/29/09

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USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW06-0509Soluble

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: Case No.: SAS No.: SDG No.: Cherry201_0

atrix (soil/water): WATER Lab Sample ID: 0905249-03Soluble

evel (low/med): LOW Date Received: 05/30/09

Solids:

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	200 ~~120~~	~~J~~	~~U~~	P	BL
7440-36-0	Antimony	15.0	U	~~U~~	P	
7440-38-2	Arsenic	10.0	U	~~U~~	P	
7440-39-3	Barium	14.0	~~J~~	~~U~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.4	~~J~~	~~U~~ J	P	MSH
7440-70-2	Calcium	402000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~U~~	P	
7439-89-6	Iron	500	U		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1310000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	445000			P	
7782-49-2	Selenium	5.1		~~U~~ J	P	MSH
7440-22-4	Silver	1.3	~~J~~	~~U~~ J	P	MSH
7440-23-5	Sodium	10300000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	100	U		P	

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 NW 7/29/09

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USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW02-P-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-04

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	436		~~N~~ J	P	MSH
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	14.3	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.3	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	385000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	302	J		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1110000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	5.2	J		P	
7440-09-7	Potassium	381000			P	
7782-49-2	Selenium	5.8		~~N~~ J	P	MSH
7440-22-4	Silver	1.1	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	9110000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	5.3	J		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW02-P-0509Soluble

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-04Soluble

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2000 ~~122~~	~~U~~		P	BL
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	13.9	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.4	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	392000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	500	U		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1300000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	438000			P	
7782-49-2	Selenium	5.0		~~N~~ J	P	MSH
7440-22-4	Silver	1.3	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	10100000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW02-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-05

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	394		~~N~~ J	P	MSH
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	14.8	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.1	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	397000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	290	J		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1130000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	5.5	J		P	
7440-09-7	Potassium	390000			P	
7782-49-2	Selenium	3.4	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	1.3	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	9440000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	5.3	J		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 RW 7/29/09

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW02-0509Soluble

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-05Soluble

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	200U ~~122~~	~~U~~		P	BL
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	13.8	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.5	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	387000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	500	U		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1310000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	442000			P	
7782-49-2	Selenium	4.7	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	1.2	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	9890000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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MW 7/29/09

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USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-EB-052809-01

ab Name: Empirical Laboratories Contract: CH2M Hill

ab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

atrix (soil/water): WATER Lab Sample ID: 0905249-06

evel (low/med): LOW Date Received: 05/30/09

Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U	N	P
7440-36-0	Antimony	15.0	U	N	P
7440-38-2	Arsenic	10.0	U	N	P
7440-39-3	Barium	40.0	U	N	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U	N	P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U	N	P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U	N	P
7440-22-4	Silver	10.0	U	N	P
7440-23-5	Sodium	8550			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 NW 7/29/09

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USEPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-EB-052809-01Soluble

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-06Soluble

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U		P
7440-36-0	Antimony	15.0	U	N	P
7440-38-2	Arsenic	10.0	U	N	P
7440-39-3	Barium	40.0	U	N	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U	N	P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U	N	P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U	N	P
7440-22-4	Silver	10.0	U	N	P
7440-23-5	Sodium	7150			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	20.0	U		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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TT

USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW01-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-07

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	332		~~N~~ J	P	MSH
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	14.4	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.2	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	399000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	230	J		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1150000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	5.2	J		P	
7440-09-7	Potassium	395000			P	
7782-49-2	Selenium	3.3	~~J~~	~~N~~ J	P	MSH
7440-22-4	Silver	1.5	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	9490000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SW01-0509Soluble

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-07Soluble

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2004 ~~121~~	~~J~~		P	BL
7440-36-0	Antimony	15.0	U	~~N~~	P	
7440-38-2	Arsenic	10.0	U	~~N~~	P	
7440-39-3	Barium	14.2	~~J~~	~~N~~ J	P	MSH
7440-41-7	Beryllium	5.0	U		P	
7440-43-9	Cadmium	2.5	~~J~~	~~N~~ J	P	MSH
7440-70-2	Calcium	393000			P	
7440-47-3	Chromium	10.0	U		P	
7440-48-4	Cobalt	15.0	U		P	
7440-50-8	Copper	10.0	U	~~N~~	P	
7439-89-6	Iron	500	U		P	
7439-92-1	Lead	15.0	U		P	
7439-95-4	Magnesium	1310000			P	
7439-96-5	Manganese	75.0	U		P	
7439-97-6	Mercury	0.20	U		AV	
7440-02-0	Nickel	10.0	U		P	
7440-09-7	Potassium	443000			P	
7782-49-2	Selenium	6.4		~~N~~ J	P	MSH
7440-22-4	Silver	1.1	~~J~~	~~N~~ J	P	MSH
7440-23-5	Sodium	10100000			P	
7440-28-0	Thallium	10.0	U		P	
7440-62-2	Vanadium	15.0	U		P	
7440-66-6	Zinc	100	U		P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD08-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-08

Level (low/med): LOW Date Received: 05/30/09

% Solids: 78.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	986		~~N~~ J	P	MSH
7440-36-0	Antimony	3.6	U		P	
7440-38-2	Arsenic	1.1	J		P	
7440-39-3	Barium	1.9	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	624	J		P	
7440-47-3	Chromium	4.1			P	
7440-48-4	Cobalt	3.6	U		P	
7440-50-8	Copper	2.4	U		P	
7439-89-6	Iron	1300		~~N~~ J	P	MSH
7439-92-1	Lead	1.8			P	
7439-95-4	Magnesium	777	J		P	
7439-96-5	Manganese	7.2			P	
7439-97-6	Mercury	0.040	U		AV	
7440-02-0	Nickel	0.96	J		P	
7440-09-7	Potassium	282	J		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.4	U		P	
7440-23-5	Sodium	3090		U	P	BL
7440-28-0	Thallium	2.4	U		P	
7440-62-2	Vanadium	4.0			P	
7440-66-6	Zinc	4.9 ~~3.7~~	~~J~~	U	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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9T

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD12-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-09

Level (low/med): LOW Date Received: 05/30/09

% Solids: 79.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1100		~~N~~ J	P	MSH
7440-36-0	Antimony	3.4	U		P	
7440-38-2	Arsenic	1.7	J		P	
7440-39-3	Barium	2.5	J		P	
7440-41-7	Beryllium	1.1	U		P	
7440-43-9	Cadmium	1.1	U		P	
7440-70-2	Calcium	842	J		P	
7440-47-3	Chromium	5.3			P	
7440-48-4	Cobalt	3.4	U		P	
7440-50-8	Copper	2.3	U		P	
7439-89-6	Iron	1900		~~N~~ J	P	MSH
7439-92-1	Lead	1.4			P	
7439-95-4	Magnesium	1110	J		P	
7439-96-5	Manganese	10.1			P	
7439-97-6	Mercury	0.040	U		AV	
7440-02-0	Nickel	1.1	J		P	
7440-09-7	Potassium	282	J		P	
7782-49-2	Selenium	1.1	U		P	
7440-22-4	Silver	2.3	U		P	
7440-23-5	Sodium	2850		U	P	BL
7440-28-0	Thallium	2.3	U		P	
7440-62-2	Vanadium	4.6			P	
7440-66-6	Zinc	4.8		U	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 NW 7/29/09

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INORGANIC ANALYSES DATA SHEET

10T

EPA SAMPLE NO.

CI-SD06-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-10

Level (low/med): LOW Date Received: 05/30/09

% Solids: 72.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	747		~~N~~ J	P	MSH
7440-36-0	Antimony	4.0	U		P	
7440-38-2	Arsenic	0.92	J		P	
7440-39-3	Barium	1.6	J		P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	1.3	U		P	
7440-70-2	Calcium	835	J		P	
7440-47-3	Chromium	4.0			P	
7440-48-4	Cobalt	4.0	U		P	
7440-50-8	Copper	2.6	U		P	
7439-89-6	Iron	1370		~~N~~ J	P	MSH
7439-92-1	Lead	1.4			P	
7439-95-4	Magnesium	495	J		P	
7439-96-5	Manganese	6.2			P	
7439-97-6	Mercury	0.043	U		AV	
7440-02-0	Nickel	0.82	J		P	
7440-09-7	Potassium	1320	U		P	
7782-49-2	Selenium	1.3	U		P	
7440-22-4	Silver	2.6	U		P	
7440-23-5	Sodium	1320 U ~~1040~~	~~J~~		P	BL
7440-28-0	Thallium	2.6	U		P	
7440-62-2	Vanadium	2.7	J		P	
7440-66-6	Zinc	5.3 U ~~3.4~~	~~J~~		P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

NW 7/29/09

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INORGANIC ANALYSES DATA SHEET

IT

EPA SAMPLE NO.

CI-SD10-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-11

Level (low/med): LOW Date Received: 05/30/09

% Solids: 79.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1410		~~N~~ J	P	MSH
7440-36-0	Antimony	3.7	U		P	
7440-38-2	Arsenic	1.7	J		P	
7440-39-3	Barium	2.6	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	1080	J		P	
7440-47-3	Chromium	6.0			P	
7440-48-4	Cobalt	3.7	U		P	
7440-50-8	Copper	2.5	U		P	
7439-89-6	Iron	2160		~~N~~ J	P	MSH
7439-92-1	Lead	1.5			P	
7439-95-4	Magnesium	1160	J		P	
7439-96-5	Manganese	11.8			P	
7439-97-6	Mercury	0.040	U		AV	
7440-02-0	Nickel	1.4	J		P	
7440-09-7	Potassium	353	J		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	3200		u	P	BL
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	5.9			P	
7440-66-6	Zinc	5.5		u	P	BL

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD07-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-13

Level (low/med): LOW Date Received: 05/30/09

% Solids: 76.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	688		~~N~~ J	P	MSH
7440-36-0	Antimony	3.6	U		P	
7440-38-2	Arsenic	2.4	U		P	
7440-39-3	Barium	1.6	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	488	J		P	
7440-47-3	Chromium	3.9			P	
7440-48-4	Cobalt	3.6	U		P	
7440-50-8	Copper	2.4	U		P	
7439-89-6	Iron	1020		~~N~~ J	P	MSH
7439-92-1	Lead	3.8			P	
7439-95-4	Magnesium	683	J		P	
7439-96-5	Manganese	3.9			P	
7439-97-6	Mercury	0.046	U		AV	
7440-02-0	Nickel	0.79	J		P	
7440-09-7	Potassium	1220	U		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.4	U		P	
7440-23-5	Sodium	3190		U	P	BL
7440-28-0	Thallium	2.4	U		P	
7440-62-2	Vanadium	3.1	J		P	
7440-66-6	Zinc	4.9 ~~2.2~~	~~J~~	U	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

BT

EPA SAMPLE NO.

CI-SD09-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-14

Level (low/med): LOW Date Received: 05/30/09

% Solids: 80.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	620		~~N~~ J	P	MSH
7440-36-0	Antimony	3.7	U		P	
7440-38-2	Arsenic	2.5	U		P	
7440-39-3	Barium	1.4	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	474	J		P	
7440-47-3	Chromium	3.2			P	
7440-48-4	Cobalt	3.7	U		P	
7440-50-8	Copper	2.5	U		P	
7439-89-6	Iron	761		~~N~~ J	P	MSH
7439-92-1	Lead	1.7			P	
7439-95-4	Magnesium	498	J		P	
7439-96-5	Manganese	3.9			P	
7439-97-6	Mercury	0.040	U		AV	
7440-02-0	Nickel	2.5	U		P	
7440-09-7	Potassium	1240	U		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	2430		u	P	BL
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	2.3	J		P	
7440-66-6	Zinc	5.0 ~~1.9~~	~~J~~	u	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD03-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-15

Level (low/med): LOW Date Received: 05/30/09

% Solids: 82.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	490		~~N~~ J	P	MSH
7440-36-0	Antimony	3.4	U		P	
7440-38-2	Arsenic	2.3	U		P	
7440-39-3	Barium	9.1	U		P	
7440-41-7	Beryllium	1.1	U		P	
7440-43-9	Cadmium	1.1	U		P	
7440-70-2	Calcium	524	J		P	
7440-47-3	Chromium	2.6			P	
7440-48-4	Cobalt	3.4	U		P	
7440-50-8	Copper	2.3	U		P	
7439-89-6	Iron	734		~~N~~ J	P	MSH
7439-92-1	Lead	1.1			P	
7439-95-4	Magnesium	499	J		P	
7439-96-5	Manganese	3.3	J		P	
7439-97-6	Mercury	0.041	U		AV	
7440-02-0	Nickel	2.3	U		P	
7440-09-7	Potassium	1140	U		P	
7782-49-2	Selenium	1.1	U		P	
7440-22-4	Silver	2.3	U		P	
7440-23-5	Sodium	2340		U	P	BL
7440-28-0	Thallium	2.3	U		P	
7440-62-2	Vanadium	2.0	J		P	
7440-66-6	Zinc	4.6 ~~3.0~~	~~J~~	U	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-EB-052809-02

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): WATER Lab Sample ID: 0905249-16

Level (low/med): LOW Date Received: 05/30/09

% Solids: _____

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	200	U	N	P
7440-36-0	Antimony	15.0	U	N	P
7440-38-2	Arsenic	10.0	U	N	P
7440-39-3	Barium	40.0	U	N	P
7440-41-7	Beryllium	5.0	U		P
7440-43-9	Cadmium	5.0	U	N	P
7440-70-2	Calcium	5000	U		P
7440-47-3	Chromium	10.0	U		P
7440-48-4	Cobalt	15.0	U		P
7440-50-8	Copper	10.0	U	N	P
7439-89-6	Iron	100	U		P
7439-92-1	Lead	3.0	U		P
7439-95-4	Magnesium	5000	U		P
7439-96-5	Manganese	15.0	U		P
7439-97-6	Mercury	0.20	U		AV
7440-02-0	Nickel	10.0	U		P
7440-09-7	Potassium	5000	U		P
7782-49-2	Selenium	5.0	U	N	P
7440-22-4	Silver	10.0	U	N	P
7440-23-5	Sodium	7700			P
7440-28-0	Thallium	10.0	U		P
7440-62-2	Vanadium	15.0	U		P
7440-66-6	Zinc	7.7	J		P

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD04-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherrry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-17

Level (low/med): LOW Date Received: 05/30/09

% Solids: 80.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	649		~~N~~ J	P	MSH
7440-36-0	Antimony	3.5	U		P	
7440-38-2	Arsenic	2.3	U		P	
7440-39-3	Barium	1.4	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	494	J		P	
7440-47-3	Chromium	3.4			P	
7440-48-4	Cobalt	3.5	U		P	
7440-50-8	Copper	2.3	U		P	
7439-89-6	Iron	917		~~N~~ J	P	MSH
7439-92-1	Lead	0.78			P	
7439-95-4	Magnesium	558	J		P	
7439-96-5	Manganese	4.0			P	
7439-97-6	Mercury	0.039	U		AV	
7440-02-0	Nickel	0.73	J		P	
7440-09-7	Potassium	1160	U		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.3	U		P	
7440-23-5	Sodium	2540		U	P	BL
7440-28-0	Thallium	2.3	U		P	
7440-62-2	Vanadium	2.9	J		P	
7440-66-6	Zinc	4.6 ~~2.2~~	~~J~~	U	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

 MW 7/29/09

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INORGANIC ANALYSES DATA SHEET

1TT

EPA SAMPLE NO.

CI-SD02-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherrry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-19

Level (low/med): LOW Date Received: 05/30/09

% Solids: 82.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	484		~~N~~ J	P	MSH
7440-36-0	Antimony	3.5	U		P	
7440-38-2	Arsenic	2.4	U		P	
7440-39-3	Barium	9.4	U		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	290	J		P	
7440-47-3	Chromium	1.9	J		P	
7440-48-4	Cobalt	3.5	U		P	
7440-50-8	Copper	2.4	U		P	
7439-89-6	Iron	734		~~N~~ J	P	MSH
7439-92-1	Lead	2.8			P	
7439-95-4	Magnesium	468	J		P	
7439-96-5	Manganese	3.5	J		P	
7439-97-6	Mercury	0.038	U		AV	
7440-02-0	Nickel	2.4	U		P	
7440-09-7	Potassium	1180	U		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.4	U		P	
7440-23-5	Sodium	2200		U	P	BL
7440-28-0	Thallium	2.4	U		P	
7440-62-2	Vanadium	2.5	J		P	
7440-66-6	Zinc	4.7 ~~3.2~~	~~J~~	U	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD05-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-20

Level (low/med): LOW Date Received: 05/30/09

% Solids: 78.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	2690		~~N~~ J	P	MSH
7440-36-0	Antimony	3.6	U		P	
7440-38-2	Arsenic	1.4	J		P	
7440-39-3	Barium	4.4	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	1360			P	
7440-47-3	Chromium	10.0			P	
7440-48-4	Cobalt	3.6	U		P	
7440-50-8	Copper	2.4	U		P	
7439-89-6	Iron	2540		~~N~~ J	P	MSH
7439-92-1	Lead	2.2			P	
7439-95-4	Magnesium	1170	J		P	
7439-96-5	Manganese	13.4			P	
7439-97-6	Mercury	0.043	U		AV	
7440-02-0	Nickel	1.9	J		P	
7440-09-7	Potassium	678	J		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.4	U		P	
7440-23-5	Sodium	3320		U	P	BL
7440-28-0	Thallium	2.4	U		P	
7440-62-2	Vanadium	7.9			P	
7440-66-6	Zinc	8.9			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD11-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherrry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-21

Level (low/med): LOW Date Received: 05/30/09

% Solids: 75.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	3650		~~N~~ J	P	MSH
7440-36-0	Antimony	3.8	U		P	
7440-38-2	Arsenic	3.2			P	
7440-39-3	Barium	5.7	J		P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	1.3	U		P	
7440-70-2	Calcium	10800			P	
7440-47-3	Chromium	12.2			P	
7440-48-4	Cobalt	3.8	U		P	
7440-50-8	Copper	1.9	J		P	
7439-89-6	Iron	5180		~~N~~ J	P	MSH
7439-92-1	Lead	4.2			P	
7439-95-4	Magnesium	2040			P	
7439-96-5	Manganese	27.2			P	
7439-97-6	Mercury	0.045	U		AV	
7440-02-0	Nickel	2.9			P	
7440-09-7	Potassium	727	J		P	
7782-49-2	Selenium	1.3	U		P	
7440-22-4	Silver	2.6	U		P	
7440-23-5	Sodium	4150		U	P	BL
7440-28-0	Thallium	2.6	U		P	
7440-62-2	Vanadium	10.9			P	
7440-66-6	Zinc	13.0			P	

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD03-P-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherrry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-22

Level (low/med): LOW Date Received: 05/30/09

% Solids: 80.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	741		~~N~~ J	P	MSH
7440-36-0	Antimony	3.7	U		P	
7440-38-2	Arsenic	2.5	U		P	
7440-39-3	Barium	1.5	J		P	
7440-41-7	Beryllium	1.2	U		P	
7440-43-9	Cadmium	1.2	U		P	
7440-70-2	Calcium	460	J		P	
7440-47-3	Chromium	3.0			P	
7440-48-4	Cobalt	3.7	U		P	
7440-50-8	Copper	2.5	U		P	
7439-89-6	Iron	1130		~~N~~ J	P	MSH
7439-92-1	Lead	1.6			P	
7439-95-4	Magnesium	616	J		P	
7439-96-5	Manganese	5.5			P	
7439-97-6	Mercury	0.041	U		AV	
7440-02-0	Nickel	2.5	U		P	
7440-09-7	Potassium	1240	U		P	
7782-49-2	Selenium	1.2	U		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	2520		U	P	BL
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	2.4	J		P	
7440-66-6	Zinc	4.9 ~~4.3~~	~~J~~	U	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

KW 7/29/09

USEPA - CLP

-1-

INORGANIC ANALYSES DATA SHEET

21T

EPA SAMPLE NO.

CI-SD01-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-23

Level (low/med): LOW Date Received: 05/30/09

% Solids: 71.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1030		~~N~~ J	P	MSH
7440-36-0	Antimony	3.9	U		P	
7440-38-2	Arsenic	1.2	J		P	
7440-39-3	Barium	2.0	J		P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	1.3	U		P	
7440-70-2	Calcium	448	J		P	
7440-47-3	Chromium	4.3			P	
7440-48-4	Cobalt	3.9	U		P	
7440-50-8	Copper	2.6	U		P	
7439-89-6	Iron	1270		~~N~~ J	P	MSH
7439-92-1	Lead	1.7			P	
7439-95-4	Magnesium	726	J		P	
7439-96-5	Manganese	6.4			P	
7439-97-6	Mercury	0.045	U		AV	
7440-02-0	Nickel	0.92	J		P	
7440-09-7	Potassium	305	J		P	
7782-49-2	Selenium	1.3	U		P	
7440-22-4	Silver	2.6	U		P	
7440-23-5	Sodium	2850		u	P	BL
7440-28-0	Thallium	2.6	U		P	
7440-62-2	Vanadium	4.4			P	
7440-66-6	Zinc	5.2 ~~3.5~~	~~J~~	u	P	BL

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: _____

Form I - IN

7/29/09

22T

USEPA - CLP

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

CI-SD05-P-0509

Lab Name: Empirical Laboratories Contract: CH2M Hill

Lab Code: Case No.: SAS No.: SDG No.: Cherry201_0

Matrix (soil/water): SEDIMENT Lab Sample ID: 0905249-24

Level (low/med): LOW Date Received: 05/30/09

% Solids: 76.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M	
7429-90-5	Aluminum	1720		~~N~~J	P	MSH
7440-36-0	Antimony	3.8	U		P	
7440-38-2	Arsenic	0.97	J		P	
7440-39-3	Barium	3.0	J		P	
7440-41-7	Beryllium	1.3	U		P	
7440-43-9	Cadmium	1.3	U		P	
7440-70-2	Calcium	678	J		P	
7440-47-3	Chromium	7.0			P	
7440-48-4	Cobalt	3.8	U		P	
7440-50-8	Copper	2.5	U		P	
7439-89-6	Iron	1780		~~N~~J	P	MSH
7439-92-1	Lead	1.8			P	
7439-95-4	Magnesium	903	J		P	
7439-96-5	Manganese	9.0			P	
7439-97-6	Mercury	0.042	U		AV	
7440-02-0	Nickel	1.4	J		P	
7440-09-7	Potassium	480	J		P	
7782-49-2	Selenium	1.3	U		P	
7440-22-4	Silver	2.5	U		P	
7440-23-5	Sodium	3230		U	P	BL
7440-28-0	Thallium	2.5	U		P	
7440-62-2	Vanadium	5.8			P	
7440-66-6	Zinc	5.0 ~~4.2~~	~~J~~	U	P	BL

Color Before: Clarity Before: Texture:

Color After: Clarity After: Artifacts:

Comments:

 VW 7/29/09

ENVIRONMENTAL
Data Services, Inc.

EXPLOSIVES, NITROGLYCERIN & PETN

USEPA Region IV - Level IV Review

Site: MCAS Cherry Point, CTO-201 SDG #: Cherry 201_004

Client: CH2M HILL, Inc., Virginia Beach, Virginia Date: July 29, 2009

Laboratory: Empirical Laboratories, Nashville, Tennessee Reviewer: Nancy Weaver

EDS ID	Client Sample ID	Laboratory Sample ID	Matrix
1	CI-FB-052809	0905249-01	Water
2	CI-SW03-0509	0905249-02	Water
2MS	CI-SW03-0509MS	0905249-02MS	Water
2MSD	CI-SW03-0509MSD	0905249-02MSD	Water
3	CI-SW06-0509	0905249-03	Water
4	CI-SW02-P-0509	0905249-04	Water
5	CI-SW02-0509	0905249-05	Water
6	CI-EB-052809-01	0905249-06	Water
7	CI-SW01-0509	0905249-07	Water
8	CI-SD08-0509	0905249-08	Soil
9	CI-SD12-0509	0905249-09	Soil
10	CI-SD06-0509	0905249-10	Soil
11	CI-SD10-0509	0905249-11	Soil
12	CI-SD07-0509	0905249-13	Soil
13	CI-SD09-0509	0905249-14	Soil
13MS	CI-SD09-0509MS	0905249-14MS	Soil
13MSD	CI-SD09-0509MSD	0905249-14MSD	Soil
14	CI-SD03-0509	0905249-15	Soil
15	CI-EB-052809-02	0905249-16	Water
16	CI-SD04-0509	0905249-17	Soil
17	CI-SD02-0509	0905249-19	Soil
18	CI-SD05-0509	0905249-20	Soil
19	CI-SD11-0509	0905249-21	Soil
20	CI-SD03-P-0509	0905249-22	Soil
21	CI-SD01-0509	0905249-23	Soil
22	CI-SD05-P-0509	0905249-01	Soil

The USEPA "Contract Laboratory Program National Functional Guidelines for Organic Data Review," October 1999, and professional judgement were used in evaluating the data in this summary report.

Holding Times - All samples were extracted within 7 days for water samples, 14 days for soil samples and analyzed within 40 days.

Initial Calibration - The initial calibrations exhibited acceptable %RSD values.

Calibration Verification - The continuing calibrations exhibited acceptable %D values.

Surrogates - All samples exhibited acceptable surrogate recoveries except the following.

Sample ID	Surrogate	S1%R/S2%R	Qualifier
4	1-Chloro-3-nitrobenzene	Ok/146%	None - All positive results already qualified (J)

MS/MSD - The MS/MSD samples exhibited acceptable %R and RPD values.

Laboratory Control Sample - The LCS samples exhibited acceptable %R values.

Method Blank - The method blanks exhibited the following contamination.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
9F01021-BLK1	2,4-Dinitrotoluene	0.13	0.65	U	6, 15

Field, Equipment Blank - Field QC results are summarized below.

Blank ID	Compound	Conc. ug/L	Action Level ug/L	Qualifier	Affected Samples
CI-EB052809-01	3-Nitrotoluene	0.15	0.75	None	All associated ND
	4-Nitrotoluene	3.1	15.5	U	4, 5
C1-EB-052809-02	HMX	0.12	0.75	None	All associated ND
	Nitrobenzene	0.060	0.30	None	All associated ND
	2,6-Dinitrotoluene	0.075	0.375	None	All associated ND
	2,4,6-Trinitrotoluene	0.053	0.265	None	All associated ND
	4-Nitrotoluene	3.0	15.0	None	All associated ND
	3-Nitrotoluene	0.25	1.25	None	All associated ND
CI-FB-052809	1,3-Dinitrobenzene	0.10	0.50	None	All associated ND
	2-Amino-4,6-dinitrotoluene	0.084	0.42	None	All associated ND
	2-Nitrotoluene	0.17	0.85	None	All associated ND
	4-Nitrotoluene	3.0	15.0	None	All associated ND
	3-Nitrotoluene	0.17	0.85	None	All associated ND

Field Duplicates - Field duplicate results are summarized below.

Compound	CI-SW02-0509 ug/L	CI-SW02-P-0509 ug/L	RPD	Qualifier
RDX	0.076	0.20 U	NC	None
1,3,5-Trinitrobenzene	0.062	0.078	23%	None
2-Nitrotoluene	0.073	0.20 U	NC	None

Compound	CI-SD03-0509 ug/kg	CI-SD03-P-0509 ug/kg	RPD	Qualifier
None	ND	ND	-	-

Compound	CI-SD05-0509 ug/kg	CI-SD05-P-0509 ug/kg	RPD	Qualifier
None	ND	ND	-	-

Compound Identification - Retention times were acceptable and no further action was taken.

Compound Quantitation - Several samples exhibited results with high %D values between columns and have been flagged (P) by the laboratory and further qualified estimated (J) by the reviewer.

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CI-FB-052809

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-01

Sample wt/vol: 1060 (g/ml) ML Lab File ID: 025V2501

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 15:00

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 00:08

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	0.047	0.19		U
121-82-4	RDX	0.047	0.19		U
98-95-3	Nitrobenzene	0.047	0.19		U
99-65-0	1,3-Dinitrobenzene	0.047	0.19	0.10	~~JPM~~ J 2C
99-35-4	1,3,5-Trinitrobenzene	0.047	0.19		U
121-14-2	2,4-Dinitrotoluene	0.047	0.19		U
606-20-2	2,6-Dinitrotoluene	0.047	0.19		U
118-96-7	2,4,6-Trinitrotoluene	0.047	0.19		U
35572-78-2	2-Amino-4,6-dinitrotoluene	0.047	0.19	0.084	~~JP~~ J 2C
479-45-8	Tetryl	0.047	0.19		U
19406-51-0	4-Amino-2,6-dinitrotoluene	0.047	0.19		U
88-72-2	2-Nitrotoluene	0.047	0.19	0.17	J
99-99-0	4-Nitrotoluene	0.047	0.19	3.0	~~P~~ J 2C
99-08-1	3-Nitrotoluene	0.047	0.19	0.17	~~JP~~ J 2C
55-63-0	Nitroglycerin	0.16	1.9		U
78-11-5	PETN	0.25	1.9		U

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FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 2

CI-SW03-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-02

Sample wt/vol: 1080 (g/ml) ML Lab File ID: 026V2601

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 11:30

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 00:42

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	0.046	0.18		U
121-82-4	RDX	0.046	0.18		U
98-95-3	Nitrobenzene	0.046	0.18		U
99-65-0	1,3-Dinitrobenzene	0.046	0.18		U
99-35-4	1,3,5-Trinitrobenzene	0.046	0.18		U
121-14-2	2,4-Dinitrotoluene	0.046	0.18		U
606-20-2	2,6-Dinitrotoluene	0.046	0.18		U
118-96-7	2,4,6-Trinitrotoluene	0.046	0.18		U
35572-78-2	2-Amino-4,6-dinitrotoluene	0.046	0.18		U
479-45-8	Tetryl	0.046	0.18		U
19406-51-0	4-Amino-2,6-dinitrotoluene	0.046	0.18		U
88-72-2	2-Nitrotoluene	0.046	0.18		U
99-99-0	4-Nitrotoluene	0.046	0.18		U
99-08-1	3-Nitrotoluene	0.046	0.18		U
55-63-0	Nitroglycerin	0.16	1.8		U
78-11-5	PETN	0.24	1.8		U

lw
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 3

CI-SW06-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-03

Sample wt/vol: 1080 (g/ml) ML Lab File ID: 031V3101

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 12:45

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 03:34

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	0.046	0.18		U
121-82-4	RDX	0.046	0.18		U
98-95-3	Nitrobenzene	0.046	0.18		U
99-65-0	1,3-Dinitrobenzene	0.046	0.18		U
99-35-4	1,3,5-Trinitrobenzene	0.046	0.18		U
121-14-2	2,4-Dinitrotoluene	0.046	0.18		U
606-20-2	2,6-Dinitrotoluene	0.046	0.18	0.073	~~JP~~ J 2C
118-96-7	2,4,6-Trinitrotoluene	0.046	0.18		U
35572-78-2	2-Amino-4,6-dinitrotoluene	0.046	0.18		U
479-45-8	Tetryl	0.046	0.18		U
19406-51-0	4-Amino-2,6-dinitrotoluene	0.046	0.18		U
88-72-2	2-Nitrotoluene	0.046	0.18		U
99-99-0	4-Nitrotoluene	0.046	0.18		U
99-08-1	3-Nitrotoluene	0.046	0.18		U
55-63-0	Nitroglycerin	0.16	1.8		U
78-11-5	PETN	0.24	1.8		U

kw
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 4

CI-SW02-P-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-04

Sample wt/vol: 1020 (g/ml) ML Lab File ID: 032V3201

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 11:05

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 04:08

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	0.049	0.20		U
121-82-4	RDX	0.049	0.20		U
98-95-3	Nitrobenzene	0.049	0.20		U
99-65-0	1,3-Dinitrobenzene	0.049	0.20		U
99-35-4	1,3,5-Trinitrobenzene	0.049	0.20	0.078	~~JP~~ J 2C
121-14-2	2,4-Dinitrotoluene	0.049	0.20		U
606-20-2	2,6-Dinitrotoluene	0.049	0.20		U
118-96-7	2,4,6-Trinitrotoluene	0.049	0.20		U
35572-78-2	2-Amino-4,6-dinitrotoluene	0.049	0.20		U
479-45-8	Tetryl	0.049	0.20		U
19406-51-0	4-Amino-2,6-dinitrotoluene	0.049	0.20		U
88-72-2	2-Nitrotoluene	0.049	0.20		U
99-99-0	4-Nitrotoluene	0.049	0.20	0.20 ~~0.074~~	~~JF~~ BL
99-08-1	3-Nitrotoluene	0.049	0.20		U
55-63-0	Nitroglycerin	0.17	2.0		U
78-11-5	PETN	0.26	2.0		U

nw
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 5

CI-SW02-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-05

Sample wt/vol: 1060 (g/ml) ML Lab File ID: 033V3301

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 11:00

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 04:42

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0-----	HMX	0.047	0.19		U
121-82-4------	RDX	0.047	0.19	0.076	~~JPM~~ J 2C
98-95-3-------	Nitrobenzene	0.047	0.19		U
99-65-0-------	1,3-Dinitrobenzene	0.047	0.19		U
99-35-4-------	1,3,5-Trinitrobenzene	0.047	0.19	0.062	~~JP~~ J 2C
121-14-2------	2,4-Dinitrotoluene	0.047	0.19		U
606-20-2------	2,6-Dinitrotoluene	0.047	0.19		U
118-96-7------	2,4,6-Trinitrotoluene	0.047	0.19		U
35572-78-2----	2-Amino-4,6-dinitrotoluene	0.047	0.19		U
479-45-8------	Tetryl	0.047	0.19		U
19406-51-0----	4-Amino-2,6-dinitrotoluene	0.047	0.19		U
88-72-2-------	2-Nitrotoluene	0.047	0.19	0.073	~~JP~~ J 2C
99-99-0-------	4-Nitrotoluene	0.047	0.19	0.096 ~~0.096~~	~~JP~~ B
99-08-1-------	3-Nitrotoluene	0.047	0.19		U
55-63-0-------	Nitroglycerin	0.16	1.9		U
78-11-5-------	PETN	0.25	1.9		U

NW
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 6

CI-EB-052809-01

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-06

Sample wt/vol: 1040 (g/ml) ML Lab File ID: 034V3401

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 15:20

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 05:17

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	0.048	0.19		U
121-82-4	RDX	0.048	0.19		U
98-95-3	Nitrobenzene	0.048	0.19		U
99-65-0	1,3-Dinitrobenzene	0.048	0.19		U
99-35-4	1,3,5-Trinitrobenzene	0.048	0.19		U
121-14-2	2,4-Dinitrotoluene	0.048	0.19	0.19 ~~0.063~~	~~JPB~~ BL
606-20-2	2,6-Dinitrotoluene	0.048	0.19		U
118-96-7	2,4,6-Trinitrotoluene	0.048	0.19		U
35572-78-2	2-Amino-4,6-dinitrotoluene	0.048	0.19		U
479-45-8	Tetryl	0.048	0.19		U
19406-51-0	4-Amino-2,6-dinitrotoluene	0.048	0.19		U
88-72-2	2-Nitrotoluene	0.048	0.19		U
99-99-0	4-Nitrotoluene	0.048	0.19	3.1	~~P~~ J 2C
99-08-1	3-Nitrotoluene	0.048	0.19	0.15	~~JP~~ J 2C
55-63-0	Nitroglycerin	0.16	1.9		U
78-11-5	PETN	0.25	1.9		U

NW
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 7

CI-SW01-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-07

Sample wt/vol: 1000 (g/ml) ML Lab File ID: 035V3501

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 12:02

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted:06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 05:51

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	0.050	0.20		U
121-82-4	RDX	0.050	0.20		U
98-95-3	Nitrobenzene	0.050	0.20		U
99-65-0	1,3-Dinitrobenzene	0.050	0.20		U
99-35-4	1,3,5-Trinitrobenzene	0.050	0.20		U
121-14-2	2,4-Dinitrotoluene	0.050	0.20		U
606-20-2	2,6-Dinitrotoluene	0.050	0.20		U
118-96-7	2,4,6-Trinitrotoluene	0.050	0.20		U
35572-78-2	2-Amino-4,6-dinitrotoluene	0.050	0.20		U
479-45-8	Tetryl	0.050	0.20		U
19406-51-0	4-Amino-2,6-dinitrotoluene	0.050	0.20		U
88-72-2	2-Nitrotoluene	0.050	0.20		U
99-99-0	4-Nitrotoluene	0.050	0.20		U
99-08-1	3-Nitrotoluene	0.050	0.20		U
55-63-0	Nitroglycerin	0.17	2.0		U
78-11-5	PETN	0.26	2.0		U

MW
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 8

CI-SD08-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-08

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 053V5301

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 11:24

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted: 06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/17/09 17:12

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

NW
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 9

CI-SD12-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-09

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 054V5401

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 13:51

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted: 06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/17/09 17:46

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

NW
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FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO.

CI-SD06-0509

10

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-10

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 055V5501

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 10:42

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/17/09 18:20

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

MW
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CLIENT SAMPLE NO.

CI-SD10-0509

11

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-11

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 056V5601

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 09:40

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/17/09 18:55

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

HW
7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 12

CI-SD07-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-13

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 057V5701

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 11:00

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/17/09 19:29

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

AW
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FORM 1
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CLIENT SAMPLE NO. 13

CI-SD09-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-14

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 058V5801

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 11:48

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/17/09 20:04

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

MW 7/29/09

FORM 1
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CLIENT SAMPLE NO. 14

CI-SD03-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-15

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 065V6501

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 12:49

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 00:04

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

lw
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FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 15

CI-EB-052809-02

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) WATER Lab Sample ID: 0905249-16

Sample wt/vol: 1080 (g/ml) ML Lab File ID: 036V3601

% Moisture: _____ decanted: (Y/N)___ Date Sampled: 05/28/09 15:45

Extraction: (SepF/Cont/Sonc/Soxh) SEPF Date Extracted: 06/02/09

Concentrated Extract Volume: 8.0(ml) Date Analyzed: 06/12/09 06:25

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	0.046	0.18	0.12	~~JP~~ J ZC
121-82-4	RDX	0.046	0.18		U
98-95-3	Nitrobenzene	0.046	0.18	0.060	~~JP~~ J ZC
99-65-0	1,3-Dinitrobenzene	0.046	0.18		U
99-35-4	1,3,5-Trinitrobenzene	0.046	0.18		U
121-14-2	2,4-Dinitrotoluene	0.046	0.18	0.18 ~~0.073~~	~~JPB~~ BL
606-20-2	2,6-Dinitrotoluene	0.046	0.18	0.075	~~JP~~ J ZC
118-96-7	2,4,6-Trinitrotoluene	0.046	0.18	0.053	~~JP~~ J ZC
35572-78-2	2-Amino-4,6-dinitrotoluene	0.046	0.18		U
479-45-8	Tetryl	0.046	0.18		U
19406-51-0	4-Amino-2,6-dinitrotoluene	0.046	0.18		U
88-72-2	2-Nitrotoluene	0.046	0.18		U
99-99-0	4-Nitrotoluene	0.046	0.18	3.0	~~P~~ J ZC
99-08-1	3-Nitrotoluene	0.046	0.18	0.25	~~P~~ J ZC
55-63-0	Nitroglycerin	0.16	1.8		U
78-11-5	PETN	0.24	1.8		U

LW
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FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 16

CI-SD04-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-17

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 066V6601

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 13:07

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 00:39

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

lw
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FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 17

CI-SD02-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-19

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 067V6701

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 12:32

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted: 06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 01:13

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

lw 7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 18

CI-SD05-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-20

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 068V6801

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 10:18

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted: 06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 01:47

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

lw 7/29/09

FORM 1
EXPL ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE NO. 19

CI-SD11-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-21

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 069V6901

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 15:05

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted: 06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 02:22

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

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CLIENT SAMPLE NO. 20

CI-SD03-P-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-22

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 070V7001

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 12:49

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 02:56

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

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CLIENT SAMPLE NO. 21

CI-SD01-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-23

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 071V7101

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 12:15

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted:06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 03:30

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

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CLIENT SAMPLE NO. 22

CI-SD05-P-0509

Lab Name: EMPIRICAL LABS Contract: CH2MHILL

Lab Code: Case No.: SAS No.: NA SDG No.: CHERRY201_004

Matrix: (soil/water) SOIL Lab Sample ID: 0905249-24

Sample wt/vol: 2.0 (g/mL) G Lab File ID: 072V7201

% Moisture: 0 decanted: (Y/N) N Date Sampled: 05/27/09 10:18

Extraction: (SepF/Cont/Sonc/Soxh) SONC Date Extracted: 06/08/09

Concentrated Extract Volume: 20.0(ml) Date Analyzed: 06/18/09 04:05

Injection Volume: 100.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: NA Sulfur Cleanup: (Y/N) N

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	MDL	RL	CONC	Q
2691-41-0	HMX	62	250		U
121-82-4	RDX	62	250		U
98-95-3	Nitrobenzene	62	250		U
99-65-0	1,3-Dinitrobenzene	62	250		U
99-35-4	1,3,5-Trinitrobenzene	62	250		U
121-14-2	2,4-Dinitrotoluene	62	250		U
606-20-2	2,6-Dinitrotoluene	62	250		U
118-96-7	2,4,6-Trinitrotoluene	62	250		U
35572-78-2	2-Amino-4,6-dinitrotoluene	62	250		U
479-45-8	Tetryl	62	250		U
19406-51-0	4-Amino-2,6-dinitrotoluene	62	250		U
88-72-2	2-Nitrotoluene	62	250		U
99-99-0	4-Nitrotoluene	62	250		U
99-08-1	3-Nitrotoluene	62	250		U
55-63-0	Nitroglycerin	210	2500		U
78-11-5	PETN	330	2500		U

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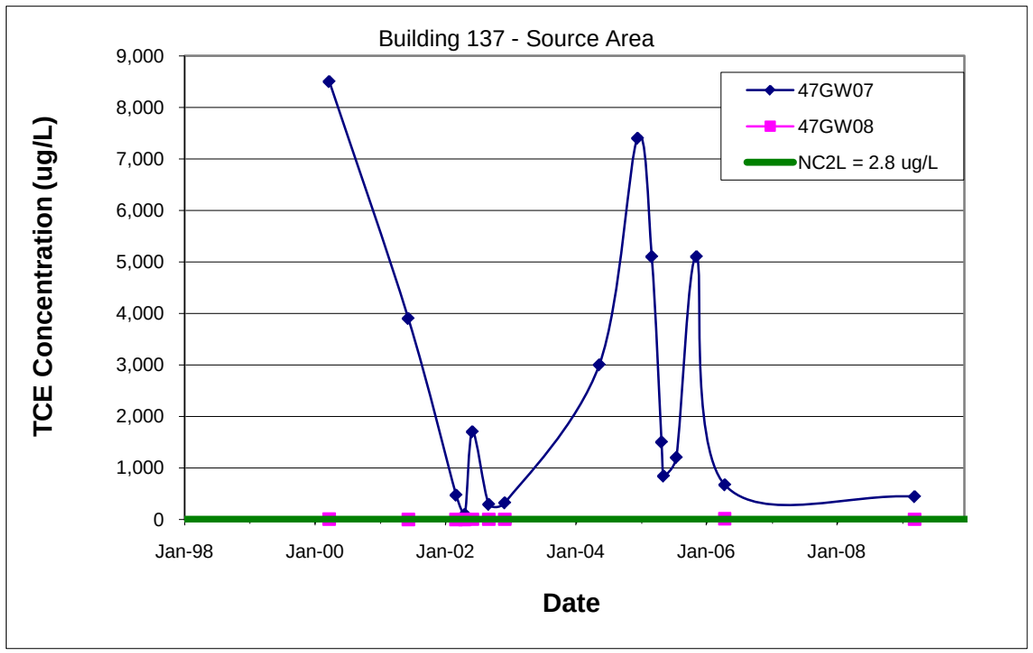
Attachment E
Time Series Charts



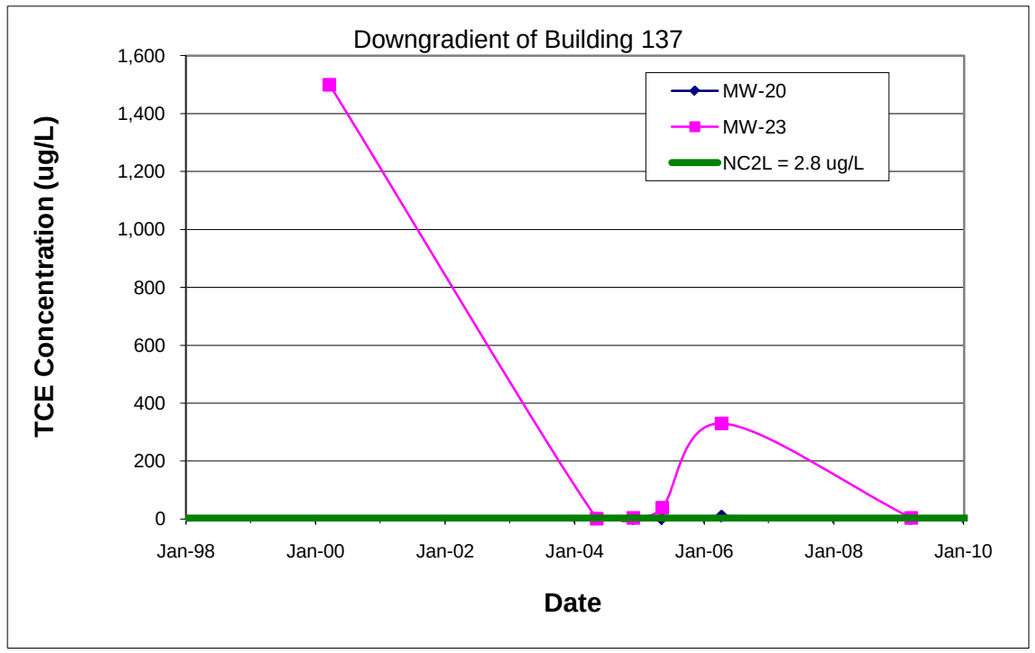
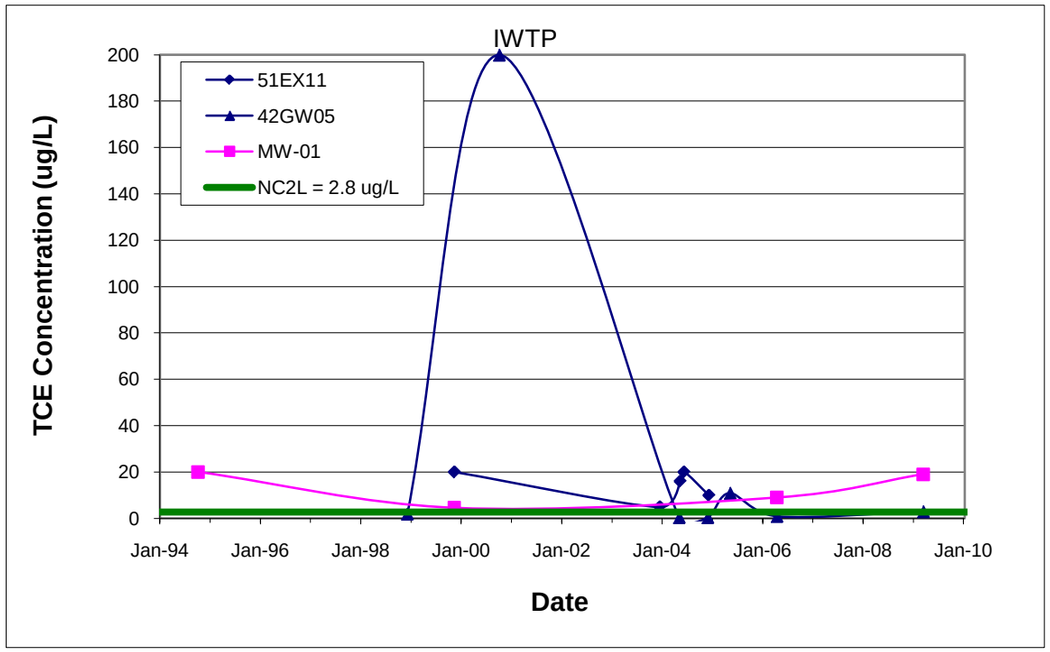
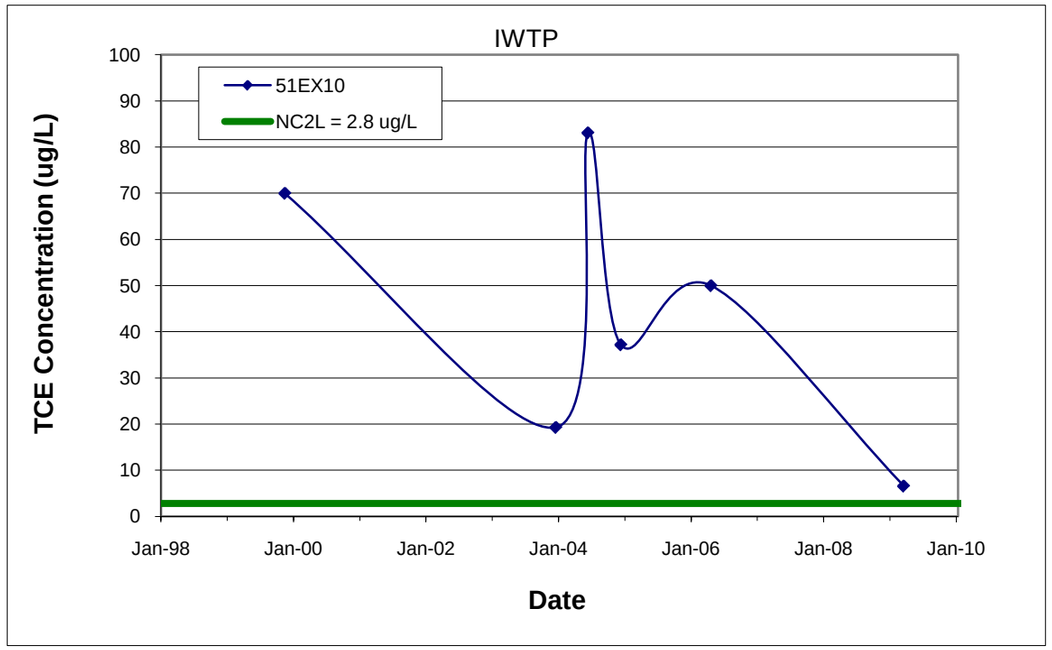
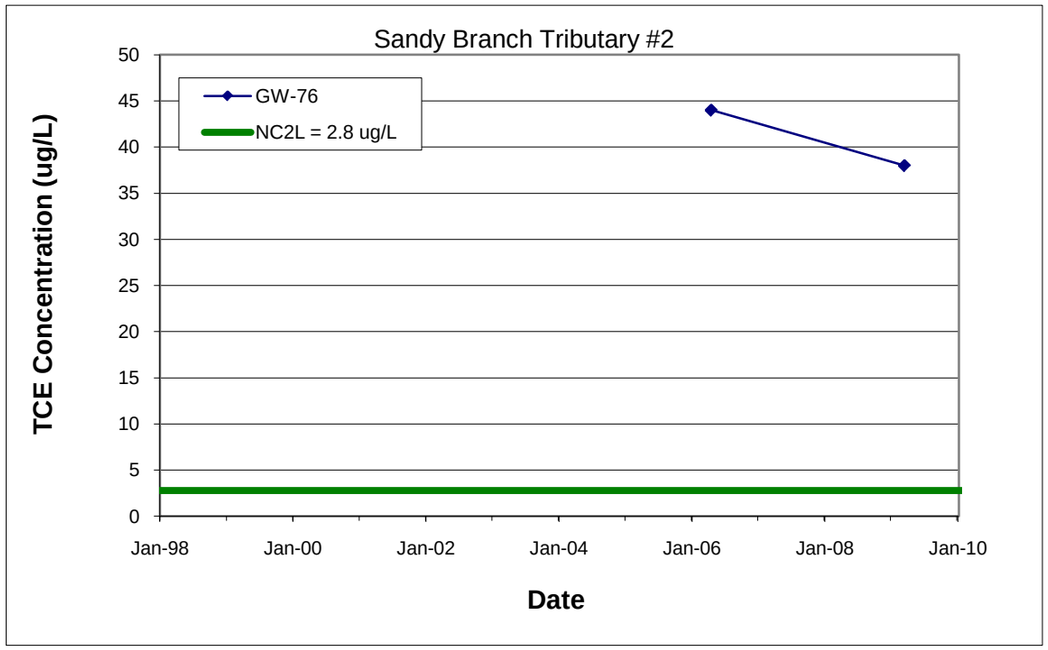


Chart E-1
Time Series Plot for TCE at Building 137
Marine Corps Air Station Cherry Point







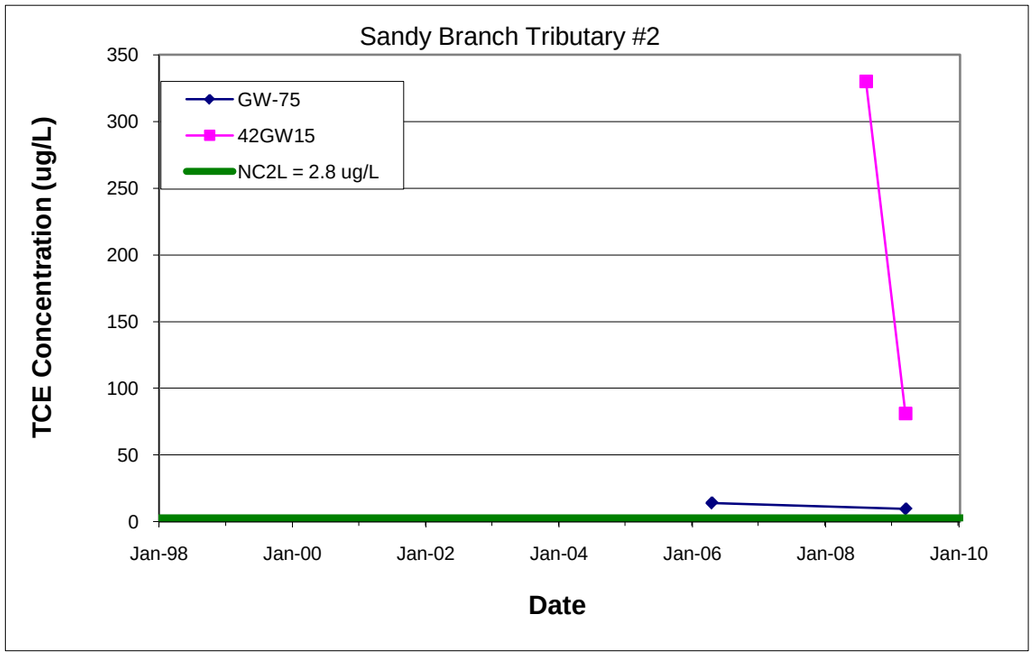


Chart E-2
Time Series Plot for TCE at IWTP
Marine Corps Air Station Cherry Point

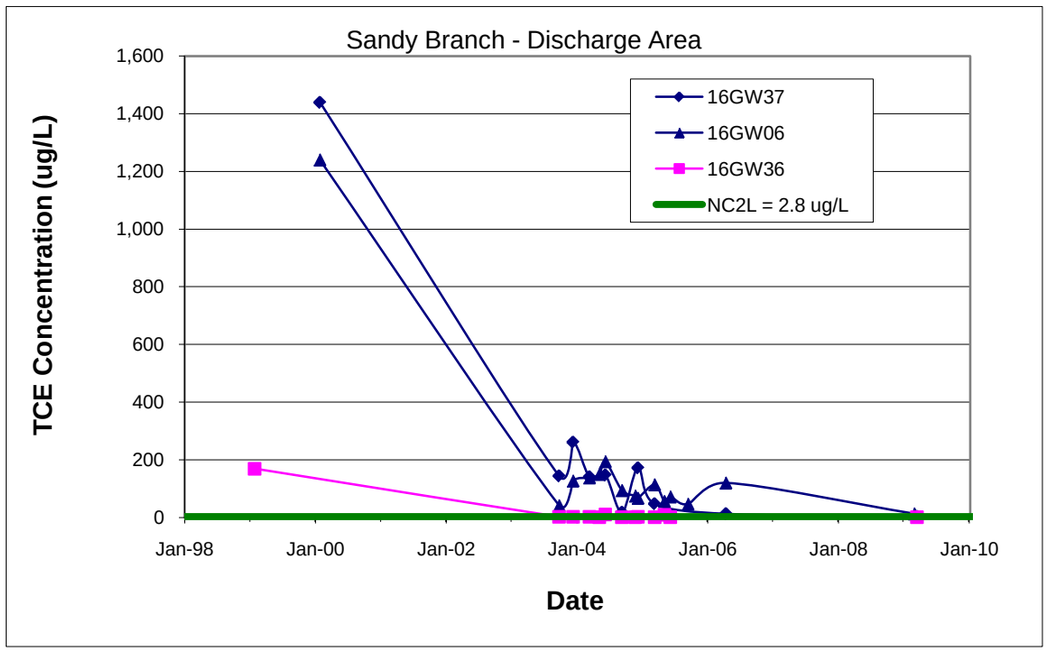
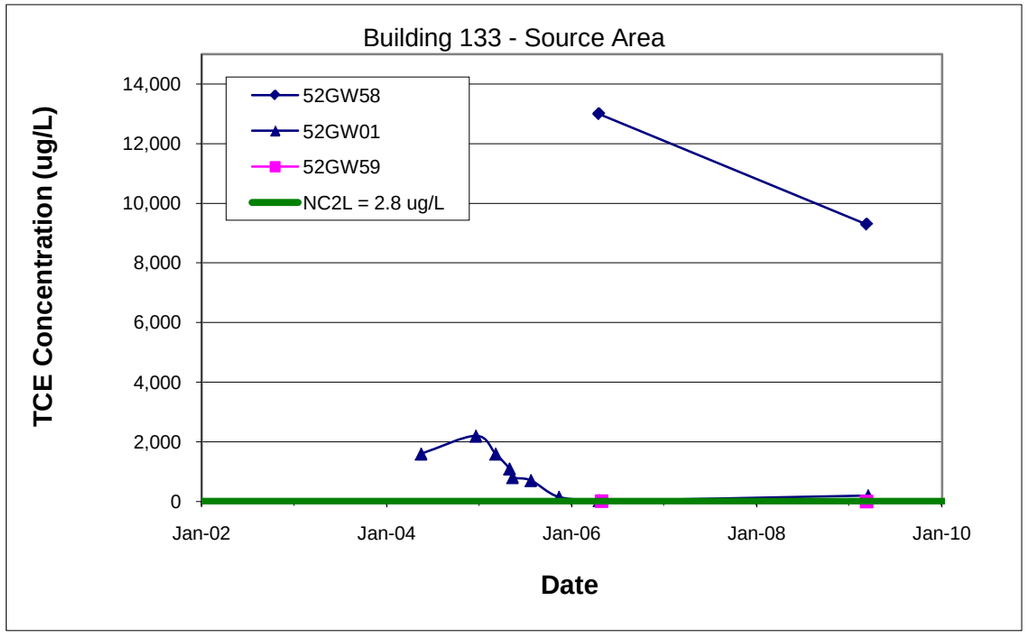
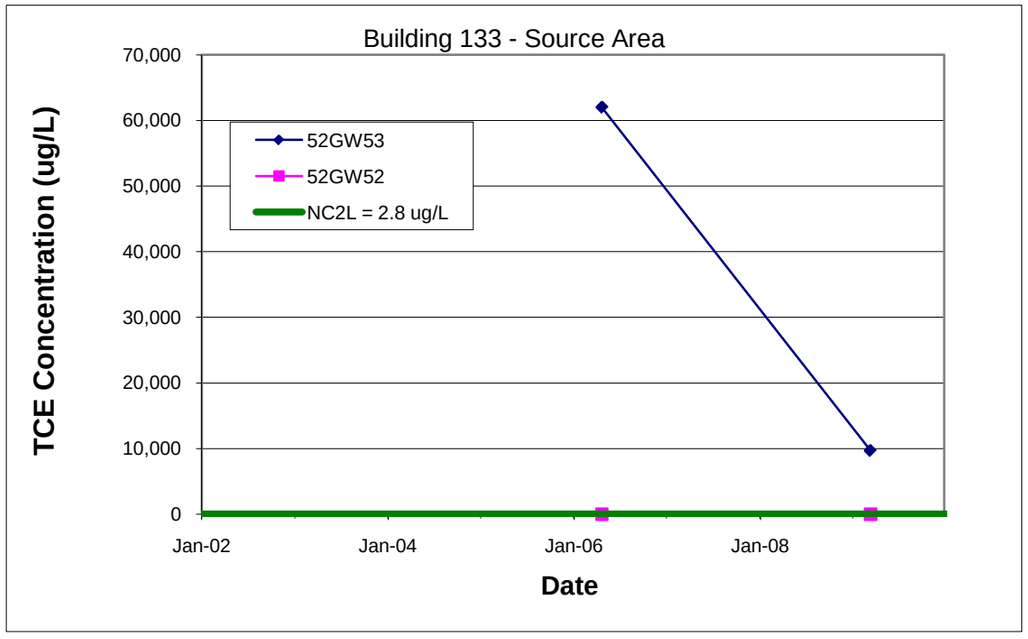
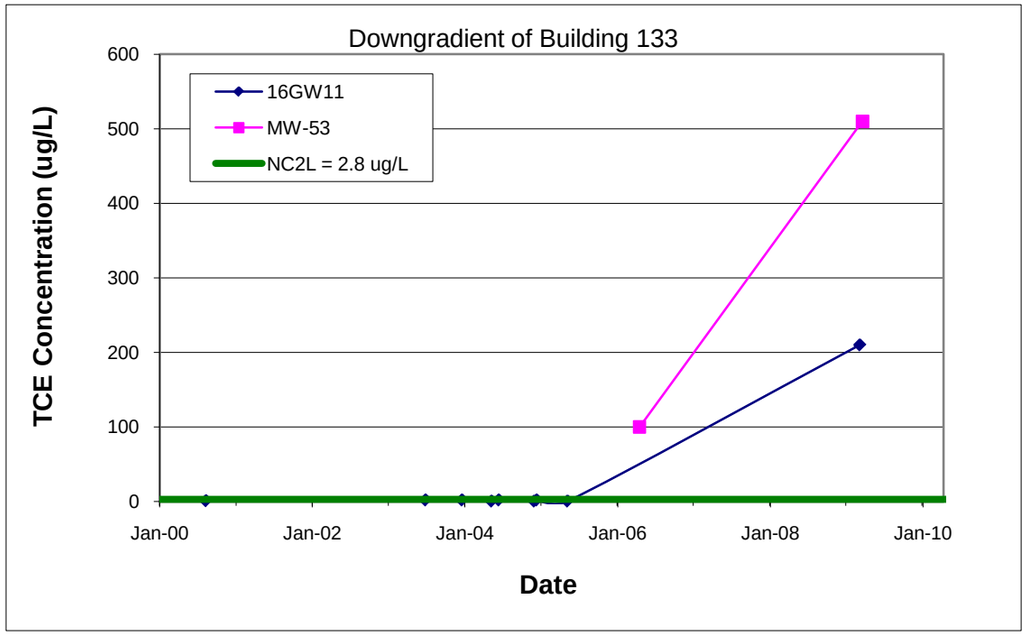


Chart E-2
Time Series Plot for TCE at IWTP
Marine Corps Air Station Cherry Point







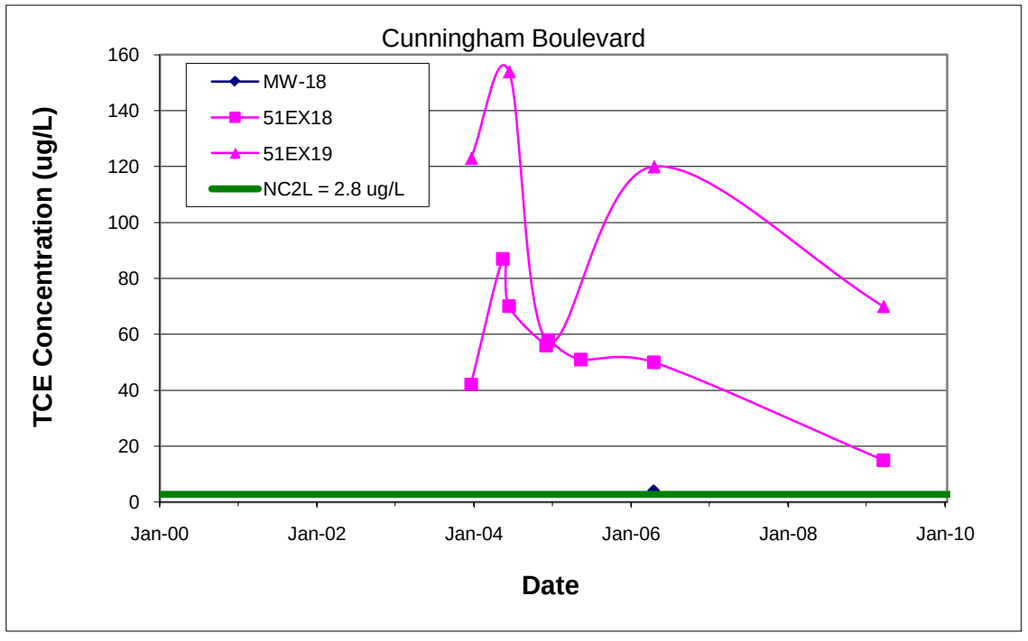
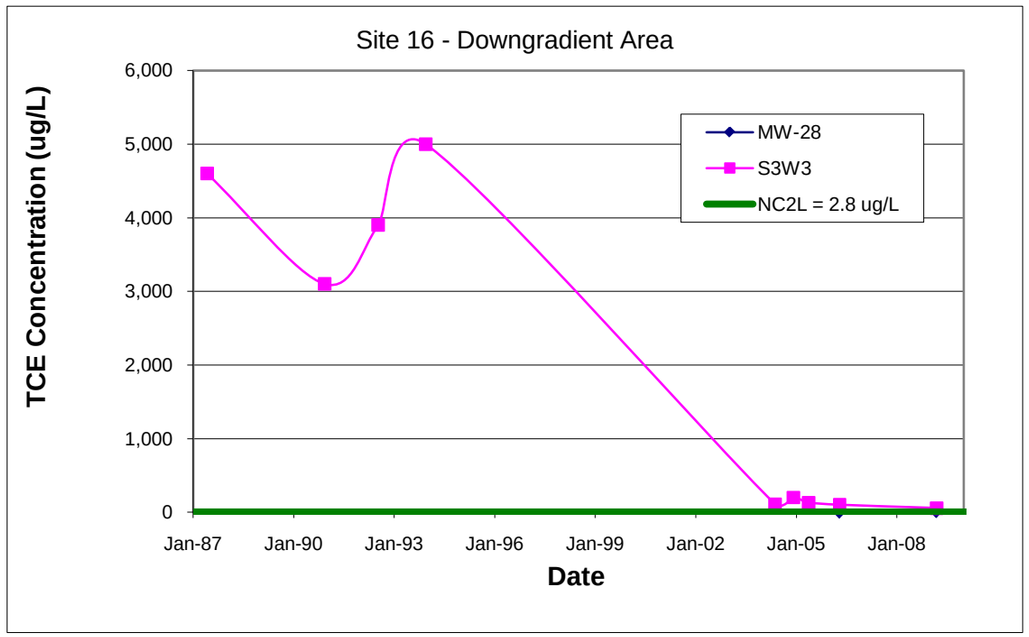
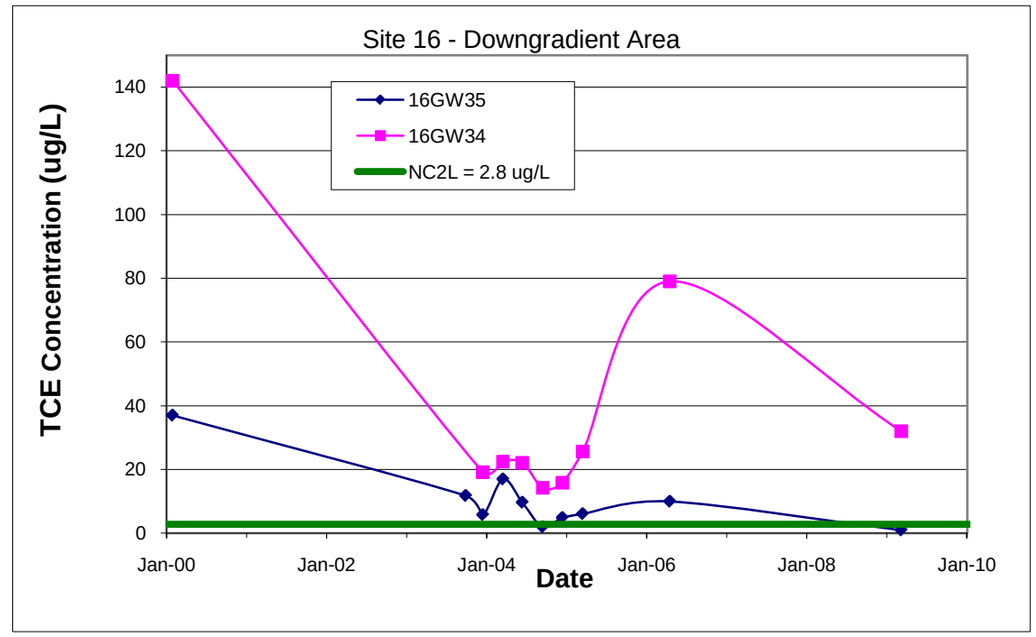
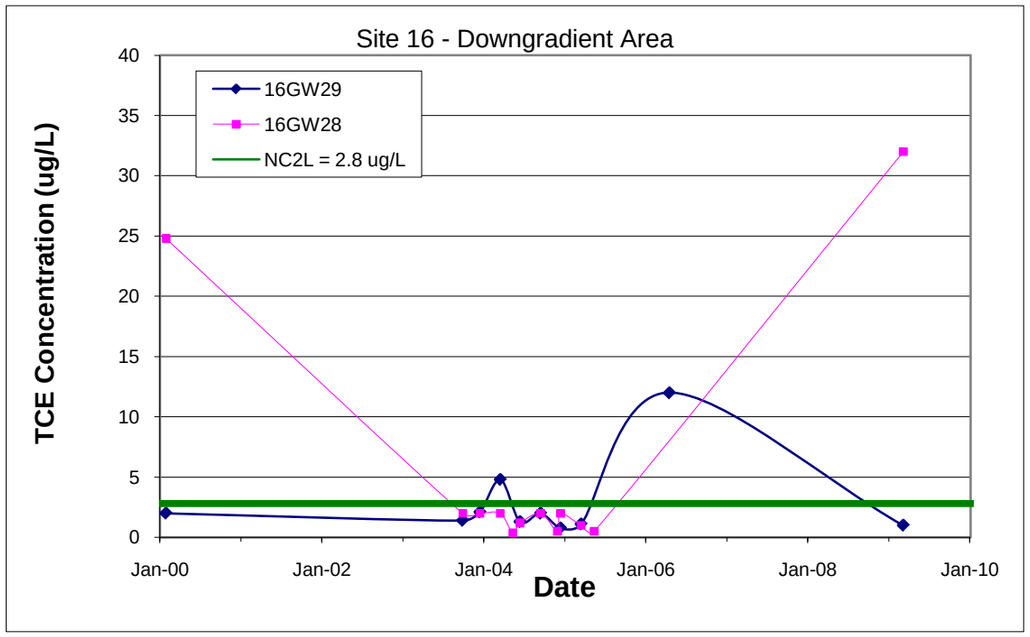


Chart E-3
Time Series Plot for TCE at Building 133
Marine Corps Air Station Cherry Point







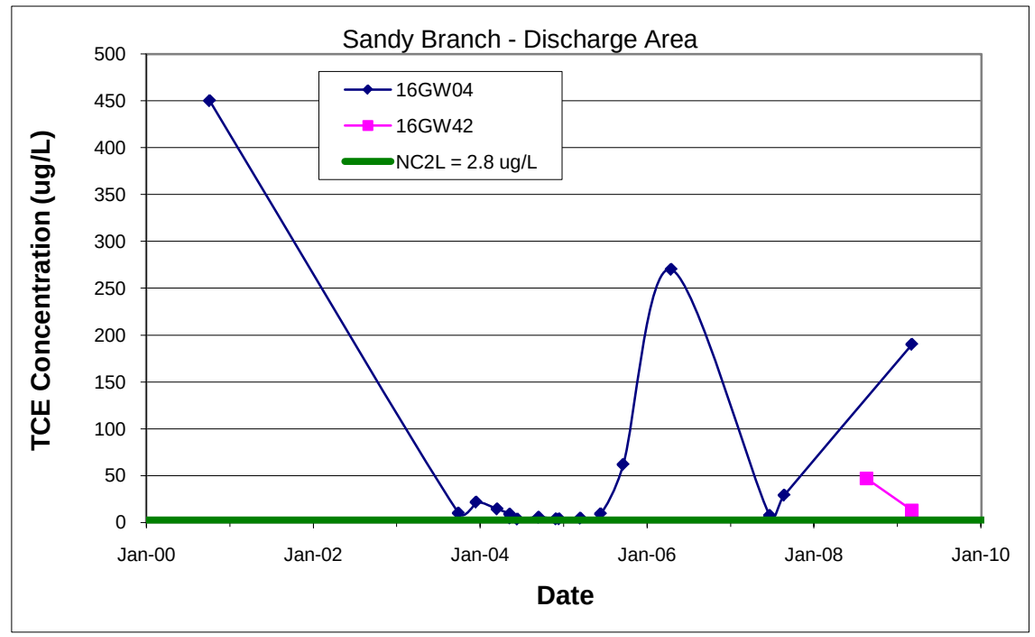


Chart E-3
Time Series Plot for TCE at Building 133
Marine Corps Air Station Cherry Point

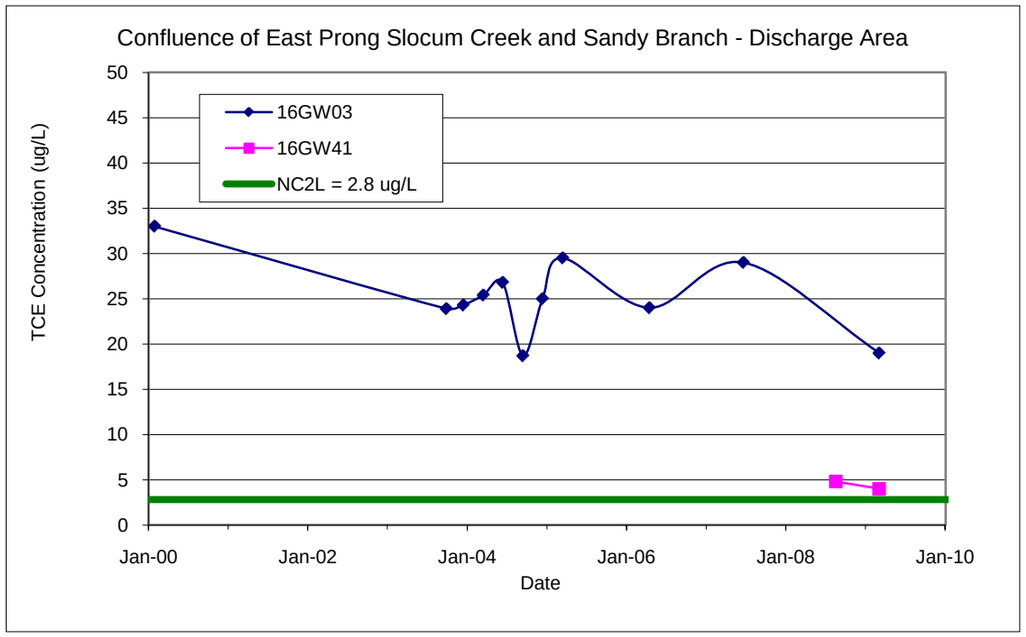
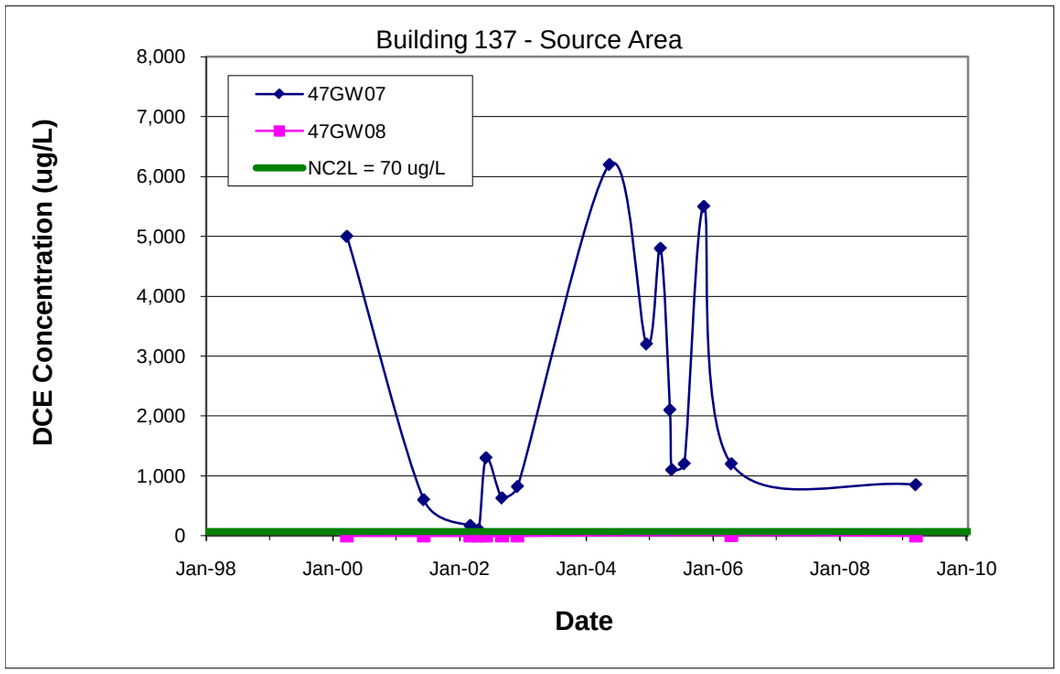


Chart E-3
Time Series Plot for TCE at Building 133
Marine Corps Air Station Cherry Point



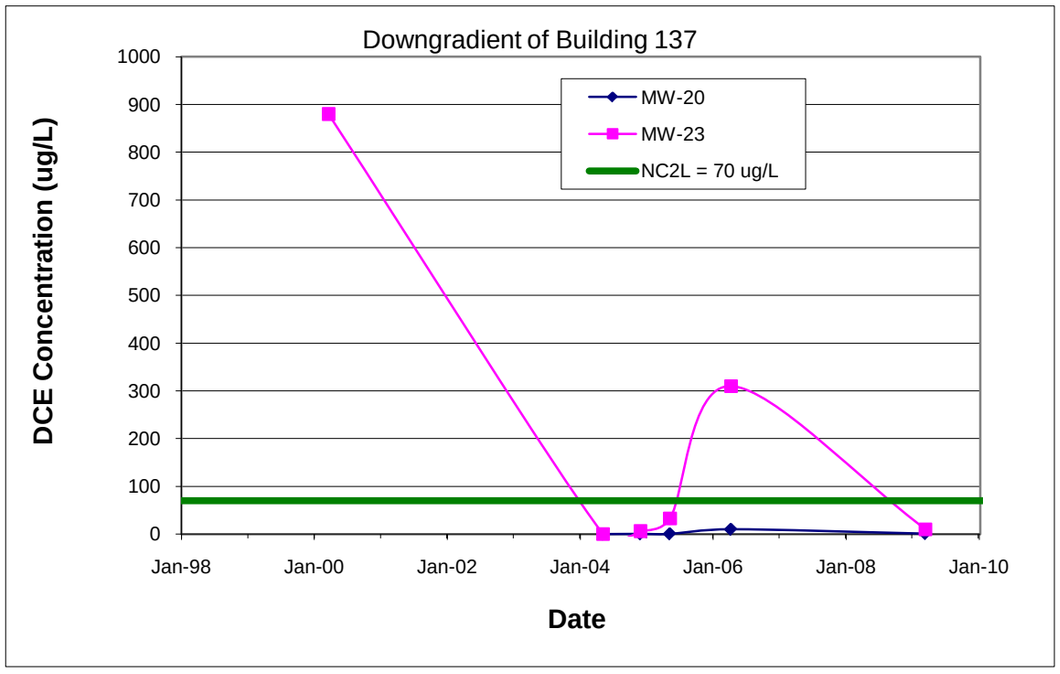
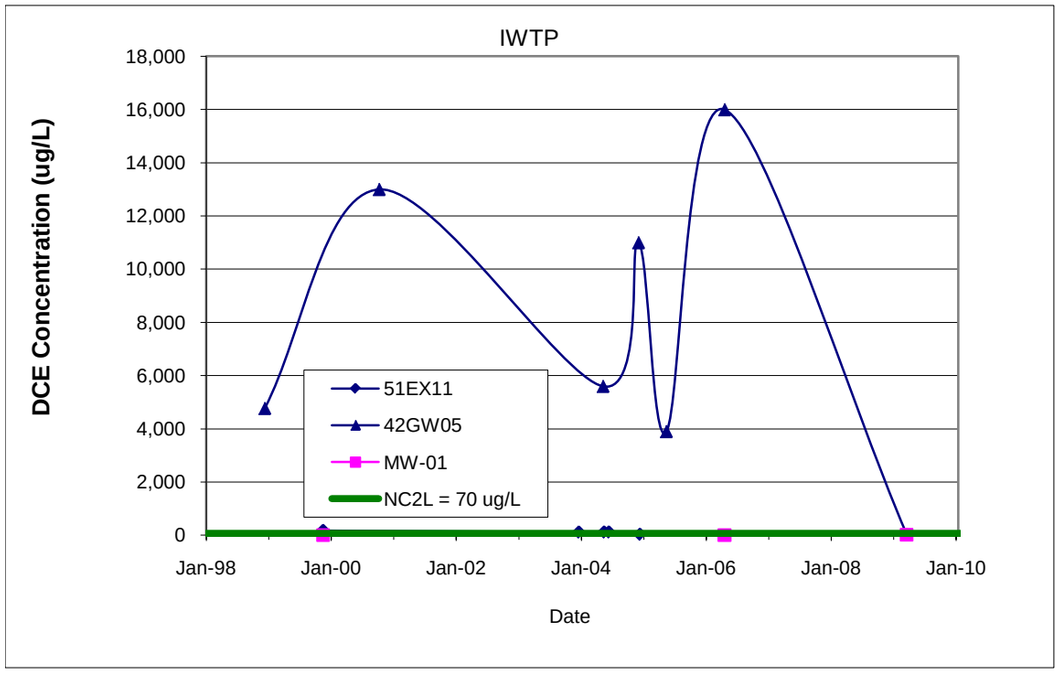
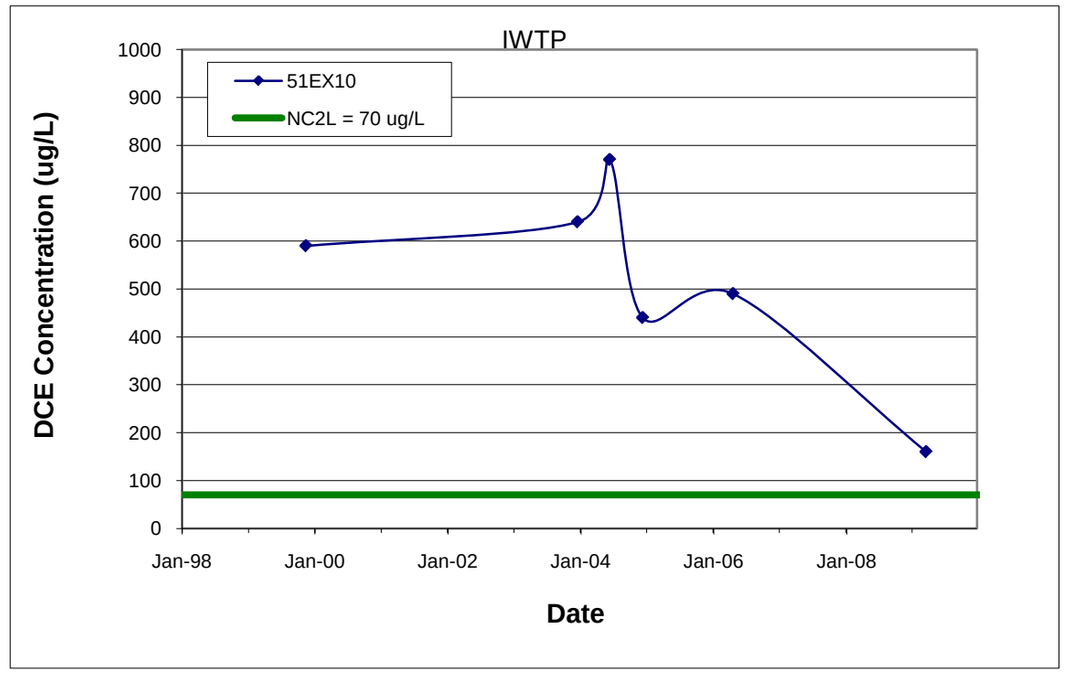
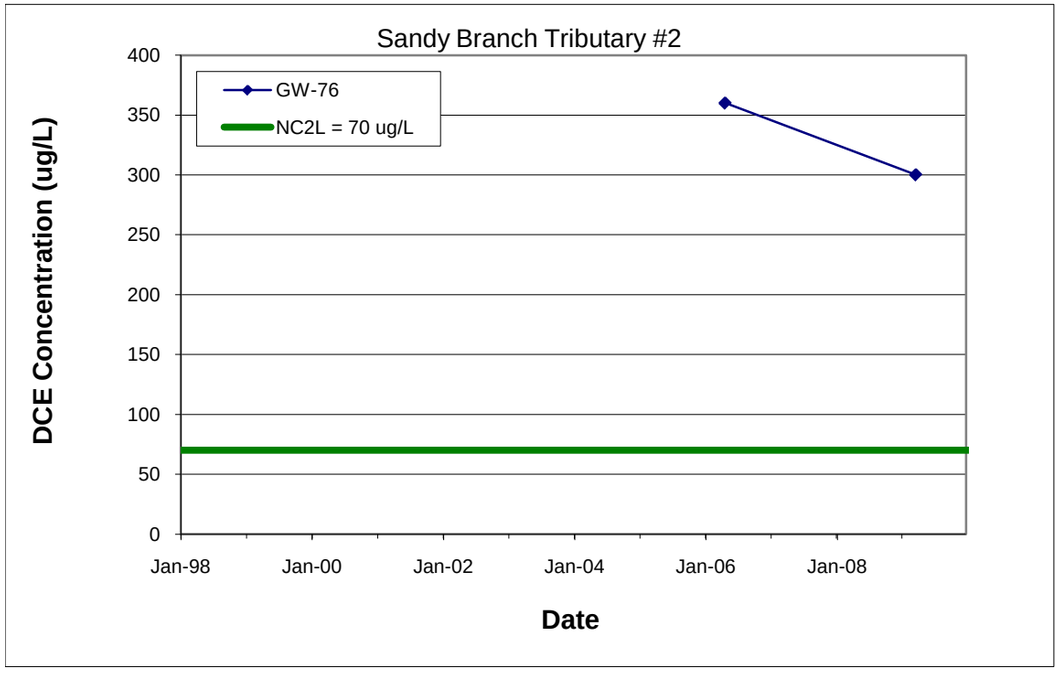


Chart E-4
Time Series Plot for 1,2-DCE at Building 137
Marine Corps Air Station Cherry Point







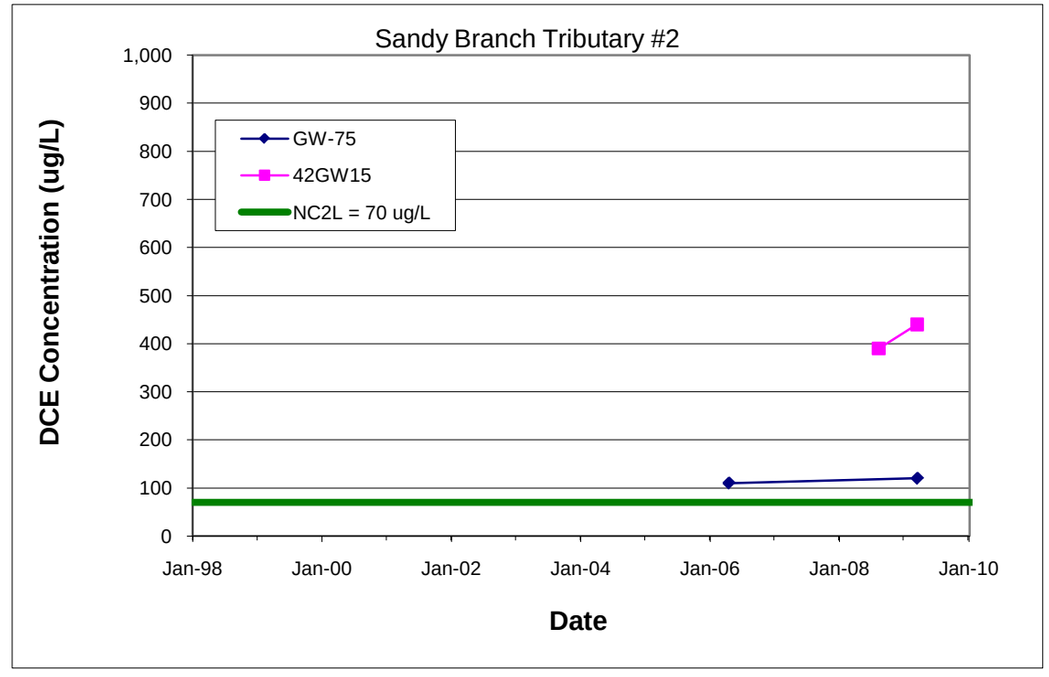


Chart E-5
Time Series Plot for 1,2 DCE at IWTP
Marine Corps Air Station Cherry Point

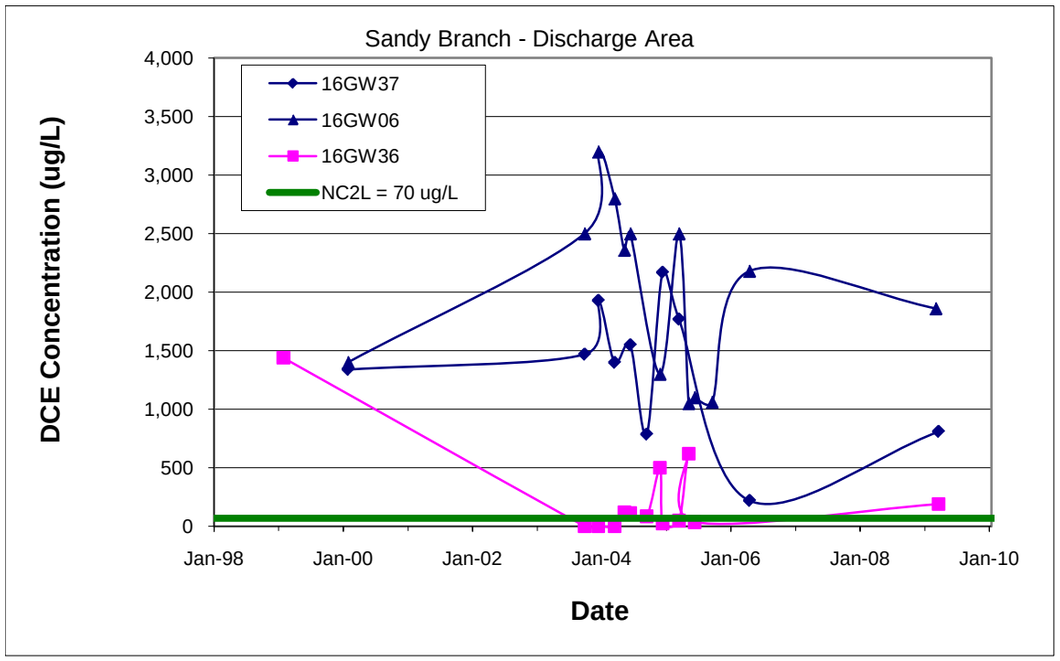
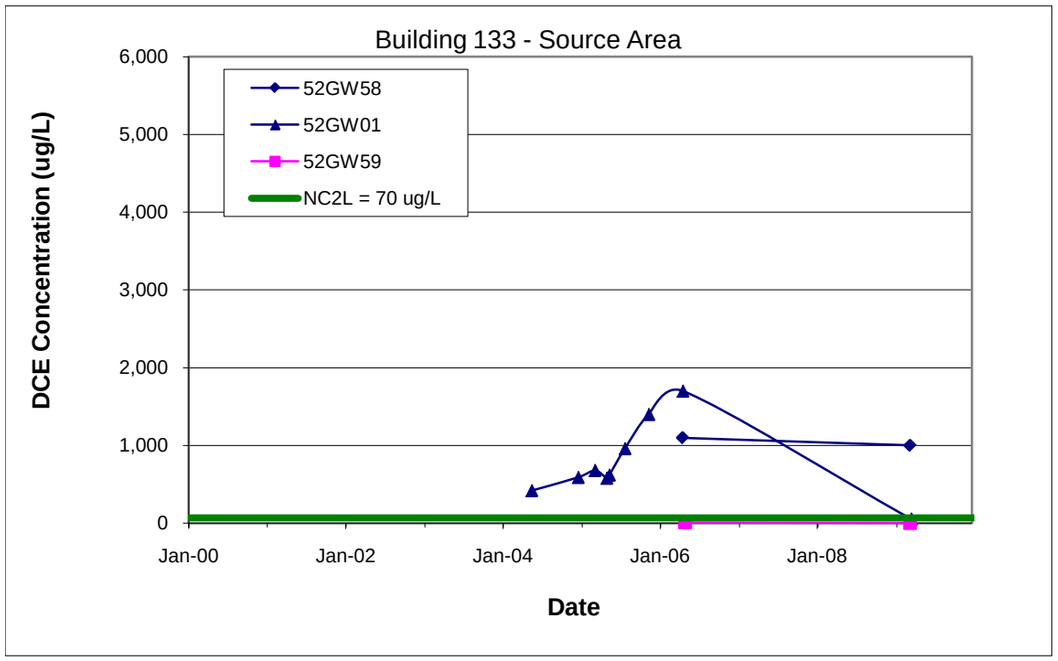
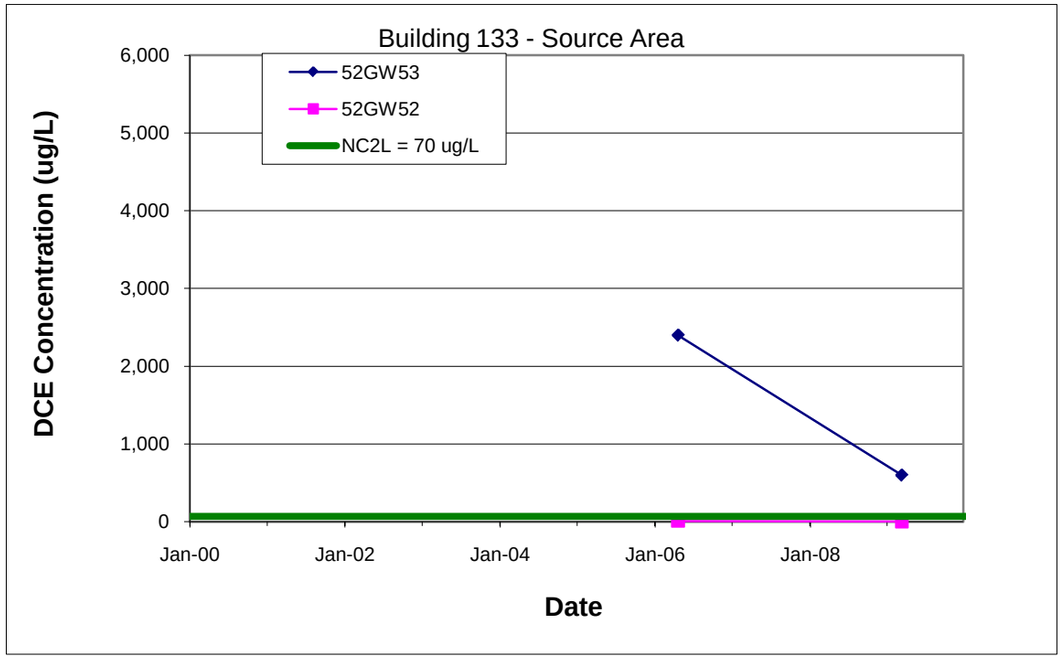
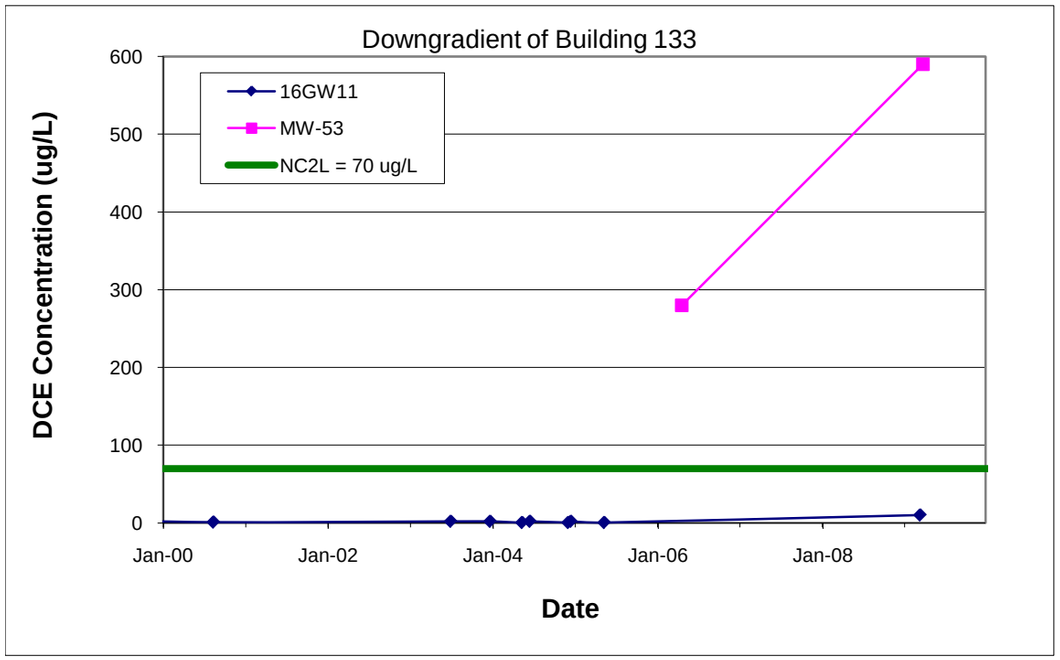


Chart E-5
Time Series Plot for 1,2 DCE at IWTP
Marine Corps Air Station Cherry Point







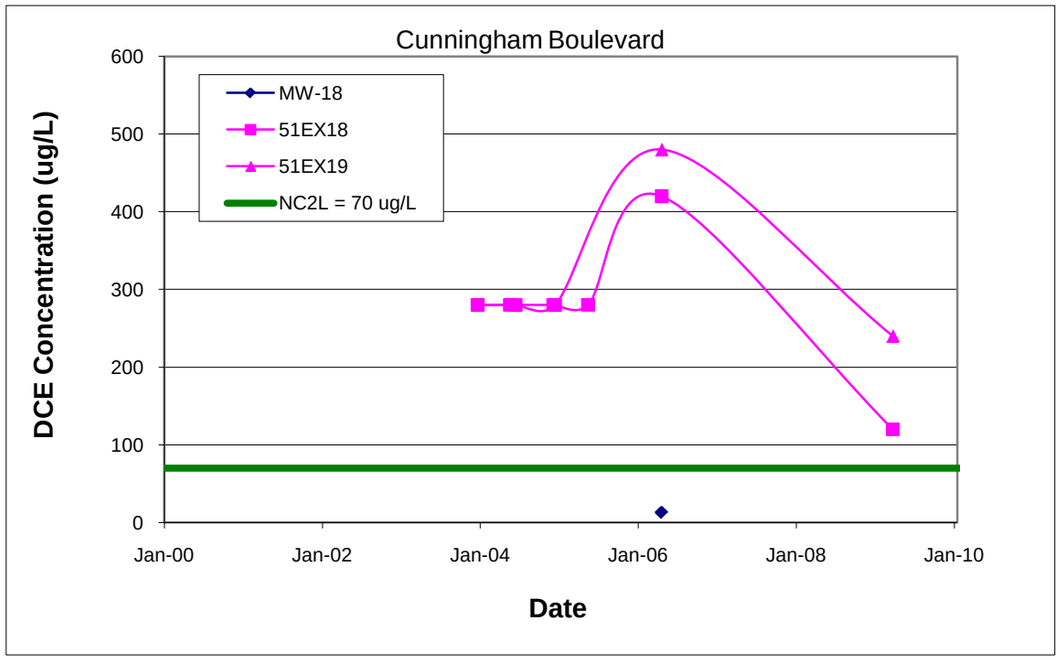
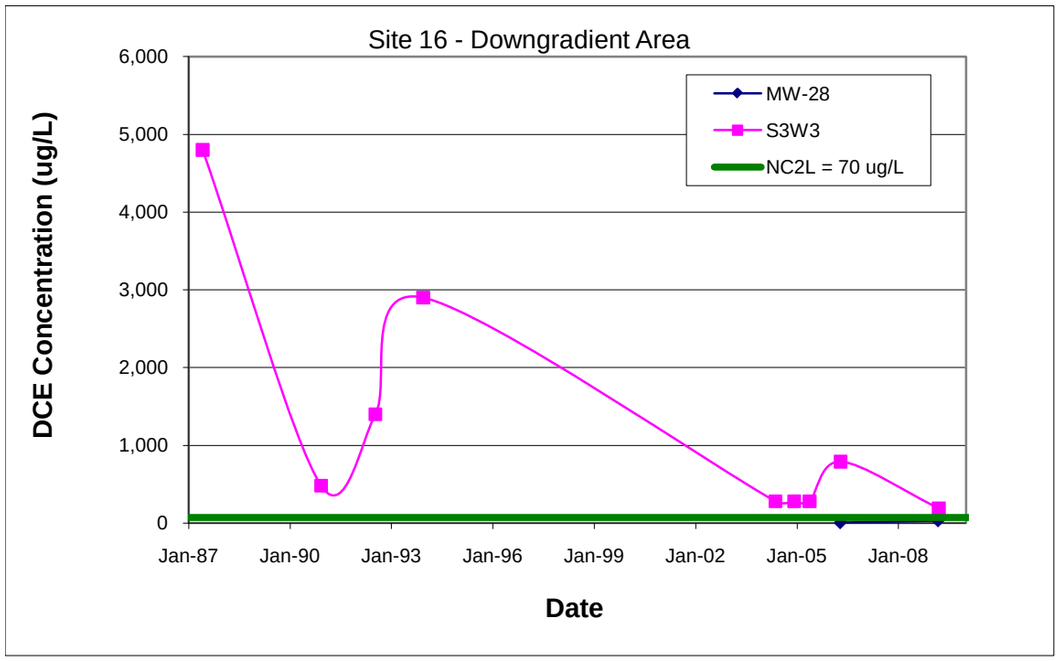
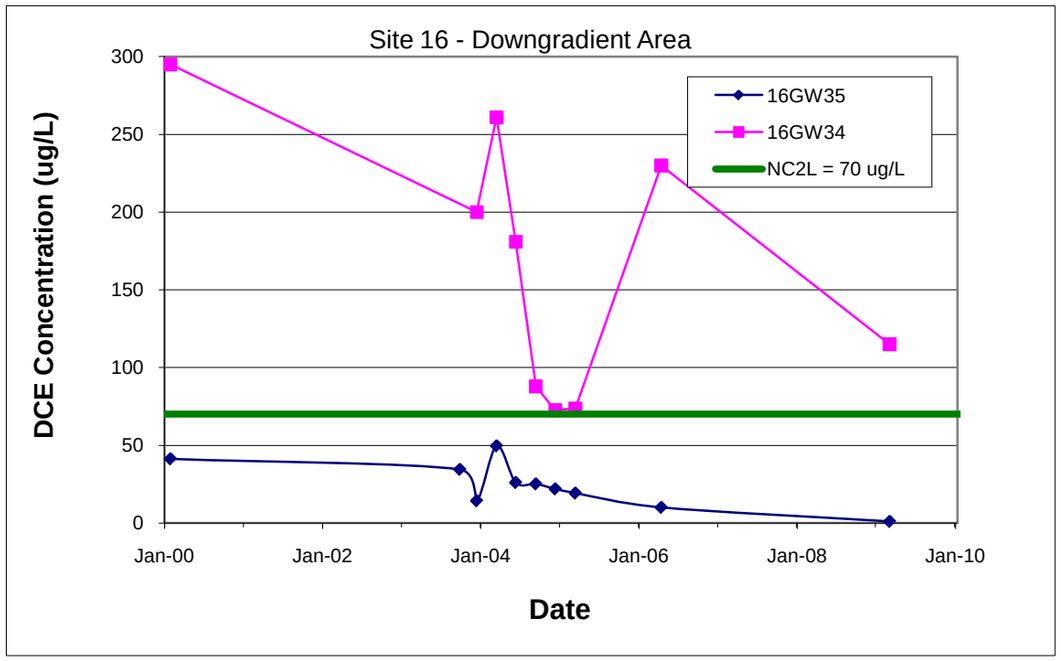
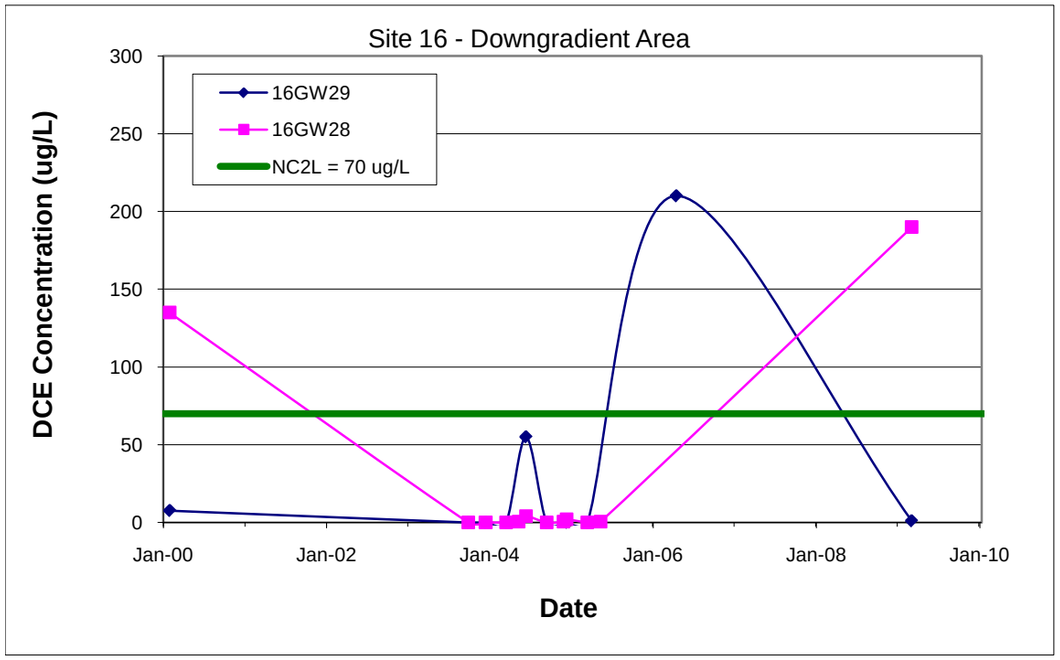


Chart E-6
Time Series Plot for 1,2-DCE at Building 133
Marine Corps Air Station Cherry Point







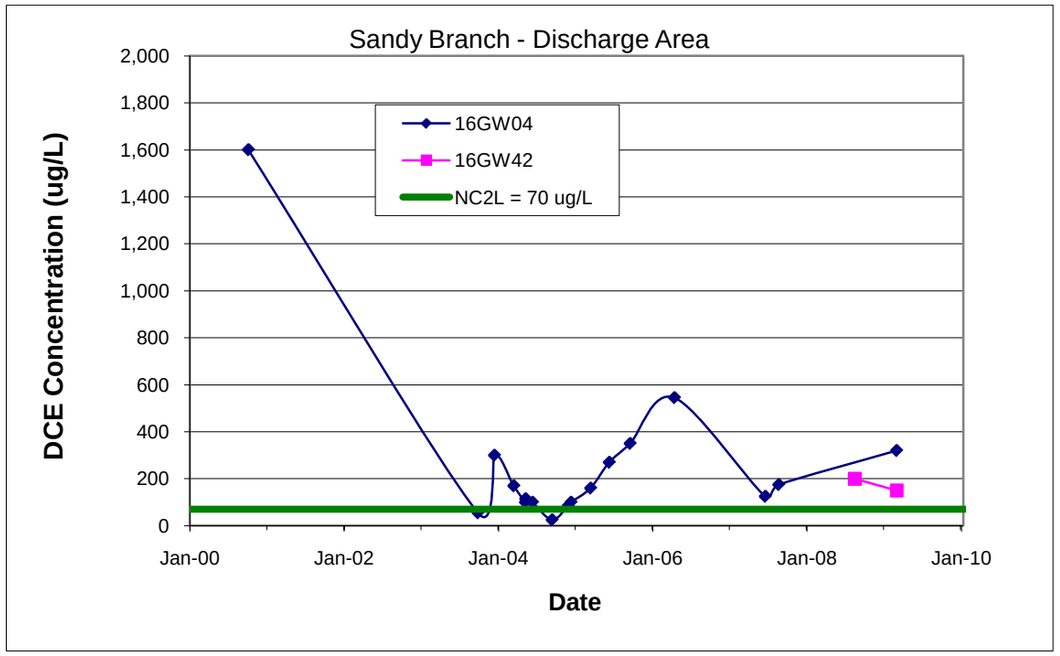


Chart E-6
Time Series Plot for 1,2-DCE at Building 133
Marine Corps Air Station Cherry Point

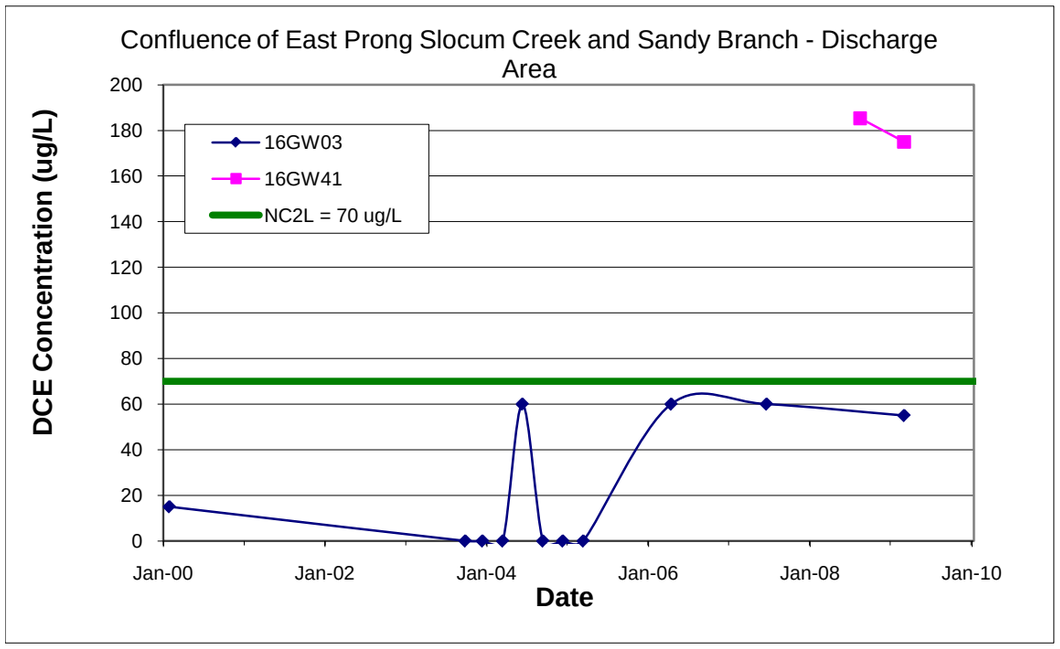
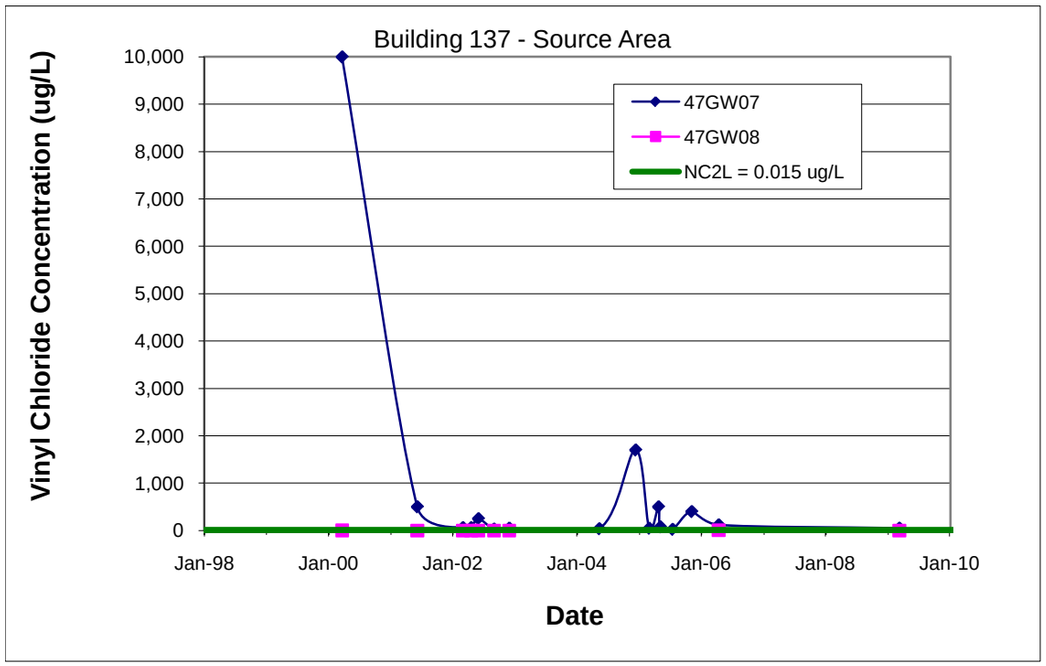


Chart E-6
Time Series Plot for 1,2-DCE at Building 133
Marine Corps Air Station Cherry Point



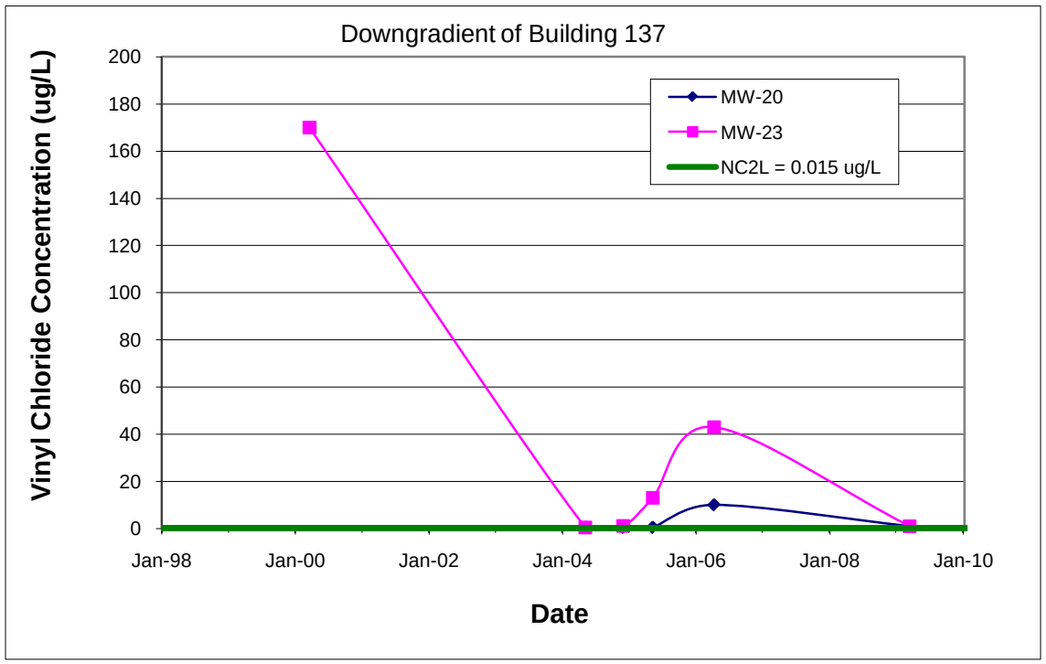
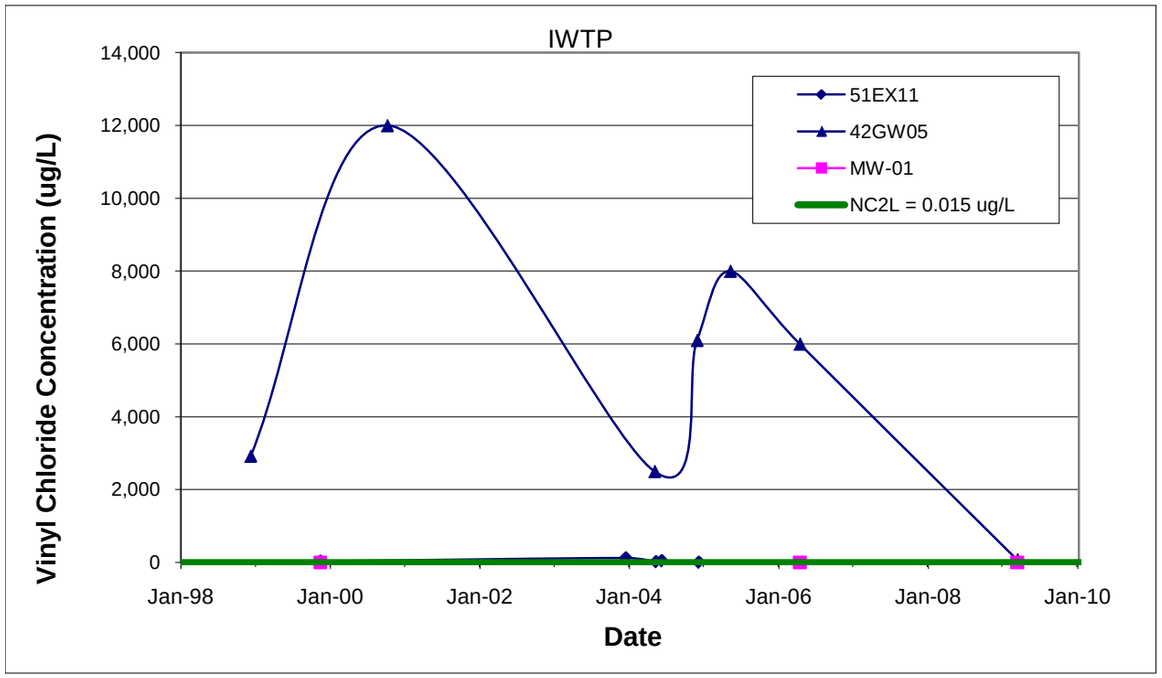
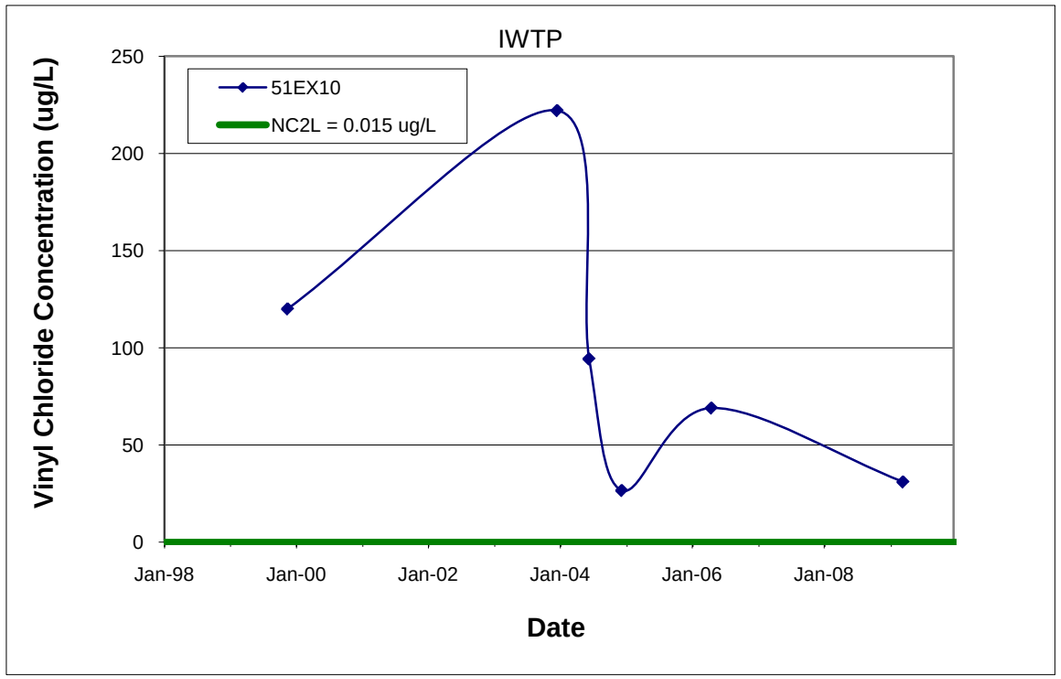
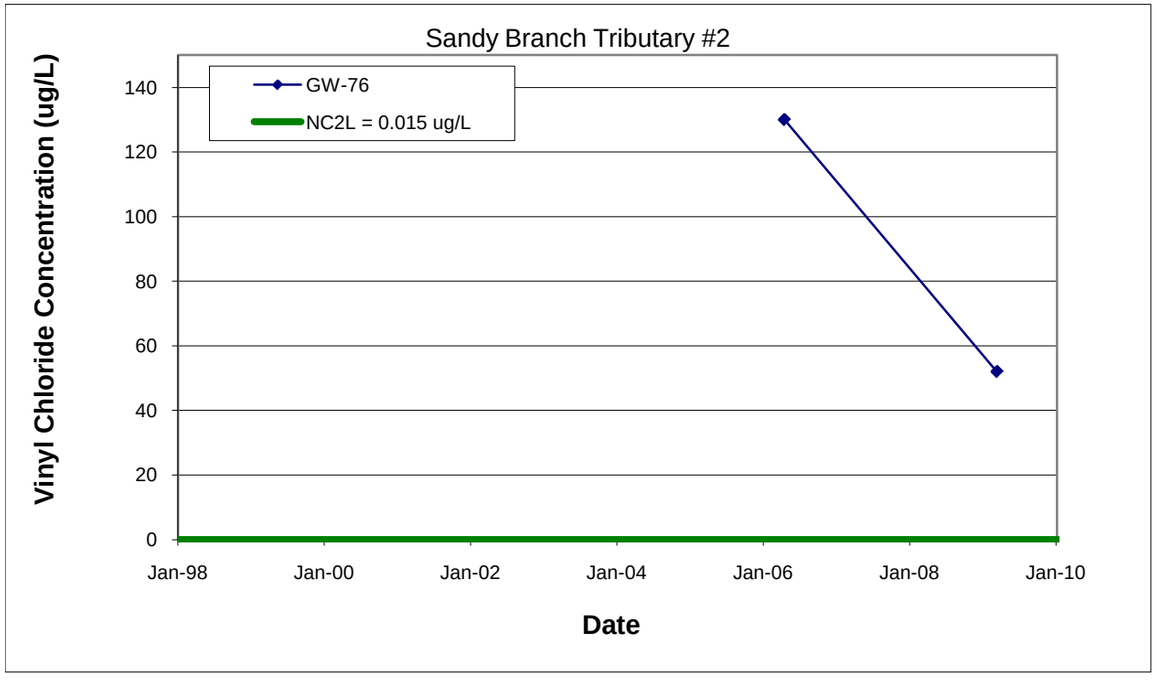


Chart E-7
Time Series Plot for Vinyl Chloride at Building 137
Marine Corps Air Station Cherry Point







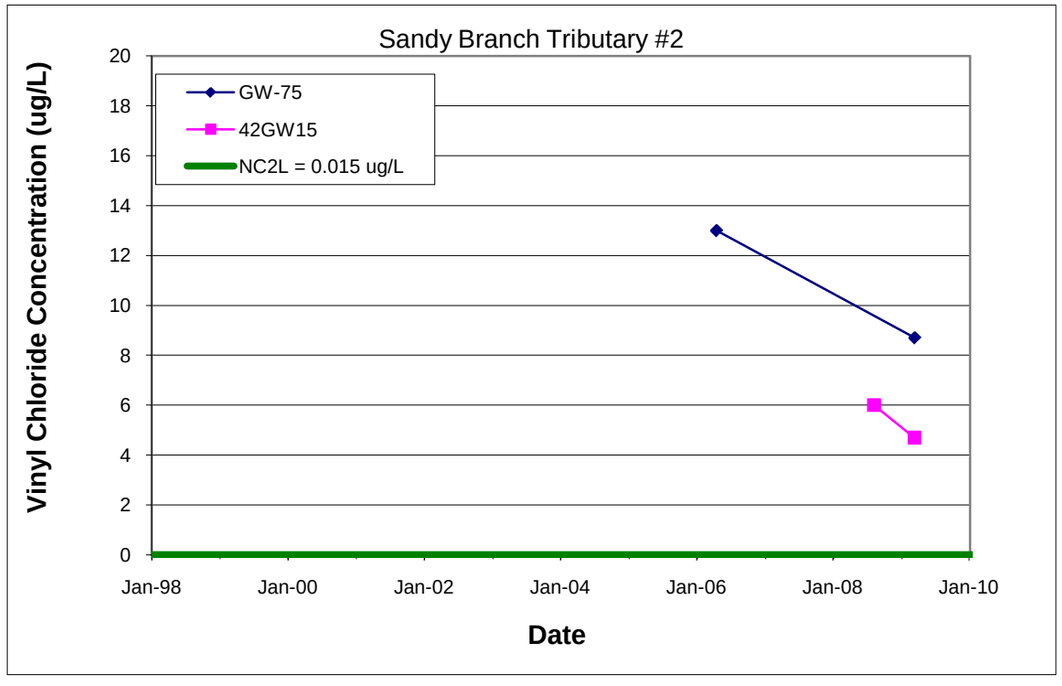


Chart E-8
Time Series Plot for Vinyl Chloride at IWTP
Marine Corps Air Station Cherry Point

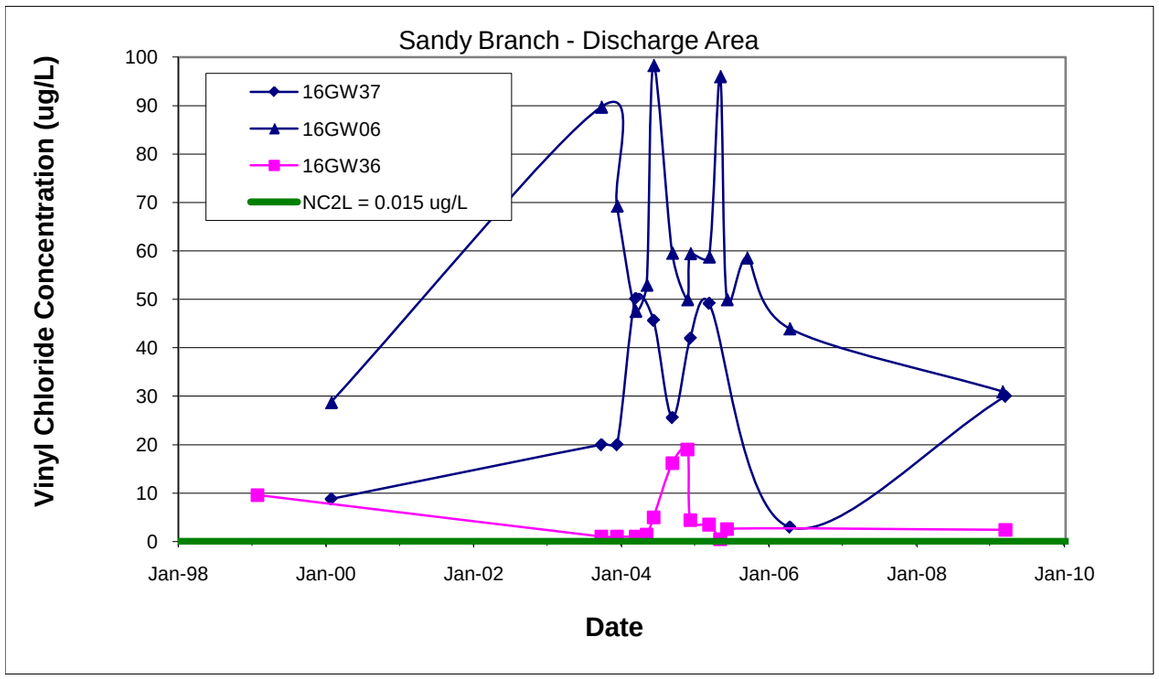
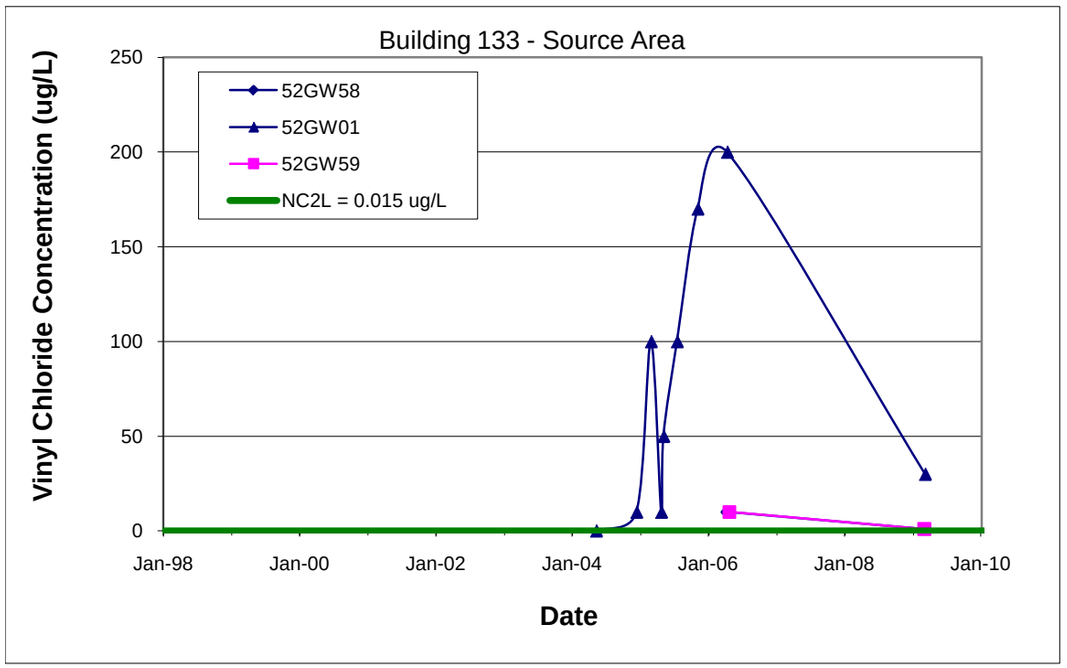
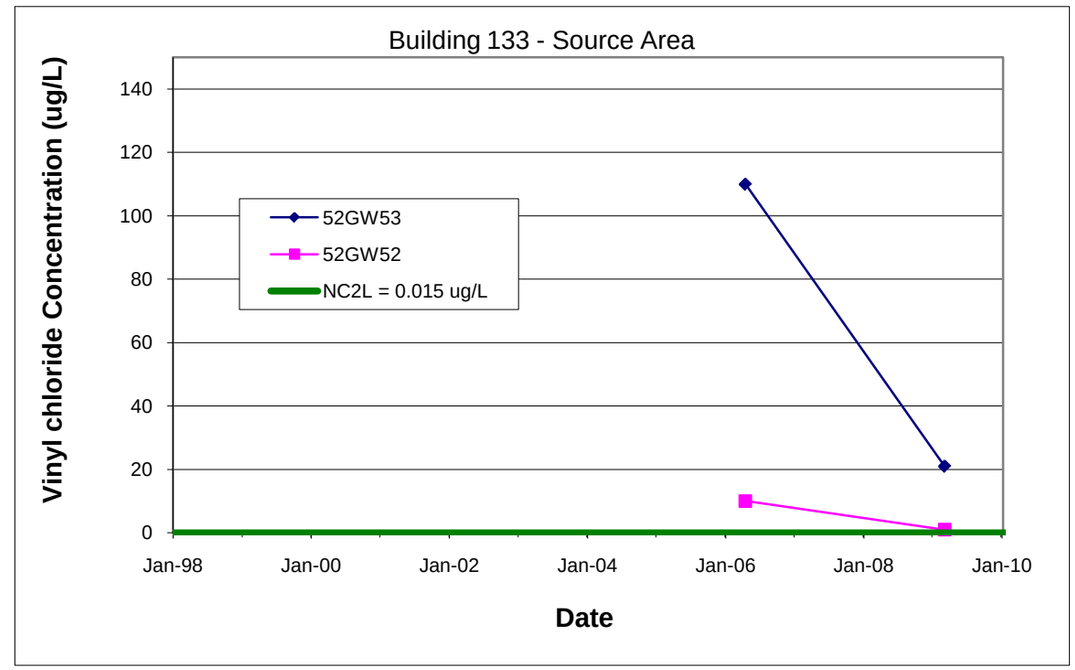
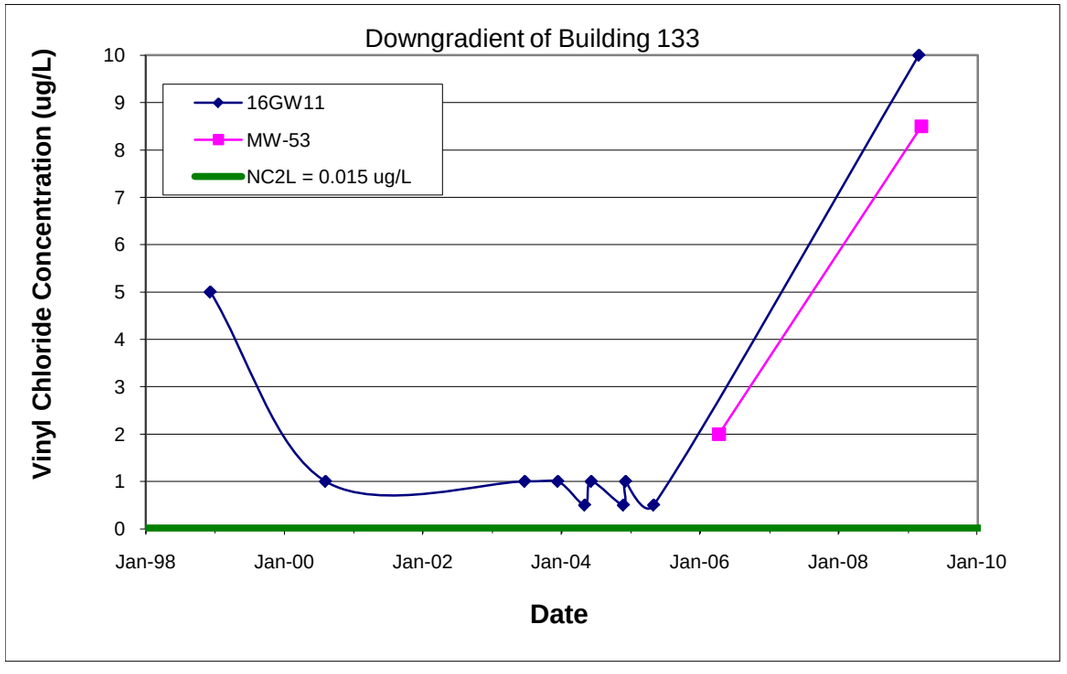


Chart E-8
Time Series Plot for Vinyl Chloride at IWTP
Marine Corps Air Station Cherry Point







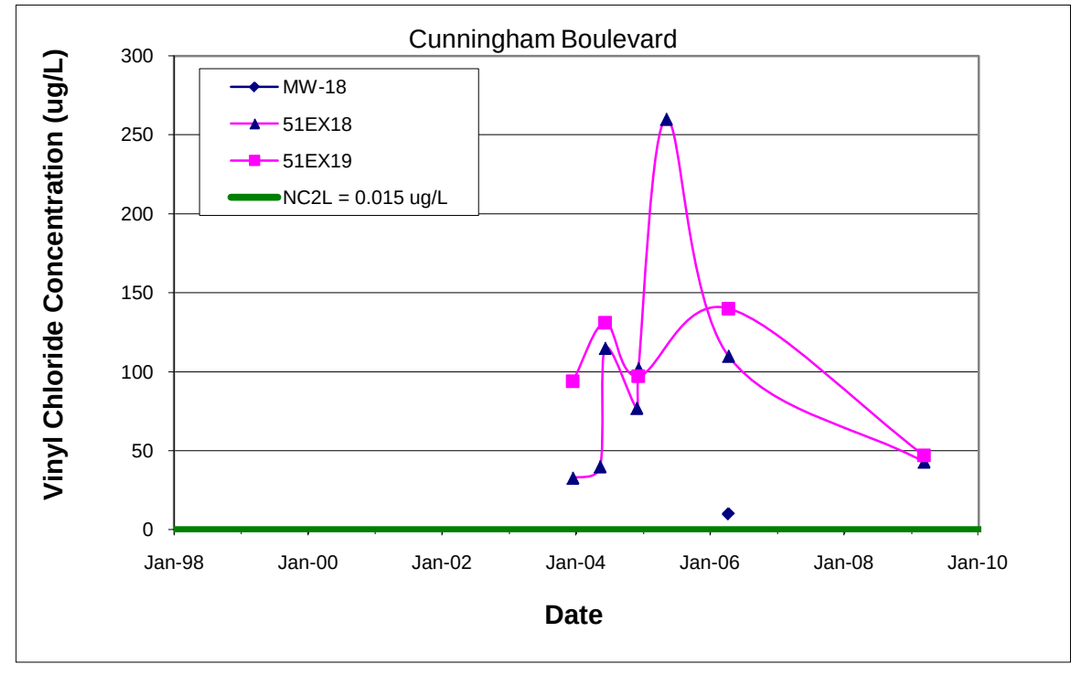
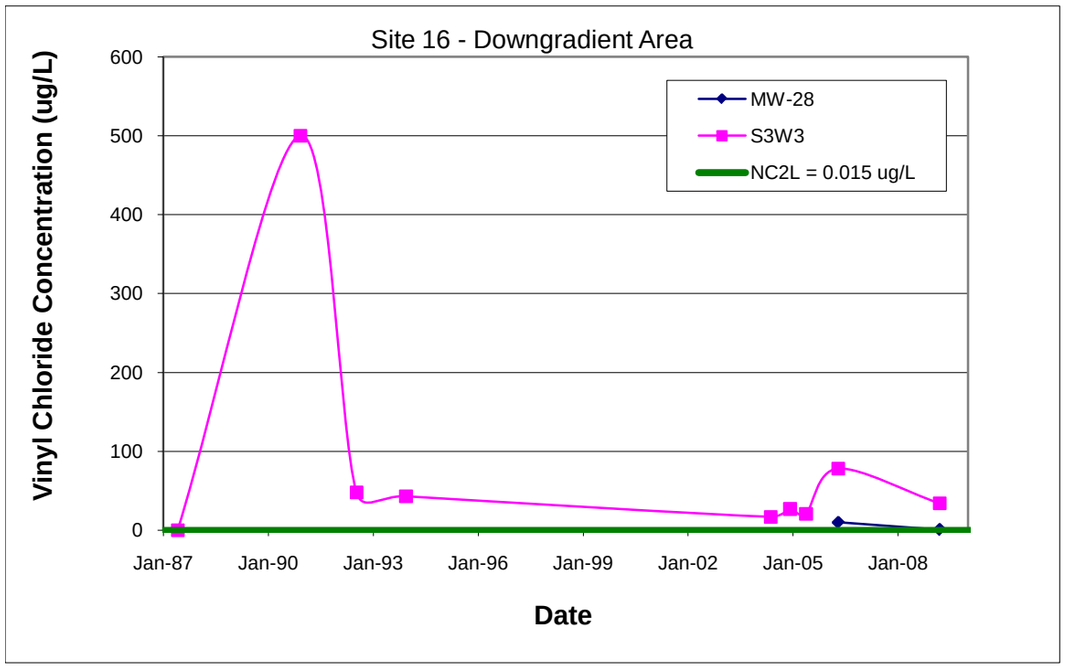
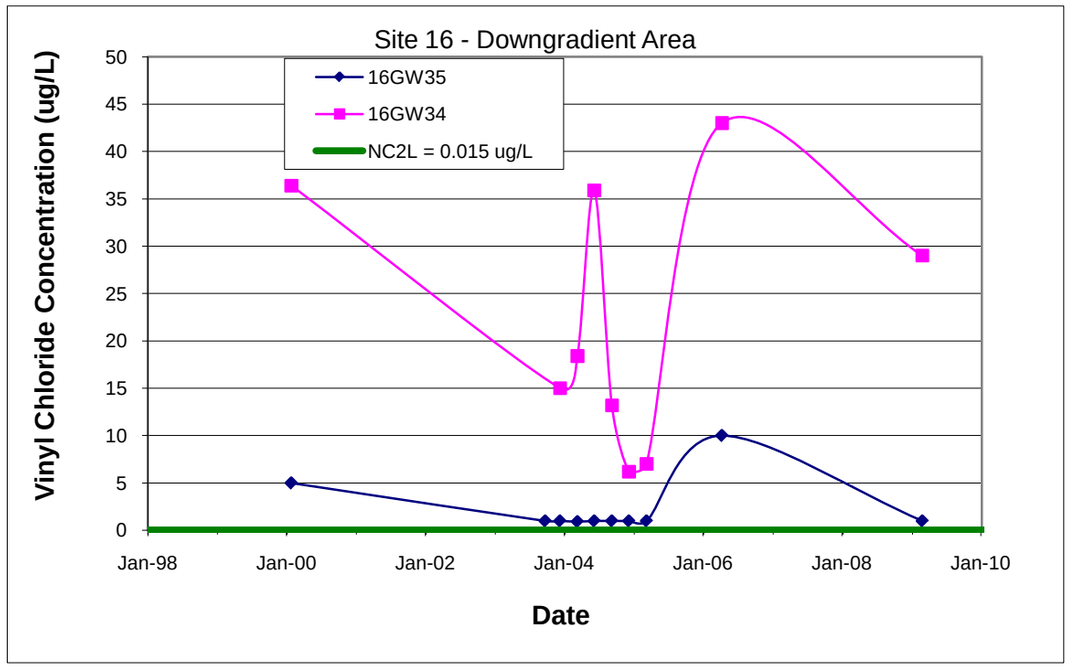
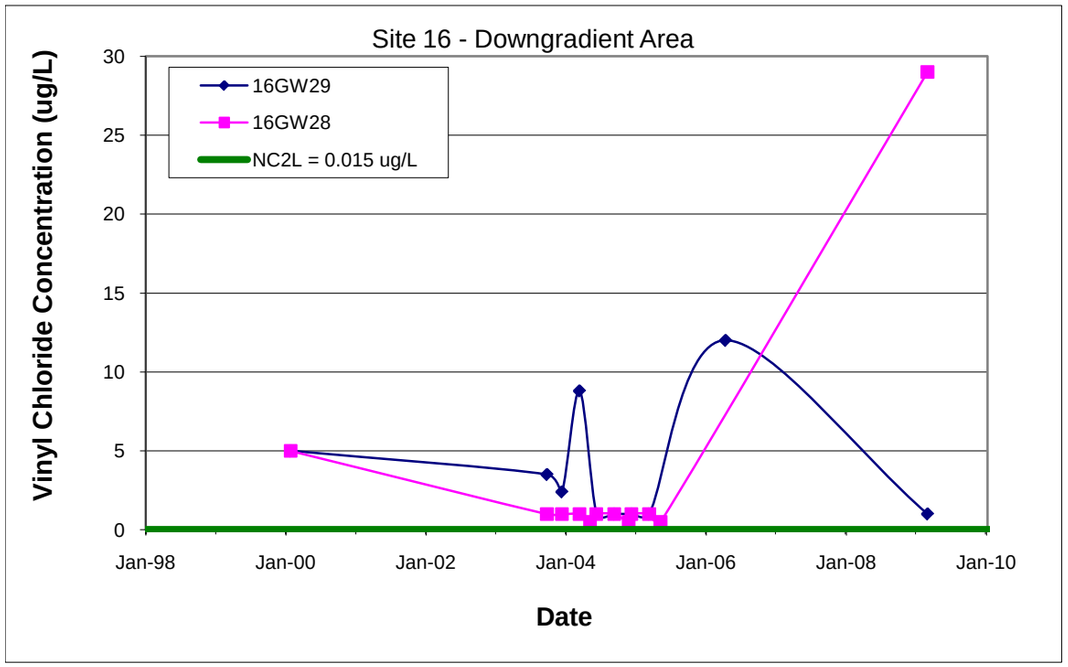


Chart E-9
Time Series Plot for Vinyl Chloride at Building 133
Marine Corps Air Station Cherry Point







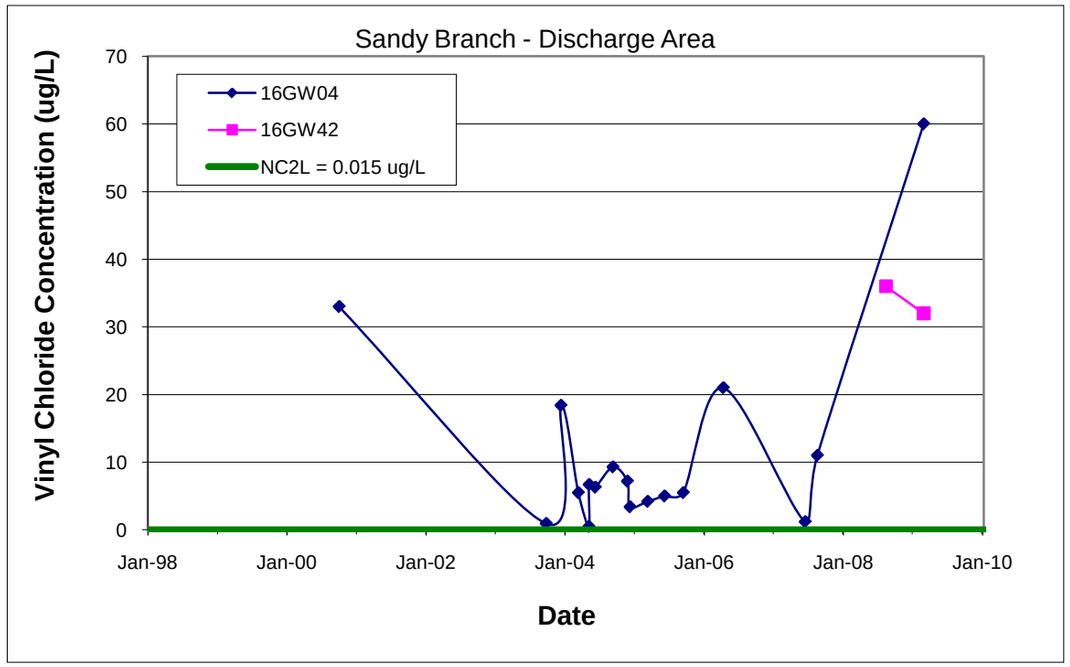


Chart E-9
Time Series Plot for Vinyl Chloride at Building 133
Marine Corps Air Station Cherry Point

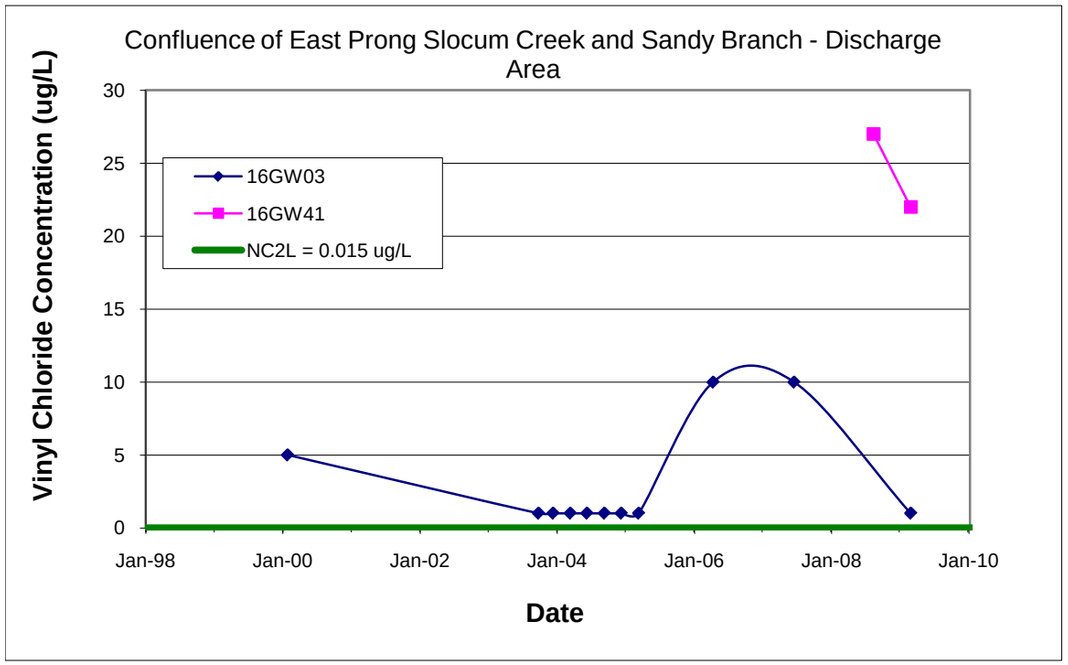


Chart E-9
Time Series Plot for Vinyl Chloride at Building 133
Marine Corps Air Station Cherry Point

Appendix C

Summary of the Updated Human Health Risk Assessment—
Site 83, OU1
Marine Corps Air Station Cherry Point, North Carolina
CH2M HILL (July 13, 2010)

Summary of the Updated Human Health Risk Assessment – Site 83, OU1, Marine Corps Air Station Cherry Point, North Carolina

FROM: CH2M HILL

DATE: July 13, 2010

This technical memorandum presents an updated human health risk assessment (HHRA) for Site 83, Cherry Point, North Carolina. In 2009, additional soil sampling at Site 83 was conducted to confirm residual contamination of polycyclic aromatic hydrocarbons (PAHs), pesticides, and lead at the site, characterize portions of the site where historical information is limited, and delineate the vertical and horizontal extent of impacted site soils. The additional data collected by Rhēa Engineers & Consultants, Inc. in July and August 2009 were used to evaluate the human health risks. The Site 83 soil investigation study included a more comprehensive, grid-based sampling approach, overlapped areas characterized by the historical investigations, and presents current site conditions. Therefore, the risk evaluation was conducted only on the 2009 soil data, and the soil samples collected as part of the Remedial Investigation (RI; Tetra Tech, 2002) were not included in the updated HHRA. Human health risks were only evaluated for the constituents analyzed in the July and August 2009 samples, which consisted of select pesticides, PAHs, and lead. These constituents were selected for analysis based on the past use of the site (i.e., a former pesticide mixing and storage area) and the results of the 2002 RI.

The risk assessment methodology used for the RI HHRA (Tetra Tech, 2002) was updated, as necessary, using current risk assessment methods for this updated HHRA. The screening levels used to select the chemicals of potential concern (COPCs) for further quantitative evaluation in the risk assessment were updated from the values used in RI (the USEPA Region 9 preliminary remediation goals) to the current USEPA Regional Screening Level (RSL) table values (USEPA, 2010a). The exposure factors used to calculate daily intake values were updated to currently used values, if necessary. The reasonable maximum exposure (RME) exposure point concentrations (EPCs) were calculated as a 95 percent upper confidence limit (UCL) of the arithmetic mean of the data set, using the 2009 data and the most recent version of ProUCL, Version 4.00.004 (USEPA, 2009). The central tendency exposure (CTE) exposure point concentrations were calculated as the mean (based on the data distribution used for the RME EPC) of the data set. Also, in the 2002 RI, soils at Sites 16 and 83 were evaluated as one soil group. This HHRA evaluated soil samples collected only at Site 83.

1 Site Description and History

Site 83 is located in the southwestern portion of OU1. The source of contamination at Site 83 is the former Pesticide Shop previously located within former Building 96 **(Figure 1)**. The former pesticide shop (Building 96) was demolished in 1996 and the foundation was

removed in 2006. An engineered fabric cap covered with stone was placed over the building foundation footprint to eliminate potential exposure pathways. The area around former Building 96 is relatively flat and covered by asphalt/concrete. A grassy area is located to the west of former Building 96, adjacent to the site boundary. The western edge of this grassy area contains a steep slope which leads to a wetland adjacent to East Prong Slocum Creek. Soil contamination identified outside of the Site 83 boundary in the down slope wetland area is considered to be associated with Site 83.

A RI for OU1 was completed in November 2002 (Tetra Tech, 2002). Soil samples from Site 83 (and Site 16) had the most frequent detections of PAHs in OU1. Pesticides were detected in the area around the former pesticide shop (Site 83 and Site 16 FMD Spill Area). It was determined that the presence of pesticides in soil were associated with the former pesticide shop in the Site 83 area.

2 Human Health Risk Evaluation

Human health risks associated with exposure to constituents detected in soil were evaluated for potential exposure pathways based on existing site conditions and current and potential future site use using July and August 2009 data. The pathways evaluated in the risk assessment are identified in **Attachment 1, Table 1**. The human health risk assessment process is summarized below.

2.1 Data Summary and Evaluation

Soil data collected during July and August 2009 were evaluated in the risk assessment. Surface soil samples were collected from depths of 0 to 1 foot. Subsurface soil samples were collected at depths ranging from 2 to 5 feet bgs. Samples were analyzed for specific pesticides and PAHs: DDD; DDE; DDT; heptachlor; heptachlor epoxide; dieldrin; chlordane; benzo(a)anthracene; benzo(a)pyrene; benzo(b)fluoranthene; dibenz(a,h)anthracene; and indeno(1,2,3-cd)pyrene. Five of the surface soil samples and five of the subsurface soil samples were also analyzed for lead. Pesticides and PAH soil analyses were performed by an onsite State-certified mobile laboratory. Lead analysis was performed by an offsite State-certified fixed-base laboratory. Split samples, identified in **Table 1**, were submitted to an offsite fixed-base laboratory to confirm the results with the mobile laboratory.

Table 1 lists the samples that were evaluated in the risk assessment. The analytical results from the split samples were not included in the quantitative evaluation. These samples were collected to confirm the on-site laboratory results. With the exception of PAHs in split sample OU1-83-8K-S-0-1, the concentrations in the split samples are lower than then the samples analyzed by the on-site mobile laboratory.

Based on the site topography, the site was evaluated as two exposure units, the "Upland Area" and the "Lowland Area" **(Figure 1**). The Upland Area consists of the flat area surrounding and including the former Building 96 location. The data were grouped according to these two exposure units for evaluation in the HHRA.

2.2 Selection of Chemicals of Potential Concern

Detected constituents were screened following the procedures described below. The maximum detected concentration of each constituent in each medium was compared to the criteria discussed below to select the COPCs for the medium. If the maximum concentration exceeded the criteria, the constituent was selected as a COPC.

- **Comparison with Health-Based Criteria for Soil:** Soil data were compared to both the USEPA residential soil regional screening levels (RSLs; USEPA 2010a) and the industrial soil RSLs. RSLs based on noncarcinogenic effects were divided by 10 to account for exposure to multiple constituents. RSLs based on carcinogenic effects were used as presented in the RSL table. Although land use is expected to remain industrial, data was compared to residential RSLs because they are protective of all potential receptors, in particular the youth and child trespassers.
- **Comparison with Health-Based Criteria for Ambient Air:** Concentrations of chemicals in air emanating from contaminated soil by fugitive dust emissions were compared to the USEPA residential air RSLs. RSLs based on noncarcinogenic effects were divided by ten to account for exposure to multiple constituents. RSLs based on carcinogenic effects were used as presented in the RSL table. The ambient air concentrations were calculated following USEPA's soil screening guidance (USEPA 2002a), as shown in **Attachment 1, Tables 2.3, 2.6, 2.9, and 2.12.**

Following USEPA Region 4 risk assessment guidance (USEPA, 2000), any member of a chemical class that was detected that had other members selected as COPCs was retained as a COPC (i.e., if one carcinogenic PAH was selected as a COPC, since the maximum detected concentration exceeded the screening level, all detected PAHs were retained as COPCs).

The COPC screening tables are presented in **Attachment 1, Tables 2.1 through 2.12**. The constituents that were selected as COPCs for the Upland and Lowland exposure areas are identified in **Table 2**. All detected pesticides and PAHs in the Upland Area surface soil and the combined surface and subsurface soil exceeded the residential soil RSLs, with the exception of heptachlor epoxide, and were retained as COPCs. In the Lowland Area, all detected pesticides and PAHs in surface soil and combined surface and subsurface soil exceeded the residential soil RSLs, with the exception of benzo(a)anthracene , and were retained as COPCs. Benzo(a)anthracene was retained as a COPC based on the selection criteria of a chemical from the same class, carcinogenic polynuclear aromatic hydrocarbon (cPAH). For the soil to air pathway for surface soil and combined surface and subsurface soil in each exposure area, there were no exceedances of the residential air RSLs; therefore, no constituents were retained as COPCs.

2.3 Exposure Assessment

Exposure assessment is the estimation of the likelihood, magnitude, frequency, duration, and routes of exposure to a chemical. Exposure refers to the potential contact of an individual (or receptor) with a chemical. Exposure can occur when contaminants migrate from a source to an exposure point, or when a receptor comes into direct contact with contaminated media.

The three components of exposure assessment include:

- Characterization of exposure setting
- Identification of exposure pathways
- Quantification of exposure

2.3.1 Characterization of Exposure Setting

A description of Site 83 is provided above. MCAS Cherry Point is a military installation just north of the town of Havelock in Craven County, North Carolina. The primary military land uses at the Air Station include military operations, training, maintenance and production, supply, medical administration, troop and family housing, community support, recreation, and utilities. Land use in OU1, including Site 83, is industrial. It is assumed that future use of Site 83 will remain the same.

2.3.2 Identification of Exposure Pathways

An exposure pathway can be described as the physical course that a COPC takes from the point of release to a receptor. To be complete, an exposure pathway must have all of the following components:

- A source (e.g., constituent residues in soil);
- A mechanism for chemical release and migration (e.g., leaching);
- An environmental transport medium (e.g., groundwater);
- A point or site of potential human contact (exposure point, e.g., drinking water); and
- A route of intake (e.g., ingestion of groundwater used as a drinking water source).

In the absence of any one of these components, an exposure pathway is considered incomplete and, by definition, there is no risk or hazard. In some cases, a receptor may contact a source directly, eliminating the release and transport pathways.

Potential current receptors include industrial workers (i.e., military and civilian personnel), maintenance workers, and trespassers/visitors (adult, youth and child). The current receptors may come in contact with surface soil. Exposure routes may include incidental ingestion of the surface soil, dermal contact with the surface soil, and inhalation of particulate emissions from the surface soil. The constituents analyzed in soil at the site are pesticides and PAHs; therefore, volatile emissions from surface soil is not expected to contribute significantly to any potential risks to the receptors. No COPCs were identified for the soil to air pathway. Therefore, inhalation of particulate and volatile emissions from soil is considered an incomplete exposure pathway and risks associated with this pathway were not quantified.

Potential future receptors include the current receptors and future construction workers. Although there are no plans for future residential use of the site, a future hypothetical residential scenario was also evaluated. It is assumed that the future receptors could be exposed to surface and subsurface soil if future industrial buildings are constructed at the site, or if excavation activities occur on site and the soil is re-worked, bringing the subsurface soil to the surface. Exposure routes for the surface and subsurface soil are the same as those for current surface soil, incidental ingestion of the soil and dermal contact with the soil.

In summary, the current land use exposure routes for quantitative evaluation for both the Upland and Lowland Areas include the following:

- **Industrial Worker—**Incidental ingestion of and dermal contact with surface soil.
- **Maintenance Worker—**Incidental ingestion of and dermal contact with surface soil.
- **Trespasser/Visitor (adult, adolescent, and child)—**Incidental ingestion of and dermal contact with surface soil.

The future land use exposure routes include following:

- **Industrial Worker—**Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Maintenance Worker—**Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Trespasser/Visitor (adult, adolescent, and child)—**Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Construction Worker—**Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).
- **Resident (adult and child) —**Incidental ingestion of and dermal contact with soil (combined surface and subsurface soil).

2.3.3 Quantification of Exposure

Exposure is quantified by estimating the exposure point concentrations (EPCs) of COPCs in environmental media and COPC intake by the receptor.

Exposure Concentrations

EPCs are estimated constituent concentrations that a receptor may contact and are specific to each exposure medium. EPCs may be directly measured or estimated using environmental fate and transport models. Constituent concentrations in soil were measured for this assessment.

ProUCL software Version 4.00.04 (USEPA, 2009) was used to determine the distribution that the data fit and to calculate the 95 percent UCLs of the arithmetic means of the data set, used as the RME EPCs, for the surface soil and combined surface and subsurface soil. ProUCL identifies three possible data distributions: normal distribution, log-normal distribution, and gamma distribution. The UCL calculation method is then selected based on the data distribution (that is, normal, lognormal, gamma, or nonparametric if the data do not fit any of the distributions). The recommendations outlined in the ProUCL software documentation were followed to select the appropriate UCL (USEPA, 2009). The maximum detected concentration was used as the EPC in cases where the estimated 95 percent UCL was greater than the maximum detected concentration.

CTE EPCs and risks were calculated for exposure scenarios with RME non-carcinogenic hazards or carcinogenic risks that either exceeded or were equal to USEPA's non-carcinogenic hazard or carcinogenic risk target levels (non-carcinogenic hazard greater than

or equal to 1 or carcinogenic risk greater than or equal to 10^{-4}). The CTE EPC was obtained using the ProUCL software, and is the mean concentration, based on the data distribution used for the RME EPC (the 95 percent UCL).

Attachment 1, Tables 3.1.RME through 3.4.RME present the RME EPCs for the COPCs for each medium and the rationale for the selected EPC. **Attachment 1, Table 3.1.CTE** presents the CTE EPCs for the COPCs for the one scenario with a non-carcinogenic hazard equal to USEPA's target non-carcinogenic hazard level.

Estimation of Chemical Intakes

Chemical intake is the amount of the chemical constituent entering the receptor's body. The quantification of exposure is based on an estimate of the average daily intake, the average amount of the chemical contaminant entering the receptor's body per day. Chemical intakes are generally expressed as follows:

$$ADI = \frac{C \times CR \times EF \times ED}{BW \times AT}$$

Where:

ADI = average daily intake (mg/kg-day)
C = chemical concentration (mg/kg)
CR = contact rate (mg/day)
EF = exposure frequency (days/year)
ED = exposure duration (years)
BW = body weight (kg)
AT = averaging time (days)

The intake equation requires exposure parameters that are specific to each exposure pathway. Many of the exposure parameters have default values, which were used for this assessment. These assumptions, based on estimates of body weights, media intake levels, and exposure frequencies and duration, are provided in USEPA guidance. Both RME and CTE exposure parameters were compiled. CTE risks were only calculated for scenarios where the RME risk was greater than or equal to USEPA's non-carcinogenic hazard or carcinogenic risk target levels (non-carcinogenic hazard greater than 1 or carcinogenic risk greater than 10^{-4}). **Tables 4.1.RME, 4.2.RME, and 4.1.CTE** in **Attachment 1** identify the exposure parameters and intake equations for each of the scenarios evaluated in the risk assessment.

To estimate exposure via dermal contact with soil, two additional parameters are necessary. The first parameter, the dermal absorption fraction, estimates the amount of a constituent in soil that would be absorbed by the skin. The absorption fractions used are from USEPA's RAGS Part E (USEPA 2004): chlordane – 0.04; DDT – 0.03; other pesticides (used default for SVOCs) – 0.1; and PAHs – 0.13. The second additional parameter necessary to estimate dermal expose to constituents in soil is the adherence factor (AF). The AF estimates the amount of soil that adheres to the skin per unit of surface area. The AFs were obtained from USEPA RAGS Part E (USEPA, 2004) and are included in **Tables 4.1.RME, 4.2.RME,** and **4.1.CTE** in **Attachment 1**.

2.4 Toxicity Assessment

Toxicity assessment defines the relationship between the magnitude of exposure and possible severity of adverse effects, and weighs the quality of available toxicological evidence. Toxicity assessment generally consists of two steps: hazard identification and dose-response assessment. Hazard identification is the process of determining the potential adverse effects from exposure to the constituent along with the type of health effect involved. Dose-response assessment is the process of quantitatively evaluating the toxicity information and characterizing the relationship between the dose of the constituent administered or received and the incidence of adverse health effects in the exposed population. Toxicity criteria (e.g., reference doses and slope factors) are derived from the dose-response relationship.

The USEPA recommends that a tiered approach be used to obtain the toxicity values, reference doses (RfDs), and cancer slope factors (CSFs) used to calculate non-cancer and cancer risks, respectively (USEPA, 2003). The sources of toxicity values are as follows:

- USEPA's Integrated Risk Information System (IRIS) database (USEPA, 2010b)
- Provisional Peer Reviewed Toxicity Value (PPRTV) database maintained by the USEPA's National Center for Environmental Assessment (NCEA) and the Superfund Health Risk Technical Support Center (STSC)
- Other USEPA and non-USEPA sources including NCEA, Agency for Toxic Substances and Disease Registry, Health Effects Assessment Summary Tables (USEPA, 1997a), California EPA (Cal EPA), USEPA's Office of Water, and World Health Organization (WHO)

The use of provisional toxicity values, such as those from the PPRTV database, increases the uncertainty of the quantitative risk estimate.

USEPA's approach to obtain toxicity values, reference doses (RfDs), and cancer slope factors (CSFs) used to calculate non-cancer and cancer risks, respectively, was used to obtain the toxicity values for the soil COPCs. USEPA-derived oral and inhalation chronic and subchronic RfDs, and associated uncertainty factors (UFs) and modifying factors (MFs), for the COPCs are listed in **Tables 5.1** and **5.2** in **Attachment 1**. USEPA-derived oral and inhalation CSFs are listed in **Tables 6.1** and **6.2** in **Attachment 1**.

Dermal RfDs and CSFs were calculated from the oral RfDs and CSFs using an oral to dermal adjustment factor. This factor is designed to adjust the orally administered dose toxicity factors to dermally absorbed dose toxicity factors (USEPA, 2004). The oral RfDs were adjusted to dermal RfDs by multiplying by the oral to dermal adjustment factor (gastrointestinal absorption factor) and the oral CSFs were adjusted to dermal CSFs by dividing by the gastrointestinal (GI) absorption factor. If a chemical-specific GI absorption factor was not available or was greater than 50 percent, a GI absorption factor of 100 percent was assumed. The dermal RfDs are included in **Attachment 1, Table 5.1**. The dermal CSFs are presented in **Attachment 1, Table 6.1**.

USEPA (1989) defines the chronic RfD as an estimate of a daily exposure to the human population, including sensitive subpopulations, which is likely to be without appreciable risk of deleterious effects during a lifetime. Chronic RfDs are developed to be protective for

long-term exposure to a compound (7 years to a lifetime). Chronic RfDs may be overly protective if used to evaluate the potential for adverse health effects resulting from short-term exposure. NCEA develops subchronic RfDs for short-term exposure (2 weeks to 7 years). Subchronic RfDs have been peer-reviewed by USEPA and outside reviewers, but they have not undergone verification by an intra-USEPA workgroup, and as a result, are considered interim rather than verified toxicity values. Subchronic RfDs were used to evaluate the noncarcinogenic risks to the construction worker. If a subchronic RfD was not available, the chronic RfD was used. If a subchronic value was lower than a chronic value that has been developed subsequent to the subchronic value, the chronic value was used. Chronic RfDs were used for all other receptors.

Subchronic oral RfDs were available from HEAST for the following COPCs: heptachlor, heptachlor epoxide, DDE, dieldrin, DDD, and DDT (Attachment 1, Table 5.1). These subchronic RfDs were equal to the chronic RfDs. A subchronic RfD was also available in HEAST for chlordane and was the value originally used to calculate the potential risk to construction workers. Those results were originally presented at the May 2010 Partnering Meeting and indicated a HI slightly over 1.

Upon further review and comparison of the chronic and subchronic toxicity values, the chlordane subchronic RfD value in HEAST (6E-05 mg/kg-day) is more conservative (i.e., lower) than the chronic RfD value currently available in IRIS (4E-05 mg/kg-day). The last update to the HEAST document was in 1997. The subchronic RfD value provided in HEAST was adopted from the chronic oral RfD entered in IRIS in 1993 with no modification (i.e., the subchronic RfD was equivalent to the chronic RfD). In December 1997, a new toxicological review of chlordane was completed by EPA (1997b). As a result, a new chronic RfD was entered into IRIS in 1998. Therefore, use of the subchronic RfD presented in HEAST is no longer appropriate and the chronic RfD was used in this evaluation.

Most of the constituents detected at Site 83 have toxicity factors and USEPA RSLs. Lead, which was retained as a COPC for soil, does not have available published toxicity factors. Lead is regulated by EPA based on blood-lead uptake using a physiologically based pharmakokinetic model called the Integrated Exposure Uptake Biokinetic (IEUBK) Model. Lead was detected at concentrations below the residential and industrial screening levels in soil samples. Therefore, risks associated with lead in the soil were not evaluated further.

2.5 Risks Characterization

Potential human health risks are discussed independently for carcinogenic and noncarcinogenic constituents because of the different toxicological endpoints, relevant exposure duration, and methods used to characterize risk. Some constituents may produce both noncarcinogenic and carcinogenic effects, and were evaluated in both groups. The methodology used to estimate noncarcinogenic hazards and carcinogenic risks are described below. Following the description of the methodology, the noncarcinogenic hazards and carcinogenic risks for Site 83 are discussed.

Noncarcinogenic health risks are estimated by comparing the calculated intake to an RfD. The calculated intake divided by the RfD is equal to the hazard quotient (HQ):

$$HQ = Intake / RfD$$

The intake and RfD represent the same exposure period (i.e., chronic or subchronic) and the same exposure route (i.e., oral intakes are divided by oral RfDs). A HQ that exceeds 1 (i.e., the intake exceeds the RfD) indicates that there is a potential for adverse health effects associated with exposure to that constituent.

To assess the potential for noncarcinogenic health effects posed by exposure to multiple constituents, a hazard index (HI) approach is used (USEPA, 1986). This approach assumes that noncarcinogenic hazards associated with exposure to more than one constituent are additive. Synergistic or antagonistic interactions between constituents are not considered. The HI may exceed 1 even if all of the individual HQs are less than one. HIs are also added across exposure routes and media to estimate the total noncarcinogenic health effects to a receptor posed by exposure through multiple routes and media. A HI greater than one indicates that there is some potential for adverse noncarcinogenic health effects associated with exposure to the contaminants of concern. However, if the HI is greater than one, it is possible to separate the HI by target organ/effect, to determine if the HI for a specific target organ/effect is greater than one. If the HI for each target organ/effect is not above one, it can be assumed that there is no unacceptable noncarcinogenic hazard to the receptor.

The potential for carcinogenic effects due to exposure to site-related constituents is evaluated by estimating the excess lifetime carcinogenic risk (ELCR). ELCR is the incremental increase in the probability of developing cancer during one's lifetime in addition to the background probability of developing cancer. For example, an individual exposed to a carcinogen with a calculated cancer risk of $2x10^{-6}$ indicates that the probability of the individual getting cancer increases by 2 in a million above background levels.

Carcinogenic risk is calculated by multiplying the intake by the CSF.

$$ELCR = Intake \times CSF$$

The combined risk from exposure to multiple constituents was evaluated by adding the risks from individual constituents. Risks were also added across the exposure routes and media if an individual would be exposed through multiple routes and to multiple media.

When a cumulative carcinogenic risk to an individual receptor under the assumed RME exposure conditions at the site exceeds 100 in a million (i.e., 10^{-4} excess carcinogenic risk), CERCLA generally requires remedial action to reduce risks at the site (USEPA, 1991). If the cumulative risk is less than 10^{-4}, action generally is not required, but may be warranted if a risk-based chemical-specific standard is exceeded.

If the RME risks exceeded or equaled a HI of 1 or a carcinogenic risk of $1x10^{-4}$, risks were calculated for CTE conditions.

For the residential receptor, noncarcinogenic risks were calculated for the adult and child residents, while carcinogenic risks were calculated for lifetime residents. The USEPA assumes that carcinogenic effect of chemicals is a cumulative process, thus making even short-term exposures to chemicals equivalent to lifetime exposures.

2.6 Risk Assessment Results

The results of the risk characterization are presented below by receptor for the Upland Area and the Lowland Area. A summary of the RME results is shown in **Table 3.** A summary of

the CTE results is shown in **Table 4**. The calculated risks for the Upland Area are presented in **Attachment 1, Tables 7.1.RME through 7.14.RME** and the calculated risks for the Lowland Area are presented in **Attachment 1, Tables 7.15.RME through 7.28.RME**, and **Table 7.1.CTE**. The risks for the Upland Area are summarized in **Attachment 1, Tables 9.1.RME through 9.14.RME** and the risks for the Lowland Area are summarized in **Attachment 1, Tables 9.15.RME through 9.28.RME**, and **Table 9.1.CTE**.

2.6.1 Upland Area

Current/Future Industrial Worker (Attachment 1, Table 9.1.RME)

The risk assessment assumed that a current/future industrial worker could be exposed to Upland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.1) is below USEPA's target HI of 1. The RME carcinogenic risk ($6x10^{-5}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Maintenance Worker (Attachment 1, Table 9.2.RME)

The risk assessment assumed that a current/future maintenance worker could be exposed to Upland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.02) is below USEPA's target HI of 1. The RME carcinogenic risk ($1x10^{-5}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Adult Trespasser/Visitor (Attachment 1, Table 9.3.RME)

The risk assessment assumed that a current/future adult trespasser/visitor could be exposed to Upland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.02) is below USEPA's target HI of 1. The RME carcinogenic risk ($1x10^{-5}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Youth Trespasser/Visitor (Attachment 1, Table 9.4.RME)

The risk assessment assumed that a current/future youth trespasser/visitor could be exposed to Upland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.03) is below USEPA's target HI of 1. The RME carcinogenic risk ($7x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Child Trespasser/Visitor (Attachment 1, Table 9.5.RME)

The risk assessment assumed that a current/future child trespasser/visitor could be exposed to Upland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.2) is below USEPA's target HI of 1. The RME carcinogenic risk ($2x10^{-5}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Industrial Worker (Attachment 1, Table 9.6.RME)

The risk assessment assumed that a future industrial worker could be exposed to Upland Area combined surface and subsurface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.06) is below USEPA's target HI of 1. The RME carcinogenic risk ($2x10^{-5}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Maintenance Worker (Attachment 1, Table 9.7.RME)

The risk assessment assumed that a future maintenance worker could be exposed to Upland Area combined surface and subsurface soil. The RME noncarcinogenic hazard (0.01) is below USEPA's target HI of 1. The RME carcinogenic risk ($4x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Adult Trespasser/Visitor (Attachment 1, Table 9.8.RME)

The risk assessment assumed that a future adult trespasser/visitor could be exposed to Upland Area combined surface and subsurface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.01) is below USEPA's target HI of 1. The RME carcinogenic risk ($3x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Youth Trespasser/Visitor (Attachment 1, Table 9.9.RME)

The risk assessment assumed that a future youth trespasser/visitor could be exposed to Upland Area combined surface and subsurface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.02) is below USEPA's target HI of 1. The RME carcinogenic risk ($2x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Child Trespasser/Visitor (Attachment 1, Table 9.10.RME)

The risk assessment assumed that a future child trespasser/visitor could be exposed to Upland Area combined surface and subsurface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.1) is below USEPA's target HI of 1. The RME carcinogenic risk ($7x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Construction Worker (Attachment 1, Table 9.11.RME)

The risk assessment assumed that a future construction worker could be exposed to Upland Area combined surface and subsurface soil through incidental ingestion and dermal. The RME noncarcinogenic hazard (0.2) is below USEPA's target HI of 1. The RME carcinogenic risk ($3x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Adult Resident (Attachment 1, Table 9.12.RME)

The risk assessment assumed that a future adult resident could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact. Carcinogenic risks were not calculated for an adult resident, but were calculated for a lifetime resident, following USEPA guidance.

The total RME non-carcinogenic hazard associated with exposure to soil (HI = 0.08) is less than the acceptable HI of 1.

Future Child Resident (Attachment 1, Table 9.13.RME)

The risk assessment assumed that a future child resident could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact. Carcinogenic risks were not calculated for an adult resident, but were calculated for a lifetime resident, following USEPA guidance.

The RME non-carcinogenic hazard associated with exposure to soil (HI = 0.7) is less than the acceptable HI of 1.

Future Lifetime Resident (Attachment 1, Table 9.14.RME)

The risk assessment assumed that a lifetime resident could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact.

The RME carcinogenic risk associated with exposure to soil ($7x10^{-5}$) is within USEPA's target risk range of 10^{-6} to 10^{-4}.

2.6.2 Lowland Area

Current/Future Industrial Worker (Attachment 1, Table 9.15.RME)

The risk assessment assumed that a current/future industrial worker could be exposed to Lowland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.3) is below USEPA's target HI of 1. The RME carcinogenic risk ($2x10^{-5}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Maintenance Worker (Attachment 1, Table 9.16.RME)

The risk assessment assumed that a current/future maintenance worker could be exposed to Lowland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.06) is below USEPA's target HI of 1. The RME carcinogenic risk ($4x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Adult Trespasser/Visitor (Attachment 1, Table 9.17.RME)

The risk assessment assumed that a current/future adult trespasser/visitor could be exposed to Lowland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.06) is below USEPA's target HI of 1. The RME carcinogenic risk ($3x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Youth Trespasser/Visitor (Attachment 1, Table 9.18.RME)

The risk assessment assumed that a current/future youth trespasser/visitor could be exposed to surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.09) is below USEPA's target HI of 1. The RME carcinogenic risk ($2x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Current/Future Child Trespasser/Visitor (Attachment 1, Table 9.19.RME)

The risk assessment assumed that a current/future child trespasser/visitor could be exposed to Lowland Area surface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.5) is below USEPA's target HI of 1. The RME carcinogenic risk ($7x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Industrial Worker (Attachment 1, Table 9.20.RME)

The risk assessment assumed that a future industrial worker could be exposed to Lowland Area combined surface and subsurface soil through incidental ingestion and dermal contact.

The RME noncarcinogenic hazard (0.1) is below USEPA's target HI of 1. The RME carcinogenic risk ($6x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Maintenance Worker (Attachment 1, Table 9.21.RME)

The risk assessment assumed that a future maintenance worker could be exposed to Lowland Area combined surface and subsurface soil. The RME noncarcinogenic hazard (0.02) is below USEPA's target HI of 1. The RME carcinogenic risk ($1x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Adult Trespasser/Visitor (Attachment 1, Table 9.22.RME)

The risk assessment assumed that a future adult trespasser/visitor could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.02) is below USEPA's target HI of 1. The RME carcinogenic risk ($1x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Youth Trespasser/Visitor (Attachment 1, Table 9.23.RME)

The risk assessment assumed that future youth trespasser/visitor could be exposed to Lowland Area combined surface and subsurface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.03) is below USEPA's target HI of 1. The RME carcinogenic risk ($7x10^{-7}$) is below the USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Child Trespasser/Visitor (Attachment 1, Table 9.24.RME)

The risk assessment assumed that a future child trespasser/visitor could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact. The RME noncarcinogenic hazard (0.2) is below USEPA's target HI of 1. The RME carcinogenic risk ($2x10^{-6}$) is within USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Construction Worker (Attachment 1, Table 9.25.RME)

The risk assessment assumed that a future construction worker could be exposed to combined surface and subsurface soil through incidental ingestion and dermal. The RME noncarcinogenic hazard (0.3) is less than the USEPA's target HI of 1. The RME carcinogenic risk ($9x10^{-7}$) is below USEPA's target risk range of $1x10^{-6}$ to $1x10^{-4}$.

Future Adult Resident (Attachment 1, Table 9.26.RME)

The risk assessment assumed that a future adult resident could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact. Carcinogenic risks were not calculated for an adult resident, but were calculated for a lifetime resident, following USEPA guidance.

The total RME non-carcinogenic hazard associated with exposure to soil (HI = 0.1) is less than the acceptable HI of 1.

Future Child Resident (Attachment 1, Tables 9.27.RME and 9.1.CTE)

The risk assessment assumed that a future child resident could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact, and inhalation

of volatile and fugitive emissions from soil. Carcinogenic risks were not calculated for an adult resident, but were calculated for a lifetime resident, following USEPA guidance.

The RME non-carcinogenic hazard associated with exposure to soil (HI = 1) does not exceed the acceptable HI of 1. However, since the RME non-carcinogenic hazard was equal to the acceptable HI of 1, the CTE non-carcinogenic hazard was calculated. The CTE non-carcinogenic hazard (HI = 0.06) is less than the acceptable HI.

Future Lifetime Resident (Attachment 1, Table 9.28.RME)

The risk assessment assumed that a lifetime resident could be exposed to combined surface and subsurface soil through incidental ingestion and dermal contact.

The RME carcinogenic risk associated with exposure to soil ($2x10^{-5}$) is within USEPA's target risk range of 10^{-6} to 10^{-4}.

3 Summary and Conclusions

Human health risks at Site 83 were evaluated for exposure to:

- Surface soil both in the Upland Area and the Lowland Area for current/future industrial workers, maintenance workers, and trespasser/visitors (adult, youth, and child);
- Combined surface and subsurface soil in the Upland Area and the Lowland Area for future industrial workers, maintenance workers, trespasser/visitors (adult, youth, and child), construction workers, and hypothetical residents (adult and child).

A summary of the risk results is provided in **Table 3.** For both current and potential future land use, Site 83 does not pose unacceptable health risks to the any of the receptors evaluated in this HHRA. Contact with Upland Area and Lowland Area surface soil and combined surface and subsurface soil would not result in noncarcinogenic hazards above the USEPA target HI of 1 or carcinogenic risks above the USEPA target range of $1x10^{-6}$ to $1x10^{-4}$.

4 References

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Tables

Table 1
Summary of Data Quantitatively Used in HHRA
Site 83, MCAS Cherry Point

Medium	Area	Date of Sampling	Sample	Parameters
Surface Soil				
	Upland	8/3/2009 & 8/19/09	OU1-83-9J-S-0-1	Pest*, PAH*
	Upland	7/31/2009	OU1-83-9I-S-0-1	Pest*, PAH*, Lead
	Upland	7/30/2009	OU1-83-9G-S-0-1	Pest*, PAH*, Lead
	Upland	8/3/2009	OU1-83-9F-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-9E-S-0-1	Pest*, PAH*
	Upland	8/5/2009	OU1-83-9D-S-0-1	PAH*
	Upland	8/5/2009	OU1-83-9C-S-0-1	PAH*
	Upland	8/4/2009	OU1-83-8E-S-0-1	Pest*, PAH*
	Upland	8/5/2009	OU1-83-8D-S-0-1	PAH*
	Upland	8/6/2009	OU1-83-8C-S-0-1-P[1]	PAH*
	Upland	8/6/2009	OU1-83-8C-S-0-1	PAH*
	Upland	7/31/2009	OU1-83-15E-S-0-1	Pest*
	Upland	7/29/2009	OU1-83-14G-S-0-1	Pest*, PAH*
	Upland	8/3/2009	OU1-83-14F-S-0-1	Pest*
	Upland	7/28/2009	OU1-83-14E-S-0-1	Pest*, PAH*
	Upland	7/31/2009	OU1-83-14D-S-0-1-P[1]	Pest*
	Upland	7/31/2009	OU1-83-14D-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-13J-S-0-1	Pest*
	Upland	7/28/2009	OU1-83-13G-S-0-1-P[1]	Pest*, PAH*
	Upland	7/28/2009	OU1-83-13G-S-0-1	Pest*, PAH*
	Upland	8/20/2009	OU1-83-13F-S-0-1-P[1]	Pest*
	Upland	8/20/2009	OU1-83-13F-S-0-1	Pest*
	Upland	7/28/2009	OU1-83-13E-S-0-1	Pest*, PAH*
	Upland	8/20/2009	OU1-83-13D-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-13C-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-12Q-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-12P-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-12O-S-0-1-P[1]	Pest*
	Upland	8/19/2009	OU1-83-12O-S-0-1	Pest*
	Upland	7/31/2009	OU1-83-12K-S-0-1-P[1]	Pest*
	Upland	7/31/2009	OU1-83-12K-S-0-1	Pest*
	Upland	8/18/2009	OU1-83-12J-S-0-1	Pest*, PAH*
	Upland	7/31/2009	OU1-83-12I-S-0-1	Pest*, PAH*
	Upland	8/19/2009	OU1-83-12G-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-12F-S-0-1	Pest*, PAH*
	Upland	8/19/2009	OU1-83-12E-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-12D-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-12C-S-0-1	Pest*
	Upland	8/18/2009	OU1-83-11R-S-0-1	Pest*
	Upland	8/18/2009	OU1-83-11Q-S-0-1	Pest*
	Upland	8/18/2009	OU1-83-11P-S-0-1-P[1]	Pest*
	Upland	8/18/2009	OU1-83-11P-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-11O-S-0-1	Pest*
	Upland	7/31/2009	OU1-83-11L-S-0-1	Pest*
	Upland	7/28/2009	OU1-83-11K-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11K-S-0-1[2]	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11I-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11I-S-0-1[2]	Pest*, PAH*
	Upland	8/18/2009	OU1-83-11H-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11G-S-0-1	Pest*, PAH*
	Upland	8/18/2009	OU1-83-11F-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11E-S-0-1	Pest*, PAH*
	Upland	8/5/2009	OU1-83-11D-S-0-1	Pest*, PAH*
	Upland	8/6/2009 & 8/21/09	OU1-83-11C-S-0-1	Pest*, PAH*
	Upland	8/21/2009	OU1-83-11C-S-0-1[2]	Pest*
	Upland	8/3/2009	OU1-83-10N-S-0-1	Pest*
	Upland	7/31/2009	OU1-83-10K-S-0-1-P[1]	Pest*
	Upland	7/31/2009	OU1-83-10K-S-0-1	Pest*, PAH*

Table 1
Summary of Data Quantitatively Used in HHRA
Site 83, MCAS Cherry Point

Medium	Area	Date of Sampling	Sample	Parameters
Surface Soil	Upland	7/31/2009	OU1-83-10I-S-0-1	Pest*, PAH*
	Upland	8/3/2009	OU1-83-10G-S-0-1-P[1]	Pest*, PAH*
	Upland	8/3/2009	OU1-83-10G-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-10F-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-10E-S-0-1	Pest*, PAH*
	Upland	8/5/2009	OU1-83-10D-S-0-1	PAH*
	Upland	8/5/2009	OU1-83-10C-S-0-1	PAH*
	Lowland	8/3/2009	OU1-83-10O-S-0-1	Pest*
	Lowland	8/6/2009	OU1-83-10P-S-0-1	Pest*
	Lowland	8/6/2009	OU1-83-10Q-S-0-1	Pest*
	Lowland	8/6/2009	OU1-83-10Q-S-0-1-P[1]	Pest*
	Lowland	8/4/2009	OU1-83-10R-S-0-1	Pest*
	Lowland	8/4/2009	OU1-83-10S-S-0-1	Pest*
	Lowland	7/29/2009	OU1-83-6N-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6O-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6O-S-0-1-P[1]	Pest*
	Lowland	7/29/2009	OU1-83-6P-S-0-1	Pest*, PAH*
	Lowland	7/28/2009	OU1-83-6Q-S-0-1	Pest*, PAH*
	Lowland	7/28/2009	OU1-83-6R-S-0-1	Pest*, PAH*
	Lowland	8/6/2009	OU1-83-7D-S-0-1	PAH*
	Lowland	8/5/2009	OU1-83-7E-S-0-1	PAH*
	Lowland	8/5/2009	OU1-83-7F-S-0-1	Pest*, PAH*
	Lowland	8/5/2009	OU1-83-7G-S-0-1	Pest*, PAH*
	Lowland	8/6/2009	OU1-83-7H-S-0-1	Pest*
	Lowland	8/5/2009	OU1-83-7K-S-0-1	Pest*
	Lowland	8/5/2009	OU1-83-7L-S-0-1	Pest*
	Lowland	7/29/2009	OU1-83-7N-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7O-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7P-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7Q-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7R-S-0-1	Pest*, PAH*
	Lowland	8/4/2009	OU1-83-8F-S-0-1	Pest*, PAH*
	Lowland	8/3/2009	OU1-83-8G-S-0-1	Pest*, PAH*
	Lowland	7/30/2009	OU1-83-8H-S-0-1	Pest*, PAH*, Lead
	Lowland	7/30/2009	OU1-83-8H-S-0-1-P[1]	Pest*, PAH*, Lead
	Lowland	8/3/2009	OU1-83-8I-S-0-1	Pest*, PAH*
	Lowland	8/3/2009	OU1-83-8J-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8K-S-0-1	Pest*, PAH*, Lead
	Lowland	7/30/2009	OU1-83-8K-S-0-1[2]	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8K-S-0-1-P[1]	Pest*, PAH*, Lead
	Lowland	8/5/2009	OU1-83-8L-S-0-1	Pest*
	Lowland	8/18/2009	OU1-83-8N-S-0-1	Pest*
	Lowland	7/29/2009	OU1-83-8O-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8P-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8Q-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8R-S-0-1	Pest*, PAH*
	Lowland	8/18/2009	OU1-83-8S-S-0-1	Pest*
	Lowland	7/30/2009	OU1-83-9K-S-0-1	Pest*, PAH*, Lead
	Lowland	8/6/2009	OU1-83-9L-S-0-1	Pest*
	Lowland	8/3/2009	OU1-83-9N-S-0-1	Pest*
	Lowland	7/29/2009	OU1-83-9O-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9P-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9Q-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9R-S-0-1	Pest*, PAH*
	Lowland	8/5/2009	OU1-83-9S-S-0-1	Pest*
	Lowland	8/5/2009	OU1-83-9S-S-0-1-P[1]	Pest*

Table 1
Summary of Data Quantitatively Used in HHRA
Site 83, MCAS Cherry Point

Medium	Area	Date of Sampling	Sample	Parameters
Surface and Subsurface Soil				
	Upland	8/6/2009	OU1-83-8C-S-0-1	PAH*
	Upland	8/6/2009	OU1-83-8C-S-0-1-P[1]	PAH*
	Upland	8/6/2009	OU1-83-8C-S-1-2	PAH*
	Upland	8/5/2009	OU1-83-8D-S-0-1	PAH*
	Upland	8/5/2009	OU1-83-8D-S-1-2	PAH*
	Upland	8/4/2009	OU1-83-8E-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-8E-S-1-2	PAH*
	Upland	8/4/2009	OU1-83-8E-S-1-2-P[1]	PAH*
	Upland	8/5/2009	OU1-83-9C-S-0-1	PAH*
	Upland	8/5/2009	OU1-83-9C-S-1-2	PAH*
	Upland	8/5/2009	OU1-83-9D-S-0-1	PAH*
	Upland	8/5/2009	OU1-83-9D-S-1-2	PAH*
	Upland	8/4/2009	OU1-83-9E-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-9E-S-1-2	PAH*
	Upland	8/6/2009	OU1-83-9E-S-2-3	PAH*
	Upland	8/3/2009	OU1-83-9F-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-9F-S-1-2	Pest*, PAH*
	Upland	7/30/2009	OU1-83-9G-S-0-1	Pest*, PAH*, Lead
	Upland	8/3/2009	OU1-83-9G-S-1-2	Pest*, PAH*
	Upland	7/30/2009	OU1-83-9G-S-2-3	Pest*, PAH*, Lead
	Upland	7/30/2009	OU1-83-9G-S-2-3-P[1]	Pest*, PAH*
	Upland	7/31/2009	OU1-83-9I-S-0-1	Pest*, PAH*, Lead
	Upland	8/3/2009 & 8/19/09	OU1-83-9I-S-1-2	Pest*, PAH*
	Upland	7/31/2009	OU1-83-9I-S-2-3	Pest*, PAH*, Lead
	Upland	7/31/2009	OU1-83-9I-S-2-3-P[1]	Pest*, PAH*
	Upland	8/3/2009 & 8/19/09	OU1-83-9J-S-0-1	Pest*, PAH*
	Upland	8/19/2009	OU1-83-9J-S-1-2	Pest*, PAH*
	Upland	8/5/2009	OU1-83-10C-S-0-1	PAH*
	Upland	8/5/2009	OU1-83-10C-S-1-2	PAH*
	Upland	8/5/2009	OU1-83-10D-S-0-1	PAH*
	Upland	8/5/2009	OU1-83-10D-S-1-2	PAH*
	Upland	8/4/2009	OU1-83-10E-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-10E-S-1-2	PAH*
	Upland	8/4/2009	OU1-83-10F-S-0-1	Pest*, PAH*
	Upland	8/4/2009	OU1-83-10F-S-1-2	PAH*
	Upland	8/6/2009	OU1-83-10F-S-2-3	PAH*
	Upland	8/3/2009	OU1-83-10G-S-0-1	Pest*, PAH*
	Upland	8/3/2009	OU1-83-10G-S-0-1-P[1]	Pest*, PAH*
	Upland	8/4/2009	OU1-83-10G-S-1-2	Pest*, PAH*
	Upland	7/31/2009	OU1-83-10I-S-0-1	Pest*, PAH*
	Upland	8/3/2009	OU1-83-10I-S-1-2	Pest*, PAH*
	Upland	8/18/2009	OU1-83-10I-S-2-3	Pest*
	Upland	8/18/2009	OU1-83-10I-S-2-3-P[1]	Pest*
	Upland	7/31/2009	OU1-83-10K-S-0-1	Pest*, PAH*
	Upland	7/31/2009	OU1-83-10K-S-0-1-P[1]	Pest*
	Upland	8/19/2009	OU1-83-10K-S-1-2	Pest*
	Upland	8/3/2009	OU1-83-10N-S-0-1	Pest*
	Upland	8/6/2009 & 8/21/09	OU1-83-11C-S-0-1	Pest*, PAH*
	Upland	8/21/2009	OU1-83-11C-S-0-1[2]	Pest*
	Upland	8/6/2009	OU1-83-11C-S-1-2	PAH*
	Upland	8/5/2009	OU1-83-11D-S-0-1	Pest*, PAH*
	Upland	8/5/2009	OU1-83-11D-S-1-2	PAH*
	Upland	7/28/2009	OU1-83-11E-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11E-S-2-3	Pest*, PAH*
	Upland	8/18/2009	OU1-83-11F-S-0-1	Pest*, PAH*
	Upland	8/18/2009	OU1-83-11F-S-1-2	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11G-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11G-S-2-3	Pest*, PAH*

Table 1
Summary of Data Quantitatively Used in HHRA
Site 83, MCAS Cherry Point

Medium	Area	Date of Sampling	Sample	Parameters
Surface and Subsurface Soil	Upland	8/18/2009	OU1-83-11H-S-0-1	Pest*, PAH*
	Upland	8/18/2009	OU1-83-11H-S-1-2	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11I-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11I-S-0-1[2]	Pest*, PAH*
	Upland	7/31/2009	OU1-83-11I-S-1-2	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11I-S-2-3	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11I-S-2-3-P[1]	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11K-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-11K-S-0-1[2]	Pest*, PAH*
	Upland	7/30/2009	OU1-83-11K-S-1-2	Pest*
	Upland	7/28/2009	OU1-83-11K-S-2-3	Pest*, PAH*
	Upland	7/31/2009	OU1-83-11L-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-11O-S-0-1	Pest*
	Upland	8/18/2009	OU1-83-11P-S-0-1	Pest*
	Upland	8/18/2009	OU1-83-11P-S-0-1-P[1]	Pest*
	Upland	8/18/2009	OU1-83-11P-S-1-2	Pest*
	Upland	8/18/2009	OU1-83-11Q-S-0-1	Pest*
	Upland	8/18/2009	OU1-83-11R-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-12C-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-12D-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-12D-S-1-2	Pest*
	Upland	8/19/2009	OU1-83-12E-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-12E-S-1-2	Pest*
	Upland	8/19/2009	OU1-83-12F-S-0-1	Pest*, PAH*
	Upland	8/19/2009	OU1-83-12F-S-1-2	Pest*
	Upland	8/19/2009	OU1-83-12G-S-0-1	Pest*
	Upland	7/31/2009	OU1-83-12I-S-0-1	Pest*, PAH*
	Upland	8/18/2009	OU1-83-12J-S-0-1	Pest*, PAH*
	Upland	8/18/2009	OU1-83-12J-S-1-2	Pest*
	Upland	7/31/2009	OU1-83-12K-S-0-1	Pest*
	Upland	7/31/2009	OU1-83-12K-S-0-1-P[1]	Pest*
	Upland	8/19/2009	OU1-83-12O-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-12O-S-0-1-P[1]	Pest*
	Upland	8/19/2009	OU1-83-12P-S-0-1	Pest*
	Upland	8/19/2009	OU1-83-12Q-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-13C-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-13D-S-0-1	Pest*
	Upland	7/28/2009	OU1-83-13E-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-13E-S-2-3	Pest*, PAH*
	Upland	8/20/2009	OU1-83-13F-S-0-1	Pest*
	Upland	8/20/2009	OU1-83-13F-S-0-1-P[1]	Pest*
	Upland	7/28/2009	OU1-83-13G-S-0-1	Pest*, PAH*
	Upland	7/28/2009	OU1-83-13G-S-0-1-P[1]	Pest*, PAH*
	Upland	7/28/2009	OU1-83-13G-S-2-3	Pest*, PAH*
	Upland	8/19/2009	OU1-83-13J-S-0-1	Pest*
	Upland	7/31/2009	OU1-83-14D-S-0-1	Pest*
	Upland	7/31/2009	OU1-83-14D-S-0-1-P[1]	Pest*
	Upland	7/28/2009	OU1-83-14E-S-0-1	Pest*, PAH*
	Upland	7/30/2009	OU1-83-14E-S-1-2	Pest*
	Upland	7/28/2009	OU1-83-14E-S-2-3	Pest*, PAH*
	Upland	7/28/2009	OU1-83-14E-S-2-3[2]	Pest*, PAH*
	Upland	8/3/2009	OU1-83-14F-S-0-1	Pest*
	Upland	7/29/2009	OU1-83-14G-S-0-1	Pest*, PAH*
	Upland	7/29/2009	OU1-83-14G-S-2-3	Pest*, PAH*
	Upland	7/31/2009	OU1-83-15E-S-0-1	Pest*
	Lowland	8/3/2009	OU1-83-10O-S-0-1	Pest*
	Lowland	8/6/2009	OU1-83-10P-S-0-1	Pest*
	Lowland	8/6/2009	OU1-83-10Q-S-0-1	Pest*
	Lowland	8/6/2009	OU1-83-10Q-S-0-1-P[1]	Pest*

Table 1
Summary of Data Quantitatively Used in HHRA
Site 83, MCAS Cherry Point

Medium	Area	Date of Sampling	Sample	Parameters
Surface and Subsurface Soil	Lowland	8/6/2009	OU1-83-10Q-S-1-2	Pest*
	Lowland	8/4/2009	OU1-83-10R-S-0-1	Pest*
	Lowland	8/4/2009	OU1-83-10S-S-0-1	Pest*
	Lowland	7/31/2009	OU1-83-5M-S-3-4	PAH*
	Lowland	7/31/2009	OU1-83-5N-S-3-4	PAH*
	Lowland	8/3/2009	OU1-83-5P-S-2-3	PAH*
	Lowland	8/3/2009	OU1-83-5Q-S-2-3	PAHs
	Lowland	8/4/2009	OU1-83-5R-S-1-3	PAH*
	Lowland	7/31/2009	OU1-83-6M-S-3-4	PAH*
	Lowland	7/29/2009	OU1-83-6N-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6N-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6N-S-3-4	Pest*, PAH*
	Lowland	7/30/2009	OU1-83-6N-S-4-5	PAH*
	Lowland	7/29/2009	OU1-83-6O-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6O-S-0-1-P[1]	Pest*
	Lowland	7/29/2009	OU1-83-6O-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6O-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6P-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6P-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-6P-S-3-4	Pest*, PAH*
	Lowland	7/28/2009	OU1-83-6Q-S-0-1	Pest*, PAH*
	Lowland	7/31/2009	OU1-83-6Q-S-2-3	Pest*, PAH*
	Lowland	7/31/2009	OU1-83-6Q-S-3-4	Pest*, PAH*
	Lowland	7/28/2009	OU1-83-6R-S-0-1	Pest*, PAH*
	Lowland	7/31/2009	OU1-83-6R-S-1-3	Pest*, PAH*
	Lowland	8/6/2009	OU1-83-7D-S-0-1	PAH*
	Lowland	8/6/2009	OU1-83-7D-S-1-2	PAH*
	Lowland	8/5/2009	OU1-83-7E-S-0-1	PAH*
	Lowland	8/5/2009	OU1-83-7E-S-1-2	PAH*
	Lowland	8/5/2009	OU1-83-7F-S-0-1	Pest*, PAH*
	Lowland	8/5/2009	OU1-83-7F-S-1-2	Pest*, PAH*
	Lowland	8/5/2009	OU1-83-7G-S-0-1	Pest*, PAH*
	Lowland	8/5/2009	OU1-83-7G-S-1-2	Pest*, PAH*
	Lowland	8/6/2009	OU1-83-7H-S-0-1	Pest*
	Lowland	8/6/2009	OU1-83-7H-S-1-2	Pest*
	Lowland	8/5/2009	OU1-83-7K-S-0-1	Pest*
	Lowland	8/5/2009	OU1-83-7L-S-0-1	Pest*
	Lowland	7/29/2009	OU1-83-7N-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7N-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7N-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7O-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7O-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7O-S-2-3-P[1]	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7O-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7P-S-0-1	Pest*, PAH*
	Lowland	7/31/2009	OU1-83-7P-S-1-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7Q-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7Q-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7Q-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-7R-S-0-1	Pest*, PAH*
	Lowland	7/31/2009	OU1-83-7R-S-1-3	Pest*, PAH*
	Lowland	8/4/2009	OU1-83-8F-S-0-1	Pest*, PAH*
	Lowland	8/4/2009	OU1-83-8F-S-1-2	Pest*, PAH*
	Lowland	8/4/2009	OU1-83-8F-S-2-3	PAH*
	Lowland	8/3/2009	OU1-83-8G-S-0-1	Pest*, PAH*
	Lowland	8/3/2009	OU1-83-8G-S-1-2	Pest*, PAH*
	Lowland	8/4/2009	OU1-83-8G-S-2-3	Pest*
	Lowland	7/30/2009	OU1-83-8H-S-0-1	Pest*, PAH*, Lead
	Lowland	7/30/2009	OU1-83-8H-S-0-1-P[1]	Pest*, PAH*, Lead

Table 1
Summary of Data Quantitatively Used in HHRA
Site 83, MCAS Cherry Point

Medium	Area	Date of Sampling	Sample	Parameters
Surface and Subsurface Soil	Lowland	8/6/2009	OU1-83-8H-S-1-2	Pest*
	Lowland	7/30/2009	OU1-83-8H-S-2-3	Pest*, PAH*, Lead
	Lowland	7/30/2009	OU1-83-8H-S-2-3[2]	Pest*, PAH*
	Lowland	8/3/2009	OU1-83-8I-S-0-1	Pest*, PAH*
	Lowland	8/3/2009	OU1-83-8J-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8K-S-0-1	Pest*, PAH*, Lead
	Lowland	7/30/2009	OU1-83-8K-S-0-1[2]	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8K-S-0-1-P[1]	Pest*, PAH*, Lead
	Lowland	8/4/2009	OU1-83-8K-S-1-2	Pest*
	Lowland	7/29/2009	OU1-83-8K-S-2-3	Pest*, PAH*, Lead
	Lowland	8/5/2009	OU1-83-8L-S-0-1	Pest*
	Lowland	8/18/2009	OU1-83-8N-S-0-1	Pest*
	Lowland	7/29/2009	OU1-83-8O-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8O-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8O-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8P-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8P-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8P-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8Q-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8Q-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8Q-S-2-3-P[1]	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8Q-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8R-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8R-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-8R-S-3-4	Pest*, PAH*
	Lowland	8/18/2009	OU1-83-8S-S-0-1	Pest*
	Lowland	7/30/2009	OU1-83-9K-S-0-1	Pest*, PAH*, Lead
	Lowland	7/30/2009	OU1-83-9K-S-2-3	Pest*, PAH*, Lead
	Lowland	7/30/2009	OU1-83-9K-S-2-3-P[1]	Pest*, PAH*, Lead
	Lowland	8/6/2009	OU1-83-9L-S-0-1	Pest*
	Lowland	8/3/2009	OU1-83-9N-S-0-1	Pest*
	Lowland	7/29/2009	OU1-83-9O-S-0-1	Pest*, PAH*
	Lowland	8/18/2009	OU1-83-9O-S-1-2	Pest*
	Lowland	7/29/2009	OU1-83-9O-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9O-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9P-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9P-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9P-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9Q-S-0-1	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9Q-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9Q-S-3-4	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9R-S-0-1	Pest*, PAH*
	Lowland	8/18/2009	OU1-83-9R-S-1-2	Pest*
	Lowland	7/29/2009	OU1-83-9R-S-2-3	Pest*, PAH*
	Lowland	7/29/2009	OU1-83-9R-S-3-4	Pest*, PAH*
	Lowland	8/5/2009	OU1-83-9S-S-0-1	Pest*
	Lowland	8/5/2009	OU1-83-9S-S-0-1-P[1]	Pest*

Notes:
[1] Duplicate sample
[2] Split samples - analysis perfomed by off-site laboratory. Samples not used in evaluation.
Pest* - sample analyzed for the following pesticides - Heptachlor, Heptachlor epoxide, 4,4'-DDE, Dieldrin, 4,4'-DDD, 4,4'-DDT, Chlordane (tech)
PAH* - sample analyzed for the following PAHs - Benzo(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene

Table 2
Summary of Chemicals of Potential Concern for the Risk Assessment
Site 83, MCAS Cherry Point

Upland Area	
Surface Soil	**Soil***
Heptachlor	Heptachlor
4,4'-DDE	4,4'-DDE
Dieldrin	Dieldrin
4,4'-DDD	4,4'-DDD
4,4'-DDT	4,4'-DDT
Chlordane	Chlordane
Benzo(a)anthracene	Benzo(a)anthracene
Benzo(a)pyrene	Benzo(a)pyrene
Benzo(b)flouranthene	Benzo(b)flouranthene
Dibenz(a,h)anthracene	Dibenz(a,h)anthracene
Indeno(1,2,3-cd)pyrene	Indeno(1,2,3-cd)pyrene
Lowland Area	
Surface Soil	**Soil***
Heptachlor	Heptachlor
Heptachlor epoxide	Heptachlor epoxide
4,4'-DDE	4,4'-DDE
Dieldrin	Dieldrin
4,4'-DDD	4,4'-DDD
4,4'-DDT	4,4'-DDT
Chlordane	Chlordane
Benzo(a)pyrene	Benzo(a)anthracene
Benzo(b)flouranthene	Benzo(a)pyrene
Dibenz(a,h)anthracene	Benzo(b)flouranthene
Indeno(1,2,3-cd)pyrene	Dibenz(a,h)anthracene
	Indeno(1,2,3-cd)pyrene

Notes:
* - Surface and subsurface soil combined.

Table 3
Summary of RME Cancer Risks and Hazard Indices
Site 83, MCAS Cherry Point

Area	Receptor	Media	Exposure Route	Cancer Risk	Chemicals with Cancer Risks >10^{-4}	Chemicals with Cancer Risks >10^{-5} and ≤10^{-4}	Chemicals with Cancer Risks >10^{-6} and ≤10^{-5}	Hazard Index	Chemicals with HI>1
Upland Area	Current/Future Industrial Worker	Surface Soil	Ingestion	4E-05		Benzo[a]pyrene	Heptachlor, Dieldrin, Chlordane, Benzo[b]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-cd]pyrene	0.08	
			Dermal Contact	3E-05		Benzo[a]pyrene	Chlordane, Benzo[b]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-cd]pyrene	0.02	
			Inhalation	NA				NA	
			Total	6E-05		Benzo[a]pyrene	Heptachlor, Dieldrin, Chlordane, Benzo[b]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-cd]pyrene	0.1	
Upland Area	Current/Future Maintenance Worker	Surface Soil	Ingestion	7E-06			Benzo[a]pyrene	0.02	
			Dermal Contact	6E-06			Benzo[a]pyrene	0.005	
			Inhalation	NA				NA	
			Total	1E-05			Chlordane, Benzo[a]pyrene, Benzo[b]fluoranthene	0.02	
Upland Area	Current/Future Trespasser (Adult)	Surface Soil	Ingestion	7E-06			Benzo[a]pyrene	0.02	
			Dermal Contact	3E-06			Benzo[a]pyrene	0.003	
			Inhalation	NA				NA	
			Total	1E-05			Benzo[a]pyrene	0.02	
Upland Area	Current/Future Trespasser (Youth)	Surface Soil	Ingestion	5E-06			Benzo[a]pyrene	0.02	
			Dermal Contact	2E-06			Benzo[a]pyrene	0.005	
			Inhalation	NA				NA	
			Total	7E-06			Benzo[a]pyrene	0.03	
Upland Area	Current/Future Trespasser (Child)	Surface Soil	Ingestion	2E-05		Benzo[a]pyrene	Chlordane, Benzo[b]fluoranthene	0.1	
			Dermal Contact	5E-06			Benzo[a]pyrene	0.02	
			Inhalation	NA				NA	
			Total	2E-05		Benzo[a]pyrene	Chlordane, Benzo[b]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-cd]pyrene	0.2	
Upland Area	Future Industrial Worker	Soil*	Ingestion	1E-05			Dieldrin, Chlordane, Benzo[a]pyrene, Dibenz[a,h]anthracene	0.05	
			Dermal Contact	8E-06			Chlordane, Benzo[a]pyrene, Dibenz[a,h]anthracene	0.01	
			Inhalation	NA				NA	
			Total	2E-05		Benzo[a]pyrene	Dieldrin, Chlordane, Benzo[b]fluoranthene, Dibenz[a,h]anthracene, Indeno[1,2,3-cd]pyrene	0.06	
Upland Area	Future Maintenance Worker	Soil*	Ingestion	2E-06			Benzo[a]pyrene	0.01	
			Dermal Contact	2E-06				0.003	
			Inhalation	NA				NA	
			Total	4E-06			Benzo[a]pyrene	0.01	
Upland Area	Future Trespasser (Adult)	Soil*	Ingestion	2E-06			Benzo[a]pyrene	0.01	
			Dermal Contact	1E-06				0.002	
			Inhalation	NA				NA	
			Total	3E-06			Benzo[a]pyrene	0.01	

Table 3
Summary of RME Cancer Risks and Hazard Indices
Site 83, MCAS Cherry Point

Area	Receptor	Media	Exposure Route	Cancer Risk	Chemicals with Cancer Risks $>10^{-4}$	Chemicals with Cancer Risks $>10^{-5}$ and $\leq 10^{-4}$	Chemicals with Cancer Risks $>10^{-6}$ and $\leq 10^{-5}$	Hazard Index	Chemicals with HI>1
Upland Area	Future Trespasser (Youth)	Soil*	Ingestion	2E-06				0.02	
			Dermal Contact	7E-07				0.003	
			Inhalation	NA				NA	
			Total	2E-06			Benzo[a]pyrene	0.02	
Upland Area	Future Trespasser (Child)	Soil*	Ingestion	6E-06			Chlordane, Benzo[a]pyrene	0.1	
			Dermal Contact	2E-06				0.01	
			Inhalation	NA				NA	
			Total	7E-06			Chlordane, Benzo[a]pyrene	0.1	
Upland Area	Future Construction Worker	Soil*	Ingestion	2E-06			Benzo[a]pyrene	0.2	
			Dermal Contact	3E-07				0.01	
			Inhalation	NA				NA	
			Total	3E-06			Benzo[a]pyrene	0.2	
Upland Area	Future Resident (Adult)	Soil*	Ingestion	NA				0.07	
			Dermal Contact	NA				0.01	
			Inhalation	NA				NA	
			Total	NA				0.08	
Upland Area	Future Resident (Child)	Soil*	Ingestion	NA				0.6	
			Dermal Contact	NA				0.08	
			Inhalation	NA				NA	
			Total	NA				0.7	
Upland Area	Future Resident (Child/Adult)	Soil*	Ingestion	5E-05		Chlordane, benzo(a)pyrene	Heptachlor, dieldrin, DDT, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene	NA	
			Dermal Contact	2E-05			Chlordane, benzo(a)pyrene, benzo(b)flueanthene, dibenz(a,h)anthracene	NA	
			Inhalation	NA				NA	
			Total	7E-05		Chlordane, benzo(a)pyrene	Heptachlor, dieldrin, DDT, benzo(b)fluoranthene, dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene	NA	
Lowland Area	Current/Future Industrial Worker	Surface Soil	Ingestion	1E-05			Heptachlor epoxide, Chlordane	0.2	
			Dermal Contact	6E-06			Heptachlor epoxide, Chlordane	0.1	
			Inhalation	NA				NA	
			Total	2E-05			Heptachlor epoxide, Dieldrin, Chlordane	0.3	
Lowland Area	Current/Future Maintenance Worker	Surface Soil	Ingestion	2E-06			Heptachlor epoxide, Chlordane	0.04	
			Dermal Contact	1E-06				0.02	
			Inhalation	NA				NA	
			Total	4E-06			Heptachlor epoxide, Chlordane	0.06	
Lowland Area	Current/Future Trespasser (Adult)	Surface Soil	Ingestion	2E-06				0.04	
			Dermal Contact	7E-07				0.01	
			Inhalation	NA				NA	
			Total	3E-06			Heptachlor epoxide, Chlordane	0.06	
Lowland Area	Current/Future Trespasser (Youth)	Surface Soil	Ingestion	2E-06				0.07	
			Dermal Contact	5E-07				0.02	
			Inhalation	NA				NA	
			Total	2E-06				0.09	

Table 3
Summary of RME Cancer Risks and Hazard Indices
Site 83, MCAS Cherry Point

Area	Receptor	Media	Exposure Route	Cancer Risk	Chemicals with Cancer Risks $>10^{-4}$	Chemicals with Cancer Risks $>10^{-5}$ and $\leq 10^{-4}$	Chemicals with Cancer Risks $>10^{-6}$ and $\leq 10^{-5}$	Hazard Index	Chemicals with HI>1
Lowland Area	Current/Future Trespasser (Child)	Surface Soil	Ingestion	6E-06			Heptachlor epoxide, Chlordane	0.4	
			Dermal Contact	1E-06				0.08	
			Inhalation	NA				NA	
			Total	7E-06			Heptachlor epoxide, Chlordane	0.5	
Lowland Area	Future Industrial Worker	Soil*	Ingestion	4E-06			Heptachlor epoxide, Chlordane	0.07	
			Dermal Contact	2E-06				0.03	
			Inhalation	NA				NA	
			Total	6E-06			Heptachlor epoxide, Chlordane	0.1	
Lowland Area	Future Maintenance Worker	Soil*	Ingestion	9E-07				0.01	
			Dermal Contact	4E-07				0.007	
			Inhalation	NA				NA	
			Total	1E-06				0.02	
Lowland Area	Future Trespasser (Adult)	Soil*	Ingestion	8E-07				0.01	
			Dermal Contact	3E-07				0.004	
			Inhalation	NA				NA	
			Total	1E-06				0.02	
Lowland Area	Future Trespasser (Youth)	Soil*	Ingestion	5E-07				0.02	
			Dermal Contact	2E-07				0.007	
			Inhalation	NA				NA	
			Total	7E-07				0.03	
Lowland Area	Future Trespasser (Child)	Soil*	Ingestion	2E-06				0.1	
			Dermal Contact	4E-07				0.03	
			Inhalation	NA				NA	
			Total	2E-06				0.2	
Lowland Area	Future Construction Worker	Soil*	Ingestion	8E-07				0.3	
			Dermal Contact	8E-08				0.03	
			Inhalation	NA				NA	
			Total	9E-07				0.3	
Lowland Area	Future Resident (Adult)	Soil*	Ingestion	NA				0.09	
			Dermal Contact	NA				0.03	
			Inhalation	NA				NA	
			Total	NA				0.1	
Lowland Area	Future Resident (Child)	Soil*	Ingestion	NA				0.9	
			Dermal Contact	NA				0.2	
			Inhalation	NA				NA	
			Total	NA				1	
Lowland Area	Future Resident (Child/Adult)	Soil*	Ingestion	2E-05			Heptachlor epoxide, chlordane, dieldrin, benzo(a)pyrene	NA	
			Dermal Contact	5E-06			Heptachlor epoxiede	NA	
			Inhalation	NA				NA	
			Total	2E-05			Heptachlor epoxide, chlordane, dieldrin, benzo(a)pyrene	NA	

NA - Not applicable or pathway incomplete.

Soil* - Surface and subsurface soil combined.

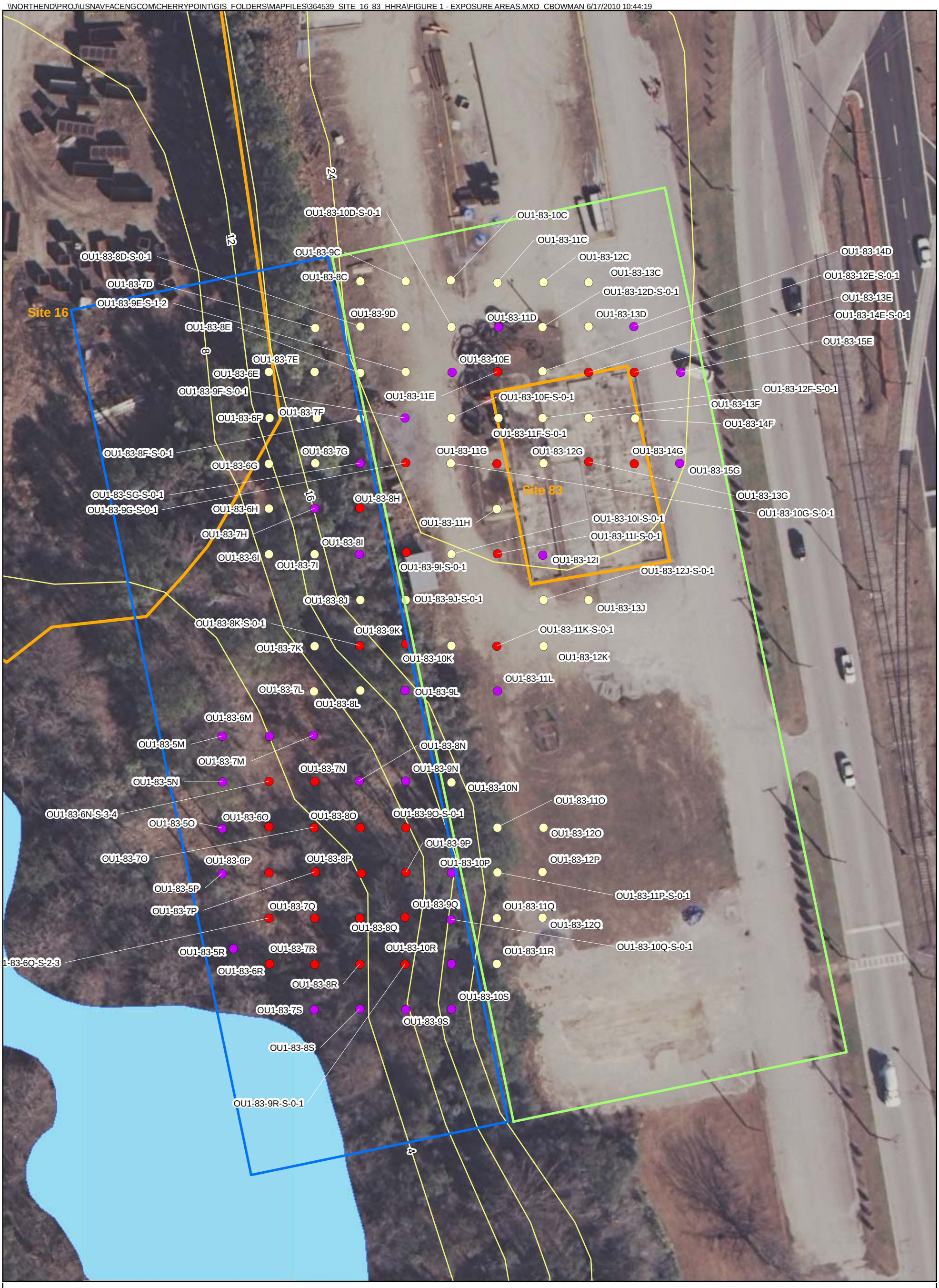
Table 4
Summary of CTE Cancer Risks and Hazard Indices
Site 83, MCAS Cherry Point

Area	Receptor	Media	Exposure Route	Cancer Risk	Chemicals with Cancer Risks $>10^{-4}$	Chemicals with Cancer Risks $>10^{-5}$ and $\leq 10^{-4}$	Chemicals with Cancer Risks $>10^{-6}$ and $\leq 10^{-5}$	Hazard Index	Chemicals with HI>1
Lowland Area	Future Resident (Child)	Soil*	Ingestion	NA				0.06	
			Dermal Contact	NA				0.004	
			Inhalation	NA				NA	
			Total	NA				0.06	

NA - Not applicable or pathway incomplete.
Soil* - Surface and subsurface soil combined.

Figures

\\NORTHEND\PROJ\USNAVFACENGCOM\CHERRYPOINT\GIS_FOLDERS\MAPFILES\364539_SITE_16_83_HHRA\FIGURE 1 - EXPOSURE AREAS.MXD CBOWMAN 6/17/2010 10:44:19



Legend

- Primary Soil Sample Location
- Secondary Soil Sample Location
- Field Soil Sample Location
- Ground Surface Contour (4 feet interval)
- Surface Water
- Site Boundary
- Lowland Area
- Upland Area

N
W E
S

0 25 50 100
Feet

Figure 1
Exposure Areas for the Site 83
Human Health Risk Assessment
OU1, MCAS Cherry Point, NC

CH2MHILL

Attachment 1

HHRA RAGS Part D Tables

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

Site 83, MCAS Cherry Point

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Current/Future	Soil	Surface Soil	Site 83[1]	Industrial Worker	Adult	Ingestion	On-site	Quant	Industrial workers may contact surface soil while working at the site.
						Dermal	On-site	Quant	Industrial workers may contact surface soil while working at the site.
				Maintenance Worker	Adult	Ingestion	On-site	Quant	Maintenance workers may contact surface soil while working at the site.
						Dermal	On-site	Quant	Maintenance workers may contact surface soil while working at the site.
				Trespasser/Visitor	Adult	Ingestion	On-site	Quant	Trespassers/visitors may contact surface soil at the site.
						Dermal	On-site	Quant	Trespassers/visitors may contact surface soil at the site.
					Youth	Ingestion	On-site	Quant	Trespassers/visitors may contact surface soil at the site.
						Dermal	On-site	Quant	Trespassers/visitors may contact surface soil at the site.
					Child	Ingestion	On-site	Quant	Trespassers/visitors may contact surface soil at the site.
						Dermal	On-site	Quant	Trespassers/visitors may contact surface soil at the site.
		Air	Emissions from Site 83 Surface Soil	Industrial Worker	Adult	Inhalation	On-site	Quant	Industrial workers may inhale emissions from surface soil while working at the site.
				Maintenance Worker	Adult	Inhalation	On-site	Quant	Maintenance workers may inhale emissions from surface soil while working at the site.
				Trespasser/Visitor	Adult	Inhalation	On-site	Quant	Trespassers/visitors may inhale emissions from surface soil while visiting the site.
					Youth	Inhalation	On-site	Quant	Trespassers/visitors may inhale emissions from surface soil while visiting the site.
					Child	Inhalation	On-site	Quant	Trespassers/visitors may inhale emissions from surface soil while visiting the site.
Future	Soil	Soil*	Site 83	Industrial Worker	Adult	Dermal	On-site	Quant	Industrial workers may contact surface and subsurface soil that are mixed during future activities at the site.
						Ingestion	On-site	Quant	Industrial workers may contact surface and subsurface soil that are mixed during future activities at the site.
				Maintenance Worker	Adult	Ingestion	On-site	Quant	Maintenance workers may contact surface and subsurface soil that are mixed during future activities at the site.
						Dermal	On-site	Quant	Maintenance workers may contact surface and subsurface soil that are mixed during future activities at the site.
				Trespasser/Visitor	Adult	Dermal	On-site	Quant	Trespassers/visitors may contact surface and subsurface soil that are mixed during future activities at the site.
						Ingestion	On-site	Quant	Trespassers/visitors may contact surface and subsurface soil that are mixed during future activities at the site.
					Youth	Dermal	On-site	Quant	Trespassers/visitors may contact surface and subsurface soil that are mixed during future activities at the site.
						Ingestion	On-site	Quant	Trespassers/visitors may contact surface and subsurface soil that are mixed during future activities at the site.

TABLE 1

SELECTION OF EXPOSURE PATHWAYS

Site 83, MCAS Cherry Point

Scenario Timeframe	Medium	Exposure Medium	Exposure Point	Receptor Population	Receptor Age	Exposure Route	On-Site/ Off-Site	Type of Analysis	Rationale for Selection or Exclusion of Exposure Pathway
Future (cont.)	Soil (cont.)	Soil*	Site 83	Trespasser/Visitor	Child	Dermal	On-site	Quant	Trespassers/visitors may contact surface and subsurface soil that are mixed during future activities at the site.
						Ingestion	On-site	Quant	Trespassers/visitors may contact surface and subsurface soil that are mixed during future activities at the site.
				Construction Worker	Adult	Ingestion	On-site	Quant	Construction workers could contact surface and subsurface soil while performing construction.
						Dermal	On-site	Quant	Construction workers could contact surface and subsurface soil while performing construction.
				Resident	Adult	Dermal	On-site	Quant	Although unlikely, if the site is used for future residential development, residents may contact soil.
						Ingestion	On-site	Quant	Although unlikely, if the site is used for future residential development, residents may contact soil.
					Child	Dermal	On-site	Quant	Although unlikely, if the site is used for future residential development, residents may contact soil.
						Ingestion	On-site	Quant	Although unlikely, if the site is used for future residential development, residents may contact soil.
		Air	Emissions from Site 83 Soil*	Industrial Worker	Adult	Inhalation	On-site	Quant	Industrial workers may inhale emissions from surface and subsurface soil that are mixed during future activities at the site.
				Maintenance Worker	Adult	Inhalation	On-site	Quant	Maintenance workers may inhale emissions from surface and subsurface soil that are mixed during future activities at the site.
				Trespasser/Visitor	Adult	Inhalation	On-site	Quant	Trespassers/visitors may inhale emissions from surface and subsurface soil that are mixed during future activities at the site.
					Youth	Inhalation	On-site	Quant	Trespassers/visitors may inhale emissions from surface and subsurface soil that are mixed during future activities at the site.
					Child	Inhalation	On-site	Quant	Trespassers/visitors may inhale emissions from surface and subsurface soil that are mixed during future activities at the site.
				Construction Worker	Adult	Inhalation	On-site	Quant	Construction workers may inhale emissions from soil while performing construction activities.
				Resident	Adult	Inhalation	On-site	Quant	If the site is used for future residenitla development, residents may inhale emissions from surface and subsurface soil that are mixed during future activities at the site.
					Child	Inhalation	On-site	Quant	If the site is used for future residenitla development, residents may inhale emissions from surface and subsurface soil that are mixed during future activities at the site.

[1] Site 83 - The site was evaluated as two separate exposure units:

Upland Area - consists of former Building 96 footprint and surrounding flat area

Lowland Area - located west of former Building 96 and consists of steep sloping grassy area which leads to the wetland adjacent to East Prong Slocum Creek

Soil* - Surface and subsurface soil combined.

Table 2.1

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future (residential screening levels)
Medium: Soil
Exposure Medium: Surface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	2.5E-03	3.3E+00	MG/KG	OU1-83-11P-S-0-1	9/47	0.0022 - 0.023	3.3E+00	N/A	1.1E-01 C	N/A		YES	ASL
Upland Area	1024-57-3	Heptachlor epoxide	2.8E-02	4.7E-02	MG/KG	OU1-83-9I-S-0-1	3/47	0.0021 - 0.023	4.7E-02	N/A	5.3E-02 C*	N/A		NO	BSL
	72-55-9	4,4'-DDE	1.4E-02	4.2E+00	MG/KG	OU1-83-11P-S-0-1	8/47	0.0043 - 0.046	4.2E+00	N/A	1.4E+00 C	N/A		YES	ASL
	60-57-1	Dieldrin	4.8E-03 J	1.5E+00	MG/KG	OU1-83-11F-S-0-1 : OU1-83-12E-S-0-1	18/47	0.0044 - 0.046	1.5E+00	N/A	3.0E-02 C	N/A		YES	ASL
	72-54-8	4,4'-DDD	5.1E-03	5.4E+00	MG/KG	OU1-83-11P-S-0-1	9/47	0.0042 - 0.046	5.4E+00	N/A	2.0E+00 C	N/A		YES	ASL
	50-29-3	4,4'-DDT	1.1E-02	2.8E+01	MG/KG	OU1-83-11P-S-0-1-P	14/47	0.0043 - 0.046	2.8E+01	N/A	1.7E+00 C*	N/A		YES	ASL
	12789-03-6	Chlordane	6.3E-02	2.0E+02	MG/KG	OU1-83-11P-S-0-1	36/47	0.042 - 0.046	2.0E+02	N/A	1.6E+00 C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.2E-02	9.8E+00	MG/KG	OU1-83-9F-S-0-1	20/32	0.011 - 0.045	9.8E+00	N/A	1.5E-01 C	N/A		YES	ASL
	50-32-8	Benzo(a)pyrene	1.5E-02	2.4E+01	MG/KG	OU1-83-9F-S-0-1	20/32	0.011 - 0.045	2.4E+01	N/A	1.5E-02 C	N/A		YES	ASL
	205-99-2	Benzo(b)fluoranthene	1.9E-02	2.9E+01	MG/KG	OU1-83-9F-S-0-1	22/32	0.011 - 0.045	2.9E+01	N/A	1.5E-01 C	N/A		YES	ASL
	53-70-3	Dibenz(a,h)anthracene	3.4E-02	6.6E+00	MG/KG	OU1-83-9F-S-0-1	13/32	0.011 - 0.088	6.6E+00	N/A	1.5E-02 C	N/A		YES	ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.3E-02	2.3E+01	MG/KG	OU1-83-9F-S-0-1	23/32	0.011 - 0.045	2.3E+01	N/A	1.5E-01 C	N/A		YES	ASL
	7439-92-1	Lead	1.0E+01	7.7E+01	MG/KG	OU1-83-9G-S-0-1	2/2	-	7.7E+01	N/A	4.0E+02 NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Residential Soil RSL, May 2010. Adjusted residential soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

C = Carcinogenic

C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)

COPC = Chemical of Potential Concern

J = Estimated Value

N = Noncarcinogenic

N/A = Not applicable/not available

NL = Noncarcinogenic lead residential soil RSL not adjusted by dividing by 10

Table 2.2

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future (industrial screening levels)
Medium: Soil
Exposure Medium: Surface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier		Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value		Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	2.5E-03		3.3E+00	MG/KG	OU1-83-11P-S-0-1	9/47	0.0022 - 0.023	3.3E+00	N/A	3.8E-01	C	N/A		YES	ASL
Upland Area	1024-57-3	Heptachlor epoxide	2.8E-02		4.7E-02	MG/KG	OU1-83-9I-S-0-1	3/47	0.0021 - 0.023	4.7E-02	N/A	1.9E-01	C*	N/A		NO	BSL
	72-55-9	4,4'-DDE	1.4E-02		4.2E+00	MG/KG	OU1-83-11P-S-0-1	8/47	0.0043 - 0.046	4.2E+00	N/A	5.1E+00	C	N/A		NO	BSL
	60-57-1	Dieldrin	4.8E-03	J	1.5E+00	MG/KG	OU1-83-11F-S-0-1 : OU1-83-12E-S-0-1	18/47	0.0044 - 0.046	1.5E+00	N/A	1.1E-01	C	N/A		YES	ASL
	72-54-8	4,4'-DDD	5.1E-03		5.4E+00	MG/KG	OU1-83-11P-S-0-1	9/47	0.0042 - 0.046	5.4E+00	N/A	7.2E+00	C	N/A		NO	BSL
	50-29-3	4,4'-DDT	1.1E-02		2.8E+01	MG/KG	OU1-83-11P-S-0-1-P	14/47	0.0043 - 0.046	2.8E+01	N/A	7.0E+00	C*	N/A		YES	ASL
	12789-03-6	Chlordane	6.3E-02		2.0E+02	MG/KG	OU1-83-11P-S-0-1	36/47	0.042 - 0.046	2.0E+02	N/A	6.5E+00	C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.2E-02		9.8E+00	MG/KG	OU1-83-9F-S-0-1	20/32	0.011 - 0.045	9.8E+00	N/A	2.1E+00	C	N/A		YES	ASL
	50-32-8	Benzo(a)pyrene	1.5E-02		2.4E+01	MG/KG	OU1-83-9F-S-0-1	20/32	0.011 - 0.045	2.4E+01	N/A	2.1E-01	C	N/A		YES	ASL
	205-99-2	Benzo(b)fluoranthene	1.9E-02		2.9E+01	MG/KG	OU1-83-9F-S-0-1	22/32	0.011 - 0.045	2.9E+01	N/A	2.1E+00	C	N/A		YES	ASL
	53-70-3	Dibenz(a,h)anthracene	3.4E-02		6.6E+00	MG/KG	OU1-83-9F-S-0-1	13/32	0.011 - 0.088	6.6E+00	N/A	2.1E-01	C	N/A		YES	ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.3E-02		2.3E+01	MG/KG	OU1-83-9F-S-0-1	23/32	0.011 - 0.045	2.3E+01	N/A	2.1E+00	C	N/A		YES	ASL
	7439-92-1	Lead	1.0E+01		7.7E+01	MG/KG	OU1-83-9G-S-0-1	2/2	-	7.7E+01	N/A	8.0E+02	NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.
[2] Maximum concentration is used for screening.
[3] Background values are not available.
[4] EPA Regional Screening Level (RSL) Table, Industrial Soil RSL, May 2010. Adjusted industrial soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).
[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = Carcinogenic
N = Noncarcinogenic
C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)
COPC = Chemical of Potential Concern
J = Estimated Value
NL = Noncarcinogenic lead industrial soil RSL not adjusted by dividing by 10
N/A = Not applicable/not available

Table 2.3

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/ Future
Medium: Soil
Exposure Medium: Air

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Emissions from Site 83 Surface Upland Area	76-44-8	Heptachlor	1.8E-09	2.4E-06	ug/m^3	OU1-83-11P-S-0-1	9/47	N/A	2.4E-06	N/A	1.9E-03 C	NA		NO	BSL
	1024-57-3	Heptachlor epoxide	2.1E-08	3.5E-08 J	ug/m^3	OU1-83-9I-S-0-1	3/47	N/A	3.5E-08	N/A	9.4E-04 C	NA		NO	BSL
	72-55-9	4,4'-DDE	1.0E-08	3.1E-06	ug/m^3	OU1-83-11P-S-0-1	8/47	N/A	3.1E-06	N/A	2.5E-02 C	NA		NO	BSL
	60-57-1	Dieldrin	3.5E-09 J	1.1E-06	ug/m^3	OU1-83-11F-S-0-1 : OU1-83-12E-S-0-1	18/47	N/A	1.1E-06	N/A	5.3E-04 C	NA		NO	BSL
	72-54-8	4,4'-DDD	3.8E-09	4.0E-06	ug/m^3	OU1-83-11P-S-0-1	9/47	N/A	4.0E-06	N/A	3.5E-02 C	NA		NO	BSL
	50-29-3	4,4'-DDT	8.1E-09	2.1E-05	ug/m^3	OU1-83-11P-S-0-1-P	14/47	N/A	2.1E-05	N/A	2.5E-02 C	NA		NO	BSL
	12789-03-6	Chlordane	4.6E-08	1.5E-04	ug/m^3	OU1-83-11P-S-0-1	36/47	N/A	1.5E-04	N/A	2.4E-02 C*	NA		NO	BSL
	56-55-3	Benzo(a)anthracene	8.8E-09	7.2E-06	ug/m^3	OU1-83-9F-S-0-1	20/32	N/A	7.2E-06	N/A	8.7E-03 C	NA		NO	BSL
	50-32-8	Benzo(a)pyrene	1.1E-08	1.8E-05	ug/m^3	OU1-83-9F-S-0-1	20/32	N/A	1.8E-05	N/A	8.7E-04 C	NA		NO	BSL
	205-99-2	Benzo(b)fluoranthene	1.4E-08	2.1E-05	ug/m^3	OU1-83-9F-S-0-1	22/32	N/A	2.1E-05	N/A	8.70E-03 C	NA		NO	BSL
	53-70-3	Dibenz(a,h)anthracene	2.5E-08	4.9E-06	ug/m^3	OU1-83-9F-S-0-1	13/32	N/A	4.9E-06	N/A	8.0E-04 C	NA		NO	BSL
	193-39-5	Indeno(1,2,3-cd)pyrene	9.6E-09	1.7E-05	ug/m^3	OU1-83-9F-S-0-1	23/32	N/A	1.7E-05	N/A	8.7E-03 C	NA		NO	BSL
	7439-92-1	Lead	7.4E-06	5.7E-05	ug/m^3	OU1-83-9G-S-0-1	2/2	N/A	5.7E-05	N/A	N/A	NA		NO	NTX

[1] Minimum/Maximum calculated air concentrations. Air concentration (ug/m^3) = soil concentration (mg/kg) x 1/PEF x 1000 ug/mg. PEF = 1.36x10^9 m^3/kg.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Residential Air RSL, May 2010. Adjusted residential air RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = Carcinogenic
C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)
COPC = Chemical of Potential Concern
J = Estimated Value
N = Noncarcinogenic
NL = Noncarcinogenic lead residential air RSL not adjusted by dividing by 10
N/A = Not applicable/not available
SSL = Risk-Based Soil Screening Level, RSL Table

Table 2.4

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Future (residential screening levels)
Medium: Soil
Exposure Medium: Surface and Subsurface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	2.5E-03	3.3E+00	MG/KG	OU1-83-11P-S-0-1	10/76	0.0022 - 0.024	3.3E+00	N/A	1.1E-01 C	N/A		YES	ASL
Upland Area	1024-57-3	Heptachlor epoxide	2.8E-02	4.7E-02	MG/KG	OU1-83-9I-S-0-1	3/76	0.0021 - 0.024	4.7E-02	N/A	5.3E-02 C*	N/A		NO	BSL
	72-55-9	4,4'-DDE	1.4E-02	4.2E+00	MG/KG	OU1-83-11P-S-0-1	11/76	0.0043 - 0.047	4.2E+00	N/A	1.4E+00 C	N/A		YES	ASL
	60-57-1	Dieldrin	4.8E-03 J	1.5E+00	MG/KG	OU1-83-11F-S-0-1 : OU1-83-12E-S-0-1	19/76	0.0044 - 0.047	1.5E+00	N/A	3.0E-02 C	N/A		YES	ASL
	72-54-8	4,4'-DDD	5.1E-03	5.4E+00	MG/KG	OU1-83-11P-S-0-1	10/76	0.0042 - 0.047	5.4E+00	N/A	2.0E+00 C	N/A		YES	ASL
	50-29-3	4,4'-DDT	1.1E-02	2.8E+01	MG/KG	OU1-83-11P-S-0-1-P	18/76	0.0043 - 0.047	2.8E+01	N/A	1.7E+00 C*	N/A		YES	ASL
	12789-03-6	Chlordane	6.3E-02	2.0E+02	MG/KG	OU1-83-11P-S-0-1	46/76	0.042 - 0.093	2.0E+02	N/A	1.6E+00 C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.2E-02	9.8E+00	MG/KG	OU1-83-9F-S-0-1	24/65	0.011 - 0.05	9.8E+00	N/A	1.5E-01 C	N/A		YES	ASL
	50-32-8	Benzo(a)pyrene	1.5E-02	2.4E+01	MG/KG	OU1-83-9F-S-0-1	25/65	0.011 - 0.05	2.4E+01	N/A	1.5E-02 C	N/A		YES	ASL
	205-99-2	Benzo(b)fluoranthene	1.9E-02	2.9E+01	MG/KG	OU1-83-9F-S-0-1	26/65	0.011 - 0.05	2.9E+01	N/A	1.5E-01 C	N/A		YES	ASL
	53-70-3	Dibenz(a,h)anthracene	3.4E-02	6.6E+00	MG/KG	OU1-83-9F-S-0-1	15/65	0.011 - 0.088	6.6E+00	N/A	1.5E-02 C	N/A		YES	ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.3E-02	2.3E+01	MG/KG	OU1-83-9F-S-0-1	28/65	0.011 - 0.05	2.3E+01	N/A	1.5E-01 C	N/A		YES	ASL
	7439-92-1	Lead	7.7E+00	7.7E+01	MG/KG	OU1-83-9G-S-0-1	4/4	-	7.7E+01	N/A	4.0E+02 NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.
[2] Maximum concentration is used for screening.
[3] Background values are not available.
[4] EPA Regional Screening Level (RSL) Table, Residential Soil RSL, May 2010. Adjusted residential soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).
[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = Carcinogenic
C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)
COPC = Chemical of Potential Concern
J = Estimated Value
N = Noncarcinogenic
N/A = Not applicable/not available
NL = Noncarcinogenic lead residential soil RSL not adjusted by dividing by 10

Table 2.5

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Future (industrial screening levels)
Medium: Soil
Exposure Medium: Surface and Subsurface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	2.5E-03	3.3E+00	MG/KG	OU1-83-11P-S-0-1	10/76	0.0022 - 0.024	3.3E+00	N/A	3.8E-01 C	N/A		YES	ASL
Upland Area	1024-57-3	Heptachlor epoxide	2.8E-02	4.7E-02	MG/KG	OU1-83-9I-S-0-1	3/76	0.0021 - 0.024	4.7E-02	N/A	1.9E-01 C*	N/A		NO	BSL
	72-55-9	4,4'-DDE	1.4E-02	4.2E+00	MG/KG	OU1-83-11P-S-0-1	11/76	0.0043 - 0.047	4.2E+00	N/A	5.1E+00 C	N/A		NO	BSL
	60-57-1	Dieldrin	4.8E-03 J	1.5E+00	MG/KG	OU1-83-11F-S-0-1 : OU1-83-12E-S-0-1	19/76	0.0044 - 0.047	1.5E+00	N/A	1.1E-01 C	N/A		YES	ASL
	72-54-8	4,4'-DDD	5.1E-03	5.4E+00	MG/KG	OU1-83-11P-S-0-1	10/76	0.0042 - 0.047	5.4E+00	N/A	7.2E+00 C	N/A		NO	BSL
	50-29-3	4,4'-DDT	1.1E-02	2.8E+01	MG/KG	OU1-83-11P-S-0-1-P	18/76	0.0043 - 0.047	2.8E+01	N/A	7.0E+00 C*	N/A		YES	ASL
	12789-03-6	Chlordane	6.3E-02	2.0E+02	MG/KG	OU1-83-11P-S-0-1	46/76	0.042 - 0.093	2.0E+02	N/A	6.5E+00 C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.2E-02	9.8E+00	MG/KG	OU1-83-9F-S-0-1	24/65	0.011 - 0.05	9.8E+00	N/A	2.1E+00 C	N/A		YES	ASL
	50-32-8	Benzo(a)pyrene	1.5E-02	2.4E+01	MG/KG	OU1-83-9F-S-0-1	25/65	0.011 - 0.05	2.4E+01	N/A	2.1E-01 C	N/A		YES	ASL
	205-99-2	Benzo(b)fluoranthene	1.9E-02	2.9E+01	MG/KG	OU1-83-9F-S-0-1	26/65	0.011 - 0.05	2.9E+01	N/A	2.1E+00 C	N/A		YES	ASL
	53-70-3	Dibenz(a,h)anthracene	3.4E-02	6.6E+00	MG/KG	OU1-83-9F-S-0-1	15/65	0.011 - 0.088	6.6E+00	N/A	2.1E-01 C	N/A		YES	ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.3E-02	2.3E+01	MG/KG	OU1-83-9F-S-0-1	28/65	0.011 - 0.05	2.3E+01	N/A	2.1E+00 C	N/A		YES	ASL
	7439-92-1	Lead	7.7E+00	7.7E+01	MG/KG	OU1-83-9G-S-0-1	4/4	-	7.7E+01	N/A	8.0E+02 NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Industrial Soil RSL, May 2010. Adjusted industrial soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

C = Carcinogenic

N = Noncarcinogenic

C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)

COPC = Chemical of Potential Concern

J = Estimated Value

NL = Noncarcinogenic lead industrial soil RSL not adjusted by dividing by 10

N/A = Not applicable/not available

Table 2.6

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Air

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Emissions from Site 83 Soil Upland Area	76-44-8	Heptachlor	1.8E-09	2.4E-06	ug/m^3	OU1-83-11P-S-0-1	10/76	N/A	2.4E-06	N/A	1.9E-03 C	N/A		NO	BSL
	1024-57-3	Heptachlor epoxide	2.1E-08	3.5E-08	ug/m^3	OU1-83-9I-S-0-1	3/76	N/A	3.5E-08	N/A	9.4E-04 C	N/A		NO	BSL
	72-55-9	4,4'-DDE	1.0E-08	3.1E-06	ug/m^3	OU1-83-11P-S-0-1	11/76	N/A	3.1E-06	N/A	2.5E-02 C	N/A		NO	BSL
	60-57-1	Dieldrin	3.5E-09 J	1.1E-06	ug/m^3	OU1-83-11F-S-0-1 : OU1-83-12E-S-0-1	19/76	N/A	1.1E-06	N/A	5.3E-04 C	N/A		NO	BSL
	72-54-8	4,4'-DDD	3.8E-09	4.0E-06	ug/m^3	OU1-83-11P-S-0-1	10/76	N/A	4.0E-06	N/A	3.5E-02 C	N/A		NO	BSL
	50-29-3	4,4'-DDT	8.1E-09	2.1E-05	ug/m^3	OU1-83-11P-S-0-1-P	18/76	N/A	2.1E-05	N/A	2.5E-02 C	N/A		NO	BSL
	12789-03-6	Chlordane	4.6E-08	1.5E-04	ug/m^3	OU1-83-11P-S-0-1	46/76	N/A	1.5E-04	N/A	2.4E-02 C*	N/A		NO	BSL
	56-55-3	Benzo(a)anthracene	8.8E-09	7.2E-06	ug/m^3	OU1-83-9F-S-0-1	24/65	N/A	7.2E-06	N/A	8.7E-03 C	N/A		NO	BSL
	50-32-8	Benzo(a)pyrene	1.1E-08	1.8E-05	ug/m^3	OU1-83-9F-S-0-1	25/65	N/A	1.8E-05	N/A	8.7E-04 C	N/A		NO	BSL
	205-99-2	Benzo(b)fluoranthene	1.4E-08	2.1E-05	ug/m^3	OU1-83-9F-S-0-1	26/65	N/A	2.1E-05	N/A	8.70E-03 C	N/A		NO	BSL
	53-70-3	Dibenz(a,h)anthracene	2.5E-08	4.9E-06	ug/m^3	OU1-83-9F-S-0-1	15/65	N/A	4.9E-06	N/A	8.0E-04 C	N/A		NO	BSL
	193-39-5	Indeno(1,2,3-cd)pyrene	9.6E-09	1.7E-05	ug/m^3	OU1-83-9F-S-0-1	28/65	N/A	1.7E-05	N/A	8.7E-03 C	N/A		NO	BSL
	7439-92-1	Lead	5.7E-06	5.7E-05	ug/m^3	OU1-83-9G-S-0-1	4/4	N/A	5.7E-05	N/A	N/A	N/A		NO	NTX

[1] Minimum/Maximum calculated air concentrations. Air concentration (ug/m^3) = soil concentration (mg/kg) x 1/PEF x 1000 ug/mg. PEF = 1.36x10^9 m^3/kg.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Residential Air RSL, May 2010. Adjusted residential air RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

C = Carcinogenic

C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)

COPC = Chemical of Potential Concern

J = Estimated Value

N = Noncarcinogenic

NL = Noncarcinogenic lead residential air RSL not adjusted by dividing by 10

N/A = Not applicable/not available

N/A = Not applicable/not available

Table 2.7

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future (residential screening levels)
Medium: Soil
Exposure Medium: Surface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	9.5E-01	9.5E-01	MG/KG	OU1-83-8G-S-0-1	1/41	0.0022 - 0.031	9.5E-01	N/A	1.1E-01 C	N/A		YES	ASL
Lowland Area	1024-57-3	Heptachlor epoxide	2.7E-02	5.3E+00 J	MG/KG	OU1-83-8G-S-0-1	5/41	0.0022 - 0.031	5.3E+00	N/A	5.3E-02 C*	N/A		YES	ASL
	72-55-9	4,4'-DDE	1.1E-02	4.2E+00	MG/KG	OU1-83-9Q-S-0-1	11/41	0.0045 - 0.062	4.2E+00	N/A	1.4E+00 C	N/A		YES	ASL
	60-57-1	Dieldrin	1.7E-01	2.4E-01 J	MG/KG	OU1-83-8K-S-0-1	3/41	0.0045 - 0.062	2.4E-01	N/A	3.0E-02 C	N/A		YES	ASL
	72-54-8	4,4'-DDD	8.6E-03	9.3E+00	MG/KG	OU1-83-9R-S-0-1	13/41	0.0045 - 0.055	9.3E+00	N/A	2.0E+00 C	N/A		YES	ASL
	50-29-3	4,4'-DDT	5.5E-03	1.7E+01 J	MG/KG	OU1-83-10Q-S-0-1-P	11/41	0.0045 - 0.062	1.7E+01	N/A	1.7E+00 C*	N/A		YES	ASL
	12789-03-6	Chlordane	4.9E-02	2.2E+02	MG/KG	OU1-83-8G-S-0-1	21/41	0.043 - 0.062	2.2E+02	N/A	1.6E+00 C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.3E-02	1.3E-01	MG/KG	OU1-83-9O-S-0-1	13/29	0.011 - 0.047	1.3E-01	N/A	1.5E-01 C	N/A		YES	CPAH
	50-32-8	Benzo(a)pyrene	1.9E-02	1.7E-01	MG/KG	OU1-83-9Q-S-0-1	12/29	0.011 - 0.047	1.7E-01	N/A	1.5E-02 C	N/A		YES	ASL
	205-99-2	Benzo(b)fluoranthene	1.5E-02	5.1E-01	MG/KG	OU1-83-8F-S-0-1	15/29	0.011 - 0.047	5.1E-01	N/A	1.5E-01 C	N/A		YES	ASL
	53-70-3	Dibenz(a,h)anthracene	3.9E-02	5.1E-02	MG/KG	OU1-83-9O-S-0-1	4/29	0.011 - 0.093	5.1E-02	N/A	1.5E-02 C	N/A		YES	ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.4E-02	1.7E-01	MG/KG	OU1-83-8F-S-0-1	13/29	0.011 - 0.047	1.7E-01	N/A	1.5E-01 C	N/A		YES	ASL
	7439-92-1	Lead	2.7E+01	1.4E+02	MG/KG	OU1-83-8H-S-0-1	3/3	-	1.4E+02	N/A	4.0E+02 NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Residential Soil RSL, May 2010. Adjusted residential soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Chemical from same class (carcinogenic PAH) identified as a COPC (CPAH)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = Carcinogenic
C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)
COPC = Chemical of Potential Concern
J = Estimated Value
N = Noncarcinogenic
N/A = Not applicable/not available
NL = Noncarcinogenic lead residential soil RSL not adjusted by dividing by 10

Table 2.8

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future (industrial screening levels)
Medium: Soil
Exposure Medium: Surface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	9.5E-01	9.5E-01	MG/KG	OU1-83-8G-S-0-1	1/41	0.0022 - 0.031	9.5E-01	N/A	3.8E-01 C	N/A		YES	ASL
Lowland Area	1024-57-3	Heptachlor epoxide	2.7E-02	5.3E+00 J	MG/KG	OU1-83-8G-S-0-1	5/41	0.0022 - 0.031	5.3E+00	N/A	1.9E-01 C*	N/A		YES	ASL
	72-55-9	4,4'-DDE	1.1E-02	4.2E+00	MG/KG	OU1-83-9Q-S-0-1	11/41	0.0045 - 0.062	4.2E+00	N/A	5.1E+00 C	N/A		NO	BSL
	60-57-1	Dieldrin	1.7E-01	2.4E-01 J	MG/KG	OU1-83-8K-S-0-1	3/41	0.0045 - 0.062	2.4E-01	N/A	1.1E-01 C	N/A		YES	ASL
	72-54-8	4,4'-DDD	8.6E-03	9.3E+00	MG/KG	OU1-83-9R-S-0-1	13/41	0.0045 - 0.055	9.3E+00	N/A	7.2E+00 C	N/A		YES	ASL
	50-29-3	4,4'-DDT	5.5E-03	1.7E+01 J	MG/KG	OU1-83-10Q-S-0-1-P	11/41	0.0045 - 0.062	1.7E+01	N/A	7.0E+00 C*	N/A		YES	ASL
	12789-03-6	Chlordane	4.9E-02	2.2E+02	MG/KG	OU1-83-8G-S-0-1	21/41	0.043 - 0.062	2.2E+02	N/A	6.5E+00 C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.3E-02	1.3E-01	MG/KG	OU1-83-9O-S-0-1	13/29	0.011 - 0.047	1.3E-01	N/A	2.1E+00 C	N/A		NO	BSL
	50-32-8	Benzo(a)pyrene	1.9E-02	1.7E-01	MG/KG	OU1-83-9Q-S-0-1	12/29	0.011 - 0.047	1.7E-01	N/A	2.1E-01 C	N/A		NO	BSL
	205-99-2	Benzo(b)fluoranthene	1.5E-02	5.1E-01	MG/KG	OU1-83-8F-S-0-1	15/29	0.011 - 0.047	5.1E-01	N/A	2.1E+00 C	N/A		NO	BSL
	53-70-3	Dibenz(a,h)anthracene	3.9E-02	5.1E-02	MG/KG	OU1-83-9O-S-0-1	4/29	0.011 - 0.093	5.1E-02	N/A	2.1E-01 C	N/A		NO	BSL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.4E-02	1.7E-01	MG/KG	OU1-83-8F-S-0-1	13/29	0.011 - 0.047	1.7E-01	N/A	2.1E+00 C	N/A		NO	BSL
	7439-92-1	Lead	2.7E+01	1.4E+02	MG/KG	OU1-83-8H-S-0-1	3/3	-	1.4E+02	N/A	8.0E+02 NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Industrial Soil RSL, May 2010. Adjusted industrial soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

C = Carcinogenic

N = Noncarcinogenic

C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)

COPC = Chemical of Potential Concern

J = Estimated Value

NL = Noncarcinogenic lead industrial soil RSL not adjusted by dividing by 10

N/A = Not applicable/not available

Table 2.9

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Soil
Exposure Medium: Air

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Emissions from Site 83 Surface Lowland Area	76-44-8	Heptachlor	7.0E-07	7.0E-07	ug/m^3	OU1-83-8G-S-0-1	1/41	N/A	7.0E-07	N/A	1.9E-03 C	N/A		NO	BSL
	1024-57-3	Heptachlor epoxide	2.0E-08	3.9E-06 J	ug/m^3	OU1-83-8G-S-0-1	5/41	N/A	3.9E-06	N/A	9.4E-04 C	N/A		NO	BSL
	72-55-9	4,4'-DDE	8.1E-09	3.1E-06	ug/m^3	OU1-83-9Q-S-0-1	11/41	N/A	3.1E-06	N/A	2.5E-02 C	N/A		NO	BSL
	60-57-1	Dieldrin	1.3E-07	1.8E-07 J	ug/m^3	OU1-83-8K-S-0-1	3/41	N/A	1.8E-07	N/A	5.3E-04 C	N/A		NO	BSL
	72-54-8	4,4'-DDD	6.3E-09	6.8E-06	ug/m^3	OU1-83-9R-S-0-1	13/41	N/A	6.8E-06	N/A	3.5E-02 C	N/A		NO	BSL
	50-29-3	4,4'-DDT	4.0E-09	1.3E-05 J	ug/m^3	OU1-83-10Q-S-0-1-P	11/41	N/A	1.3E-05	N/A	2.5E-02 C	N/A		NO	BSL
	12789-03-6	Chlordane	3.6E-08	1.6E-04	ug/m^3	OU1-83-8G-S-0-1	21/41	N/A	1.6E-04	N/A	2.4E-02 C*	N/A		NO	BSL
	56-55-3	Benzo(a)anthracene	9.6E-09	9.6E-08	ug/m^3	OU1-83-9O-S-0-1	13/29	N/A	9.6E-08	N/A	8.7E-03 C	N/A		NO	BSL
	50-32-8	Benzo(a)pyrene	1.4E-08	1.3E-07	ug/m^3	OU1-83-9Q-S-0-1	12/29	N/A	1.3E-07	N/A	8.7E-04 C	N/A		NO	BSL
	205-99-2	Benzo(b)fluoranthene	1.1E-08	3.8E-07	ug/m^3	OU1-83-8F-S-0-1	15/29	N/A	3.8E-07	N/A	8.70E-03 C	N/A		NO	BSL
	53-70-3	Dibenz(a,h)anthracene	2.9E-08	3.8E-08	ug/m^3	OU1-83-9O-S-0-1	4/29	N/A	3.8E-08	N/A	8.0E-04 C	N/A		NO	BSL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.0E-08	1.3E-07	ug/m^3	OU1-83-8F-S-0-1	13/29	N/A	1.3E-07	N/A	8.7E-03 C	N/A		NO	BSL
	7439-92-1	Lead	2.0E-05	1.0E-04	ug/m^3	OU1-83-8H-S-0-1	3/3	N/A	1.0E-04	N/A	N/A	N/A		NO	NTX

[1] Minimum/Maximum calculated air concentrations. Air concentration (ug/m^3) = soil concentration (mg/kg) x 1/PEF x 1000 ug/mg. PEF = 1.36x10^9 m^3/kg.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Residential Air RSL, May 2010. Adjusted residential air RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = Carcinogenic
C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)
COPC = Chemical of Potential Concern
J = Estimated Value
N = Noncarcinogenic
NL = Noncarcinogenic lead residential air RSL not adjusted by dividing by 10
N/A = Not applicable/not available

Table 2.10

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Future (residential screening levels)
Medium: Soil
Exposure Medium: Surface and Subsurface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier		Maximum [1] Concentration Qualifier		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value		Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	1.7E-01		9.5E-01		MG/KG	OU1-83-8G-S-0-1	2/88	0.0022 - 0.031	9.5E-01	N/A	1.1E-01	C	N/A		YES	ASL
Lowland Area	1024-57-3	Heptachlor epoxide	5.8E-03	J	5.3E+00	J	MG/KG	OU1-83-8G-S-0-1	7/88	0.0022 - 0.031	5.3E+00	N/A	5.3E-02	C*	N/A		YES	ASL
	72-55-9	4,4'-DDE	4.7E-03		4.2E+00		MG/KG	OU1-83-9Q-S-0-1	23/88	0.0045 - 0.062	4.2E+00	N/A	1.4E+00	C	N/A		YES	ASL
	60-57-1	Dieldrin	9.8E-03		2.4E-01	J	MG/KG	OU1-83-8K-S-0-1	6/88	0.0044 - 0.062	2.4E-01	N/A	3.0E-02	C	N/A		YES	ASL
	72-54-8	4,4'-DDD	8.0E-03		9.3E+00		MG/KG	OU1-83-9R-S-0-1	29/88	0.0044 - 0.055	9.3E+00	N/A	2.0E+00	C	N/A		YES	ASL
	50-29-3	4,4'-DDT	4.5E-03		1.7E+01	J	MG/KG	OU1-83-10Q-S-0-1-P	18/88	0.0044 - 0.062	1.7E+01	N/A	1.7E+00	C*	N/A		YES	ASL
	12789-03-6	Chlordane	4.9E-02		2.2E+02		MG/KG	OU1-83-8G-S-0-1	39/88	0.005 - 0.098	2.2E+02	N/A	1.6E+00	C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.3E-02		1.5E+00		MG/KG	OU1-83-6N-S-3-4	21/79	0.011 - 0.085	1.5E+00	N/A	1.5E-01	C	N/A		YES	ASL
	50-32-8	Benzo(a)pyrene	1.8E-02		1.5E+00		MG/KG	OU1-83-6N-S-3-4	22/79	0.011 - 0.085	1.5E+00	N/A	1.5E-02	C	N/A		YES	ASL
	205-99-2	Benzo(b)fluoranthene	1.5E-02		8.4E-01		MG/KG	OU1-83-6N-S-3-4	26/79	0.011 - 0.085	8.4E-01	N/A	1.5E-01	C	N/A		YES	ASL
	53-70-3	Dibenz(a,h)anthracene	3.9E-02		3.4E-01		MG/KG	OU1-83-6N-S-3-4	8/79	0.011 - 0.093	3.4E-01	N/A	1.5E-02	C	N/A		YES	ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.4E-02		7.1E-01		MG/KG	OU1-83-6N-S-3-4	22/79	0.011 - 0.085	7.1E-01	N/A	1.5E-01	C	N/A		YES	ASL
	7439-92-1	Lead	3.7E+00		1.4E+02		MG/KG	OU1-83-8H-S-0-1	6/6	-	1.4E+02	N/A	4.0E+02	NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Residential Soil RSL, May 2010. Adjusted residential soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

C = Carcinogenic

C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)

COPC = Chemical of Potential Concern

J = Estimated Value

N = Noncarcinogenic

N/A = Not applicable/not available

NL = Noncarcinogenic lead residential soil RSL not adjusted by dividing by 10

Table 2.11

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Future (industrial screening levels)
Medium: Soil
Exposure Medium: Surface and Subsurface Soil

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier		Maximum [1] Concentration Qualifier		Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value		Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Site 83	76-44-8	Heptachlor	1.7E-01		9.5E-01		MG/KG	OU1-83-8G-S-0-1	2/88	0.0022 - 0.031	9.5E-01	N/A	3.8E-01	C	N/A		YES	ASL
Lowland Area	1024-57-3	Heptachlor epoxide	5.8E-03	J	5.3E+00	J	MG/KG	OU1-83-8G-S-0-1	7/88	0.0022 - 0.031	5.3E+00	N/A	1.9E-01	C*	N/A		YES	ASL
	72-55-9	4,4'-DDE	4.7E-03		4.2E+00		MG/KG	OU1-83-9Q-S-0-1	23/88	0.0045 - 0.062	4.2E+00	N/A	5.1E+00	C	N/A		NO	BSL
	60-57-1	Dieldrin	9.8E-03		2.4E-01	J	MG/KG	OU1-83-8K-S-0-1	6/88	0.0044 - 0.062	2.4E-01	N/A	1.1E-01	C	N/A		YES	ASL
	72-54-8	4,4'-DDD	8.0E-03		9.3E+00		MG/KG	OU1-83-9R-S-0-1	29/88	0.0044 - 0.055	9.3E+00	N/A	7.2E+00	C	N/A		YES	ASL
	50-29-3	4,4'-DDT	4.5E-03		1.7E+01	J	MG/KG	OU1-83-10Q-S-0-1-P	18/88	0.0044 - 0.062	1.7E+01	N/A	7.0E+00	C*	N/A		YES	ASL
	12789-03-6	Chlordane	4.9E-02		2.2E+02		MG/KG	OU1-83-8G-S-0-1	39/88	0.005 - 0.098	2.2E+02	N/A	6.5E+00	C*	N/A		YES	ASL
	56-55-3	Benzo(a)anthracene	1.3E-02		1.5E+00		MG/KG	OU1-83-6N-S-3-4	21/79	0.011 - 0.085	1.5E+00	N/A	2.1E+00	C	N/A		NO	BSL
	50-32-8	Benzo(a)pyrene	1.8E-02		1.5E+00		MG/KG	OU1-83-6N-S-3-4	22/79	0.011 - 0.085	1.5E+00	N/A	2.1E-01	C	N/A		YES	ASL
	205-99-2	Benzo(b)fluoranthene	1.5E-02		8.4E-01		MG/KG	OU1-83-6N-S-3-4	26/79	0.011 - 0.085	8.4E-01	N/A	2.1E+00	C	N/A		NO	BSL
	53-70-3	Dibenz(a,h)anthracene	3.9E-02		3.4E-01		MG/KG	OU1-83-6N-S-3-4	8/79	0.011 - 0.093	3.4E-01	N/A	2.1E-01	C	N/A		YES	ASL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.4E-02		7.1E-01		MG/KG	OU1-83-6N-S-3-4	22/79	0.011 - 0.085	7.1E-01	N/A	2.1E+00	C	N/A		NO	BSL
	7439-92-1	Lead	3.7E+00		1.4E+02		MG/KG	OU1-83-8H-S-0-1	6/6	-	1.4E+02	N/A	8.0E+02	NL	N/A		NO	BSL

[1] Minimum/Maximum detected concentrations.
[2] Maximum concentration is used for screening.
[3] Background values are not available.
[4] EPA Regional Screening Level (RSL) Table, Industrial Soil RSL, May 2010. Adjusted industrial soil RSLs (noncarcinogenic RSLs adjusted by dividing by 10).
[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)
Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered
C = Carcinogenic
N = Noncarcinogenic
C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)
COPC = Chemical of Potential Concern
J = Estimated Value
NL = Noncarcinogenic lead industrial soil RSL not adjusted by dividing by 10
N/A = Not applicable/not available

Table 2.12

OCCURRENCE, DISTRIBUTION AND SELECTION OF CHEMICALS OF POTENTIAL CONCERN

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil
Exposure Medium: Air

Exposure Point	CAS Number	Chemical	Minimum [1] Concentration Qualifier	Maximum [1] Concentration Qualifier	Units	Location of Maximum Concentration	Detection Frequency	Range of Detection Limits	Concentration [2] Used for Screening	Background [3] Value	Screening [4] Toxicity Value	Potential ARAR/TBC Value	Potential ARAR/TBC Source	COPC Flag	Rationale for [5] Contaminant Deletion or Selection
Emissions from Site 83 Soil Lowland Area	76-44-8	Heptachlor	1.3E-07	7.0E-07	ug/m^3	OU1-83-8G-S-0-1	2/88	N/A	7.0E-07	N/A	1.9E-03 C	N/A		NO	BSL
	1024-57-3	Heptachlor epoxide	4.3E-09 J	3.9E-06 J	ug/m^3	OU1-83-8G-S-0-1	7/88	N/A	3.9E-06	N/A	9.4E-04 C	N/A		NO	BSL
	72-55-9	4,4'-DDE	3.5E-09	3.1E-06	ug/m^3	OU1-83-9Q-S-0-1	23/88	N/A	3.1E-06	N/A	2.5E-02 C	N/A		NO	BSL
	60-57-1	Dieldrin	7.2E-09	1.8E-07 J	ug/m^3	OU1-83-8K-S-0-1	6/88	N/A	1.8E-07	N/A	5.3E-04 C	N/A		NO	BSL
	72-54-8	4,4'-DDD	5.9E-09	6.8E-06	ug/m^3	OU1-83-9R-S-0-1	29/88	N/A	6.8E-06	N/A	3.5E-02 C	N/A		NO	BSL
	50-29-3	4,4'-DDT	3.3E-09	1.3E-05 J	ug/m^3	OU1-83-10Q-S-0-1-P	18/88	N/A	1.3E-05	N/A	2.5E-02 C	N/A		NO	BSL
	12789-03-6	Chlordane	3.6E-08	1.6E-04	ug/m^3	OU1-83-8G-S-0-1	39/88	N/A	1.6E-04	N/A	2.4E-02 C*	N/A		NO	BSL
	56-55-3	Benzo(a)anthracene	9.6E-09	1.1E-06	ug/m^3	OU1-83-6N-S-3-4	21/79	N/A	1.1E-06	N/A	8.7E-03 C	N/A		NO	BSL
	50-32-8	Benzo(a)pyrene	1.3E-08	1.1E-06	ug/m^3	OU1-83-6N-S-3-4	22/79	N/A	1.1E-06	N/A	8.7E-04 C	N/A		NO	BSL
	205-99-2	Benzo(b)fluoranthene	1.1E-08	6.2E-07	ug/m^3	OU1-83-6N-S-3-4	26/79	N/A	6.2E-07	N/A	8.70E-03 C	N/A		NO	BSL
	53-70-3	Dibenz(a,h)anthracene	2.9E-08	2.5E-07	ug/m^3	OU1-83-6N-S-3-4	8/79	N/A	2.5E-07	N/A	8.0E-04 C	N/A		NO	BSL
	193-39-5	Indeno(1,2,3-cd)pyrene	1.0E-08	5.2E-07	ug/m^3	OU1-83-6N-S-3-4	22/79	N/A	5.2E-07	N/A	8.7E-03 C	N/A		NO	BSL
	7439-92-1	Lead	2.7E-06	1.0E-04	ug/m^3	OU1-83-8H-S-0-1	6/6	N/A	1.0E-04	N/A	N/A	N/A		NO	NTX

[1] Minimum/Maximum calculated air concentrations. Air concentration (ug/m^3) = soil concentration (mg/kg) x 1/PEF x 1000 ug/mg. PEF = 1.36x10^9 m^3/kg.

[2] Maximum concentration is used for screening.

[3] Background values are not available.

[4] EPA Regional Screening Level (RSL) Table, Residential Air RSL, May 2010. Adjusted residential air RSLs (noncarcinogenic RSLs adjusted by dividing by 10).

[5] Rationale Codes

Selection Reason: Above Screening Levels (ASL)

Deletion Reason: No Toxicity Information (NTX)
Essential Nutrient (NUT)
Below Screening Levels (BSL)

ARAR/TBC = Applicable or Relevant and Appropriate Requirement/ To Be Considered

C = Carcinogenic

C* = Carcinogenic (where noncarcinogenic RSL<100 x C RSL)

COPC = Chemical of Potential Concern

J = Estimated Value

N = Noncarcinogenic

NL = Noncarcinogenic lead residential air RSL not adjusted by dividing by 10

N/A = Not applicable/not available

Table 3.1.RME
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)		Maximum Concentration (Qualifier)	Exposure Point Concentration			
							Value	Units	Statistic	Rationale
Surface Soil Upland Area	Heptachlor	MG/KG	8.0E-02	8.1E-01	(NP)	3.3E+00	8.1E-01	MG/KG	99% KM	1, 5
	4,4'-DDE	MG/KG	1.2E-01	5.3E-01	(NP)	4.2E+00	5.3E-01	MG/KG	95% KM	1, 5
	Dieldrin	MG/KG	1.1E-01	1.9E-01	(NP)	1.5E+00	1.9E-01	MG/KG	95% KM-t	1, 3, 5
	4,4'-DDD	MG/KG	1.4E-01	6.7E-01	(NP)	5.4E+00	6.7E-01	MG/KG	95% KM	1, 5
	4,4'-DDT	MG/KG	6.6E-01	3.3E+00	(NP)	2.8E+01	3.3E+00	MG/KG	95% KM	4, 5
	Chlordane	MG/KG	6.6E+00	3.3E+01	(NP)	2.0E+02	3.3E+01	MG/KG	97.5% KM	1, 5
	Benzo(a)anthracene	MG/KG	5.2E-01	1.2E+00	(NP)	9.8E+00	1.2E+00	MG/KG	95% KM-BCA	1, 3, 5
	Benzo(a)pyrene	MG/KG	1.0E+00	8.5E+00	(NP)	2.4E+01	8.5E+00	MG/KG	99% KM	1, 5
	Benzo(b)fluoranthene	MG/KG	1.2E+00	1.0E+01	(NP)	2.9E+01	1.0E+01	MG/KG	99% KM	1, 5
	Dibenz(a,h)anthracene	MG/KG	3.0E-01	7.3E-01	(NP)	6.6E+00	7.3E-01	MG/KG	95% KM-BCA	4, 5
	Indeno(1,2,3-cd)pyrene	MG/KG	9.3E-01	8.1E+00	(NP)	2.3E+01	8.1E+00	MG/KG	99% KM	1, 5

ProUCL, Version 4.00.04 used to determine distribution of data and calculate 95% UCL, following recommendations in users guide (USEPA. February 2009. ProUCL Version 4.00.04 User Guide (Draft). Prepared by Lockheed Martin Environmental Services).
Options: 95% Kaplan-Meier Chebyshev UCL (95% KM); 95% KM BCA UCL (95% KM-BCA); 97.5% Kaplan-Meier Chebyshev UCL (97.5% KM); 95% KM (t) UCL (95% KM-t); 99% Kaplan-Meier Chebyshev UCL (99% KM)

Upper Confidence Limit (UCL) Rationale:
(1) Shapiro-Wilk W Test/Lilliefors test indicates data are log-normally distributed.
(2) Shapiro-Wilk W Test/Lilliefors indicates data are normally distributed.
(3) Test indicates data are gamma distributed.
(4) Distribution tests are inconclusive (data are not normal, log-normal, or gamma-distributed).

MG/KG = milligrams per kilogram
N = Normal
NP = Non-Parametric
T = Lognormal

Table 3.2.RME
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)		Maximum Concentration (Qualifier)	Exposure Point Concentration			
							Value	Units	Statistic	Rationale
Soil* Upland Area	Heptachlor	MG/KG	6.2E-02	3.5E-01	(NP)	3.3E+00	3.5E-01	MG/KG	97.5% KM	1, 5
	4,4'-DDE	MG/KG	8.3E-02	2.2E-01	(NP)	4.2E+00	2.2E-01	MG/KG	95% KM-BCA	1, 5
	Dieldrin	MG/KG	7.1E-02	1.2E-01	(NP)	1.5E+00	1.2E-01	MG/KG	95% KM-t	1, 3, 5
	4,4'-DDD	MG/KG	9.2E-02	4.2E-01	(NP)	5.4E+00	4.2E-01	MG/KG	95% KM	1, 5
	4,4'-DDT	MG/KG	4.2E-01	2.1E+00	(NP)	2.8E+01	2.1E+00	MG/KG	95% KM	4, 5
	Chlordane	MG/KG	4.6E+00	2.1E+01	(NP)	2.0E+02	2.1E+01	MG/KG	97.5% KM	4, 5
	Benzo(a)anthracene	MG/KG	2.7E-01	5.3E-01	(NP)	9.8E+00	5.3E-01	MG/KG	95% KM-t	1, 3, 5
	Benzo(a)pyrene	MG/KG	5.1E-01	2.1E+00	(NP)	2.4E+01	2.1E+00	MG/KG	95% KM	1, 5
	Benzo(b)fluoranthene	MG/KG	6.3E-01	2.6E+00	(NP)	2.9E+01	2.6E+00	MG/KG	95% KM	1, 5
	Dibenz(a,h)anthracene	MG/KG	1.7E-01	3.9E-01	(NP)	6.6E+00	3.9E-01	MG/KG	95% KM-BCA	4, 5
	Indeno(1,2,3-cd)pyrene	MG/KG	4.7E-01	2.0E+00	(NP)	2.3E+01	2.0E+00	MG/KG	95% KM	1, 5

Soil* - surface soil and subsurface soil combined.
ProUCL, Version 4.00.04 used to determine distribution of data and calculate 95% UCL, following recommendations in users guide (USEPA. February 2009. ProUCL Version 4.00.04 User Guide (Draft). Prepared by Lockheed Martin Environmental Services).
Options: 95% Kaplan-Meier Chebyshev UCL (95% KM); 95% KM BCA UCL (95% KM-BCA); 97.5% Kaplan-Meier Chebyshev UCL (97.5% KM); 95% KM (t) UCL (95% KM-t).

Upper Confidence Limit (UCL) Rationale:
(1) Shapiro-Wilk W Test/Lilliefors test indicates data are log-normally distributed.
(2) Shapiro-Wilk W Test/Lilliefors indicates data are normally distributed.
(3) Test indicates data are gamma distributed.
(4) Distribution tests are inconclusive (data are not normal, log-normal, or gamma-distributed).

N = Normal
NP = Non-Parametric
MG/KG = milligrams per kilogram
T = Lognormal

Table 3.3.RME
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)		Maximum Concentration (Qualifier)		Exposure Point Concentration			
								Value	Units	Statistic	Rationale
Surface Soil Lowland Area	Heptachlor	MG/KG	3.8E-02	2.7E-01	(NP)	9.5E-01		2.7E-01	MG/KG	99% Cheb-m	4, 5
	Heptachlor epoxide	MG/KG	1.6E-01	1.6E+00	(NP)	5.3E+00	J	1.6E+00	MG/KG	99% KM	4, 5
	4,4'-DDE	MG/KG	3.0E-01	5.3E-01	(NP)	4.2E+00		5.3E-01	MG/KG	95% KM-t	1, 3, 5
	Dieldrin	MG/KG	2.9E-02	1.8E-01	(NP)	2.4E-01	J	1.8E-01	MG/KG	95% KM-t	1, 2, 5
	4,4'-DDD	MG/KG	3.5E-01	7.5E-01	(NP)	9.3E+00		7.5E-01	MG/KG	95% KM-t	1, 3, 5
	4,4'-DDT	MG/KG	8.2E-01	1.6E+00	(NP)	1.7E+01	J	1.6E+00	MG/KG	95% KM-t	1, 3, 5
	Chlordane	MG/KG	5.9E+00	4.0E+01	(NP)	2.2E+02		4.0E+01	MG/KG	97.5% KM	4, 5
	Benzo(a)anthracene	MG/KG	4.0E-02	5.5E-02	(NP)	1.3E-01		5.5E-02	MG/KG	95% KM-BCA	4, 5
	Benzo(a)pyrene	MG/KG	5.4E-02	7.3E-02	(NP)	1.7E-01		7.3E-02	MG/KG	95% KM-t	4, 5
	Benzo(b)fluoranthene	MG/KG	8.5E-02	1.3E-01	(NP)	5.1E-01		1.3E-01	MG/KG	95% KM-BCA	1, 3, 5
	Dibenz(a,h)anthracene	MG/KG	4.0E-02	4.1E-02	(NP)	5.1E-02		4.1E-02	MG/KG	95% KM-t	1, 2, 3, 5
	Indeno(1,2,3-cd)pyrene	MG/KG	4.5E-02	6.5E-02	(NP)	1.7E-01		6.5E-02	MG/KG	95% KM-BCA	4, 5

ProUCL, Version 4.00.04 used to determine distribution of data and calculate 95% UCL, following recommendations in users guide (USEPA. February 2009. ProUCL Version 4.00.04 User Guide (Draft). Prepared by Lockheed Martin Environmental Services).
Options: 99% Chebyshev (Mean, Sd) UCL (99% Cheb-m); 99% Kaplan-Meier Chebyshev UCL (99% KM); 95% KM (t) UCL (95% KM-t); 95% KM BCA UCL (95% KM-BCA); 97.5% Kaplan-Meier Chebyshev UCL (97.5% KM)

Upper Confidence Limit (UCL) Rationale:
(1) Shapiro-Wilk W Test/Lilliefors test indicates data are log-normally distributed.
(2) Shapiro-Wilk W Test/Lilliefors indicates data are normally distributed.
(3) Test indicates data are gamma distributed.
(4) Distribution tests are inconclusive (data are not normal, log-normal, or gamma-distributed).
(5) Nonparametric statistical tests were used to calculate the recommended UCL.

J = Estimated Value
MG/KG = milligrams per kilogram
N = Normal
NP = Non-Parametric
T = Lognormal

Table 3.4.RME
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)		Maximum Concentration (Qualifier)		Exposure Point Concentration			
								Value	Units	Statistic	Rationale
Soil*	Heptachlor	MG/KG	2.6E-02	9.4E-02	(NP)	9.5E-01		9.4E-02	MG/KG	97.5% Cheb-m	4, 5
Lowland Area	Heptachlor epoxide	MG/KG	7.2E-02	4.8E-01	(NP)	5.3E+00	J	4.8E-01	MG/KG	97.5% KM	1, 5
	4,4'-DDE	MG/KG	1.5E-01	2.6E-01	(NP)	4.2E+00		2.6E-01	MG/KG	95% KM-t	1, 3, 5
	Dieldrin	MG/KG	1.8E-02	2.5E-02	(NP)	2.4E-01	J	2.5E-02	MG/KG	95% KM-t	1, 2, 3, 5
	4,4'-DDD	MG/KG	1.8E-01	6.7E-01	(NP)	9.3E+00		6.7E-01	MG/KG	95% KM	1, 5
	4,4'-DDT	MG/KG	4.0E-01	7.7E-01	(NP)	1.7E+01	J	7.7E-01	MG/KG	95% KM-t	1, 3, 5
	Chlordane	MG/KG	3.2E+00	1.4E+01	(NP)	2.2E+02		1.4E+01	MG/KG	95% KM	4, 5
	Benzo(a)anthracene	MG/KG	5.5E-02	8.8E-02	(NP)	1.5E+00		8.8E-02	MG/KG	95% KM-BCA	1, 5
	Benzo(a)pyrene	MG/KG	6.1E-02	1.1E-01	(NP)	1.5E+00		1.1E-01	MG/KG	95% KM-BCA	4, 5
	Benzo(b)fluoranthene	MG/KG	7.1E-02	9.8E-02	(NP)	8.4E-01		9.8E-02	MG/KG	95% KM-t	1, 3, 5
	Dibenz(a,h)anthracene	MG/KG	4.4E-02	5.1E-02	(NP)	3.4E-01		5.1E-02	MG/KG	95% KM-t	4, 5
	Indeno(1,2,3-cd)pyrene	MG/KG	4.3E-02	6.0E-02	(NP)	7.1E-01		6.0E-02	MG/KG	95% KM-t	3, 5

ProUCL, Version 4.00.04 used to determine distribution of data and calculate 95% UCL, following recommendations in users guide (USEPA. February 2009. ProUCL Version 4.00.04 User Guide (Draft). Prepared by Lockheed Martin Environmental Services).
Options: 97.5% Chebyshev (Mean, Sd) UCL (97.5% Cheb-m); 95% Kaplan-Meier Chebyshev UCL (95% KM); 95% KM BCA UCL (95% KM-BCA); 97.5% Kaplan-Meier Chebyshev UCL (97.5% KM); 95% KM (t) UCL (95% KM-t)

Upper Confidence Limit (UCL) Rationale:
(1) Shapiro-Wilk W Test/Lilliefors test indicates data are log-normally distributed.
(2) Shapiro-Wilk W Test/Lilliefors indicates data are normally distributed.
(3) Test indicates data are gamma distributed.
(4) Distribution tests are inconclusive (data are not normal, log-normal, or gamma-distributed).

J = Estimated Value
MG/KG = milligrams per kilogram
N = Normal
NP = Non-Parametric
T = Lognormal

Table 3.4.CTE
MEDIUM-SPECIFIC EXPOSURE POINT CONCENTRATION SUMMARY
Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Point	Chemical of Potential Concern	Units	Arithmetic Mean	95% UCL (Distribution)		Maximum Concentration (Qualifier)		Exposure Point Concentration			
								Value	Units	Statistic	Rationale
Soil*	Heptachlor	MG/KG	2.6E-02	9.4E-02	(NP)	9.5E-01		2.6E-02	MG/KG	Mean-N	4
Lowland Area	Heptachlor epoxide	MG/KG	7.2E-02	4.8E-01	(NP)	5.3E+00	J	7.2E-02	MG/KG	Mean-KM	1, 5
	4,4'-DDE	MG/KG	1.5E-01	2.6E-01	(NP)	4.2E+00		1.5E-01	MG/KG	Mean-KM	1, 3, 5
	Dieldrin	MG/KG	1.8E-02	2.5E-02	(NP)	2.4E-01	J	1.8E-02	MG/KG	Mean-KM	1, 2, 3, 5
	4,4'-DDD	MG/KG	1.8E-01	6.7E-01	(NP)	9.3E+00		1.8E-01	MG/KG	Mean-KM	1, 5
	4,4'-DDT	MG/KG	4.0E-01	7.7E-01	(NP)	1.7E+01	J	4.0E-01	MG/KG	Mean-KM	1, 3, 5
	Chlordane	MG/KG	3.2E+00	1.4E+01	(NP)	2.2E+02		3.2E+00	MG/KG	Mean-KM	4, 5
	Benzo(a)anthracene	MG/KG	5.5E-02	8.8E-02	(NP)	1.5E+00		5.5E-02	MG/KG	Mean-KM	1, 5
	Benzo(a)pyrene	MG/KG	6.1E-02	1.1E-01	(NP)	1.5E+00		6.1E-02	MG/KG	Mean-KM	4, 5
	Benzo(b)fluoranthene	MG/KG	7.1E-02	9.8E-02	(NP)	8.4E-01		7.1E-02	MG/KG	Mean-KM	1, 3, 5
	Dibenz(a,h)anthracene	MG/KG	4.4E-02	5.1E-02	(NP)	3.4E-01		4.4E-02	MG/KG	Mean-KM	4, 5
	Indeno(1,2,3-cd)pyrene	MG/KG	4.3E-02	6.0E-02	(NP)	7.1E-01		4.3E-02	MG/KG	Mean-KM	3, 5

ProUCL, Version 4.00.04 used to determine distribution of data and calculate 95% UCL, following recommendations in users guide (USEPA. February 2009. ProUCL Version 4.00.04 User Guide (Draft). Prepared by Lockheed Martin Environmental Services).
Options: Mean based on normal distribution (Mean-N); Kaplan-Meier method mean (Mean-KM)

Upper Confidence Limit (UCL) Rationale:
(1) Shapiro-Wilk W Test/Lilliefors test indicates data are log-normally distributed.
(2) Shapiro-Wilk W Test/Lilliefors indicates data are normally distributed.
(3) Test indicates data are gamma distributed.
(4) Distribution tests are inconclusive (data are not normal, log-normal, or gamma-distributed).

J = Estimated Value
MG/KG = milligrams per kilogram
N = Normal
NP = Non-Parametric

TABLE 4.1.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Industrial Worker	Adult	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	250	days/year	EPA, 1991	
				ED	Exposure Duration	25	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Maintenance Worker	Adult	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	25	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Trespasser/Visitor	Adult	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	24	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	
		Youth	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	CDI (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	10	years	(2)	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	45	kg	EPA, 2000	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	3,650	days	EPA, 1989	
		Child	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	CDI (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	200	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	6	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	

TABLE 4.1.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Dermal	Industrial Worker	Adult	Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	3,300	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	chem specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	250	days/year	EPA, 1991	
				ED	Exposure Duration	25	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Maintenance Worker	Adult	Surface Soil	CS	Chemical Concentration in Soil	e Tables 3.1 RME and 3.3.R	mg/kg	e Tables 3.1 RME and 3.3.R	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	3,300	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004, (3)	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF1	Conversion Factor 1	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	25	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Trespasser/Visitor	Adult	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	5,700	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF1 x EF x
				SSAF	Soil to Skin Adherence Factor	0.07	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	24	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	
	Trespasser/Visitor	Youth	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	4,200	cm^2	EPA, 2004 (4)	CS x SA x SSAF x DABS x CF1 x EF x
				SSAF	Soil to Skin Adherence Factor	0.1	mg/cm^2-day	EPA, 2004, (5)	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	10	years	(2)	
				BW	Body Weight	45	kg	EPA, 2000	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	3,650	days	EPA, 1989	

TABLE 4.1.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Medium: Surface Soil
Exposure Medium: Surface Soil

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Dermal	Trespasser/Visitor	Child	Surface Soil	CS	Chemical Concentration in Soil	See Tables 3.1 RME and 3.3.RME	mg/kg	See Tables 3.1 RME and 3.3.RME	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	2,800	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF1 x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	6	years	EPA, 1991	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	

Notes:
(1) Professional judgment assuming 1 day per week for 52 weeks.
(2) Professional judgment assuming adolescents from 7 to 16 years of age.
(3) SSAF based on adherence factor for (Geometric Mean) utility workers - Exhibit 3-3 of RAGS Part E.
(4) SA is the total of the head, hands, forearms and lower legs for the 7 through 16 year olds.
(5) SSAF is the geometric mean weighted soil adherence to legs for Rugby from EPA, 2004, Exhibit 3-3.

Sources:
EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.
EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.
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EPA, 2000: Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins. www.epa.gov/region4/waste/oftecser/healtbul.htm.
EPA, 2004: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. EPA/540/R/99/005.

TABLE 4.2.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Industrial Worker	Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF x 1/BW x 1/AT
				EF	Exposure Frequency	250	days/year	EPA, 1991	
				ED	Exposure Duration	25	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Maintenance Worker	Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	25	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Trespasser/Visitor	Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	24	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	
		Youth	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	CDI (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	10	years	(2)	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	45	kg	EPA, 2000	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	3,650	days	EPA, 1989	
		Child	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	CDI (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	200	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF1 x 1/BW x 1/AT
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	6	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	

TABLE 4.2.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion (cont.)	Construction Worker	Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	480	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF x 1/BW x 1/AT
				EF	Exposure Frequency	250	days/year	EPA, 1991	
				ED	Exposure Duration	1	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	365	days	EPA, 1989	
	Resident	Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2 & 3.4	mg/kg	See Tables 3.2 & 3.4	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF x 1/BW x 1/AT
				EF	Exposure Frequency	350	days/year	EPA, 1991	
				ED	Exposure Duration	24	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	
		Child	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2 & 3.4	mg/kg	See Tables 3.2 & 3.4	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	200	mg/day	EPA, 1991	CS x IR-S x EF x ED x CF x 1/BW x 1/AT
				EF	Exposure Frequency	350	days/year	EPA, 1991	
				ED	Exposure Duration	6	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	
	Resident	Child/Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2 & 3.4	mg/kg	See Tables 3.2 & 3.4	Carcinogenic
				IR-Sa	Ingestion Rate of Soil-adult	100	mg/day	EPA, 1991	Chronic Daily Intake (CDI) (mg/kg-day) =
				EDa	Exposure Duration adult	24	years	EPA, 1991	CS x IR-S x EF x CF x 1/AT
				BWa	Body Weight adult	70	kg	EPA, 1991	
				IR-Sc	Ingestion Rate of Soil-child	200	mg/day	EPA, 1991	
				EDc	Exposure Duration child	6	years	EPA, 1991	IR-S = (EDc * IR-Sc/ BWc) +
				BWc	Body Weight child	15	kg	EPA, 1991	(EDa * IR-Sa/BWa)
				IR-S	Ingestion Rate of Soil-adjusted	114.29	mg-year/kg-day	- -	
				EF	Exposure Frequency	350	days/year	EPA, 1991	
				CF3	Conversion Factor 3	0.000001	kg/mg	- -	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	

TABLE 4.2.RME
VALUES USED FOR DAILY INTAKE CALCULATIONS
REASONABLE MAXIMUM EXPOSURE
Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Dermal	Industrial Worker	Adult	Soil*			See Tables 3.2.RME and 3.4.RME		See Tables 3.2.RME and 3.4.RME	
				CS	Chemical Concentration in Soil		mg/kg		CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	3,300	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	chem specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	250	days/year	EPA, 1991	
				ED	Exposure Duration	25	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Maintenance Worker	Adult	Soil*			See Tables 3.2.RME and 3.4.RME		See Tables 3.2.RME and 3.4.RME	
				CS	Chemical Concentration in Soil		mg/kg		CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	3,300	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004, (3)	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF1	Conversion Factor 1	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	25	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	9,125	days	EPA, 1989	
	Trespasser/Visitor	Adult	Soil*			See Tables 3.2.RME and 3.4.RME		See Tables 3.2.RME and 3.4.RME	
				CS	Chemical Concentration in Soil		mg/kg		CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	5,700	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF1 x EF x
				SSAF	Soil to Skin Adherence Factor	0.07	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	24	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	
	Trespasser/Visitor	Youth	Soil*			See Tables 3.2.RME and 3.4.RME		See Tables 3.2.RME and 3.4.RME	
				CS	Chemical Concentration in Soil		mg/kg		CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	4,200	cm^2	EPA, 2004 (4)	CS x SA x SSAF x DABS x CF1 x EF x
				SSAF	Soil to Skin Adherence Factor	0.1	mg/cm^2-day	EPA, 2004 (5)	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	10	years	(2)	
				BW	Body Weight	45	kg	EPA, 2000	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	3,650	days	EPA, 1989	

TABLE 4.2.RME

VALUES USED FOR DAILY INTAKE CALCULATIONS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Dermal (cont.)	Trespasser/Visitor	Child	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	2,800	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF1 x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	Chemical Specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	52	days/year	(1)	
				ED	Exposure Duration	6	years	EPA, 1991	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	
	Construction Worker	Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2.RME and 3.4.RME	mg/kg	See Tables 3.2.RME and 3.4.RME	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	3,300	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	chem specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	250	days/years	EPA, 1991	
				ED	Exposure Duration	1	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	365	days	EPA, 1989	
Dermal	Resident	Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2 & 3.4	mg/kg	See Tables 3.2 & 3.4	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	5,700	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.07	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	chem specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	350	days/year	EPA, 1991	
				ED	Exposure Duration	24	years	EPA, 1991	
				BW	Body Weight	70	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	8,760	days	EPA, 1989	

TABLE 4.2.RME

VALUES USED FOR DAILY INTAKE CALCULATIONS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Dermal (cont.)	Resident	Child	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2 & 3.4	mg/kg	See Tables 3.2 & 3.4	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	2,800	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.2	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	chem specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	350	days/year	EPA, 1991	
				ED	Exposure Duration	6	years	EPA, 1991	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	
		Child/Adult	Soil*	CS	Chemical Concentration in Soil	See Tables 3.2 & 3.4	mg/kg	See Tables 3.2 & 3.4	Carcinogenic CDI (mg/kg-day) =
				SAc	Skin Surface Area child	2,800	cm^2	EPA, 2004	CS x SA x DABS x CF3 x EF x 1/AT
				SSAFc	Soil to Skin Adherence Factor child	0.2	mg/cm^2-day	EPA, 2004	
				EDc	Exposure Duration child	6	years	EPA, 1991	SA =
				BWc	Body Weight child	15	kg	EPA, 1991	((EDc * SAc/BWc)*SSAFc) +
				SAa	Skin Surface Area adult	5,700	cm^2	EPA, 2004	'((EDa * SAa/BWa)*SSAFa)
				SSAFa	Soil to Skin Adherence Factor-adult	0.07	mg/cm^2-day	EPA, 2004	
				EDa	Exposure Duration adult	24	years	EPA, 1991	
				BWa	Body Weight adult	70	kg	EPA, 1991	
				SA	Skin Surface Area adjusted	361	cm^2-year/kg-day	---	
				DABS	Dermal Absorption Factor Solids	chem specific	--	EPA, 2004	
				CF3	Conversion Factor 3	0.000001	kg/mg	- -	
				EF	Exposure Frequency	350	days/year	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	

Soil* = Surface soil and subsurface soil combined.

Notes:

(1) Professional judgment assuming 1 day per week for 52 weeks.

(2) Professional judgment assuming adolescents from 7 to 16 years of age.

(3) SSAF based on adherence factor for (Geometric Mean) utility workers - Exhibit 3-3 of RAGS Part E.

(4) SA is the total of the head, hands, forearms and lower legs for the 7 through 16 year olds.

(5) SSAF is the geometric mean weighted soil adherence to legs for Rugby from EPA, 2004, Exhibit 3-3.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 2000: Supplemental Guidance to RAGS: Region 4 Bulletins, Human Health Risk Assessment Bulletins. www.epa.gov/region4/waste/oftecser/healtbul.htm.

EPA, 2004: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. EPA/540/R/99/005.

TABLE 4.1.RME

VALUES USED FOR DAILY INTAKE CALCULATIONS

CENTRAL TENDANCY EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Medium: Soil*
Exposure Medium: Soil*

Exposure Route	Receptor Population	Receptor Age	Exposure Point	Parameter Code	Parameter Definition	Value	Units	Rationale/ Reference	Intake Equation/ Model Name
Ingestion	Resident	Child	Soil*	CS	Chemical Concentration in Soil	See Table 3.1.CTE	mg/kg	See Table 3.1.CTE	Chronic Daily Intake (CDI) (mg/kg-day) =
				IR-S	Ingestion Rate of Soil	100	mg/day	EPA, 1993	CS x IR-S x EF x ED x CF x 1/BW x 1/AT
				EF	Exposure Frequency	234	days/year	EPA, 1993	
				ED	Exposure Duration	6	years	EPA, 1991	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	
Dermal	Resident	Child	Soil*	CS	Chemical Concentration in Soil	See Table 3.1.CTE	mg/kg	See Table 3.1.CTE	CDI (mg/kg-day) =
				SA	Skin Surface Area Available for Contact	2,800	cm^2	EPA, 2004	CS x SA x SSAF x DABS x CF x EF x
				SSAF	Soil to Skin Adherence Factor	0.04	mg/cm^2-day	EPA, 2004	ED x 1/BW x 1/AT
				DABS	Dermal Absorption Factor Solids	chem specific	--	EPA, 2004	
				CF	Conversion Factor	0.000001	kg/mg	- -	
				EF	Exposure Frequency	234	days/year	EPA, 1993	
				ED	Exposure Duration	6	years	EPA, 1991	
				BW	Body Weight	15	kg	EPA, 1991	
				AT-C	Averaging Time (Cancer)	25,550	days	EPA, 1989	
				AT-N	Averaging Time (Non-Cancer)	2,190	days	EPA, 1989	

Soil* = Surface soil and subsurface soil combined.

Sources:

EPA, 1989: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual, Part A. OERR. EPA/540/1-89/002.

EPA, 1991: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual - Supplemental Guidance, Standard Default Exposure Factors. Interim Final. OSWER Directive 9285.6-03.

EPA, 1993: Superfund's Standard Default Exposure Factors for the Central Tendency and Reasonable Maximum Exposure.

EPA, 2004: Risk Assessment Guidance for Superfund. Vol.1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment) Final. EPA/540/R/99/005.

TABLE 5.1

NON-CANCER TOXICITY DATA -- ORAL/DERMAL

Site 83, MCAS Cherry Point

Chemical of Potential Concern	Chronic/ Subchronic	Oral RfD		Oral Absorption Efficiency for Dermal (1)	Absorbed RfD for Dermal (2)		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfD:Target Organ(s)	
		Value	Units		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Heptachlor	Chronic	5.0E-04	mg/kg-day	generally > 50%	5.0E-04	mg/kg-day	Liver	300/1	IRIS	3/3/2010
	Subchronic	5.0E-04	mg/kg-day	generally > 50%	5.0E-04	mg/kg-day	Liver	300	HEAST	7/31/1997
Heptachlor epoxide	Chronic	1.3E-05	mg/kg-day	generally > 50%	1.3E-05	mg/kg-day	Liver	1000 / 1	IRIS	3/3/2010
	Subchronic	1.3E-05	mg/kg-day	generally > 50%	1.3E-05	mg/kg-day	Liver	1000	HEAST	7/31/1997
4,4'-DDE	Chronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	Chronic	5.0E-05	mg/kg-day	generally > 50%	5.0E-05	mg/kg-day	Liver	100/1	IRIS	3/3/2010
	Subchronic	5.0E-05	mg/kg-day	generally > 50%	5.0E-05	mg/kg-day	Liver	100	HEAST	7/31/1997
4,4'-DDD	Chronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	Chronic	5.0E-04	mg/kg-day	70% - 90%	5.0E-04	mg/kg-day	Liver	100 / 1	IRIS	3/3/2010
	Subchronic	5.0E-04	mg/kg-day	70% - 90%	5.0E-04	mg/kg-day	Liver	100	HEAST	7/31/1997
Chlordane	Chronic	5.0E-04	mg/kg-day	generally > 50%	5.0E-04	mg/kg-day	Liver	300 / 1	IRIS	3/3/2010
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	Chronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	Chronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	Chronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	Chronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	Chronic	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA	NA	NA	NA

Footnote Instructions:

(1) Source: Risk Assessment Guidance for Superfund. Volume 1: Human Health Evolution Manual (Part E, Supplemental Guidance for Dermal Risk Assessment(Interim). Section 4.2 and Exhibit 4-1. USEPA recommends that the oral RfD should not be adjusted to estimate the absorbed dose for compounds when the absorption efficiency is greater than 50%. Constituents that do not have oral absorption efficiencies reported on this table were assumed to have an oral absorption efficiency of 100%.

(2) See Risk Assessment text for the derivation of the "Absorbed RfD for Dermal"

Definitions: HEAST = Health Effects Assessment Summary Tables

IRIS = Integrated Risk Information System

NA = Not available/not applicable

TABLE 5.2

NON-CANCER TOXICITY DATA -- INHALATION

Site 83, MCAS Cherry Point

Chemical of Potential Concern	Chronic/ Subchronic	Inhalation RfC		Primary Target Organ(s)	Combined Uncertainty/Modifying Factors	RfC : Target Organ(s)	
		Value	Units			Source(s)	Date(s) (MM/DD/YYYY)
Heptachlor	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
4,4'-DDE	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
Dieldrin	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
4,4'-DDD	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
4,4'-DDT	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
Chlordane	Chronic	7.0E-04	mg/m^3	Liver	1000 / 1	IRIS	3/3/2010
	Subchronic	NA	NA	NA	NA	NA	NA
Benzo(a)anthracene	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	Chronic	NA	NA	NA	NA	NA	NA
	Subchronic	NA	NA	NA	NA	NA	NA

Definitions: IRIS = Integrated Risk Information System

NA = Not available/not applicable

TABLE 6.1

CANCER TOXICITY DATA -- ORAL/DERMAL

Site 83, MCAS Cherry Point

Chemical of Potential Concern	Oral Cancer Slope Factor		Oral Absorption Efficiency for Dermal (1)	Absorbed Cancer Slope Factor for Dermal		Weight of Evidence/ Cancer Guideline Description	Oral CSF	
	Value	Units		Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Heptachlor	4.5E+00	$(mg/kg\text{-}day)^{-1}$	Generally > 50%	4.5E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
Heptachlor epoxide	9.1E+00	$(mg/kg\text{-}day)^{-1}$	Generally > 50%	9.1E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
4,4'-DDE	3.4E-01	$(mg/kg\text{-}day)^{-1}$	Generally > 50%	3.4E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
Dieldrin	1.6E+01	$(mg/kg\text{-}day)^{-1}$	Generally > 50%	1.6E+01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
4,4'-DDD	2.4E-01	$(mg/kg\text{-}day)^{-1}$	Generally > 50%	2.4E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
4,4'-DDT	3.4E-01	$(mg/kg\text{-}day)^{-1}$	70% - 90%	3.4E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
Chlordane	3.5E-01	$(mg/kg\text{-}day)^{-1}$	Generally > 50%	3.5E-01	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
Benzo(a)anthracene	7.3E-01	$(mg/kg\text{-}day)^{-1}$	58-89%	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	ECAO (RSL)	5/25/2010
Benzo(a)pyrene	7.3E+00	$(mg/kg\text{-}day)^{-1}$	58-89%	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	IRIS	3/3/2010
Benzo(b)fluoranthene	7.3E-01	$(mg/kg\text{-}day)^{-1}$	58-89%	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	ECAO (RSL)	5/25/2010
Dibenz(a,h)anthracene	7.3E+00	$(mg/kg\text{-}day)^{-1}$	58-89%	7.3E+00	$(mg/kg\text{-}day)^{-1}$	B2	ECAO (RSL)	5/25/2010
Indeno(1,2,3-cd)pyrene	7.3E-01	$(mg/kg\text{-}day)^{-1}$	58-89%	7.3E-01	$(mg/kg\text{-}day)^{-1}$	B2	ECAO (RSL)	5/25/2010

(1) Source: Risk Assessment Guidance for Superfund. Volume 1: Human Health Evaluation Manual (Part E, Supplemental Guidance for Dermal Risk Assessment(Interim). Section 4.2 and Exhibit 4-1. USEPA recommends that the oral RfD should not be adjusted to estimate the absorbed dose for compounds when the absorption efficiency is greater than 50%. Constituents that do not have oral absorption efficiencies reported on this table were assumed to have an oral absorption efficiency of 100%.

(2) See Risk Assessment text for the derivation of the "Absorbed CSF for Dermal"

Definitions:

ECAO = Environmental Criteria and Assessment Office

IRIS = Integrated Risk Information System

NA = Not available/not applicable

RSL = As cited in EPA Regional Screening Level Table (December 22, 2009)

Weight of Evidence definitions:

Group A chemicals (known human carcinogens) are agents for which there is sufficient evidence to support the causal association between exposure to the agents in humans and cancer.

Group B1 chemicals (probable human carcinogens) are agents for which there is limited evidence of possible carcinogenicity in humans.

Group B2 chemicals (probable human carcinogens) are agents for which there is sufficient evidence of carcinogenicity in animals but inadequate or a lack of evidence in humans.

Group C chemicals (possible human carcinogens) are agents for which there is limited evidence of carcinogenicity in animals and inadequate or a lack of human data.

Group D chemicals (not classifiable as to human carcinogenicity) are agents with inadequate human and animal evidence of carcinogenicity or for which no data are available.

Group E chemicals (evidence of noncarcinogenicity in humans) are agents for which there is no evidence of carcinogenicity from human or animal studies, or both.

TABLE 6.2

CANCER TOXICITY DATA -- INHALATION

Site 83, MCAS Cherry Point

Chemical of Potential Concern	Unit Risk		Weight of Evidence/ Cancer Guideline Description	Unit Risk	
	Value	Units		Source(s)	Date(s) (MM/DD/YYYY)
Heptachlor	1.3E-03	$(ug/m^3)^{-1}$	B2	IRIS	3/3/2010
Heptachlor epoxide	2.6E-03	$(ug/m^3)^{-1}$	B2	IRIS	3/3/2010
4,4'-DDE	9.7E-05	$(ug/m^3)^{-1}$	B2	CalEPA (RSL)	5/25/2010
Dieldrin	4.6E-03	$(ug/m^3)^{-1}$	B2	IRIS	3/3/2010
4,4'-DDD	6.9E-05	$(ug/m^3)^{-1}$	B2	CalEPA (RSL)	5/25/2010
4,4'-DDT	9.7E-05	$(ug/m^3)^{-1}$	B2	IRIS	3/3/2010
Chlordane	1.0E-04	$(ug/m^3)^{-1}$	B2	IRIS	3/3/2010
Benzo(a)anthracene	1.1E-04	$(ug/m^3)^{-1}$	2A	CalEPA (RSL)	5/25/2010
Benzo(a)pyrene	1.1E-03	$(ug/m^3)^{-1}$	2A	CalEPA (RSL)	5/25/2010
Benzo(b)fluoranthene	1.1E-04	$(ug/m^3)^{-1}$	2B	CalEPA (RSL)	5/25/2010
Dibenz(a,h)anthracene	1.2E-03	$(ug/m^3)^{-1}$	B2	CalEPA (RSL)	5/25/2010
Indeno(1,2,3-cd)pyrene	1.1E-04	$(ug/m^3)^{-1}$	B2	CalEPA (RSL)	5/25/2010

Definitions:

CalEPA = California Environmental Protection Agency

IRIS = Integrated Risk Information System

NA = Not available/not applicable

RSL = As cited in EPA Regional Screening Level Table (December 22, 2009)

Weight of Evidence definitions:

Group A chemicals (known human carcinogens) are agents for which there is sufficient evidence to support the causal association between exposure to the agents in h

Group B1 chemicals (probable human carcinogens) are agents for which there is limited evidence of possible carcinogenicity in humans.

Group B2 chemicals (probable human carcinogens) are agents for which there is sufficient evidence of carcinogenicity in animals but inadequate or a lack of evidence

Group C chemicals (possible human carcinogens) are agents for which there is limited evidence of carcinogenicity in animals and inadequate or a lack of human data.

Group D chemicals (not classifiable as to human carcinogenicity) are agents with inadequate human and animal evidence of carcinogenicity or for which no data are a

Group E chemicals (evidence of noncarcinogenicity in humans) are agents for which there is no evidence of carcinogenicity from human or animal studies, or both.

TABLE 7.1.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Ingestion	Heptachlor	8.1E-01	mg/kg	2.8E-07	mg/kg/day	4.5E+00	1/mg/kg-day	1.3E-06	7.9E-07	mg/kg/day	5.0E-04	mg/kg/day	1.6E-03
				4,4'-DDE	5.3E-01	mg/kg	1.9E-07	mg/kg/day	3.4E-01	1/mg/kg-day	6.3E-08	5.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	6.6E-08	mg/kg/day	1.6E+01	1/mg/kg-day	1.1E-06	1.8E-07	mg/kg/day	5.0E-05	mg/kg/day	3.7E-03
				4,4'-DDD	6.7E-01	mg/kg	2.3E-07	mg/kg/day	2.4E-01	1/mg/kg-day	5.6E-08	6.5E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	1.2E-06	mg/kg/day	3.4E-01	1/mg/kg-day	3.9E-07	3.3E-06	mg/kg/day	5.0E-04	mg/kg/day	6.5E-03
				Chlordane	3.3E+01	mg/kg	1.2E-05	mg/kg/day	3.5E-01	1/mg/kg-day	4.1E-06	3.3E-05	mg/kg/day	5.0E-04	mg/kg/day	6.5E-02
				Benzo(a)anthracene	1.2E+00	mg/kg	4.0E-07	mg/kg/day	7.3E-01	1/mg/kg-day	2.9E-07	1.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	3.0E-06	mg/kg/day	7.3E+00	1/mg/kg-day	2.2E-05	8.3E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	3.6E-06	mg/kg/day	7.3E-01	1/mg/kg-day	2.6E-06	1.0E-05	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	2.5E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-06	7.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	2.8E-06	mg/kg/day	7.3E-01	1/mg/kg-day	2.1E-06	7.9E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								3.5E-05					7.7E-02
			Dermal Absorption[1]	Heptachlor	8.1E-01	mg/kg	1.9E-07	mg/kg/day	4.5E+00	1/mg/kg-day	8.4E-07	5.2E-07	mg/kg/day	5.0E-04	mg/kg/day	1.0E-03
				4,4'-DDE	5.3E-01	mg/kg	1.2E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.2E-08	3.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	4.4E-08	mg/kg/day	1.6E+01	1/mg/kg-day	7.0E-07	1.2E-07	mg/kg/day	5.0E-05	mg/kg/day	2.4E-03
				4,4'-DDD	6.7E-01	mg/kg	1.5E-07	mg/kg/day	2.4E-01	1/mg/kg-day	3.7E-08	4.3E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	2.3E-07	mg/kg/day	3.4E-01	1/mg/kg-day	7.8E-08	6.4E-07	mg/kg/day	5.0E-04	mg/kg/day	1.3E-03
				Chlordane	3.3E+01	mg/kg	3.1E-06	mg/kg/day	3.5E-01	1/mg/kg-day	1.1E-06	8.6E-06	mg/kg/day	5.0E-04	mg/kg/day	1.7E-02
				Benzo(a)anthracene	1.2E+00	mg/kg	3.5E-07	mg/kg/day	7.3E-01	1/mg/kg-day	2.5E-07	9.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	2.5E-06	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-05	7.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	3.1E-06	mg/kg/day	7.3E-01	1/mg/kg-day	2.3E-06	8.6E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	2.2E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.6E-06	6.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	2.4E-06	mg/kg/day	7.3E-01	1/mg/kg-day	1.8E-06	6.8E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.7E-05					2.2E-02
		Exposure Point Total									6.3E-05					9.9E-02
	Exposure Medium Total										6.3E-05					9.9E-02
Surface Soil Total											6.3E-05					9.9E-02
										Total of Receptor Risks Across All Media	6.3E-05				Total of Receptor Hazards Across All Media	9.9E-02

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.2.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Ingestion	Heptachlor	8.1E-01	mg/kg	5.9E-08	mg/kg/day	4.5E+00	1/mg/kg-day	2.7E-07	1.7E-07	mg/kg/day	5.0E-04	mg/kg/day	3.3E-04
				4,4'-DDE	5.3E-01	mg/kg	3.9E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.3E-08	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	1.4E-08	mg/kg/day	1.6E+01	1/mg/kg-day	2.2E-07	3.8E-08	mg/kg/day	5.0E-05	mg/kg/day	7.7E-04
				4,4'-DDD	6.7E-01	mg/kg	4.9E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.2E-08	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	2.4E-07	mg/kg/day	3.4E-01	1/mg/kg-day	8.2E-08	6.8E-07	mg/kg/day	5.0E-04	mg/kg/day	1.4E-03
				Chlordane	3.3E+01	mg/kg	2.4E-06	mg/kg/day	3.5E-01	1/mg/kg-day	8.5E-07	6.8E-06	mg/kg/day	5.0E-04	mg/kg/day	1.4E-02
				Benzo(a)anthracene	1.2E+00	mg/kg	8.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	6.1E-08	2.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	6.2E-07	mg/kg/day	7.3E+00	1/mg/kg-day	4.5E-06	1.7E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	7.5E-07	mg/kg/day	7.3E-01	1/mg/kg-day	5.5E-07	2.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	5.3E-08	mg/kg/day	7.3E+00	1/mg/kg-day	3.9E-07	1.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	5.9E-07	mg/kg/day	7.3E-01	1/mg/kg-day	4.3E-07	1.6E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								7.4E-06					1.6E-02
			Dermal Absorption[1]	Heptachlor	8.1E-01	mg/kg	3.9E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.8E-07	1.1E-07	mg/kg/day	5.0E-04	mg/kg/day	2.2E-04
				4,4'-DDE	5.3E-01	mg/kg	2.6E-08	mg/kg/day	3.4E-01	1/mg/kg-day	8.7E-09	7.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	9.1E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.5E-07	2.5E-08	mg/kg/day	5.0E-05	mg/kg/day	5.1E-04
				4,4'-DDD	6.7E-01	mg/kg	3.2E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.7E-09	9.0E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	4.8E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.6E-08	1.3E-07	mg/kg/day	5.0E-04	mg/kg/day	2.7E-04
				Chlordane	3.3E+01	mg/kg	6.4E-07	mg/kg/day	3.5E-01	1/mg/kg-day	2.2E-07	1.8E-06	mg/kg/day	5.0E-04	mg/kg/day	3.6E-03
				Benzo(a)anthracene	1.2E+00	mg/kg	7.2E-08	mg/kg/day	7.3E-01	1/mg/kg-day	5.3E-08	2.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	5.3E-07	mg/kg/day	7.3E+00	1/mg/kg-day	3.9E-06	1.5E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	6.4E-07	mg/kg/day	7.3E-01	1/mg/kg-day	4.7E-07	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	4.5E-08	mg/kg/day	7.3E+00	1/mg/kg-day	3.3E-07	1.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	5.0E-07	mg/kg/day	7.3E-01	1/mg/kg-day	3.7E-07	1.4E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								5.7E-06					4.6E-03
		Exposure Point Total									1.3E-05					2.1E-02
	Exposure Medium Total										1.3E-05					2.1E-02
Surface Soil Total											1.3E-05					2.1E-02
										Total of Receptor Risks Across All Media	1.3E-05				Total of Receptor Hazards Across All Media	2.1E-02

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.3.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Ingestion	Heptachlor	8.1E-01	mg/kg	5.7E-08	mg/kg/day	4.5E+00	1/mg/kg-day	2.5E-07	1.7E-07	mg/kg/day	5.0E-04	mg/kg/day	3.3E-04
				4,4'-DDE	5.3E-01	mg/kg	3.7E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.3E-08	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	1.3E-08	mg/kg/day	1.6E+01	1/mg/kg-day	2.1E-07	3.8E-08	mg/kg/day	5.0E-05	mg/kg/day	7.7E-04
				4,4'-DDD	6.7E-01	mg/kg	4.7E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.1E-08	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	2.3E-07	mg/kg/day	3.4E-01	1/mg/kg-day	7.9E-08	6.8E-07	mg/kg/day	5.0E-04	mg/kg/day	1.4E-03
				Chlordane	3.3E+01	mg/kg	2.3E-06	mg/kg/day	3.5E-01	1/mg/kg-day	8.2E-07	6.8E-06	mg/kg/day	5.0E-04	mg/kg/day	1.4E-02
				Benzo(a)anthracene	1.2E+00	mg/kg	8.1E-08	mg/kg/day	7.3E-01	1/mg/kg-day	5.9E-08	2.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	5.9E-07	mg/kg/day	7.3E+00	1/mg/kg-day	4.3E-06	1.7E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	7.2E-07	mg/kg/day	7.3E-01	1/mg/kg-day	5.2E-07	2.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	5.1E-08	mg/kg/day	7.3E+00	1/mg/kg-day	3.7E-07	1.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	5.6E-07	mg/kg/day	7.3E-01	1/mg/kg-day	4.1E-07	1.6E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								7.1E-06					1.6E-02
			Dermal Absorption[1]	Heptachlor	8.1E-01	mg/kg	2.3E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.0E-07	6.6E-08	mg/kg/day	5.0E-04	mg/kg/day	1.3E-04
				4,4'-DDE	5.3E-01	mg/kg	1.5E-08	mg/kg/day	3.4E-01	1/mg/kg-day	5.0E-09	4.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	5.3E-09	mg/kg/day	1.6E+01	1/mg/kg-day	8.4E-08	1.5E-08	mg/kg/day	5.0E-05	mg/kg/day	3.1E-04
				4,4'-DDD	6.7E-01	mg/kg	1.9E-08	mg/kg/day	2.4E-01	1/mg/kg-day	4.5E-09	5.4E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	2.8E-08	mg/kg/day	3.4E-01	1/mg/kg-day	9.4E-09	8.1E-08	mg/kg/day	5.0E-04	mg/kg/day	1.6E-04
				Chlordane	3.3E+01	mg/kg	3.7E-07	mg/kg/day	3.5E-01	1/mg/kg-day	1.3E-07	1.1E-06	mg/kg/day	5.0E-04	mg/kg/day	2.2E-03
				Benzo(a)anthracene	1.2E+00	mg/kg	4.2E-08	mg/kg/day	7.3E-01	1/mg/kg-day	3.1E-08	1.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	3.1E-07	mg/kg/day	7.3E+00	1/mg/kg-day	2.2E-06	9.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	3.7E-07	mg/kg/day	7.3E-01	1/mg/kg-day	2.7E-07	1.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	2.6E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-07	7.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	2.9E-07	mg/kg/day	7.3E-01	1/mg/kg-day	2.1E-07	8.5E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								3.3E-06					2.8E-03
		Exposure Point Total									1.0E-05					1.9E-02
	Exposure Medium Total										1.0E-05					1.9E-02
Surface Soil Total											1.0E-05					1.9E-02
										Total of Receptor Risks Across All Media	1.0E-05				Total of Receptor Hazards Across All Media	1.9E-02

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.4.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Ingestion	Heptachlor	8.1E-01	mg/kg	3.7E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.7E-07	2.6E-07	mg/kg/day	5.0E-04	mg/kg/day	5.1E-04
				4,4'-DDE	5.3E-01	mg/kg	2.4E-08	mg/kg/day	3.4E-01	1/mg/kg-day	8.2E-09	1.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	8.5E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.4E-07	6.0E-08	mg/kg/day	5.0E-05	mg/kg/day	1.2E-03
				4,4'-DDD	6.7E-01	mg/kg	3.0E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.3E-09	2.1E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	1.5E-07	mg/kg/day	3.4E-01	1/mg/kg-day	5.1E-08	1.1E-06	mg/kg/day	5.0E-04	mg/kg/day	2.1E-03
				Chlordane	3.3E+01	mg/kg	1.5E-06	mg/kg/day	3.5E-01	1/mg/kg-day	5.3E-07	1.1E-05	mg/kg/day	5.0E-04	mg/kg/day	2.1E-02
				Benzo(a)anthracene	1.2E+00	mg/kg	5.2E-08	mg/kg/day	7.3E-01	1/mg/kg-day	3.8E-08	3.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	3.8E-07	mg/kg/day	7.3E+00	1/mg/kg-day	2.8E-06	2.7E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	4.6E-07	mg/kg/day	7.3E-01	1/mg/kg-day	3.4E-07	3.3E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	3.3E-08	mg/kg/day	7.3E+00	1/mg/kg-day	2.4E-07	2.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	3.7E-07	mg/kg/day	7.3E-01	1/mg/kg-day	2.7E-07	2.6E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								4.6E-06					2.5E-02
			Dermal Absorption[1]	Heptachlor	8.1E-01	mg/kg	1.5E-08	mg/kg/day	4.5E+00	1/mg/kg-day	6.9E-08	1.1E-07	mg/kg/day	5.0E-04	mg/kg/day	2.2E-04
				4,4'-DDE	5.3E-01	mg/kg	1.0E-08	mg/kg/day	3.4E-01	1/mg/kg-day	3.4E-09	7.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	3.6E-09	mg/kg/day	1.6E+01	1/mg/kg-day	5.7E-08	2.5E-08	mg/kg/day	5.0E-05	mg/kg/day	5.0E-04
				4,4'-DDD	6.7E-01	mg/kg	1.3E-08	mg/kg/day	2.4E-01	1/mg/kg-day	3.0E-09	8.9E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	1.9E-08	mg/kg/day	3.4E-01	1/mg/kg-day	6.4E-09	1.3E-07	mg/kg/day	5.0E-04	mg/kg/day	2.7E-04
				Chlordane	3.3E+01	mg/kg	2.5E-07	mg/kg/day	3.5E-01	1/mg/kg-day	8.9E-08	1.8E-06	mg/kg/day	5.0E-04	mg/kg/day	3.6E-03
				Benzo(a)anthracene	1.2E+00	mg/kg	2.9E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.1E-08	2.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	2.1E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.5E-06	1.5E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	2.5E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.9E-07	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	1.8E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.3E-07	1.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	2.0E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.5E-07	1.4E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.2E-06					4.5E-03
		Exposure Point Total									6.8E-06					3.0E-02
	Exposure Medium Total										6.8E-06					3.0E-02
Surface Soil Total											6.8E-06					3.0E-02
										Total of Receptor Risks Across All Media	6.8E-06				Total of Receptor Hazards Across All Media	3.0E-02

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.5.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Ingestion	Heptachlor	8.1E-01	mg/kg	1.3E-07	mg/kg/day	4.5E+00	1/mg/kg-day	5.9E-07	1.5E-06	mg/kg/day	5.0E-04	mg/kg/day	3.1E-03
				4,4'-DDE	5.3E-01	mg/kg	8.7E-08	mg/kg/day	3.4E-01	1/mg/kg-day	2.9E-08	1.0E-06	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	3.1E-08	mg/kg/day	1.6E+01	1/mg/kg-day	4.9E-07	3.6E-07	mg/kg/day	5.0E-05	mg/kg/day	7.2E-03
				4,4'-DDD	6.7E-01	mg/kg	1.1E-07	mg/kg/day	2.4E-01	1/mg/kg-day	2.6E-08	1.3E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	5.4E-07	mg/kg/day	3.4E-01	1/mg/kg-day	1.8E-07	6.3E-06	mg/kg/day	5.0E-04	mg/kg/day	1.3E-02
				Chlordane	3.3E+01	mg/kg	5.4E-06	mg/kg/day	3.5E-01	1/mg/kg-day	1.9E-06	6.4E-05	mg/kg/day	5.0E-04	mg/kg/day	1.3E-01
				Benzo(a)anthracene	1.2E+00	mg/kg	1.9E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.4E-07	2.2E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	1.4E-06	mg/kg/day	7.3E+00	1/mg/kg-day	1.0E-05	1.6E-05	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	1.7E-06	mg/kg/day	7.3E-01	1/mg/kg-day	1.2E-06	2.0E-05	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	1.2E-07	mg/kg/day	7.3E+00	1/mg/kg-day	8.7E-07	1.4E-06	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	1.3E-06	mg/kg/day	7.3E-01	1/mg/kg-day	9.6E-07	1.5E-05	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.7E-05					1.5E-01
			Dermal Absorption[1]	Heptachlor	8.1E-01	mg/kg	3.7E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.7E-07	4.3E-07	mg/kg/day	5.0E-04	mg/kg/day	8.6E-04
				4,4'-DDE	5.3E-01	mg/kg	2.4E-08	mg/kg/day	3.4E-01	1/mg/kg-day	8.2E-09	2.8E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.9E-01	mg/kg	8.6E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.4E-07	1.0E-07	mg/kg/day	5.0E-05	mg/kg/day	2.0E-03
				4,4'-DDD	6.7E-01	mg/kg	3.0E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.3E-09	3.6E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	3.3E+00	mg/kg	4.5E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.5E-08	5.3E-07	mg/kg/day	5.0E-04	mg/kg/day	1.1E-03
				Chlordane	3.3E+01	mg/kg	6.1E-07	mg/kg/day	3.5E-01	1/mg/kg-day	2.1E-07	7.1E-06	mg/kg/day	5.0E-04	mg/kg/day	1.4E-02
				Benzo(a)anthracene	1.2E+00	mg/kg	6.9E-08	mg/kg/day	7.3E-01	1/mg/kg-day	5.0E-08	8.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	8.5E+00	mg/kg	5.0E-07	mg/kg/day	7.3E+00	1/mg/kg-day	3.7E-06	5.9E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.0E+01	mg/kg	6.1E-07	mg/kg/day	7.3E-01	1/mg/kg-day	4.4E-07	7.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	7.3E-01	mg/kg	4.3E-08	mg/kg/day	7.3E+00	1/mg/kg-day	3.1E-07	5.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	8.1E+00	mg/kg	4.8E-07	mg/kg/day	7.3E-01	1/mg/kg-day	3.5E-07	5.6E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								5.4E-06					1.8E-02
		Exposure Point Total									2.2E-05					1.7E-01
	Exposure Medium Total										2.2E-05					1.7E-01
Surface Soil Total											2.2E-05					1.7E-01
										Total of Receptor Risks Across All Media	2.2E-05				Total of Receptor Hazards Across All Media	1.7E-01

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.6.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	1.2E-07	mg/kg/day	4.5E+00	1/mg/kg-day	5.6E-07	3.5E-07	mg/kg/day	5.0E-04	mg/kg/day	6.9E-04
				4,4'-DDE	2.2E-01	mg/kg	7.6E-08	mg/kg/day	3.4E-01	1/mg/kg-day	2.6E-08	2.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	4.2E-08	mg/kg/day	1.6E+01	1/mg/kg-day	6.7E-07	1.2E-07	mg/kg/day	5.0E-05	mg/kg/day	2.3E-03
				4,4'-DDD	4.2E-01	mg/kg	1.5E-07	mg/kg/day	2.4E-01	1/mg/kg-day	3.5E-08	4.1E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	7.2E-07	mg/kg/day	3.4E-01	1/mg/kg-day	2.4E-07	2.0E-06	mg/kg/day	5.0E-04	mg/kg/day	4.0E-03
				Chlordane	2.1E+01	mg/kg	7.5E-06	mg/kg/day	3.5E-01	1/mg/kg-day	2.6E-06	2.1E-05	mg/kg/day	5.0E-04	mg/kg/day	4.2E-02
				Benzo(a)anthracene	5.3E-01	mg/kg	1.8E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.3E-07	5.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	7.5E-07	mg/kg/day	7.3E+00	1/mg/kg-day	5.5E-06	2.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	9.1E-07	mg/kg/day	7.3E-01	1/mg/kg-day	6.6E-07	2.5E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	1.3E-07	mg/kg/day	7.3E+00	1/mg/kg-day	9.8E-07	3.8E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	7.1E-07	mg/kg/day	7.3E-01	1/mg/kg-day	5.2E-07	2.0E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.2E-05					4.9E-02
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	8.2E-08	mg/kg/day	4.5E+00	1/mg/kg-day	3.7E-07	2.3E-07	mg/kg/day	5.0E-04	mg/kg/day	4.6E-04
				4,4'-DDE	2.2E-01	mg/kg	5.0E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.7E-08	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	2.8E-08	mg/kg/day	1.6E+01	1/mg/kg-day	4.4E-07	7.7E-08	mg/kg/day	5.0E-05	mg/kg/day	1.5E-03
				4,4'-DDD	4.2E-01	mg/kg	9.6E-08	mg/kg/day	2.4E-01	1/mg/kg-day	2.3E-08	2.7E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	1.4E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.8E-08	4.0E-07	mg/kg/day	5.0E-04	mg/kg/day	8.0E-04
				Chlordane	2.1E+01	mg/kg	2.0E-06	mg/kg/day	3.5E-01	1/mg/kg-day	6.9E-07	5.6E-06	mg/kg/day	5.0E-04	mg/kg/day	1.1E-02
				Benzo(a)anthracene	5.3E-01	mg/kg	1.6E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.2E-07	4.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	6.4E-07	mg/kg/day	7.3E+00	1/mg/kg-day	4.7E-06	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	7.8E-07	mg/kg/day	7.3E-01	1/mg/kg-day	5.7E-07	2.2E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	1.2E-07	mg/kg/day	7.3E+00	1/mg/kg-day	8.4E-07	3.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	6.1E-07	mg/kg/day	7.3E-01	1/mg/kg-day	4.4E-07	1.7E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								8.3E-06					1.4E-02
		Exposure Point Total									2.0E-05					6.3E-02
	Exposure Medium Total										2.0E-05					6.3E-02
Soil* Total											2.0E-05					6.3E-02
										Total of Receptor Risks Across All Media	2.0E-05				Total of Receptor Hazards Across All Media	6.3E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.7.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	2.6E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.2E-07	7.2E-08	mg/kg/day	5.0E-04	mg/kg/day	1.4E-04
				4,4'-DDE	2.2E-01	mg/kg	1.6E-08	mg/kg/day	3.4E-01	1/mg/kg-day	5.4E-09	4.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	8.7E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.4E-07	2.4E-08	mg/kg/day	5.0E-05	mg/kg/day	4.9E-04
				4,4'-DDD	4.2E-01	mg/kg	3.0E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.3E-09	8.5E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	1.5E-07	mg/kg/day	3.4E-01	1/mg/kg-day	5.1E-08	4.2E-07	mg/kg/day	5.0E-04	mg/kg/day	8.4E-04
				Chlordane	2.1E+01	mg/kg	1.6E-06	mg/kg/day	3.5E-01	1/mg/kg-day	5.5E-07	4.4E-06	mg/kg/day	5.0E-04	mg/kg/day	8.7E-03
				Benzo(a)anthracene	5.3E-01	mg/kg	3.8E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.8E-08	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.6E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.1E-06	4.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	1.9E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.4E-07	5.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	2.8E-08	mg/kg/day	7.3E+00	1/mg/kg-day	2.0E-07	7.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	1.5E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.1E-07	4.1E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.5E-06					1.0E-02
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	1.7E-08	mg/kg/day	4.5E+00	1/mg/kg-day	7.6E-08	4.8E-08	mg/kg/day	5.0E-04	mg/kg/day	9.5E-05
				4,4'-DDE	2.2E-01	mg/kg	1.0E-08	mg/kg/day	3.4E-01	1/mg/kg-day	3.6E-09	2.9E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	5.8E-09	mg/kg/day	1.6E+01	1/mg/kg-day	9.2E-08	1.6E-08	mg/kg/day	5.0E-05	mg/kg/day	3.2E-04
				4,4'-DDD	4.2E-01	mg/kg	2.0E-08	mg/kg/day	2.4E-01	1/mg/kg-day	4.8E-09	5.6E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	3.0E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.0E-08	8.3E-08	mg/kg/day	5.0E-04	mg/kg/day	1.7E-04
				Chlordane	2.1E+01	mg/kg	4.1E-07	mg/kg/day	3.5E-01	1/mg/kg-day	1.4E-07	1.2E-06	mg/kg/day	5.0E-04	mg/kg/day	2.3E-03
				Benzo(a)anthracene	5.3E-01	mg/kg	3.3E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.4E-08	9.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.3E-07	mg/kg/day	7.3E+00	1/mg/kg-day	9.7E-07	3.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	1.6E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.2E-07	4.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	2.4E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.8E-07	6.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	1.3E-07	mg/kg/day	7.3E-01	1/mg/kg-day	9.2E-08	3.5E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.7E-06					2.9E-03
		Exposure Point Total									4.2E-06					1.3E-02
	Exposure Medium Total										4.2E-06					1.3E-02
Soil* Total											4.2E-06					1.3E-02
										Total of Receptor Risks Across All Media	4.2E-06				Total of Receptor Hazards Across All Media	1.3E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.8.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	2.5E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.1E-07	7.2E-08	mg/kg/day	5.0E-04	mg/kg/day	1.4E-04
				4,4'-DDE	2.2E-01	mg/kg	1.5E-08	mg/kg/day	3.4E-01	1/mg/kg-day	5.2E-09	4.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	8.4E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.3E-07	2.4E-08	mg/kg/day	5.0E-05	mg/kg/day	4.9E-04
				4,4'-DDD	4.2E-01	mg/kg	2.9E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.0E-09	8.5E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	1.4E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.9E-08	4.2E-07	mg/kg/day	5.0E-04	mg/kg/day	8.4E-04
				Chlordane	2.1E+01	mg/kg	1.5E-06	mg/kg/day	3.5E-01	1/mg/kg-day	5.2E-07	4.4E-06	mg/kg/day	5.0E-04	mg/kg/day	8.7E-03
				Benzo(a)anthracene	5.3E-01	mg/kg	3.7E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.7E-08	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.5E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.1E-06	4.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	1.8E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.3E-07	5.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	2.7E-08	mg/kg/day	7.3E+00	1/mg/kg-day	2.0E-07	7.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	1.4E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.0E-07	4.1E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.4E-06					1.0E-02
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	9.9E-09	mg/kg/day	4.5E+00	1/mg/kg-day	4.4E-08	2.9E-08	mg/kg/day	5.0E-04	mg/kg/day	5.7E-05
				4,4'-DDE	2.2E-01	mg/kg	6.1E-09	mg/kg/day	3.4E-01	1/mg/kg-day	2.1E-09	1.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	3.3E-09	mg/kg/day	1.6E+01	1/mg/kg-day	5.3E-08	9.7E-09	mg/kg/day	5.0E-05	mg/kg/day	1.9E-04
				4,4'-DDD	4.2E-01	mg/kg	1.2E-08	mg/kg/day	2.4E-01	1/mg/kg-day	2.8E-09	3.4E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	1.7E-08	mg/kg/day	3.4E-01	1/mg/kg-day	5.9E-09	5.0E-08	mg/kg/day	5.0E-04	mg/kg/day	1.0E-04
				Chlordane	2.1E+01	mg/kg	2.4E-07	mg/kg/day	3.5E-01	1/mg/kg-day	8.4E-08	7.0E-07	mg/kg/day	5.0E-04	mg/kg/day	1.4E-03
				Benzo(a)anthracene	5.3E-01	mg/kg	1.9E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.4E-08	5.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	7.7E-08	mg/kg/day	7.3E+00	1/mg/kg-day	5.7E-07	2.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	9.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	6.9E-08	2.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	1.4E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.0E-07	4.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	7.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	5.4E-08	2.1E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.0E-06					1.7E-03
		Exposure Point Total									3.4E-06					1.2E-02
	Exposure Medium Total										3.4E-06					1.2E-02
Soil* Total											3.4E-06					1.2E-02
										Total of Receptor Risks Across All Media	3.4E-06				Total of Receptor Hazards Across All Media	1.2E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.9.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	1.6E-08	mg/kg/day	4.5E+00	1/mg/kg-day	7.2E-08	1.1E-07	mg/kg/day	5.0E-04	mg/kg/day	2.2E-04
				4,4'-DDE	2.2E-01	mg/kg	9.9E-09	mg/kg/day	3.4E-01	1/mg/kg-day	3.4E-09	6.9E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	5.4E-09	mg/kg/day	1.6E+01	1/mg/kg-day	8.7E-08	3.8E-08	mg/kg/day	5.0E-05	mg/kg/day	7.6E-04
				4,4'-DDD	4.2E-01	mg/kg	1.9E-08	mg/kg/day	2.4E-01	1/mg/kg-day	4.5E-09	1.3E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	9.3E-08	mg/kg/day	3.4E-01	1/mg/kg-day	3.2E-08	6.5E-07	mg/kg/day	5.0E-04	mg/kg/day	1.3E-03
				Chlordane	2.1E+01	mg/kg	9.7E-07	mg/kg/day	3.5E-01	1/mg/kg-day	3.4E-07	6.8E-06	mg/kg/day	5.0E-04	mg/kg/day	1.4E-02
				Benzo(a)anthracene	5.3E-01	mg/kg	2.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.7E-08	1.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	9.7E-08	mg/kg/day	7.3E+00	1/mg/kg-day	7.1E-07	6.8E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	1.2E-07	mg/kg/day	7.3E-01	1/mg/kg-day	8.6E-08	8.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	1.7E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.3E-07	1.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	9.2E-08	mg/kg/day	7.3E-01	1/mg/kg-day	6.7E-08	6.4E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.5E-06					1.6E-02
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	6.7E-09	mg/kg/day	4.5E+00	1/mg/kg-day	3.0E-08	4.7E-08	mg/kg/day	5.0E-04	mg/kg/day	9.4E-05
				4,4'-DDE	2.2E-01	mg/kg	4.1E-09	mg/kg/day	3.4E-01	1/mg/kg-day	1.4E-09	2.9E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	2.3E-09	mg/kg/day	1.6E+01	1/mg/kg-day	3.6E-08	1.6E-08	mg/kg/day	5.0E-05	mg/kg/day	3.2E-04
				4,4'-DDD	4.2E-01	mg/kg	7.9E-09	mg/kg/day	2.4E-01	1/mg/kg-day	1.9E-09	5.5E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	1.2E-08	mg/kg/day	3.4E-01	1/mg/kg-day	4.0E-09	8.2E-08	mg/kg/day	5.0E-04	mg/kg/day	1.6E-04
				Chlordane	2.1E+01	mg/kg	1.6E-07	mg/kg/day	3.5E-01	1/mg/kg-day	5.7E-08	1.1E-06	mg/kg/day	5.0E-04	mg/kg/day	2.3E-03
				Benzo(a)anthracene	5.3E-01	mg/kg	1.3E-08	mg/kg/day	7.3E-01	1/mg/kg-day	9.5E-09	9.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	5.3E-08	mg/kg/day	7.3E+00	1/mg/kg-day	3.9E-07	3.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	6.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	4.7E-08	4.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	9.5E-09	mg/kg/day	7.3E+00	1/mg/kg-day	6.9E-08	6.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	5.0E-08	mg/kg/day	7.3E-01	1/mg/kg-day	3.7E-08	3.5E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								6.8E-07					2.9E-03
		Exposure Point Total									2.2E-06					1.9E-02
	Exposure Medium Total										2.2E-06					1.9E-02
Soil* Total											2.2E-06					1.9E-02
										Total of Receptor Risks Across All Media	2.2E-06				Total of Receptor Hazards Across All Media	1.9E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.10.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	5.8E-08	mg/kg/day	4.5E+00	1/mg/kg-day	2.6E-07	6.7E-07	mg/kg/day	5.0E-04	mg/kg/day	1.3E-03
				4,4'-DDE	2.2E-01	mg/kg	3.5E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.2E-08	4.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	2.0E-08	mg/kg/day	1.6E+01	1/mg/kg-day	3.1E-07	2.3E-07	mg/kg/day	5.0E-05	mg/kg/day	4.6E-03
				4,4'-DDD	4.2E-01	mg/kg	6.8E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.6E-08	7.9E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	3.4E-07	mg/kg/day	3.4E-01	1/mg/kg-day	1.1E-07	3.9E-06	mg/kg/day	5.0E-04	mg/kg/day	7.8E-03
				Chlordane	2.1E+01	mg/kg	3.5E-06	mg/kg/day	3.5E-01	1/mg/kg-day	1.2E-06	4.1E-05	mg/kg/day	5.0E-04	mg/kg/day	8.2E-02
				Benzo(a)anthracene	5.3E-01	mg/kg	8.6E-08	mg/kg/day	7.3E-01	1/mg/kg-day	6.3E-08	1.0E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	3.5E-07	mg/kg/day	7.3E+00	1/mg/kg-day	2.5E-06	4.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	4.2E-07	mg/kg/day	7.3E-01	1/mg/kg-day	3.1E-07	4.9E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	6.3E-08	mg/kg/day	7.3E+00	1/mg/kg-day	4.6E-07	7.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	3.3E-07	mg/kg/day	7.3E-01	1/mg/kg-day	2.4E-07	3.9E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								5.6E-06					9.5E-02
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	1.6E-08	mg/kg/day	4.5E+00	1/mg/kg-day	7.3E-08	1.9E-07	mg/kg/day	5.0E-04	mg/kg/day	3.8E-04
				4,4'-DDE	2.2E-01	mg/kg	9.9E-09	mg/kg/day	3.4E-01	1/mg/kg-day	3.4E-09	1.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	5.5E-09	mg/kg/day	1.6E+01	1/mg/kg-day	8.8E-08	6.4E-08	mg/kg/day	5.0E-05	mg/kg/day	1.3E-03
				4,4'-DDD	4.2E-01	mg/kg	1.9E-08	mg/kg/day	2.4E-01	1/mg/kg-day	4.6E-09	2.2E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	2.8E-08	mg/kg/day	3.4E-01	1/mg/kg-day	9.6E-09	3.3E-07	mg/kg/day	5.0E-04	mg/kg/day	6.6E-04
				Chlordane	2.1E+01	mg/kg	3.9E-07	mg/kg/day	3.5E-01	1/mg/kg-day	1.4E-07	4.6E-06	mg/kg/day	5.0E-04	mg/kg/day	9.1E-03
				Benzo(a)anthracene	5.3E-01	mg/kg	3.1E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.3E-08	3.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.3E-07	mg/kg/day	7.3E+00	1/mg/kg-day	9.3E-07	1.5E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	1.5E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.1E-07	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	2.3E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.7E-07	2.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	1.2E-07	mg/kg/day	7.3E-01	1/mg/kg-day	8.8E-08	1.4E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.6E-06					1.1E-02
		Exposure Point Total									7.2E-06					1.1E-01
	Exposure Medium Total										7.2E-06					1.1E-01
Soil* Total											7.2E-06					1.1E-01
										Total of Receptor Risks Across All Media	7.2E-06				Total of Receptor Hazards Across All Media	1.1E-01

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.11.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	2.4E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.1E-07	1.7E-06	mg/kg/day	5.0E-04	mg/kg/day	3.3E-03
				4,4'-DDE	2.2E-01	mg/kg	1.5E-08	mg/kg/day	3.4E-01	1/mg/kg-day	5.0E-09	1.0E-06	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	8.1E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.3E-07	5.6E-07	mg/kg/day	5.0E-05	mg/kg/day	1.1E-02
				4,4'-DDD	4.2E-01	mg/kg	2.8E-08	mg/kg/day	2.4E-01	1/mg/kg-day	6.7E-09	2.0E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	1.4E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.7E-08	9.7E-06	mg/kg/day	5.0E-04	mg/kg/day	1.9E-02
				Chlordane	2.1E+01	mg/kg	1.4E-06	mg/kg/day	3.5E-01	1/mg/kg-day	5.0E-07	1.0E-04	mg/kg/day	5.0E-04	mg/kg/day	2.0E-01
				Benzo(a)anthracene	5.3E-01	mg/kg	3.5E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.6E-08	2.5E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.4E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.0E-06	1.0E-05	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	1.7E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.3E-07	1.2E-05	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	2.6E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-07	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	1.4E-07	mg/kg/day	7.3E-01	1/mg/kg-day	9.9E-08	9.5E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.3E-06					2.4E-01
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	3.3E-09	mg/kg/day	4.5E+00	1/mg/kg-day	1.5E-08	2.3E-07	mg/kg/day	5.0E-04	mg/kg/day	4.6E-04
				4,4'-DDE	2.2E-01	mg/kg	2.0E-09	mg/kg/day	3.4E-01	1/mg/kg-day	6.8E-10	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	1.1E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.8E-08	7.7E-08	mg/kg/day	5.0E-05	mg/kg/day	1.5E-03
				4,4'-DDD	4.2E-01	mg/kg	3.8E-09	mg/kg/day	2.4E-01	1/mg/kg-day	9.2E-10	2.7E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	5.7E-09	mg/kg/day	3.4E-01	1/mg/kg-day	1.9E-09	4.0E-07	mg/kg/day	5.0E-04	mg/kg/day	8.0E-04
				Chlordane	2.1E+01	mg/kg	7.9E-08	mg/kg/day	3.5E-01	1/mg/kg-day	2.8E-08	5.6E-06	mg/kg/day	5.0E-04	mg/kg/day	1.1E-02
				Benzo(a)anthracene	5.3E-01	mg/kg	6.3E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.6E-09	4.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	2.6E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-07	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	3.1E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.3E-08	2.2E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	4.6E-09	mg/kg/day	7.3E+00	1/mg/kg-day	3.4E-08	3.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	2.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.8E-08	1.7E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								3.3E-07					1.4E-02
		Exposure Point Total									2.6E-06					2.5E-01
	Exposure Medium Total										2.6E-06					2.5E-01
Soil* Total											2.6E-06					2.5E-01
										Total of Receptor Risks Across All Media	2.6E-06				Total of Receptor Hazards Across All Media	2.5E-01

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.12.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	NA		NA		NA	4.8E-07	mg/kg/day	5.0E-04	mg/kg/day	9.7E-04
				4,4'-DDE	2.2E-01	mg/kg	NA		NA		NA	3.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	NA		NA		NA	1.6E-07	mg/kg/day	5.0E-05	mg/kg/day	3.3E-03
				4,4'-DDD	4.2E-01	mg/kg	NA		NA		NA	5.7E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	NA		NA		NA	2.8E-06	mg/kg/day	5.0E-04	mg/kg/day	5.6E-03
				Chlordane	2.1E+01	mg/kg	NA		NA		NA	2.9E-05	mg/kg/day	5.0E-04	mg/kg/day	5.9E-02
				Benzo(a)anthracene	5.3E-01	mg/kg	NA		NA		NA	7.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	NA		NA		NA	2.9E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	NA		NA		NA	3.6E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	NA		NA		NA	5.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	NA		NA		NA	2.8E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					6.9E-02
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	NA		NA		NA	1.9E-07	mg/kg/day	5.0E-04	mg/kg/day	3.9E-04
				4,4'-DDE	2.2E-01	mg/kg	NA		NA		NA	1.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	NA		NA		NA	6.6E-08	mg/kg/day	5.0E-05	mg/kg/day	1.3E-03
				4,4'-DDD	4.2E-01	mg/kg	NA		NA		NA	2.3E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	NA		NA		NA	3.4E-07	mg/kg/day	5.0E-04	mg/kg/day	6.8E-04
				Chlordane	2.1E+01	mg/kg	NA		NA		NA	4.7E-06	mg/kg/day	5.0E-04	mg/kg/day	9.4E-03
				Benzo(a)anthracene	5.3E-01	mg/kg	NA		NA		NA	3.8E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	NA		NA		NA	1.5E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	NA		NA		NA	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	NA		NA		NA	2.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	NA		NA		NA	1.4E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					1.2E-02
		Exposure Point Total									0.0E+00					8.1E-02
	Exposure Medium Total										0.0E+00					8.1E-02
Soil* Total											0.0E+00					8.1E-02
										Total of Receptor Risks Across All Media	0.0E+00			Total of Receptor Hazards Across All Media		8.1E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.13.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	NA		NA		NA	4.5E-06	mg/kg/day	5.0E-04	mg/kg/day	9.1E-03
				4,4'-DDE	2.2E-01	mg/kg	NA		NA		NA	2.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	NA		NA		NA	1.5E-06	mg/kg/day	5.0E-05	mg/kg/day	3.1E-02
				4,4'-DDD	4.2E-01	mg/kg	NA		NA		NA	5.3E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	NA		NA		NA	2.6E-05	mg/kg/day	5.0E-04	mg/kg/day	5.3E-02
				Chlordane	2.1E+01	mg/kg	NA		NA		NA	2.7E-04	mg/kg/day	5.0E-04	mg/kg/day	5.5E-01
				Benzo(a)anthracene	5.3E-01	mg/kg	NA		NA		NA	6.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	NA		NA		NA	2.7E-05	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	NA		NA		NA	3.3E-05	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	NA		NA		NA	4.9E-06	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	NA		NA		NA	2.6E-05	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					6.4E-01
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	NA		NA		NA	1.3E-06	mg/kg/day	5.0E-04	mg/kg/day	2.5E-03
				4,4'-DDE	2.2E-01	mg/kg	NA		NA		NA	7.8E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.2E-01	mg/kg	NA		NA		NA	4.3E-07	mg/kg/day	5.0E-05	mg/kg/day	8.6E-03
				4,4'-DDD	4.2E-01	mg/kg	NA		NA		NA	1.5E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	2.1E+00	mg/kg	NA		NA		NA	2.2E-06	mg/kg/day	5.0E-04	mg/kg/day	4.4E-03
				Chlordane	2.1E+01	mg/kg	NA		NA		NA	3.1E-05	mg/kg/day	5.0E-04	mg/kg/day	6.2E-02
				Benzo(a)anthracene	5.3E-01	mg/kg	NA		NA		NA	2.5E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	2.1E+00	mg/kg	NA		NA		NA	1.0E-05	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	NA		NA		NA	1.2E-05	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	NA		NA		NA	1.8E-06	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	NA		NA		NA	9.5E-06	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					7.7E-02
		Exposure Point Total									0.0E+00					7.2E-01
	Exposure Medium Total										0.0E+00					7.2E-01
Soil* Total											0.0E+00					7.2E-01
										Total of Receptor Risks Across All Media	0.0E+00			Total of Receptor Hazards Across All Media		7.2E-01

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.14.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Upland Area)	Ingestion	Heptachlor	3.5E-01	mg/kg	5.5E-07	mg/kg/day	4.5E+00	1/mg/kg-day	2.5E-06	NA		NA		NA
				4,4'-DDE	2.2E-01	mg/kg	3.4E-07	mg/kg/day	3.4E-01	1/mg/kg-day	1.2E-07	NA		NA		NA
				Dieldrin	1.2E-01	mg/kg	1.9E-07	mg/kg/day	1.6E+01	1/mg/kg-day	3.0E-06	NA		NA		NA
				4,4'-DDD	4.2E-01	mg/kg	6.5E-07	mg/kg/day	2.4E-01	1/mg/kg-day	1.6E-07	NA		NA		NA
				4,4'-DDT	2.1E+00	mg/kg	3.2E-06	mg/kg/day	3.4E-01	1/mg/kg-day	1.1E-06	NA		NA		NA
				Chlordane	2.1E+01	mg/kg	3.4E-05	mg/kg/day	3.5E-01	1/mg/kg-day	1.2E-05	NA		NA		NA
				Benzo(a)anthracene	5.3E-01	mg/kg	8.3E-07	mg/kg/day	7.3E-01	1/mg/kg-day	6.0E-07	NA		NA		NA
				Benzo(a)pyrene	2.1E+00	mg/kg	3.4E-06	mg/kg/day	7.3E+00	1/mg/kg-day	2.4E-05	NA		NA		NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	4.1E-06	mg/kg/day	7.3E-01	1/mg/kg-day	3.0E-06	NA		NA		NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	6.0E-07	mg/kg/day	7.3E+00	1/mg/kg-day	4.4E-06	NA		NA		NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	3.2E-06	mg/kg/day	7.3E-01	1/mg/kg-day	2.3E-06	NA		NA		NA
			Exp. Route Total								5.3E-05					0.0E+00
			Dermal Absorption[1]	Heptachlor	3.5E-01	mg/kg	1.8E-07	mg/kg/day	4.5E+00	1/mg/kg-day	7.9E-07	NA		NA		NA
				4,4'-DDE	2.2E-01	mg/kg	1.1E-07	mg/kg/day	3.4E-01	1/mg/kg-day	3.7E-08	NA		NA		NA
				Dieldrin	1.2E-01	mg/kg	5.9E-08	mg/kg/day	1.6E+01	1/mg/kg-day	9.5E-07	NA		NA		NA
				4,4'-DDD	4.2E-01	mg/kg	2.1E-07	mg/kg/day	2.4E-01	1/mg/kg-day	4.9E-08	NA		NA		NA
				4,4'-DDT	2.1E+00	mg/kg	3.1E-07	mg/kg/day	3.4E-01	1/mg/kg-day	1.0E-07	NA		NA		NA
				Chlordane	2.1E+01	mg/kg	4.3E-06	mg/kg/day	3.5E-01	1/mg/kg-day	1.5E-06	NA		NA		NA
				Benzo(a)anthracene	5.3E-01	mg/kg	3.4E-07	mg/kg/day	7.3E-01	1/mg/kg-day	2.5E-07	NA		NA		NA
				Benzo(a)pyrene	2.1E+00	mg/kg	1.4E-06	mg/kg/day	7.3E+00	1/mg/kg-day	1.0E-05	NA		NA		NA
				Benzo(b)fluoranthene	2.6E+00	mg/kg	1.7E-06	mg/kg/day	7.3E-01	1/mg/kg-day	1.2E-06	NA		NA		NA
				Dibenz(a,h)anthracene	3.9E-01	mg/kg	2.5E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.8E-06	NA		NA		NA
				Indeno(1,2,3-cd)pyrene	2.0E+00	mg/kg	1.3E-06	mg/kg/day	7.3E-01	1/mg/kg-day	9.5E-07	NA		NA		NA
			Exp. Route Total								1.8E-05					0.0E+00
		Exposure Point Total									7.1E-05					0.0E+00
	Exposure Medium Total										7.1E-05					0.0E+00
Soil* Total											7.1E-05					0.0E+00
										Total of Receptor Risks Across All Media	7.1E-05			Total of Receptor Hazards Across All Media		0.0E+00

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.15.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Ingestion	Heptachlor	2.7E-01	mg/kg	9.3E-08	mg/kg/day	4.5E+00	1/mg/kg-day	4.2E-07	2.6E-07	mg/kg/day	5.0E-04	mg/kg/day	5.2E-04
				Heptachlor epoxide	1.6E+00	mg/kg	5.5E-07	mg/kg/day	9.1E+00	1/mg/kg-day	5.0E-06	1.5E-06	mg/kg/day	1.3E-05	mg/kg/day	1.2E-01
				4,4'-DDE	5.3E-01	mg/kg	1.9E-07	mg/kg/day	3.4E-01	1/mg/kg-day	6.3E-08	5.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	6.2E-08	mg/kg/day	1.6E+01	1/mg/kg-day	9.8E-07	1.7E-07	mg/kg/day	5.0E-05	mg/kg/day	3.4E-03
				4,4'-DDD	7.5E-01	mg/kg	2.6E-07	mg/kg/day	2.4E-01	1/mg/kg-day	6.3E-08	7.4E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	5.7E-07	mg/kg/day	3.4E-01	1/mg/kg-day	1.9E-07	1.6E-06	mg/kg/day	5.0E-04	mg/kg/day	3.2E-03
				Chlordane	4.0E+01	mg/kg	1.4E-05	mg/kg/day	3.5E-01	1/mg/kg-day	4.9E-06	3.9E-05	mg/kg/day	5.0E-04	mg/kg/day	7.8E-02
				Benzo(a)anthracene	5.5E-02	mg/kg	1.9E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.4E-08	5.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	2.6E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-07	7.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	4.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	3.2E-08	1.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	1.4E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.1E-07	4.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	2.3E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.7E-08	6.3E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.2E-05					2.0E-01
			Dermal Absorption[1]	Heptachlor	2.7E-01	mg/kg	6.1E-08	mg/kg/day	4.5E+00	1/mg/kg-day	2.8E-07	1.7E-07	mg/kg/day	5.0E-04	mg/kg/day	3.4E-04
				Heptachlor epoxide	1.6E+00	mg/kg	3.6E-07	mg/kg/day	9.1E+00	1/mg/kg-day	3.3E-06	1.0E-06	mg/kg/day	1.3E-05	mg/kg/day	7.8E-02
				4,4'-DDE	5.3E-01	mg/kg	1.2E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.2E-08	3.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	4.1E-08	mg/kg/day	1.6E+01	1/mg/kg-day	6.5E-07	1.1E-07	mg/kg/day	5.0E-05	mg/kg/day	2.3E-03
				4,4'-DDD	7.5E-01	mg/kg	1.7E-07	mg/kg/day	2.4E-01	1/mg/kg-day	4.2E-08	4.9E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	1.1E-07	mg/kg/day	3.4E-01	1/mg/kg-day	3.8E-08	3.2E-07	mg/kg/day	5.0E-04	mg/kg/day	6.3E-04
				Chlordane	4.0E+01	mg/kg	3.7E-06	mg/kg/day	3.5E-01	1/mg/kg-day	1.3E-06	1.0E-05	mg/kg/day	5.0E-04	mg/kg/day	2.1E-02
				Benzo(a)anthracene	5.5E-02	mg/kg	1.6E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.2E-08	4.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	2.2E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.6E-07	6.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	3.8E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.8E-08	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	1.2E-08	mg/kg/day	7.3E+00	1/mg/kg-day	9.0E-08	3.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	1.9E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.4E-08	5.4E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								5.9E-06					1.0E-01
		Exposure Point Total									1.8E-05					3.0E-01
	Exposure Medium Total										1.8E-05					3.0E-01
Surface Soil Total											1.8E-05					3.0E-01
										Total of Receptor Risks Across All Media	1.8E-05				Total of Receptor Hazards Across All Media	3.0E-01

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.16.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Ingestion	Heptachlor	2.7E-01	mg/kg	1.9E-08	mg/kg/day	4.5E+00	1/mg/kg-day	8.7E-08	5.4E-08	mg/kg/day	5.0E-04	mg/kg/day	1.1E-04
				Heptachlor epoxide	1.6E+00	mg/kg	1.1E-07	mg/kg/day	9.1E+00	1/mg/kg-day	1.0E-06	3.2E-07	mg/kg/day	1.3E-05	mg/kg/day	2.5E-02
				4,4'-DDE	5.3E-01	mg/kg	3.9E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.3E-08	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	1.3E-08	mg/kg/day	1.6E+01	1/mg/kg-day	2.0E-07	3.6E-08	mg/kg/day	5.0E-05	mg/kg/day	7.2E-04
				4,4'-DDD	7.5E-01	mg/kg	5.5E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.3E-08	1.5E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	1.2E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.0E-08	3.3E-07	mg/kg/day	5.0E-04	mg/kg/day	6.6E-04
				Chlordane	4.0E+01	mg/kg	2.9E-06	mg/kg/day	3.5E-01	1/mg/kg-day	1.0E-06	8.1E-06	mg/kg/day	5.0E-04	mg/kg/day	1.6E-02
				Benzo(a)anthracene	5.5E-02	mg/kg	4.0E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.9E-09	1.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	5.3E-09	mg/kg/day	7.3E+00	1/mg/kg-day	3.9E-08	1.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	9.2E-09	mg/kg/day	7.3E-01	1/mg/kg-day	6.7E-09	2.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	3.0E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.2E-08	8.4E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	4.7E-09	mg/kg/day	7.3E-01	1/mg/kg-day	3.4E-09	1.3E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.5E-06					4.2E-02
			Dermal Absorption[1]	Heptachlor	2.7E-01	mg/kg	1.3E-08	mg/kg/day	4.5E+00	1/mg/kg-day	5.7E-08	3.6E-08	mg/kg/day	5.0E-04	mg/kg/day	7.1E-05
				Heptachlor epoxide	1.6E+00	mg/kg	7.5E-08	mg/kg/day	9.1E+00	1/mg/kg-day	6.9E-07	2.1E-07	mg/kg/day	1.3E-05	mg/kg/day	1.6E-02
				4,4'-DDE	5.3E-01	mg/kg	2.6E-08	mg/kg/day	3.4E-01	1/mg/kg-day	8.7E-09	7.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	8.4E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.4E-07	2.4E-08	mg/kg/day	5.0E-05	mg/kg/day	4.7E-04
				4,4'-DDD	7.5E-01	mg/kg	3.6E-08	mg/kg/day	2.4E-01	1/mg/kg-day	8.7E-09	1.0E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	2.3E-08	mg/kg/day	3.4E-01	1/mg/kg-day	8.0E-09	6.6E-08	mg/kg/day	5.0E-04	mg/kg/day	1.3E-04
				Chlordane	4.0E+01	mg/kg	7.6E-07	mg/kg/day	3.5E-01	1/mg/kg-day	2.7E-07	2.1E-06	mg/kg/day	5.0E-04	mg/kg/day	4.3E-03
				Benzo(a)anthracene	5.5E-02	mg/kg	3.4E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.5E-09	9.6E-09	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	4.6E-09	mg/kg/day	7.3E+00	1/mg/kg-day	3.3E-08	1.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	7.9E-09	mg/kg/day	7.3E-01	1/mg/kg-day	5.8E-09	2.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	2.6E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-08	7.2E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	4.0E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.9E-09	1.1E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.2E-06					2.1E-02
		Exposure Point Total									3.7E-06					6.3E-02
	Exposure Medium Total										3.7E-06					6.3E-02
Surface Soil Total											3.7E-06					6.3E-02
										Total of Receptor Risks Across All Media	3.7E-06				Total of Receptor Hazards Across All Media	6.3E-02

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.17.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Exposure Concentration		CSF/Unit Risk		Cancer Risk	Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Ingestion	Heptachlor	2.7E-01	mg/kg	1.9E-08	mg/kg/day	4.5E+00	1/mg/kg-day	8.4E-08	5.4E-08	mg/kg/day	5.0E-04	mg/kg/day	1.1E-04
				Heptachlor epoxide	1.6E+00	mg/kg	1.1E-07	mg/kg/day	9.1E+00	1/mg/kg-day	1.0E-06	3.2E-07	mg/kg/day	1.3E-05	mg/kg/day	2.5E-02
				4,4'-DDE	5.3E-01	mg/kg	3.7E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.3E-08	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	1.2E-08	mg/kg/day	1.6E+01	1/mg/kg-day	2.0E-07	3.6E-08	mg/kg/day	5.0E-05	mg/kg/day	7.2E-04
				4,4'-DDD	7.5E-01	mg/kg	5.3E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.3E-08	1.5E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	1.1E-07	mg/kg/day	3.4E-01	1/mg/kg-day	3.9E-08	3.3E-07	mg/kg/day	5.0E-04	mg/kg/day	6.6E-04
				Chlordane	4.0E+01	mg/kg	2.8E-06	mg/kg/day	3.5E-01	1/mg/kg-day	9.7E-07	8.1E-06	mg/kg/day	5.0E-04	mg/kg/day	1.6E-02
				Benzo(a)anthracene	5.5E-02	mg/kg	3.8E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.8E-09	1.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	5.1E-09	mg/kg/day	7.3E+00	1/mg/kg-day	3.7E-08	1.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	8.9E-09	mg/kg/day	7.3E-01	1/mg/kg-day	6.5E-09	2.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	2.9E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.1E-08	8.4E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	4.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	3.3E-09	1.3E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.4E-06					4.2E-02
			Dermal Absorption[1]	Heptachlor	2.7E-01	mg/kg	7.4E-09	mg/kg/day	4.5E+00	1/mg/kg-day	3.3E-08	2.2E-08	mg/kg/day	5.0E-04	mg/kg/day	4.3E-05
				Heptachlor epoxide	1.6E+00	mg/kg	4.4E-08	mg/kg/day	9.1E+00	1/mg/kg-day	4.0E-07	1.3E-07	mg/kg/day	1.3E-05	mg/kg/day	9.8E-03
				4,4'-DDE	5.3E-01	mg/kg	1.5E-08	mg/kg/day	3.4E-01	1/mg/kg-day	5.0E-09	4.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	4.9E-09	mg/kg/day	1.6E+01	1/mg/kg-day	7.8E-08	1.4E-08	mg/kg/day	5.0E-05	mg/kg/day	2.9E-04
				4,4'-DDD	7.5E-01	mg/kg	2.1E-08	mg/kg/day	2.4E-01	1/mg/kg-day	5.0E-09	6.1E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	1.4E-08	mg/kg/day	3.4E-01	1/mg/kg-day	4.6E-09	4.0E-08	mg/kg/day	5.0E-04	mg/kg/day	7.9E-05
				Chlordane	4.0E+01	mg/kg	4.4E-07	mg/kg/day	3.5E-01	1/mg/kg-day	1.5E-07	1.3E-06	mg/kg/day	5.0E-04	mg/kg/day	2.6E-03
				Benzo(a)anthracene	5.5E-02	mg/kg	2.0E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.5E-09	5.8E-09	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	2.7E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-08	7.7E-09	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	4.6E-09	mg/kg/day	7.3E-01	1/mg/kg-day	3.4E-09	1.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	1.5E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.1E-08	4.3E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	2.3E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.7E-09	6.8E-09	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								7.2E-07					1.3E-02
		Exposure Point Total									3.1E-06					5.5E-02
	Exposure Medium Total										3.1E-06					5.5E-02
Surface Soil Total											3.1E-06					5.5E-02
										Total of Receptor Risks Across All Media	3.1E-06				Total of Receptor Hazards Across All Media	5.5E-02

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.18.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Ingestion	Heptachlor	2.7E-01	mg/kg	1.2E-08	mg/kg/day	4.5E+00	1/mg/kg-day	5.4E-08	8.4E-08	mg/kg/day	5.0E-04	mg/kg/day	1.7E-04
				Heptachlor epoxide	1.6E+00	mg/kg	7.1E-08	mg/kg/day	9.1E+00	1/mg/kg-day	6.5E-07	5.0E-07	mg/kg/day	1.3E-05	mg/kg/day	3.8E-02
				4,4'-DDE	5.3E-01	mg/kg	2.4E-08	mg/kg/day	3.4E-01	1/mg/kg-day	8.2E-09	1.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	8.0E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.3E-07	5.6E-08	mg/kg/day	5.0E-05	mg/kg/day	1.1E-03
				4,4'-DDD	7.5E-01	mg/kg	3.4E-08	mg/kg/day	2.4E-01	1/mg/kg-day	8.2E-09	2.4E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	7.4E-08	mg/kg/day	3.4E-01	1/mg/kg-day	2.5E-08	5.2E-07	mg/kg/day	5.0E-04	mg/kg/day	1.0E-03
				Chlordane	4.0E+01	mg/kg	1.8E-06	mg/kg/day	3.5E-01	1/mg/kg-day	6.3E-07	1.3E-05	mg/kg/day	5.0E-04	mg/kg/day	2.5E-02
				Benzo(a)anthracene	5.5E-02	mg/kg	2.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.8E-09	1.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	3.3E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.4E-08	2.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	5.7E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.2E-09	4.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	1.9E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.4E-08	1.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	2.9E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.1E-09	2.0E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.5E-06					6.6E-02
			Dermal Absorption[1]	Heptachlor	2.7E-01	mg/kg	5.1E-09	mg/kg/day	4.5E+00	1/mg/kg-day	2.3E-08	3.5E-08	mg/kg/day	5.0E-04	mg/kg/day	7.1E-05
				Heptachlor epoxide	1.6E+00	mg/kg	3.0E-08	mg/kg/day	9.1E+00	1/mg/kg-day	2.7E-07	2.1E-07	mg/kg/day	1.3E-05	mg/kg/day	1.6E-02
				4,4'-DDE	5.3E-01	mg/kg	1.0E-08	mg/kg/day	3.4E-01	1/mg/kg-day	3.4E-09	7.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	3.3E-09	mg/kg/day	1.6E+01	1/mg/kg-day	5.3E-08	2.3E-08	mg/kg/day	5.0E-05	mg/kg/day	4.7E-04
				4,4'-DDD	7.5E-01	mg/kg	1.4E-08	mg/kg/day	2.4E-01	1/mg/kg-day	3.4E-09	1.0E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	9.3E-09	mg/kg/day	3.4E-01	1/mg/kg-day	3.2E-09	6.5E-08	mg/kg/day	5.0E-04	mg/kg/day	1.3E-04
				Chlordane	4.0E+01	mg/kg	3.0E-07	mg/kg/day	3.5E-01	1/mg/kg-day	1.1E-07	2.1E-06	mg/kg/day	5.0E-04	mg/kg/day	4.2E-03
				Benzo(a)anthracene	5.5E-02	mg/kg	1.4E-09	mg/kg/day	7.3E-01	1/mg/kg-day	9.9E-10	9.5E-09	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	1.8E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.3E-08	1.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	3.1E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.3E-09	2.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	1.0E-09	mg/kg/day	7.3E+00	1/mg/kg-day	7.4E-09	7.1E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	1.6E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.2E-09	1.1E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								4.9E-07					2.1E-02
		Exposure Point Total									2.0E-06					8.7E-02
Exposure Medium Total											2.0E-06					8.7E-02
Surface Soil Total											2.0E-06					8.7E-02
										Total of Receptor Risks Across All Media	2.0E-06				Total of Receptor Hazards Across All Media	8.7E-02

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.19.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Ingestion	Heptachlor	2.7E-01	mg/kg	4.3E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.9E-07	5.1E-07	mg/kg/day	5.0E-04	mg/kg/day	1.0E-03
				Heptachlor epoxide	1.6E+00	mg/kg	2.6E-07	mg/kg/day	9.1E+00	1/mg/kg-day	2.3E-06	3.0E-06	mg/kg/day	1.3E-05	mg/kg/day	2.3E-01
				4,4'-DDE	5.3E-01	mg/kg	8.7E-08	mg/kg/day	3.4E-01	1/mg/kg-day	2.9E-08	1.0E-06	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	2.9E-08	mg/kg/day	1.6E+01	1/mg/kg-day	4.6E-07	3.3E-07	mg/kg/day	5.0E-05	mg/kg/day	6.7E-03
				4,4'-DDD	7.5E-01	mg/kg	1.2E-07	mg/kg/day	2.4E-01	1/mg/kg-day	2.9E-08	1.4E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	2.7E-07	mg/kg/day	3.4E-01	1/mg/kg-day	9.0E-08	3.1E-06	mg/kg/day	5.0E-04	mg/kg/day	6.2E-03
				Chlordane	4.0E+01	mg/kg	6.5E-06	mg/kg/day	3.5E-01	1/mg/kg-day	2.3E-06	7.5E-05	mg/kg/day	5.0E-04	mg/kg/day	1.5E-01
				Benzo(a)anthracene	5.5E-02	mg/kg	8.9E-09	mg/kg/day	7.3E-01	1/mg/kg-day	6.5E-09	1.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	1.2E-08	mg/kg/day	7.3E+00	1/mg/kg-day	8.7E-08	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	2.1E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.5E-08	2.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	6.7E-09	mg/kg/day	7.3E+00	1/mg/kg-day	4.9E-08	7.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	1.1E-08	mg/kg/day	7.3E-01	1/mg/kg-day	7.7E-09	1.2E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								5.6E-06					3.9E-01
			Dermal Absorption[1]	Heptachlor	2.7E-01	mg/kg	1.2E-08	mg/kg/day	4.5E+00	1/mg/kg-day	5.5E-08	1.4E-07	mg/kg/day	5.0E-04	mg/kg/day	2.8E-04
				Heptachlor epoxide	1.6E+00	mg/kg	7.2E-08	mg/kg/day	9.1E+00	1/mg/kg-day	6.5E-07	8.4E-07	mg/kg/day	1.3E-05	mg/kg/day	6.4E-02
				4,4'-DDE	5.3E-01	mg/kg	2.4E-08	mg/kg/day	3.4E-01	1/mg/kg-day	8.2E-09	2.8E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-01	mg/kg	8.0E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.3E-07	9.4E-08	mg/kg/day	5.0E-05	mg/kg/day	1.9E-03
				4,4'-DDD	7.5E-01	mg/kg	3.4E-08	mg/kg/day	2.4E-01	1/mg/kg-day	8.2E-09	4.0E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	1.6E+00	mg/kg	2.2E-08	mg/kg/day	3.4E-01	1/mg/kg-day	7.6E-09	2.6E-07	mg/kg/day	5.0E-04	mg/kg/day	5.2E-04
				Chlordane	4.0E+01	mg/kg	7.2E-07	mg/kg/day	3.5E-01	1/mg/kg-day	2.5E-07	8.5E-06	mg/kg/day	5.0E-04	mg/kg/day	1.7E-02
				Benzo(a)anthracene	5.5E-02	mg/kg	3.3E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.4E-09	3.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	7.3E-02	mg/kg	4.3E-09	mg/kg/day	7.3E+00	1/mg/kg-day	3.2E-08	5.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	1.3E-01	mg/kg	7.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	5.5E-09	8.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.1E-02	mg/kg	2.4E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.8E-08	2.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.5E-02	mg/kg	3.8E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.8E-09	4.5E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.2E-06					8.4E-02
		Exposure Point Total									6.7E-06					4.8E-01
Exposure Medium Total											6.7E-06					4.8E-01
Surface Soil Total											6.7E-06					4.8E-01
										Total of Receptor Risks Across All Media	6.7E-06				Total of Receptor Hazards Across All Media	4.8E-01

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.20.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	3.3E-08	mg/kg/day	4.5E+00	1/mg/kg-day	1.5E-07	9.2E-08	mg/kg/day	5.0E-04	mg/kg/day	1.8E-04
				Heptachlor epoxide	4.8E-01	mg/kg	1.7E-07	mg/kg/day	9.1E+00	1/mg/kg-day	1.5E-06	4.6E-07	mg/kg/day	1.3E-05	mg/kg/day	3.6E-02
				4,4'-DDE	2.6E-01	mg/kg	9.0E-08	mg/kg/day	3.4E-01	1/mg/kg-day	3.1E-08	2.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	8.7E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.4E-07	2.4E-08	mg/kg/day	5.0E-05	mg/kg/day	4.9E-04
				4,4'-DDD	6.7E-01	mg/kg	2.3E-07	mg/kg/day	2.4E-01	1/mg/kg-day	5.6E-08	6.6E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	2.7E-07	mg/kg/day	3.4E-01	1/mg/kg-day	9.1E-08	7.5E-07	mg/kg/day	5.0E-04	mg/kg/day	1.5E-03
				Chlordane	1.4E+01	mg/kg	5.0E-06	mg/kg/day	3.5E-01	1/mg/kg-day	1.7E-06	1.4E-05	mg/kg/day	5.0E-04	mg/kg/day	2.8E-02
				Benzo(a)anthracene	8.8E-02	mg/kg	3.1E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.2E-08	8.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	3.7E-08	mg/kg/day	7.3E+00	1/mg/kg-day	2.7E-07	1.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	3.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.5E-08	9.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	1.8E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.3E-07	5.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	2.1E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.5E-08	5.8E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								4.2E-06					6.6E-02
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	2.2E-08	mg/kg/day	4.5E+00	1/mg/kg-day	9.8E-08	6.1E-08	mg/kg/day	5.0E-04	mg/kg/day	1.2E-04
				Heptachlor epoxide	4.8E-01	mg/kg	1.1E-07	mg/kg/day	9.1E+00	1/mg/kg-day	1.0E-06	3.1E-07	mg/kg/day	1.3E-05	mg/kg/day	2.4E-02
				4,4'-DDE	2.6E-01	mg/kg	6.0E-08	mg/kg/day	3.4E-01	1/mg/kg-day	2.0E-08	1.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	5.7E-09	mg/kg/day	1.6E+01	1/mg/kg-day	9.2E-08	1.6E-08	mg/kg/day	5.0E-05	mg/kg/day	3.2E-04
				4,4'-DDD	6.7E-01	mg/kg	1.5E-07	mg/kg/day	2.4E-01	1/mg/kg-day	3.7E-08	4.3E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	5.3E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.8E-08	1.5E-07	mg/kg/day	5.0E-04	mg/kg/day	3.0E-04
				Chlordane	1.4E+01	mg/kg	1.3E-06	mg/kg/day	3.5E-01	1/mg/kg-day	4.6E-07	3.7E-06	mg/kg/day	5.0E-04	mg/kg/day	7.3E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	2.6E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.9E-08	7.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	3.1E-08	mg/kg/day	7.3E+00	1/mg/kg-day	2.3E-07	8.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	2.9E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.1E-08	8.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	1.5E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.1E-07	4.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	1.8E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.3E-08	5.0E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.1E-06					3.2E-02
		Exposure Point Total									6.3E-06					9.7E-02
	Exposure Medium Total										6.3E-06					9.7E-02
Soil* Total											6.3E-06					9.7E-02
										Total of Receptor Risks Across All Media	6.3E-06				Total of Receptor Hazards Across All Media	9.7E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.21.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	6.8E-09	mg/kg/day	4.5E+00	1/mg/kg-day	3.1E-08	1.9E-08	mg/kg/day	5.0E-04	mg/kg/day	3.8E-05
				Heptachlor epoxide	4.8E-01	mg/kg	3.5E-08	mg/kg/day	9.1E+00	1/mg/kg-day	3.1E-07	9.7E-08	mg/kg/day	1.3E-05	mg/kg/day	7.4E-03
				4,4'-DDE	2.6E-01	mg/kg	1.9E-08	mg/kg/day	3.4E-01	1/mg/kg-day	6.4E-09	5.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	1.8E-09	mg/kg/day	1.6E+01	1/mg/kg-day	2.9E-08	5.1E-09	mg/kg/day	5.0E-05	mg/kg/day	1.0E-04
				4,4'-DDD	6.7E-01	mg/kg	4.9E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.2E-08	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	5.6E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.9E-08	1.6E-07	mg/kg/day	5.0E-04	mg/kg/day	3.1E-04
				Chlordane	1.4E+01	mg/kg	1.0E-06	mg/kg/day	3.5E-01	1/mg/kg-day	3.6E-07	2.9E-06	mg/kg/day	5.0E-04	mg/kg/day	5.8E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	6.4E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.7E-09	1.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	7.6E-09	mg/kg/day	7.3E+00	1/mg/kg-day	5.6E-08	2.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	7.1E-09	mg/kg/day	7.3E-01	1/mg/kg-day	5.2E-09	2.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	3.7E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.7E-08	1.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	4.3E-09	mg/kg/day	7.3E-01	1/mg/kg-day	3.2E-09	1.2E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								8.7E-07					1.4E-02
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	4.5E-09	mg/kg/day	4.5E+00	1/mg/kg-day	2.0E-08	1.3E-08	mg/kg/day	5.0E-04	mg/kg/day	2.5E-05
				Heptachlor epoxide	4.8E-01	mg/kg	2.3E-08	mg/kg/day	9.1E+00	1/mg/kg-day	2.1E-07	6.4E-08	mg/kg/day	1.3E-05	mg/kg/day	4.9E-03
				4,4'-DDE	2.6E-01	mg/kg	1.2E-08	mg/kg/day	3.4E-01	1/mg/kg-day	4.2E-09	3.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	1.2E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.9E-08	3.3E-09	mg/kg/day	5.0E-05	mg/kg/day	6.7E-05
				4,4'-DDD	6.7E-01	mg/kg	3.2E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.7E-09	9.0E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	1.1E-08	mg/kg/day	3.4E-01	1/mg/kg-day	3.8E-09	3.1E-08	mg/kg/day	5.0E-04	mg/kg/day	6.2E-05
				Chlordane	1.4E+01	mg/kg	2.7E-07	mg/kg/day	3.5E-01	1/mg/kg-day	9.5E-08	7.6E-07	mg/kg/day	5.0E-04	mg/kg/day	1.5E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	5.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.0E-09	1.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	6.5E-09	mg/kg/day	7.3E+00	1/mg/kg-day	4.8E-08	1.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	6.1E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.4E-09	1.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	3.2E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.3E-08	8.8E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	3.7E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.7E-09	1.0E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								4.4E-07					6.6E-03
		Exposure Point Total									1.3E-06					2.0E-02
	Exposure Medium Total										1.3E-06					2.0E-02
Soil* Total											1.3E-06					2.0E-02
										Total of Receptor Risks Across All Media	1.3E-06				Total of Receptor Hazards Across All Media	2.0E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.22.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	6.6E-09	mg/kg/day	4.5E+00	1/mg/kg-day	3.0E-08	1.9E-08	mg/kg/day	5.0E-04	mg/kg/day	3.8E-05
				Heptachlor epoxide	4.8E-01	mg/kg	3.3E-08	mg/kg/day	9.1E+00	1/mg/kg-day	3.0E-07	9.7E-08	mg/kg/day	1.3E-05	mg/kg/day	7.4E-03
				4,4'-DDE	2.6E-01	mg/kg	1.8E-08	mg/kg/day	3.4E-01	1/mg/kg-day	6.1E-09	5.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	1.7E-09	mg/kg/day	1.6E+01	1/mg/kg-day	2.8E-08	5.1E-09	mg/kg/day	5.0E-05	mg/kg/day	1.0E-04
				4,4'-DDD	6.7E-01	mg/kg	4.7E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.1E-08	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	5.4E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.8E-08	1.6E-07	mg/kg/day	5.0E-04	mg/kg/day	3.1E-04
				Chlordane	1.4E+01	mg/kg	9.9E-07	mg/kg/day	3.5E-01	1/mg/kg-day	3.5E-07	2.9E-06	mg/kg/day	5.0E-04	mg/kg/day	5.8E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	6.1E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.5E-09	1.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	7.3E-09	mg/kg/day	7.3E+00	1/mg/kg-day	5.3E-08	2.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	6.8E-09	mg/kg/day	7.3E-01	1/mg/kg-day	5.0E-09	2.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	3.5E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.6E-08	1.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	4.2E-09	mg/kg/day	7.3E-01	1/mg/kg-day	3.0E-09	1.2E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								8.3E-07					1.4E-02
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	2.6E-09	mg/kg/day	4.5E+00	1/mg/kg-day	1.2E-08	7.6E-09	mg/kg/day	5.0E-04	mg/kg/day	1.5E-05
				Heptachlor epoxide	4.8E-01	mg/kg	1.3E-08	mg/kg/day	9.1E+00	1/mg/kg-day	1.2E-07	3.9E-08	mg/kg/day	1.3E-05	mg/kg/day	3.0E-03
				4,4'-DDE	2.6E-01	mg/kg	7.2E-09	mg/kg/day	3.4E-01	1/mg/kg-day	2.4E-09	2.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	6.9E-10	mg/kg/day	1.6E+01	1/mg/kg-day	1.1E-08	2.0E-09	mg/kg/day	5.0E-05	mg/kg/day	4.0E-05
				4,4'-DDD	6.7E-01	mg/kg	1.9E-08	mg/kg/day	2.4E-01	1/mg/kg-day	4.5E-09	5.4E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	6.4E-09	mg/kg/day	3.4E-01	1/mg/kg-day	2.2E-09	1.9E-08	mg/kg/day	5.0E-04	mg/kg/day	3.8E-05
				Chlordane	1.4E+01	mg/kg	1.6E-07	mg/kg/day	3.5E-01	1/mg/kg-day	5.5E-08	4.6E-07	mg/kg/day	5.0E-04	mg/kg/day	9.2E-04
				Benzo(a)anthracene	8.8E-02	mg/kg	3.2E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.3E-09	9.3E-09	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	3.8E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.8E-08	1.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	3.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.6E-09	1.0E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	1.8E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.3E-08	5.3E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	2.2E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.6E-09	6.3E-09	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								2.6E-07					4.0E-03
		Exposure Point Total									1.1E-06					1.8E-02
	Exposure Medium Total										1.1E-06					1.8E-02
Soil* Total											1.1E-06					1.8E-02
										Total of Receptor Risks Across All Media	1.1E-06				Total of Receptor Hazards Across All Media	1.8E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.23.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	4.3E-09	mg/kg/day	4.5E+00	1/mg/kg-day	1.9E-08	3.0E-08	mg/kg/day	5.0E-04	mg/kg/day	6.0E-05
				Heptachlor epoxide	4.8E-01	mg/kg	2.1E-08	mg/kg/day	9.1E+00	1/mg/kg-day	2.0E-07	1.5E-07	mg/kg/day	1.3E-05	mg/kg/day	1.2E-02
				4,4'-DDE	2.6E-01	mg/kg	1.2E-08	mg/kg/day	3.4E-01	1/mg/kg-day	4.0E-09	8.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	1.1E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.8E-08	7.9E-09	mg/kg/day	5.0E-05	mg/kg/day	1.6E-04
				4,4'-DDD	6.7E-01	mg/kg	3.0E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.3E-09	2.1E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	3.5E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.2E-08	2.4E-07	mg/kg/day	5.0E-04	mg/kg/day	4.9E-04
				Chlordane	1.4E+01	mg/kg	6.4E-07	mg/kg/day	3.5E-01	1/mg/kg-day	2.2E-07	4.5E-06	mg/kg/day	5.0E-04	mg/kg/day	9.0E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	4.0E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.9E-09	2.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	4.7E-09	mg/kg/day	7.3E+00	1/mg/kg-day	3.5E-08	3.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	4.4E-09	mg/kg/day	7.3E-01	1/mg/kg-day	3.2E-09	3.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	2.3E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.7E-08	1.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	2.7E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.0E-09	1.9E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								5.4E-07					2.1E-02
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	1.8E-09	mg/kg/day	4.5E+00	1/mg/kg-day	8.0E-09	1.2E-08	mg/kg/day	5.0E-04	mg/kg/day	2.5E-05
				Heptachlor epoxide	4.8E-01	mg/kg	9.0E-09	mg/kg/day	9.1E+00	1/mg/kg-day	8.2E-08	6.3E-08	mg/kg/day	1.3E-05	mg/kg/day	4.9E-03
				4,4'-DDE	2.6E-01	mg/kg	4.9E-09	mg/kg/day	3.4E-01	1/mg/kg-day	1.7E-09	3.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	4.7E-10	mg/kg/day	1.6E+01	1/mg/kg-day	7.6E-09	3.3E-09	mg/kg/day	5.0E-05	mg/kg/day	6.6E-05
				4,4'-DDD	6.7E-01	mg/kg	1.3E-08	mg/kg/day	2.4E-01	1/mg/kg-day	3.1E-09	8.9E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	4.4E-09	mg/kg/day	3.4E-01	1/mg/kg-day	1.5E-09	3.1E-08	mg/kg/day	5.0E-04	mg/kg/day	6.1E-05
				Chlordane	1.4E+01	mg/kg	1.1E-07	mg/kg/day	3.5E-01	1/mg/kg-day	3.8E-08	7.5E-07	mg/kg/day	5.0E-04	mg/kg/day	1.5E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	2.2E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.6E-09	1.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	2.6E-09	mg/kg/day	7.3E+00	1/mg/kg-day	1.9E-08	1.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	2.4E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.8E-09	1.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	1.2E-09	mg/kg/day	7.3E+00	1/mg/kg-day	9.1E-09	8.7E-09	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	1.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	1.1E-09	1.0E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.7E-07					6.5E-03
		Exposure Point Total									7.1E-07					2.8E-02
	Exposure Medium Total										7.1E-07					2.8E-02
Soil* Total											7.1E-07					2.8E-02
										Total of Receptor Risks Across All Media	7.1E-07				Total of Receptor Hazards Across All Media	2.8E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.24.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	1.5E-08	mg/kg/day	4.5E+00	1/mg/kg-day	6.9E-08	1.8E-07	mg/kg/day	5.0E-04	mg/kg/day	3.6E-04
				Heptachlor epoxide	4.8E-01	mg/kg	7.7E-08	mg/kg/day	9.1E+00	1/mg/kg-day	7.0E-07	9.0E-07	mg/kg/day	1.3E-05	mg/kg/day	6.9E-02
				4,4'-DDE	2.6E-01	mg/kg	4.2E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.4E-08	4.9E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	4.1E-09	mg/kg/day	1.6E+01	1/mg/kg-day	6.5E-08	4.7E-08	mg/kg/day	5.0E-05	mg/kg/day	9.5E-04
				4,4'-DDD	6.7E-01	mg/kg	1.1E-07	mg/kg/day	2.4E-01	1/mg/kg-day	2.6E-08	1.3E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	1.3E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.3E-08	1.5E-06	mg/kg/day	5.0E-04	mg/kg/day	2.9E-03
				Chlordane	1.4E+01	mg/kg	2.3E-06	mg/kg/day	3.5E-01	1/mg/kg-day	8.1E-07	2.7E-05	mg/kg/day	5.0E-04	mg/kg/day	5.4E-02
				Benzo(a)anthracene	8.8E-02	mg/kg	1.4E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.0E-08	1.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	1.7E-08	mg/kg/day	7.3E+00	1/mg/kg-day	1.2E-07	2.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	1.6E-08	mg/kg/day	7.3E-01	1/mg/kg-day	1.2E-08	1.9E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	8.2E-09	mg/kg/day	7.3E+00	1/mg/kg-day	6.0E-08	9.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	9.7E-09	mg/kg/day	7.3E-01	1/mg/kg-day	7.1E-09	1.1E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								1.9E-06					1.3E-01
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	4.3E-09	mg/kg/day	4.5E+00	1/mg/kg-day	1.9E-08	5.0E-08	mg/kg/day	5.0E-04	mg/kg/day	1.0E-04
				Heptachlor epoxide	4.8E-01	mg/kg	2.2E-08	mg/kg/day	9.1E+00	1/mg/kg-day	2.0E-07	2.5E-07	mg/kg/day	1.3E-05	mg/kg/day	1.9E-02
				4,4'-DDE	2.6E-01	mg/kg	1.2E-08	mg/kg/day	3.4E-01	1/mg/kg-day	4.0E-09	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	1.1E-09	mg/kg/day	1.6E+01	1/mg/kg-day	1.8E-08	1.3E-08	mg/kg/day	5.0E-05	mg/kg/day	2.6E-04
				4,4'-DDD	6.7E-01	mg/kg	3.1E-08	mg/kg/day	2.4E-01	1/mg/kg-day	7.3E-09	3.6E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	1.1E-08	mg/kg/day	3.4E-01	1/mg/kg-day	3.6E-09	1.2E-07	mg/kg/day	5.0E-04	mg/kg/day	2.5E-04
				Chlordane	1.4E+01	mg/kg	2.6E-07	mg/kg/day	3.5E-01	1/mg/kg-day	9.1E-08	3.0E-06	mg/kg/day	5.0E-04	mg/kg/day	6.0E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	5.2E-09	mg/kg/day	7.3E-01	1/mg/kg-day	3.8E-09	6.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	6.2E-09	mg/kg/day	7.3E+00	1/mg/kg-day	4.5E-08	7.3E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	5.8E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.2E-09	6.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	3.0E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.2E-08	3.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	3.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.6E-09	4.1E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								4.2E-07					2.6E-02
		Exposure Point Total									2.4E-06					1.5E-01
	Exposure Medium Total										2.4E-06					1.5E-01
Soil* Total											2.4E-06					1.5E-01
										Total of Receptor Risks Across All Media	2.4E-06				Total of Receptor Hazards Across All Media	1.5E-01

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.25.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	6.3E-09	mg/kg/day	4.5E+00	1/mg/kg-day	2.8E-08	4.4E-07	mg/kg/day	5.0E-04	mg/kg/day	8.8E-04
				Heptachlor epoxide	4.8E-01	mg/kg	3.2E-08	mg/kg/day	9.1E+00	1/mg/kg-day	2.9E-07	2.2E-06	mg/kg/day	1.3E-05	mg/kg/day	1.7E-01
				4,4'-DDE	2.6E-01	mg/kg	1.7E-08	mg/kg/day	3.4E-01	1/mg/kg-day	5.9E-09	1.2E-06	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	1.7E-09	mg/kg/day	1.6E+01	1/mg/kg-day	2.7E-08	1.2E-07	mg/kg/day	5.0E-05	mg/kg/day	2.3E-03
				4,4'-DDD	6.7E-01	mg/kg	4.5E-08	mg/kg/day	2.4E-01	1/mg/kg-day	1.1E-08	3.1E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	5.2E-08	mg/kg/day	3.4E-01	1/mg/kg-day	1.8E-08	3.6E-06	mg/kg/day	5.0E-04	mg/kg/day	7.2E-03
				Chlordane	1.4E+01	mg/kg	9.5E-07	mg/kg/day	3.5E-01	1/mg/kg-day	3.3E-07	6.7E-05	mg/kg/day	5.0E-04	mg/kg/day	1.3E-01
				Benzo(a)anthracene	8.8E-02	mg/kg	5.9E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.3E-09	4.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	7.0E-09	mg/kg/day	7.3E+00	1/mg/kg-day	5.1E-08	4.9E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	6.5E-09	mg/kg/day	7.3E-01	1/mg/kg-day	4.8E-09	4.6E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	3.4E-09	mg/kg/day	7.3E+00	1/mg/kg-day	2.5E-08	2.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	4.0E-09	mg/kg/day	7.3E-01	1/mg/kg-day	2.9E-09	2.8E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								8.0E-07					3.2E-01
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	8.7E-10	mg/kg/day	4.5E+00	1/mg/kg-day	3.9E-09	6.1E-08	mg/kg/day	5.0E-04	mg/kg/day	1.2E-04
				Heptachlor epoxide	4.8E-01	mg/kg	4.4E-09	mg/kg/day	9.1E+00	1/mg/kg-day	4.0E-08	3.1E-07	mg/kg/day	1.3E-05	mg/kg/day	2.4E-02
				4,4'-DDE	2.6E-01	mg/kg	2.4E-09	mg/kg/day	3.4E-01	1/mg/kg-day	8.1E-10	1.7E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	2.3E-10	mg/kg/day	1.6E+01	1/mg/kg-day	3.7E-09	1.6E-08	mg/kg/day	5.0E-05	mg/kg/day	3.2E-04
				4,4'-DDD	6.7E-01	mg/kg	6.2E-09	mg/kg/day	2.4E-01	1/mg/kg-day	1.5E-09	4.3E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	2.1E-09	mg/kg/day	3.4E-01	1/mg/kg-day	7.2E-10	1.5E-07	mg/kg/day	5.0E-04	mg/kg/day	3.0E-04
				Chlordane	1.4E+01	mg/kg	5.2E-08	mg/kg/day	3.5E-01	1/mg/kg-day	1.8E-08	3.7E-06	mg/kg/day	5.0E-04	mg/kg/day	7.3E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	1.1E-09	mg/kg/day	7.3E-01	1/mg/kg-day	7.7E-10	7.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	1.3E-09	mg/kg/day	7.3E+00	1/mg/kg-day	9.2E-09	8.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	1.2E-09	mg/kg/day	7.3E-01	1/mg/kg-day	8.5E-10	8.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	6.1E-10	mg/kg/day	7.3E+00	1/mg/kg-day	4.4E-09	4.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	7.1E-10	mg/kg/day	7.3E-01	1/mg/kg-day	5.2E-10	5.0E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								8.5E-08					3.2E-02
		Exposure Point Total									8.9E-07					3.5E-01
	Exposure Medium Total										8.9E-07					3.5E-01
Soil* Total											8.9E-07					3.5E-01
										Total of Receptor Risks Across All Media	8.9E-07				Total of Receptor Hazards Across All Media	3.5E-01

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.26.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	NA		NA		NA	1.3E-07	mg/kg/day	5.0E-04	mg/kg/day	2.6E-04
				Heptachlor epoxide	4.8E-01	mg/kg	NA		NA		NA	6.5E-07	mg/kg/day	1.3E-05	mg/kg/day	5.0E-02
				4,4'-DDE	2.6E-01	mg/kg	NA		NA		NA	3.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	NA		NA		NA	3.4E-08	mg/kg/day	5.0E-05	mg/kg/day	6.8E-04
				4,4'-DDD	6.7E-01	mg/kg	NA		NA		NA	9.2E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	NA		NA		NA	1.1E-06	mg/kg/day	5.0E-04	mg/kg/day	2.1E-03
				Chlordane	1.4E+01	mg/kg	NA		NA		NA	1.9E-05	mg/kg/day	5.0E-04	mg/kg/day	3.9E-02
				Benzo(a)anthracene	8.8E-02	mg/kg	NA		NA		NA	1.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	NA		NA		NA	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	NA		NA		NA	1.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	NA		NA		NA	6.9E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	NA		NA		NA	8.2E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					9.2E-02
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	NA		NA		NA	5.1E-08	mg/kg/day	5.0E-04	mg/kg/day	1.0E-04
				Heptachlor epoxide	4.8E-01	mg/kg	NA		NA		NA	2.6E-07	mg/kg/day	1.3E-05	mg/kg/day	2.0E-02
				4,4'-DDE	2.6E-01	mg/kg	NA		NA		NA	1.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	NA		NA		NA	1.4E-08	mg/kg/day	5.0E-05	mg/kg/day	2.7E-04
				4,4'-DDD	6.7E-01	mg/kg	NA		NA		NA	3.7E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	NA		NA		NA	1.3E-07	mg/kg/day	5.0E-04	mg/kg/day	2.5E-04
				Chlordane	1.4E+01	mg/kg	NA		NA		NA	3.1E-06	mg/kg/day	5.0E-04	mg/kg/day	6.2E-03
				Benzo(a)anthracene	8.8E-02	mg/kg	NA		NA		NA	6.2E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	NA		NA		NA	7.5E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	NA		NA		NA	6.9E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	NA		NA		NA	3.6E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	NA		NA		NA	4.2E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					2.7E-02
		Exposure Point Total									0.0E+00					1.2E-01
	Exposure Medium Total										0.0E+00					1.2E-01
Soil* Total											0.0E+00					1.2E-01
										Total of Receptor Risks Across All Media	0.0E+00			Total of Receptor Hazards Across All Media		1.2E-01

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.27.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	NA		NA		NA	1.2E-06	mg/kg/day	5.0E-04	mg/kg/day	2.4E-03
				Heptachlor epoxide	4.8E-01	mg/kg	NA		NA		NA	6.1E-06	mg/kg/day	1.3E-05	mg/kg/day	4.7E-01
				4,4'-DDE	2.6E-01	mg/kg	NA		NA		NA	3.3E-06	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	NA		NA		NA	3.2E-07	mg/kg/day	5.0E-05	mg/kg/day	6.4E-03
				4,4'-DDD	6.7E-01	mg/kg	NA		NA		NA	8.6E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	NA		NA		NA	9.8E-06	mg/kg/day	5.0E-04	mg/kg/day	2.0E-02
				Chlordane	1.4E+01	mg/kg	NA		NA		NA	1.8E-04	mg/kg/day	5.0E-04	mg/kg/day	3.6E-01
				Benzo(a)anthracene	8.8E-02	mg/kg	NA		NA		NA	1.1E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	NA		NA		NA	1.3E-06	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	NA		NA		NA	1.2E-06	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	NA		NA		NA	6.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	NA		NA		NA	7.6E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					8.6E-01
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	NA		NA		NA	3.4E-07	mg/kg/day	5.0E-04	mg/kg/day	6.7E-04
				Heptachlor epoxide	4.8E-01	mg/kg	NA		NA		NA	1.7E-06	mg/kg/day	1.3E-05	mg/kg/day	1.3E-01
				4,4'-DDE	2.6E-01	mg/kg	NA		NA		NA	9.2E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	2.5E-02	mg/kg	NA		NA		NA	8.9E-08	mg/kg/day	5.0E-05	mg/kg/day	1.8E-03
				4,4'-DDD	6.7E-01	mg/kg	NA		NA		NA	2.4E-06	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	7.7E-01	mg/kg	NA		NA		NA	8.3E-07	mg/kg/day	5.0E-04	mg/kg/day	1.7E-03
				Chlordane	1.4E+01	mg/kg	NA		NA		NA	2.0E-05	mg/kg/day	5.0E-04	mg/kg/day	4.1E-02
				Benzo(a)anthracene	8.8E-02	mg/kg	NA		NA		NA	4.1E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	1.1E-01	mg/kg	NA		NA		NA	4.9E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	NA		NA		NA	4.5E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	NA		NA		NA	2.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	NA		NA		NA	2.8E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					1.8E-01
		Exposure Point Total									0.0E+00					1.0E+00
	Exposure Medium Total										0.0E+00					1.0E+00
Soil* Total											0.0E+00					1.0E+00
										Total of Receptor Risks Across All Media	0.0E+00				Total of Receptor Hazards Across All Media	1.0E+00

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.28.RME

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	9.4E-02	mg/kg	1.5E-07	mg/kg/day	4.5E+00	1/mg/kg-day	6.6E-07	NA		NA		NA
				Heptachlor epoxide	4.8E-01	mg/kg	7.4E-07	mg/kg/day	9.1E+00	1/mg/kg-day	6.8E-06	NA		NA		NA
				4,4'-DDE	2.6E-01	mg/kg	4.0E-07	mg/kg/day	3.4E-01	1/mg/kg-day	1.4E-07	NA		NA		NA
				Dieldrin	2.5E-02	mg/kg	3.9E-08	mg/kg/day	1.6E+01	1/mg/kg-day	6.2E-07	NA		NA		NA
				4,4'-DDD	6.7E-01	mg/kg	1.0E-06	mg/kg/day	2.4E-01	1/mg/kg-day	2.5E-07	NA		NA		NA
				4,4'-DDT	7.7E-01	mg/kg	1.2E-06	mg/kg/day	3.4E-01	1/mg/kg-day	4.1E-07	NA		NA		NA
				Chlordane	1.4E+01	mg/kg	2.2E-05	mg/kg/day	3.5E-01	1/mg/kg-day	7.8E-06	NA		NA		NA
				Benzo(a)anthracene	8.8E-02	mg/kg	1.4E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.0E-07	NA		NA		NA
				Benzo(a)pyrene	1.1E-01	mg/kg	1.6E-07	mg/kg/day	7.3E+00	1/mg/kg-day	1.2E-06	NA		NA		NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	1.5E-07	mg/kg/day	7.3E-01	1/mg/kg-day	1.1E-07	NA		NA		NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	7.9E-08	mg/kg/day	7.3E+00	1/mg/kg-day	5.8E-07	NA		NA		NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	9.3E-08	mg/kg/day	7.3E-01	1/mg/kg-day	6.8E-08	NA		NA		NA
			Exp. Route Total								1.9E-05					0.0E+00
			Dermal Absorption[1]	Heptachlor	9.4E-02	mg/kg	4.6E-08	mg/kg/day	4.5E+00	1/mg/kg-day	2.1E-07	NA		NA		NA
				Heptachlor epoxide	4.8E-01	mg/kg	2.3E-07	mg/kg/day	9.1E+00	1/mg/kg-day	2.1E-06	NA		NA		NA
				4,4'-DDE	2.6E-01	mg/kg	1.3E-07	mg/kg/day	3.4E-01	1/mg/kg-day	4.3E-08	NA		NA		NA
				Dieldrin	2.5E-02	mg/kg	1.2E-08	mg/kg/day	1.6E+01	1/mg/kg-day	2.0E-07	NA		NA		NA
				4,4'-DDD	6.7E-01	mg/kg	3.3E-07	mg/kg/day	2.4E-01	1/mg/kg-day	8.0E-08	NA		NA		NA
				4,4'-DDT	7.7E-01	mg/kg	1.1E-07	mg/kg/day	3.4E-01	1/mg/kg-day	3.9E-08	NA		NA		NA
				Chlordane	1.4E+01	mg/kg	2.8E-06	mg/kg/day	3.5E-01	1/mg/kg-day	9.8E-07	NA		NA		NA
				Benzo(a)anthracene	8.8E-02	mg/kg	5.6E-08	mg/kg/day	7.3E-01	1/mg/kg-day	4.1E-08	NA		NA		NA
				Benzo(a)pyrene	1.1E-01	mg/kg	6.8E-08	mg/kg/day	7.3E+00	1/mg/kg-day	4.9E-07	NA		NA		NA
				Benzo(b)fluoranthene	9.8E-02	mg/kg	6.3E-08	mg/kg/day	7.3E-01	1/mg/kg-day	4.6E-08	NA		NA		NA
				Dibenz(a,h)anthracene	5.1E-02	mg/kg	3.3E-08	mg/kg/day	7.3E+00	1/mg/kg-day	2.4E-07	NA		NA		NA
				Indeno(1,2,3-cd)pyrene	6.0E-02	mg/kg	3.8E-08	mg/kg/day	7.3E-01	1/mg/kg-day	2.8E-08	NA		NA		NA
			Exp. Route Total								4.5E-06					0.0E+00
		Exposure Point Total									2.3E-05					0.0E+00
	Exposure Medium Total										2.3E-05					0.0E+00
Soil* Total											2.3E-05					0.0E+00
										Total of Receptor Risks Across All Media	2.3E-05			Total of Receptor Hazards Across All Media		0.0E+00

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 7.1.CTE

CALCULATION OF CHEMICAL CANCER RISKS AND NON-CANCER HAZARDS

CENTRAL TENDENCY EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Exposure Route	Chemical of Potential Concern	EPC		Cancer Risk Calculations					Non-Cancer Hazard Calculations				
					Value	Units	Intake/Exposure Concentration		CSF/Unit Risk		Cancer Risk	Intake/Exposure Concentration		RfD/RfC		Hazard Quotient
							Value	Units	Value	Units		Value	Units	Value	Units	
Soil*	Soil*	Soil* (Lowland Area)	Ingestion	Heptachlor	2.6E-02	mg/kg	NA		NA		NA	1.1E-07	mg/kg/day	5.0E-04	mg/kg/day	2.3E-04
				Heptachlor epoxide	7.2E-02	mg/kg	NA		NA		NA	3.1E-07	mg/kg/day	1.3E-05	mg/kg/day	2.4E-02
				4,4'-DDE	1.5E-01	mg/kg	NA		NA		NA	6.4E-07	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-02	mg/kg	NA		NA		NA	7.7E-08	mg/kg/day	5.0E-05	mg/kg/day	1.5E-03
				4,4'-DDD	1.8E-01	mg/kg	NA		NA		NA	7.8E-07	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	4.0E-01	mg/kg	NA		NA		NA	1.7E-06	mg/kg/day	5.0E-04	mg/kg/day	3.4E-03
				Chlordane	3.2E+00	mg/kg	NA		NA		NA	1.4E-05	mg/kg/day	5.0E-04	mg/kg/day	2.7E-02
				Benzo(a)anthracene	5.5E-02	mg/kg	NA		NA		NA	2.3E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	6.1E-02	mg/kg	NA		NA		NA	2.6E-07	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	7.1E-02	mg/kg	NA		NA		NA	3.0E-07	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.4E-02	mg/kg	NA		NA		NA	1.9E-07	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	4.3E-02	mg/kg	NA		NA		NA	1.8E-07	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					5.6E-02
			Dermal Absorption[1]	Heptachlor	2.6E-02	mg/kg	NA		NA		NA	1.3E-08	mg/kg/day	5.0E-04	mg/kg/day	2.5E-05
				Heptachlor epoxide	7.2E-02	mg/kg	NA		NA		NA	3.4E-08	mg/kg/day	1.3E-05	mg/kg/day	2.6E-03
				4,4'-DDE	1.5E-01	mg/kg	NA		NA		NA	7.1E-08	mg/kg/day	NA	mg/kg/day	NA
				Dieldrin	1.8E-02	mg/kg	NA		NA		NA	8.6E-09	mg/kg/day	5.0E-05	mg/kg/day	1.7E-04
				4,4'-DDD	1.8E-01	mg/kg	NA		NA		NA	8.8E-08	mg/kg/day	NA	mg/kg/day	NA
				4,4'-DDT	4.0E-01	mg/kg	NA		NA		NA	5.7E-08	mg/kg/day	5.0E-04	mg/kg/day	1.1E-04
				Chlordane	3.2E+00	mg/kg	NA		NA		NA	6.1E-07	mg/kg/day	5.0E-04	mg/kg/day	1.2E-03
				Benzo(a)anthracene	5.5E-02	mg/kg	NA		NA		NA	3.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(a)pyrene	6.1E-02	mg/kg	NA		NA		NA	3.8E-08	mg/kg/day	NA	mg/kg/day	NA
				Benzo(b)fluoranthene	7.1E-02	mg/kg	NA		NA		NA	4.4E-08	mg/kg/day	NA	mg/kg/day	NA
				Dibenz(a,h)anthracene	4.4E-02	mg/kg	NA		NA		NA	2.7E-08	mg/kg/day	NA	mg/kg/day	NA
				Indeno(1,2,3-cd)pyrene	4.3E-02	mg/kg	NA		NA		NA	2.7E-08	mg/kg/day	NA	mg/kg/day	NA
			Exp. Route Total								0.0E+00					4.2E-03
		Exposure Point Total									0.0E+00					6.0E-02
	Exposure Medium Total										0.0E+00					6.0E-02
Soil* Total											0.0E+00					6.0E-02
										Total of Receptor Risks Across All Media	0.0E+00			Total of Receptor Hazards Across All Media		6.0E-02

Soil* = Surface soil and subsurface soil combined.

Notes:

1. Dermal absorption factors (DABs) used to calculated dermal absorption intake from soil are chemical specific: chlordane - 0.04; DDT - 0.03; other pesticides - 0.1; PAHs - 0.13.

NA = Not available/not applicable

TABLE 9.1.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Heptachlor	1.3E-06	NA	8.4E-07	2.1E-06	Liver	1.6E-03	NA	1.0E-03	2.6E-03
			4,4'-DDE	6.3E-08	NA	4.2E-08	1.0E-07	NA	NA	NA	NA	NA
			Dieldrin	1.1E-06	NA	7.0E-07	1.8E-06	Liver	3.7E-03	NA	2.4E-03	6.1E-03
			4,4'-DDD	5.6E-08	NA	3.7E-08	9.3E-08	NA	NA	NA	NA	NA
			4,4'-DDT	3.9E-07	NA	7.8E-08	4.7E-07	Liver	6.5E-03	NA	1.3E-03	7.8E-03
			Chlordane	4.1E-06	NA	1.1E-06	5.2E-06	Liver	6.5E-02	NA	1.7E-02	8.3E-02
			Benzo(a)anthracene	2.9E-07	NA	2.5E-07	5.5E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	2.2E-05	NA	1.9E-05	4.0E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	2.6E-06	NA	2.3E-06	4.9E-06	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	1.9E-06	NA	1.6E-06	3.5E-06	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	2.1E-06	NA	1.8E-06	3.8E-06	NA	NA	NA	NA	NA
			Chemical Total	3.5E-05	NA	2.7E-05	6.3E-05		7.7E-02	NA	2.2E-02	9.9E-02
		Exposure Point Total					6.3E-05					9.9E-02
	Exposure Medium Total						6.3E-05					9.9E-02
Medium Total							6.3E-05					9.9E-02
Receptor Total							6.3E-05				Receptor HI Total	9.9E-02

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 9.9E-02

TABLE 9.2.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Heptachlor	2.7E-07	NA	1.8E-07	4.4E-07	Liver	3.3E-04	NA	2.2E-04	5.5E-04
			4,4'-DDE	1.3E-08	NA	8.7E-09	2.2E-08	NA	NA	NA	NA	NA
			Dieldrin	2.2E-07	NA	1.5E-07	3.6E-07	Liver	7.7E-04	NA	5.1E-04	1.3E-03
			4,4'-DDD	1.2E-08	NA	7.7E-09	1.9E-08	NA	NA	NA	NA	NA
			4,4'-DDT	8.2E-08	NA	1.6E-08	9.8E-08	Liver	1.4E-03	NA	2.7E-04	1.6E-03
			Chlordane	8.5E-07	NA	2.2E-07	1.1E-06	Liver	1.4E-02	NA	3.6E-03	1.7E-02
			Benzo(a)anthracene	6.1E-08	NA	5.3E-08	1.1E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	4.5E-06	NA	3.9E-06	8.4E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.5E-07	NA	4.7E-07	1.0E-06	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	3.9E-07	NA	3.3E-07	7.2E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	4.3E-07	NA	3.7E-07	8.0E-07	NA	NA	NA	NA	NA
			Chemical Total	7.4E-06	NA	5.7E-06	1.3E-05		1.6E-02	NA	4.6E-03	2.1E-02
		Exposure Point Total					1.3E-05					2.1E-02
	Exposure Medium Total						1.3E-05					2.1E-02
Medium Total							1.3E-05					2.1E-02
Receptor Total							1.3E-05				Receptor HI Total	2.1E-02

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 2.1E-02

TABLE 9.3.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Heptachlor	2.5E-07	NA	1.0E-07	3.6E-07	Liver	3.3E-04	NA	1.3E-04	4.6E-04
			4,4'-DDE	1.3E-08	NA	5.0E-09	1.8E-08	NA	NA	NA	NA	NA
			Dieldrin	2.1E-07	NA	8.4E-08	3.0E-07	Liver	7.7E-04	NA	3.1E-04	1.1E-03
			4,4'-DDD	1.1E-08	NA	4.5E-09	1.6E-08	NA	NA	NA	NA	NA
			4,4'-DDT	7.9E-08	NA	9.4E-09	8.8E-08	Liver	1.4E-03	NA	1.6E-04	1.5E-03
			Chlordane	8.2E-07	NA	1.3E-07	9.5E-07	Liver	1.4E-02	NA	2.2E-03	1.6E-02
			Benzo(a)anthracene	5.9E-08	NA	3.1E-08	8.9E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	4.3E-06	NA	2.2E-06	6.6E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.2E-07	NA	2.7E-07	8.0E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	3.7E-07	NA	1.9E-07	5.6E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	4.1E-07	NA	2.1E-07	6.3E-07	NA	NA	NA	NA	NA
			Chemical Total	7.1E-06	NA	3.3E-06	1.0E-05		1.6E-02	NA	2.8E-03	1.9E-02
		Exposure Point Total					1.0E-05					1.9E-02
	Exposure Medium Total						1.0E-05					1.9E-02
Medium Total							1.0E-05					1.9E-02
Receptor Total							1.0E-05				Receptor HI Total	1.9E-02

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 1.9E-02

TABLE 9.4.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Heptachlor	1.7E-07	NA	6.9E-08	2.3E-07	Liver	5.1E-04	NA	2.2E-04	7.3E-04
			4,4'-DDE	8.2E-09	NA	3.4E-09	1.2E-08	NA	NA	NA	NA	NA
			Dieldrin	1.4E-07	NA	5.7E-08	1.9E-07	Liver	1.2E-03	NA	5.0E-04	1.7E-03
			4,4'-DDD	7.3E-09	NA	3.0E-09	1.0E-08	NA	NA	NA	NA	NA
			4,4'-DDT	5.1E-08	NA	6.4E-09	5.8E-08	Liver	2.1E-03	NA	2.7E-04	2.4E-03
			Chlordane	5.3E-07	NA	8.9E-08	6.2E-07	Liver	2.1E-02	NA	3.6E-03	2.5E-02
			Benzo(a)anthracene	3.8E-08	NA	2.1E-08	5.9E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	2.8E-06	NA	1.5E-06	4.3E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	3.4E-07	NA	1.9E-07	5.2E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.4E-07	NA	1.3E-07	3.7E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	2.7E-07	NA	1.5E-07	4.1E-07	NA	NA	NA	NA	NA
			Chemical Total	4.6E-06	NA	2.2E-06	6.8E-06		2.5E-02	NA	4.5E-03	3.0E-02
		Exposure Point Total					6.8E-06					3.0E-02
	Exposure Medium Total						6.8E-06					3.0E-02
Medium Total							6.8E-06					3.0E-02
Receptor Total							6.8E-06				Receptor HI Total	3.0E-02

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 3.0E-02

TABLE 9.5.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Upland Area)	Heptachlor	5.9E-07	NA	1.7E-07	7.6E-07	Liver	3.1E-03	NA	8.6E-04	3.9E-03
			4,4'-DDE	2.9E-08	NA	8.2E-09	3.8E-08	NA	NA	NA	NA	NA
			Dieldrin	4.9E-07	NA	1.4E-07	6.3E-07	Liver	7.2E-03	NA	2.0E-03	9.2E-03
			4,4'-DDD	2.6E-08	NA	7.3E-09	3.3E-08	NA	NA	NA	NA	NA
			4,4'-DDT	1.8E-07	NA	1.5E-08	2.0E-07	Liver	1.3E-02	NA	1.1E-03	1.4E-02
			Chlordane	1.9E-06	NA	2.1E-07	2.1E-06	Liver	1.3E-01	NA	1.4E-02	1.4E-01
			Benzo(a)anthracene	1.4E-07	NA	5.0E-08	1.9E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.0E-05	NA	3.7E-06	1.4E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.2E-06	NA	4.4E-07	1.7E-06	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	8.7E-07	NA	3.1E-07	1.2E-06	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	9.6E-07	NA	3.5E-07	1.3E-06	NA	NA	NA	NA	NA
			Chemical Total	1.7E-05	NA	5.4E-06	2.2E-05		1.5E-01	NA	1.8E-02	1.7E-01
		Exposure Point Total					2.2E-05					1.7E-01
	Exposure Medium Total						2.2E-05					1.7E-01
Medium Total							2.2E-05					1.7E-01
Receptor Total							2.2E-05				Receptor HI Total	1.7E-01

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 1.7E-01

TABLE 9.6.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	5.6E-07	NA	3.7E-07	9.2E-07	Liver	6.9E-04	NA	4.6E-04	1.1E-03
			4,4'-DDE	2.6E-08	NA	1.7E-08	4.3E-08	NA	NA	NA	NA	NA
			Dieldrin	6.7E-07	NA	4.4E-07	1.1E-06	Liver	2.3E-03	NA	1.5E-03	3.9E-03
			4,4'-DDD	3.5E-08	NA	2.3E-08	5.8E-08	NA	NA	NA	NA	NA
			4,4'-DDT	2.4E-07	NA	4.8E-08	2.9E-07	Liver	4.0E-03	NA	8.0E-04	4.8E-03
			Chlordane	2.6E-06	NA	6.9E-07	3.3E-06	Liver	4.2E-02	NA	1.1E-02	5.3E-02
			Benzo(a)anthracene	1.3E-07	NA	1.2E-07	2.5E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.5E-06	NA	4.7E-06	1.0E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	6.6E-07	NA	5.7E-07	1.2E-06	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	9.8E-07	NA	8.4E-07	1.8E-06	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	5.2E-07	NA	4.4E-07	9.6E-07	NA	NA	NA	NA	NA
			Chemical Total	1.2E-05	NA	8.3E-06	2.0E-05		4.9E-02	NA	1.4E-02	6.3E-02
		Exposure Point Total					2.0E-05					6.3E-02
	Exposure Medium Total						2.0E-05					6.3E-02
Medium Total							2.0E-05					6.3E-02
Receptor Total							2.0E-05				Receptor HI Total	6.3E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 6.3E-02

TABLE 9.7.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	1.2E-07	NA	7.6E-08	1.9E-07	Liver	1.4E-04	NA	9.5E-05	2.4E-04
			4,4'-DDE	5.4E-09	NA	3.6E-09	8.9E-09	NA	NA	NA	NA	NA
			Dieldrin	1.4E-07	NA	9.2E-08	2.3E-07	Liver	4.9E-04	NA	3.2E-04	8.1E-04
			4,4'-DDD	7.3E-09	NA	4.8E-09	1.2E-08	NA	NA	NA	NA	NA
			4,4'-DDT	5.1E-08	NA	1.0E-08	6.1E-08	Liver	8.4E-04	NA	1.7E-04	1.0E-03
			Chlordane	5.5E-07	NA	1.4E-07	6.9E-07	Liver	8.7E-03	NA	2.3E-03	1.1E-02
			Benzo(a)anthracene	2.8E-08	NA	2.4E-08	5.2E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.1E-06	NA	9.7E-07	2.1E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.4E-07	NA	1.2E-07	2.6E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.0E-07	NA	1.8E-07	3.8E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	1.1E-07	NA	9.2E-08	2.0E-07	NA	NA	NA	NA	NA
			Chemical Total	2.5E-06	NA	1.7E-06	4.2E-06		1.0E-02	NA	2.9E-03	1.3E-02
		Exposure Point Total					4.2E-06					1.3E-02
	Exposure Medium Total						4.2E-06					1.3E-02
Medium Total							4.2E-06					1.3E-02
Receptor Total							4.2E-06				Receptor HI Total	1.3E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.3E-02

TABLE 9.8.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	1.1E-07	NA	4.4E-08	1.6E-07	Liver	1.4E-04	NA	5.7E-05	2.0E-04
			4,4'-DDE	5.2E-09	NA	2.1E-09	7.2E-09	NA	NA	NA	NA	NA
			Dieldrin	1.3E-07	NA	5.3E-08	1.9E-07	Liver	4.9E-04	NA	1.9E-04	6.8E-04
			4,4'-DDD	7.0E-09	NA	2.8E-09	9.8E-09	NA	NA	NA	NA	NA
			4,4'-DDT	4.9E-08	NA	5.9E-09	5.5E-08	Liver	8.4E-04	NA	1.0E-04	9.4E-04
			Chlordane	5.2E-07	NA	8.4E-08	6.1E-07	Liver	8.7E-03	NA	1.4E-03	1.0E-02
			Benzo(a)anthracene	2.7E-08	NA	1.4E-08	4.1E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.1E-06	NA	5.7E-07	1.7E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.3E-07	NA	6.9E-08	2.0E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.0E-07	NA	1.0E-07	3.0E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	1.0E-07	NA	5.4E-08	1.6E-07	NA	NA	NA	NA	NA
			Chemical Total	2.4E-06	NA	1.0E-06	3.4E-06		1.0E-02	NA	1.7E-03	1.2E-02
		Exposure Point Total					3.4E-06					1.2E-02
	Exposure Medium Total						3.4E-06					1.2E-02
Medium Total							3.4E-06					1.2E-02
Receptor Total							3.4E-06				Receptor HI Total	1.2E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.2E-02

TABLE 9.9.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	7.2E-08	NA	3.0E-08	1.0E-07	Liver	2.2E-04	NA	9.4E-05	3.2E-04
			4,4'-DDE	3.4E-09	NA	1.4E-09	4.8E-09	NA	NA	NA	NA	NA
			Dieldrin	8.7E-08	NA	3.6E-08	1.2E-07	Liver	7.6E-04	NA	3.2E-04	1.1E-03
			4,4'-DDD	4.5E-09	NA	1.9E-09	6.4E-09	NA	NA	NA	NA	NA
			4,4'-DDT	3.2E-08	NA	4.0E-09	3.6E-08	Liver	1.3E-03	NA	1.6E-04	1.5E-03
			Chlordane	3.4E-07	NA	5.7E-08	4.0E-07	Liver	1.4E-02	NA	2.3E-03	1.6E-02
			Benzo(a)anthracene	1.7E-08	NA	9.5E-09	2.7E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	7.1E-07	NA	3.9E-07	1.1E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	8.6E-08	NA	4.7E-08	1.3E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	1.3E-07	NA	6.9E-08	2.0E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	6.7E-08	NA	3.7E-08	1.0E-07	NA	NA	NA	NA	NA
			Chemical Total	1.5E-06	NA	6.8E-07	2.2E-06		1.6E-02	NA	2.9E-03	1.9E-02
		Exposure Point Total					2.2E-06					1.9E-02
	Exposure Medium Total						2.2E-06					1.9E-02
Medium Total							2.2E-06					1.9E-02
Receptor Total							2.2E-06				Receptor HI Total	1.9E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.9E-02

TABLE 9.10.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	2.6E-07	NA	7.3E-08	3.3E-07	Liver	1.3E-03	NA	3.8E-04	1.7E-03
			4,4'-DDE	1.2E-08	NA	3.4E-09	1.5E-08	NA	NA	NA	NA	NA
			Dieldrin	3.1E-07	NA	8.8E-08	4.0E-07	Liver	4.6E-03	NA	1.3E-03	5.8E-03
			4,4'-DDD	1.6E-08	NA	4.6E-09	2.1E-08	NA	NA	NA	NA	NA
			4,4'-DDT	1.1E-07	NA	9.6E-09	1.2E-07	Liver	7.8E-03	NA	6.6E-04	8.5E-03
			Chlordane	1.2E-06	NA	1.4E-07	1.4E-06	Liver	8.2E-02	NA	9.1E-03	9.1E-02
			Benzo(a)anthracene	6.3E-08	NA	2.3E-08	8.6E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	2.5E-06	NA	9.3E-07	3.5E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	3.1E-07	NA	1.1E-07	4.2E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	4.6E-07	NA	1.7E-07	6.2E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	2.4E-07	NA	8.8E-08	3.3E-07	NA	NA	NA	NA	NA
			Chemical Total	5.6E-06	NA	1.6E-06	7.2E-06		9.5E-02	NA	1.1E-02	1.1E-01
		Exposure Point Total					7.2E-06					1.1E-01
	Exposure Medium Total						7.2E-06					1.1E-01
Medium Total							7.2E-06					1.1E-01
Receptor Total							7.2E-06				Receptor HI Total	1.1E-01

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.1E-01

TABLE 9.11.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	1.1E-07	NA	1.5E-08	1.2E-07	Liver	3.3E-03	NA	4.6E-04	3.8E-03
			4,4'-DDE	5.0E-09	NA	6.8E-10	5.7E-09	NA	NA	NA	NA	NA
			Dieldrin	1.3E-07	NA	1.8E-08	1.5E-07	Liver	1.1E-02	NA	1.5E-03	1.3E-02
			4,4'-DDD	6.7E-09	NA	9.2E-10	7.6E-09	NA	NA	NA	NA	NA
			4,4'-DDT	4.7E-08	NA	1.9E-09	4.9E-08	Liver	1.9E-02	NA	8.0E-04	2.0E-02
			Chlordane	5.0E-07	NA	2.8E-08	5.3E-07	Liver	2.0E-01	NA	1.1E-02	2.1E-01
			Benzo(a)anthracene	2.6E-08	NA	4.6E-09	3.0E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.0E-06	NA	1.9E-07	1.2E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.3E-07	NA	2.3E-08	1.5E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	1.9E-07	NA	3.4E-08	2.2E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	9.9E-08	NA	1.8E-08	1.2E-07	NA	NA	NA	NA	NA
			Chemical Total	2.3E-06	NA	3.3E-07	2.6E-06		2.4E-01	NA	1.4E-02	2.5E-01
		Exposure Point Total					2.6E-06					2.5E-01
	Exposure Medium Total						2.6E-06					2.5E-01
Medium Total							2.6E-06					2.5E-01
Receptor Total							2.6E-06				Receptor HI Total	2.5E-01

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 2.5E-01

TABLE 9.12.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	NA	NA	NA	NA	Liver	9.7E-04	NA	3.9E-04	1.4E-03
			4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dieldrin	NA	NA	NA	NA	Liver	3.3E-03	NA	1.3E-03	4.6E-03
			4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
			4,4'-DDT	NA	NA	NA	NA	Liver	5.6E-03	NA	6.8E-04	6.3E-03
			Chlordane	NA	NA	NA	NA	Liver	5.9E-02	NA	9.4E-03	6.8E-02
			Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Chemical Total	0.0E+00	NA	0.0E+00	0.0E+00		6.9E-02	NA	1.2E-02	8.1E-02
		Exposure Point Total					0.0E+00					8.1E-02
	Exposure Medium Total						0.0E+00					8.1E-02
Medium Total							0.0E+00					8.1E-02
Receptor Total							0.0E+00				Receptor HI Total	8.1E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 8.1E-02

TABLE 9.13.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	NA	NA	NA	NA	Liver	9.1E-03	NA	2.5E-03	1.2E-02
			4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dieldrin	NA	NA	NA	NA	Liver	3.1E-02	NA	8.6E-03	3.9E-02
			4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
			4,4'-DDT	NA	NA	NA	NA	Liver	5.3E-02	NA	4.4E-03	5.7E-02
			Chlordane	NA	NA	NA	NA	Liver	5.5E-01	NA	6.2E-02	6.1E-01
			Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Chemical Total	0.0E+00	NA	0.0E+00	0.0E+00		6.4E-01	NA	7.7E-02	7.2E-01
		Exposure Point Total					0.0E+00					7.2E-01
	Exposure Medium Total						0.0E+00					7.2E-01
Medium Total							0.0E+00					7.2E-01
Receptor Total							0.0E+00				Receptor HI Total	7.2E-01

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 7.2E-01

TABLE 9.14.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Upland Area)	Heptachlor	2.5E-06	NA	7.9E-07	3.3E-06	Liver	NA	NA	NA	NA
			4,4'-DDE	1.2E-07	NA	3.7E-08	1.5E-07	NA	NA	NA	NA	NA
			Dieldrin	3.0E-06	NA	9.5E-07	4.0E-06	Liver	NA	NA	NA	NA
			4,4'-DDD	1.6E-07	NA	4.9E-08	2.1E-07	NA	NA	NA	NA	NA
			4,4'-DDT	1.1E-06	NA	1.0E-07	1.2E-06	Liver	NA	NA	NA	NA
			Chlordane	1.2E-05	NA	1.5E-06	1.3E-05	Liver	NA	NA	NA	NA
			Benzo(a)anthracene	6.0E-07	NA	2.5E-07	8.5E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	2.4E-05	NA	1.0E-05	3.5E-05	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	3.0E-06	NA	1.2E-06	4.2E-06	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	4.4E-06	NA	1.8E-06	6.2E-06	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	2.3E-06	NA	9.5E-07	3.3E-06	NA	NA	NA	NA	NA
			Chemical Total	5.3E-05	NA	1.8E-05	7.1E-05		0.0E+00	NA	0.0E+00	0.0E+00
		Exposure Point Total					7.1E-05					0.0E+00
	Exposure Medium Total						7.1E-05					0.0E+00
Medium Total							7.1E-05					0.0E+00
Receptor Total							7.1E-05				Receptor HI Total	0.0E+00

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

TABLE 9.15.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Heptachlor	4.2E-07	NA	2.8E-07	6.9E-07	Liver	5.2E-04	NA	3.4E-04	8.6E-04
			Heptachlor epoxide	5.0E-06	NA	3.3E-06	8.3E-06	Liver	1.2E-01	NA	7.8E-02	2.0E-01
			4,4'-DDE	6.3E-08	NA	4.2E-08	1.0E-07	NA	NA	NA	NA	NA
			Dieldrin	9.8E-07	NA	6.5E-07	1.6E-06	Liver	3.4E-03	NA	2.3E-03	5.7E-03
			4,4'-DDD	6.3E-08	NA	4.2E-08	1.0E-07	NA	NA	NA	NA	NA
			4,4'-DDT	1.9E-07	NA	3.8E-08	2.3E-07	Liver	3.2E-03	NA	6.3E-04	3.8E-03
			Chlordane	4.9E-06	NA	1.3E-06	6.1E-06	Liver	7.8E-02	NA	2.1E-02	9.8E-02
			Benzo(a)anthracene	1.4E-08	NA	1.2E-08	2.6E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.9E-07	NA	1.6E-07	3.5E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	3.2E-08	NA	2.8E-08	6.0E-08	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	1.1E-07	NA	9.0E-08	2.0E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	1.7E-08	NA	1.4E-08	3.1E-08	NA	NA	NA	NA	NA
			Chemical Total	1.2E-05	NA	5.9E-06	1.8E-05		2.0E-01	NA	1.0E-01	3.0E-01
		Exposure Point Total					1.8E-05					3.0E-01
	Exposure Medium Total						1.8E-05					3.0E-01
Medium Total							1.8E-05					3.0E-01
Receptor Total							1.8E-05				Receptor HI Total	3.0E-01

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 3.0E-01

TABLE 9.16.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Heptachlor	8.7E-08	NA	5.7E-08	1.4E-07	Liver	1.1E-04	NA	7.1E-05	1.8E-04
			Heptachlor epoxide	1.0E-06	NA	6.9E-07	1.7E-06	Liver	2.5E-02	NA	1.6E-02	4.1E-02
			4,4'-DDE	1.3E-08	NA	8.7E-09	2.2E-08	NA	NA	NA	NA	NA
			Dieldrin	2.0E-07	NA	1.4E-07	3.4E-07	Liver	7.2E-04	NA	4.7E-04	1.2E-03
			4,4'-DDD	1.3E-08	NA	8.7E-09	2.2E-08	NA	NA	NA	NA	NA
			4,4'-DDT	4.0E-08	NA	8.0E-09	4.8E-08	Liver	6.6E-04	NA	1.3E-04	7.9E-04
			Chlordane	1.0E-06	NA	2.7E-07	1.3E-06	Liver	1.6E-02	NA	4.3E-03	2.0E-02
			Benzo(a)anthracene	2.9E-09	NA	2.5E-09	5.4E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	3.9E-08	NA	3.3E-08	7.2E-08	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	6.7E-09	NA	5.8E-09	1.3E-08	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.2E-08	NA	1.9E-08	4.1E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	3.4E-09	NA	2.9E-09	6.4E-09	NA	NA	NA	NA	NA
			Chemical Total	2.5E-06	NA	1.2E-06	3.7E-06		4.2E-02	NA	2.1E-02	6.3E-02
		Exposure Point Total					3.7E-06					6.3E-02
	Exposure Medium Total						3.7E-06					6.3E-02
Medium Total							3.7E-06					6.3E-02
Receptor Total							3.7E-06				Receptor HI Total	6.3E-02

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 6.3E-02

TABLE 9.17.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Heptachlor	8.4E-08	NA	3.3E-08	1.2E-07	Liver	1.1E-04	NA	4.3E-05	1.5E-04
			Heptachlor epoxide	1.0E-06	NA	4.0E-07	1.4E-06	Liver	2.5E-02	NA	9.8E-03	3.4E-02
			4,4'-DDE	1.3E-08	NA	5.0E-09	1.8E-08	NA	NA	NA	NA	NA
			Dieldrin	2.0E-07	NA	7.8E-08	2.7E-07	Liver	7.2E-04	NA	2.9E-04	1.0E-03
			4,4'-DDD	1.3E-08	NA	5.0E-09	1.8E-08	NA	NA	NA	NA	NA
			4,4'-DDT	3.9E-08	NA	4.6E-09	4.3E-08	Liver	6.6E-04	NA	7.9E-05	7.4E-04
			Chlordane	9.7E-07	NA	1.5E-07	1.1E-06	Liver	1.6E-02	NA	2.6E-03	1.9E-02
			Benzo(a)anthracene	2.8E-09	NA	1.5E-09	4.2E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	3.7E-08	NA	1.9E-08	5.7E-08	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	6.5E-09	NA	3.4E-09	9.8E-09	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.1E-08	NA	1.1E-08	3.2E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	3.3E-09	NA	1.7E-09	5.0E-09	NA	NA	NA	NA	NA
			Chemical Total	2.4E-06	NA	7.2E-07	3.1E-06		4.2E-02	NA	1.3E-02	5.5E-02
		Exposure Point Total					3.1E-06					5.5E-02
	Exposure Medium Total						3.1E-06					5.5E-02
Medium Total							3.1E-06					5.5E-02
Receptor Total							3.1E-06				Receptor HI Total	5.5E-02

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 5.5E-02

TABLE 9.18.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Heptachlor	5.4E-08	NA	2.3E-08	7.7E-08	Liver	1.7E-04	NA	7.1E-05	2.4E-04
			Heptachlor epoxide	6.5E-07	NA	2.7E-07	9.2E-07	Liver	3.8E-02	NA	1.6E-02	5.4E-02
			4,4'-DDE	8.2E-09	NA	3.4E-09	1.2E-08	NA	NA	NA	NA	NA
			Dieldrin	1.3E-07	NA	5.3E-08	1.8E-07	Liver	1.1E-03	NA	4.7E-04	1.6E-03
			4,4'-DDD	8.2E-09	NA	3.4E-09	1.2E-08	NA	NA	NA	NA	NA
			4,4'-DDT	2.5E-08	NA	3.2E-09	2.8E-08	Liver	1.0E-03	NA	1.3E-04	1.2E-03
			Chlordane	6.3E-07	NA	1.1E-07	7.3E-07	Liver	2.5E-02	NA	4.2E-03	2.9E-02
			Benzo(a)anthracene	1.8E-09	NA	9.9E-10	2.8E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	2.4E-08	NA	1.3E-08	3.7E-08	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	4.2E-09	NA	2.3E-09	6.5E-09	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	1.4E-08	NA	7.4E-09	2.1E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	2.1E-09	NA	1.2E-09	3.3E-09	NA	NA	NA	NA	NA
			Chemical Total	1.5E-06	NA	4.9E-07	2.0E-06		6.6E-02	NA	2.1E-02	8.7E-02
		Exposure Point Total					2.0E-06					8.7E-02
	Exposure Medium Total						2.0E-06					8.7E-02
Medium Total							2.0E-06					8.7E-02
Receptor Total							2.0E-06				Receptor HI Total	8.7E-02

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 8.7E-02

TABLE 9.19.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Current/Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Surface Soil	Surface Soil	Surface Soil (Lowland Area)	Heptachlor	1.9E-07	NA	5.5E-08	2.5E-07	Liver	1.0E-03	NA	2.8E-04	1.3E-03
			Heptachlor epoxide	2.3E-06	NA	6.5E-07	3.0E-06	Liver	2.3E-01	NA	6.4E-02	2.9E-01
			4,4'-DDE	2.9E-08	NA	8.2E-09	3.8E-08	NA	NA	NA	NA	NA
			Dieldrin	4.6E-07	NA	1.3E-07	5.9E-07	Liver	6.7E-03	NA	1.9E-03	8.6E-03
			4,4'-DDD	2.9E-08	NA	8.2E-09	3.8E-08	NA	NA	NA	NA	NA
			4,4'-DDT	9.0E-08	NA	7.6E-09	9.8E-08	Liver	6.2E-03	NA	5.2E-04	6.7E-03
			Chlordane	2.3E-06	NA	2.5E-07	2.5E-06	Liver	1.5E-01	NA	1.7E-02	1.7E-01
			Benzo(a)anthracene	6.5E-09	NA	2.4E-09	8.9E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	8.7E-08	NA	3.2E-08	1.2E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.5E-08	NA	5.5E-09	2.1E-08	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	4.9E-08	NA	1.8E-08	6.7E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	7.7E-09	NA	2.8E-09	1.0E-08	NA	NA	NA	NA	NA
			Chemical Total	5.6E-06	NA	1.2E-06	6.7E-06		3.9E-01	NA	8.4E-02	4.8E-01
		Exposure Point Total					6.7E-06					4.8E-01
	Exposure Medium Total						6.7E-06					4.8E-01
Medium Total							6.7E-06					4.8E-01
Receptor Total							6.7E-06				Receptor HI Total	4.8E-01

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 4.8E-01

TABLE 9.20.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Industrial Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	1.5E-07	NA	9.8E-08	2.5E-07	Liver	1.8E-04	NA	1.2E-04	3.1E-04
			Heptachlor epoxide	1.5E-06	NA	1.0E-06	2.5E-06	Liver	3.6E-02	NA	2.4E-02	5.9E-02
			4,4'-DDE	3.1E-08	NA	2.0E-08	5.1E-08	NA	NA	NA	NA	NA
			Dieldrin	1.4E-07	NA	9.2E-08	2.3E-07	Liver	4.9E-04	NA	3.2E-04	8.1E-04
			4,4'-DDD	5.6E-08	NA	3.7E-08	9.3E-08	NA	NA	NA	NA	NA
			4,4'-DDT	9.1E-08	NA	1.8E-08	1.1E-07	Liver	1.5E-03	NA	3.0E-04	1.8E-03
			Chlordane	1.7E-06	NA	4.6E-07	2.2E-06	Liver	2.8E-02	NA	7.3E-03	3.5E-02
			Benzo(a)anthracene	2.2E-08	NA	1.9E-08	4.2E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	2.7E-07	NA	2.3E-07	5.0E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	2.5E-08	NA	2.1E-08	4.6E-08	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	1.3E-07	NA	1.1E-07	2.4E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	1.5E-08	NA	1.3E-08	2.8E-08	NA	NA	NA	NA	NA
			Chemical Total	4.2E-06	NA	2.1E-06	6.3E-06		6.6E-02	NA	3.2E-02	9.7E-02
		Exposure Point Total					6.3E-06					9.7E-02
	Exposure Medium Total						6.3E-06					9.7E-02
Medium Total							6.3E-06					9.7E-02
Receptor Total							6.3E-06				Receptor HI Total	9.7E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

N/A = Not available/not applicable

Total Liver HI Across All Media = 9.7E-02

TABLE 9.21.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Maintenance Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	3.1E-08	NA	2.0E-08	5.1E-08	Liver	3.8E-05	NA	2.5E-05	6.4E-05
			Heptachlor epoxide	3.1E-07	NA	2.1E-07	5.2E-07	Liver	7.4E-03	NA	4.9E-03	1.2E-02
			4,4'-DDE	6.4E-09	NA	4.2E-09	1.1E-08	NA	NA	NA	NA	NA
			Dieldrin	2.9E-08	NA	1.9E-08	4.8E-08	Liver	1.0E-04	NA	6.7E-05	1.7E-04
			4,4'-DDD	1.2E-08	NA	7.7E-09	1.9E-08	NA	NA	NA	NA	NA
			4,4'-DDT	1.9E-08	NA	3.8E-09	2.3E-08	Liver	3.1E-04	NA	6.2E-05	3.8E-04
			Chlordane	3.6E-07	NA	9.5E-08	4.6E-07	Liver	5.8E-03	NA	1.5E-03	7.3E-03
			Benzo(a)anthracene	4.7E-09	NA	4.0E-09	8.7E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.6E-08	NA	4.8E-08	1.0E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.2E-09	NA	4.4E-09	9.6E-09	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.7E-08	NA	2.3E-08	5.0E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	3.2E-09	NA	2.7E-09	5.9E-09	NA	NA	NA	NA	NA
			Chemical Total	8.7E-07	NA	4.4E-07	1.3E-06		1.4E-02	NA	6.6E-03	2.0E-02
		Exposure Point Total					1.3E-06					2.0E-02
	Exposure Medium Total						1.3E-06					2.0E-02
Medium Total							1.3E-06					2.0E-02
Receptor Total							1.3E-06				Receptor HI Total	2.0E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 2.0E-02

TABLE 9.22.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	3.0E-08	NA	1.2E-08	4.1E-08	Liver	3.8E-05	NA	1.5E-05	5.4E-05
			Heptachlor epoxide	3.0E-07	NA	1.2E-07	4.2E-07	Liver	7.4E-03	NA	3.0E-03	1.0E-02
			4,4'-DDE	6.1E-09	NA	2.4E-09	8.6E-09	NA	NA	NA	NA	NA
			Dieldrin	2.8E-08	NA	1.1E-08	3.9E-08	Liver	1.0E-04	NA	4.0E-05	1.4E-04
			4,4'-DDD	1.1E-08	NA	4.5E-09	1.6E-08	NA	NA	NA	NA	NA
			4,4'-DDT	1.8E-08	NA	2.2E-09	2.0E-08	Liver	3.1E-04	NA	3.8E-05	3.5E-04
			Chlordane	3.5E-07	NA	5.5E-08	4.0E-07	Liver	5.8E-03	NA	9.2E-04	6.7E-03
			Benzo(a)anthracene	4.5E-09	NA	2.3E-09	6.8E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.3E-08	NA	2.8E-08	8.1E-08	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	5.0E-09	NA	2.6E-09	7.5E-09	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.6E-08	NA	1.3E-08	3.9E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	3.0E-09	NA	1.6E-09	4.6E-09	NA	NA	NA	NA	NA
			Chemical Total	8.3E-07	NA	2.6E-07	1.1E-06		1.4E-02	NA	4.0E-03	1.8E-02
		Exposure Point Total					1.1E-06					1.8E-02
	Exposure Medium Total						1.1E-06					1.8E-02
Medium Total							1.1E-06					1.8E-02
Receptor Total							1.1E-06				Receptor HI Total	1.8E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.8E-02

TABLE 9.23.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Youth

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	1.9E-08	NA	8.0E-09	2.7E-08	Liver	6.0E-05	NA	2.5E-05	8.5E-05
			Heptachlor epoxide	2.0E-07	NA	8.2E-08	2.8E-07	Liver	1.2E-02	NA	4.9E-03	1.6E-02
			4,4'-DDE	4.0E-09	NA	1.7E-09	5.6E-09	NA	NA	NA	NA	NA
			Dieldrin	1.8E-08	NA	7.6E-09	2.6E-08	Liver	1.6E-04	NA	6.6E-05	2.2E-04
			4,4'-DDD	7.3E-09	NA	3.1E-09	1.0E-08	NA	NA	NA	NA	NA
			4,4'-DDT	1.2E-08	NA	1.5E-09	1.3E-08	Liver	4.9E-04	NA	6.1E-05	5.5E-04
			Chlordane	2.2E-07	NA	3.8E-08	2.6E-07	Liver	9.0E-03	NA	1.5E-03	1.0E-02
			Benzo(a)anthracene	2.9E-09	NA	1.6E-09	4.5E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	3.5E-08	NA	1.9E-08	5.4E-08	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	3.2E-09	NA	1.8E-09	5.0E-09	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	1.7E-08	NA	9.1E-09	2.6E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	2.0E-09	NA	1.1E-09	3.0E-09	NA	NA	NA	NA	NA
			Chemical Total	5.4E-07	NA	1.7E-07	7.1E-07		2.1E-02	NA	6.5E-03	2.8E-02
		Exposure Point Total					7.1E-07					2.8E-02
	Exposure Medium Total						7.1E-07					2.8E-02
Medium Total							7.1E-07					2.8E-02
Receptor Total							7.1E-07				Receptor HI Total	2.8E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 2.8E-02

TABLE 9.24.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Trespasser/Visitor
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	6.9E-08	NA	1.9E-08	8.8E-08	Liver	3.6E-04	NA	1.0E-04	4.6E-04
			Heptachlor epoxide	7.0E-07	NA	2.0E-07	9.0E-07	Liver	6.9E-02	NA	1.9E-02	8.9E-02
			4,4'-DDE	1.4E-08	NA	4.0E-09	1.8E-08	NA	NA	NA	NA	NA
			Dieldrin	6.5E-08	NA	1.8E-08	8.3E-08	Liver	9.5E-04	NA	2.6E-04	1.2E-03
			4,4'-DDD	2.6E-08	NA	7.3E-09	3.4E-08	NA	NA	NA	NA	NA
			4,4'-DDT	4.3E-08	NA	3.6E-09	4.6E-08	Liver	2.9E-03	NA	2.5E-04	3.2E-03
			Chlordane	8.1E-07	NA	9.1E-08	9.0E-07	Liver	5.4E-02	NA	6.0E-03	6.0E-02
			Benzo(a)anthracene	1.0E-08	NA	3.8E-09	1.4E-08	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.2E-07	NA	4.5E-08	1.7E-07	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.2E-08	NA	4.2E-09	1.6E-08	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	6.0E-08	NA	2.2E-08	8.2E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	7.1E-09	NA	2.6E-09	9.6E-09	NA	NA	NA	NA	NA
			Chemical Total	1.9E-06	NA	4.2E-07	2.4E-06		1.3E-01	NA	2.6E-02	1.5E-01
		Exposure Point Total					2.4E-06					1.5E-01
	Exposure Medium Total						2.4E-06					1.5E-01
Medium Total							2.4E-06					1.5E-01
Receptor Total							2.4E-06				Receptor HI Total	1.5E-01

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.5E-01

TABLE 9.25.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Construction Worker
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	2.8E-08	NA	3.9E-09	3.2E-08	Liver	8.8E-04	NA	1.2E-04	1.0E-03
			Heptachlor epoxide	2.9E-07	NA	4.0E-08	3.3E-07	Liver	1.7E-01	NA	2.4E-02	2.0E-01
			4,4'-DDE	5.9E-09	NA	8.1E-10	6.7E-09	NA	NA	NA	NA	NA
			Dieldrin	2.7E-08	NA	3.7E-09	3.0E-08	Liver	2.3E-03	NA	3.2E-04	2.7E-03
			4,4'-DDD	1.1E-08	NA	1.5E-09	1.2E-08	NA	NA	NA	NA	NA
			4,4'-DDT	1.8E-08	NA	7.2E-10	1.8E-08	Liver	7.2E-03	NA	3.0E-04	7.5E-03
			Chlordane	3.3E-07	NA	1.8E-08	3.5E-07	Liver	1.3E-01	NA	7.3E-03	1.4E-01
			Benzo(a)anthracene	4.3E-09	NA	7.7E-10	5.1E-09	NA	NA	NA	NA	NA
			Benzo(a)pyrene	5.1E-08	NA	9.2E-09	6.1E-08	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	4.8E-09	NA	8.5E-10	5.6E-09	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	2.5E-08	NA	4.4E-09	2.9E-08	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	2.9E-09	NA	5.2E-10	3.4E-09	NA	NA	NA	NA	NA
			Chemical Total	8.0E-07	NA	8.5E-08	8.9E-07		3.2E-01	NA	3.2E-02	3.5E-01
		Exposure Point Total					8.9E-07					3.5E-01
	Exposure Medium Total						8.9E-07					3.5E-01
Medium Total							8.9E-07					3.5E-01
Receptor Total							8.9E-07				Receptor HI Total	3.5E-01

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 3.5E-01

TABLE 9.26.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	NA	NA	NA	NA	Liver	2.6E-04	NA	1.0E-04	3.6E-04
			Heptachlor epoxide	NA	NA	NA	NA	Liver	5.0E-02	NA	2.0E-02	7.0E-02
			4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dieldrin	NA	NA	NA	NA	Liver	6.8E-04	NA	2.7E-04	9.5E-04
			4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
			4,4'-DDT	NA	NA	NA	NA	Liver	2.1E-03	NA	2.5E-04	2.4E-03
			Chlordane	NA	NA	NA	NA	Liver	3.9E-02	NA	6.2E-03	4.5E-02
			Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Chemical Total	0.0E+00	NA	0.0E+00	0.0E+00		9.2E-02	NA	2.7E-02	1.2E-01
		Exposure Point Total					0.0E+00					1.2E-01
	Exposure Medium Total						0.0E+00					1.2E-01
Medium Total							0.0E+00					1.2E-01
Receptor Total							0.0E+00				Receptor HI Total	1.2E-01

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.2E-01

TABLE 9.27.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	NA	NA	NA	NA	Liver	2.4E-03	NA	6.7E-04	3.1E-03
			Heptachlor epoxide	NA	NA	NA	NA	Liver	4.7E-01	NA	1.3E-01	6.0E-01
			4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dieldrin	NA	NA	NA	NA	Liver	6.4E-03	NA	1.8E-03	8.1E-03
			4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
			4,4'-DDT	NA	NA	NA	NA	Liver	2.0E-02	NA	1.7E-03	2.1E-02
			Chlordane	NA	NA	NA	NA	Liver	3.6E-01	NA	4.1E-02	4.0E-01
			Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Chemical Total	0.0E+00	NA	0.0E+00	0.0E+00		8.6E-01	NA	1.8E-01	1.0E+00
		Exposure Point Total					0.0E+00					1.0E+00
	Exposure Medium Total						0.0E+00					1.0E+00
Medium Total							0.0E+00					1.0E+00
Receptor Total							0.0E+00				Receptor HI Total	1.0E+00

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 1.0E+00

TABLE 9.28.RME

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

REASONABLE MAXIMUM EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child/Adult

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	6.6E-07	NA	2.1E-07	8.7E-07	Liver	NA	NA	NA	NA
			Heptachlor epoxide	6.8E-06	NA	2.1E-06	8.9E-06	Liver	NA	NA	NA	NA
			4,4'-DDE	1.4E-07	NA	4.3E-08	1.8E-07	NA	NA	NA	NA	NA
			Dieldrin	6.2E-07	NA	2.0E-07	8.2E-07	Liver	NA	NA	NA	NA
			4,4'-DDD	2.5E-07	NA	8.0E-08	3.3E-07	NA	NA	NA	NA	NA
			4,4'-DDT	4.1E-07	NA	3.9E-08	4.5E-07	Liver	NA	NA	NA	NA
			Chlordane	7.8E-06	NA	9.8E-07	8.8E-06	Liver	NA	NA	NA	NA
			Benzo(a)anthracene	1.0E-07	NA	4.1E-08	1.4E-07	NA	NA	NA	NA	NA
			Benzo(a)pyrene	1.2E-06	NA	4.9E-07	1.7E-06	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	1.1E-07	NA	4.6E-08	1.6E-07	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	5.8E-07	NA	2.4E-07	8.2E-07	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	6.8E-08	NA	2.8E-08	9.6E-08	NA	NA	NA	NA	NA
			Chemical Total	1.9E-05	NA	4.5E-06	2.3E-05		0.0E+00	NA	0.0E+00	0.0E+00
		Exposure Point Total					2.3E-05					0.0E+00
	Exposure Medium Total						2.3E-05					0.0E+00
Medium Total							2.3E-05					0.0E+00
Receptor Total							2.3E-05				Receptor HI Total	0.0E+00

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

TABLE 9.1.CTE

SUMMARY OF RECEPTOR RISKS AND HAZARDS FOR COPCs

CENTRAL TENDENCY EXPOSURE

Site 83, MCAS Cherry Point

Scenario Timeframe: Future
Receptor Population: Resident
Receptor Age: Child

Medium	Exposure Medium	Exposure Point	Chemical of Potential Concern	Carcinogenic Risk				Non-Carcinogenic Hazard Quotient				
				Ingestion	Inhalation	Dermal	Exposure Routes Total	Primary Target Organ(s)	Ingestion	Inhalation	Dermal	Exposure Routes Total
Soil*	Soil*	Soil* (Lowland Area)	Heptachlor	NA	NA	NA	NA	Liver	2.3E-04	NA	2.5E-05	2.5E-04
			Heptachlor epoxide	NA	NA	NA	NA	Liver	2.4E-02	NA	2.6E-03	2.6E-02
			4,4'-DDE	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dieldrin	NA	NA	NA	NA	Liver	1.5E-03	NA	1.7E-04	1.7E-03
			4,4'-DDD	NA	NA	NA	NA	NA	NA	NA	NA	NA
			4,4'-DDT	NA	NA	NA	NA	Liver	3.4E-03	NA	1.1E-04	3.5E-03
			Chlordane	NA	NA	NA	NA	Liver	2.7E-02	NA	1.2E-03	2.8E-02
			Benzo(a)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(a)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Benzo(b)fluoranthene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Dibenz(a,h)anthracene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Indeno(1,2,3-cd)pyrene	NA	NA	NA	NA	NA	NA	NA	NA	NA
			Chemical Total	0.0E+00	NA	0.0E+00	0.0E+00		5.6E-02	NA	4.2E-03	6.0E-02
		Exposure Point Total					0.0E+00					6.0E-02
	Exposure Medium Total						0.0E+00					6.0E-02
Medium Total							0.0E+00					6.0E-02
Receptor Total							0.0E+00				Receptor HI Total	6.0E-02

Soil* = Surface soil and subsurface soil combined.

HI = Hazard Index

NA = Not available/not applicable

Total Liver HI Across All Media = 6.0E-02

Response To Comments
Draft Technical Memorandum Summary of the Updated Human Health Risk Assessment OU 1, Site 83
MCAS Cherry Point, North Carolina

August 26, 2010

Comments received by email on August 3, 2010 from George Lane, North Carolina Department of Environment and Natural Resources (NCDENR) and on August 9, 2010 from Gena Townsend, U.S. Environmental Protection Agency (USEPA).

NCDENR Comments

1. Attachment 1, RAGS Part D Tables: It is unclear to the reader why the "Protection for Groundwater SSLs" were included as ARARs in these tables.

   Navy Response: the Protection for Groundwater SSLs have been presented in past HHRA screening tables, however, they are not applicable to this assessment. They will be removed from the RAGS Part D Table 2s.

2. The RME non-carcinogenic hazard for the future child resident is slightly above 1 and should be evaluated further.

   Navy Response: The RME non-carcinogenic hazard for the future child resident is 1, when rounded to the correct significant digits for comparison to the target HI of 1. Therefore, further evaluation of this exposure is not necessary. However, to further support this conclusion, the CTE non-carcinogenic hazard will be calculated for the future child resident exposed to soil in the lowland area.

EPA Comments

1. Introduction. The introduction to the Tech Memo notes that data from the earlier investigation was not used in this updated risk assessment. The text says that the "historical information is limited or suspect..." but does not provide any additional detail. The text should include a brief summary of the limitations of the historical data that precluded its use in this risk assessment.

   Navy Response: As stated in the Site 83 Soil Delineation Sampling and Analysis Plan and the Site Soil Investigation Report: "the objectives of the additional soil sampling at Site 83 were to confirm residual contamination of polycyclic aromatic hydrocarbons (PAHs), pesticides, and lead at the site, characterize portions of the site where historical information is limited or suspect, and delineate the vertical and horizontal extent of impacted site soils".

   The 2009 soil investigation was designed to confirm elevated concentrations from the historical investigations conducted in 1998, 2000, and 2004, and address potential data gaps. Text will be added in the technical memorandum that state:

"The Site 83 soil investigation study included a more comprehensive, grid-based sampling approach, overlapped areas characterized by the historical investigations, and presents current site conditions. Therefore, the risk evaluation was conducted only on the 2009 soil data."

The term "suspect" will be removed from the text.

2. Section 2.1. This section indicates that analyses for a narrow range of contaminants were conducted for the samples collected for this investigation. The rationale for limiting the scope of the analyses is not provided, and it is unclear if the limited analyses conducted are appropriate based on the limitations of the historical data at the site. Additional detail concerning the selection of the limited scope analyses should be provided in the text.

   Navy Response: The sampling was performed to confirm residual contamination in the soil. Additionally, the previous investigations and assessments identified the PAHs, pesticides, and lead as the constituents of potential concern at the site, which was why they were the focus of this investigation.

3. Section 2.2. This section describes a separate screening step conducted for inhalation of contaminants from fugitive dust. The screening was done by calculating airborne air concentrations and comparing to residential air RSLs. This type of comparison is unnecessary as the generic residential soil RSL includes an inhalation component. The fugitive air pathway is essentially being screened twice. The separate screening step against the residential air RSL should be deleted. If a soil constituent exceeds the residential soil RSL, it should be carried forward for all exposure pathways. These constituents may contribute to risks that are being evaluated for other pathways.

   Navy Response: It is true that the residential soil RSLs include the fugitive air pathway, in addition to the incidental ingestion and dermal contact pathways. However, the air pathway contributes very little to the RSL (if you remove the portion associated with the air pathway the RSL value remains the same for most constituents). Therefore, to focus the risk calculation on the pathways and constituents of potential concern, the soil to air pathway was screened in addition to the total soil exposure pathway. Additionally, the calculated air concentrations were generally over two orders of magnitude lower than the ambient air RSLs. Therefore, eliminating the soil-air exposure pathway at the screening step of the risk assessment did not impact the results of the HHRA, and no additional risks or constituents would be identified as chemicals of concern.

4. Section 2.3.2. In keeping with Comment 3, inhalation of soil particulate should be included as a potential exposure pathway for the exposure scenarios described in this section.

   Navy Response: See response to Comment 3. As discussed in Section 2.3.2, this pathway was identified as a potential exposure pathway, however it was stated that this pathway is incomplete as no COPCs were identified.

5. Section 2.3.3. Although the fugitive dust pathway was excluded in Section 2.3.2 as a pathway, exposure point concentrations were calculated for the pathway in risk assessment calculations in this section. A consistent approach to the inhalation

pathway is not presented in this Tech Memo. As noted in number Comment 3, Region 4 recommends including and calculating risks for the fugitive dust pathway. The document should be revised accordingly.

Navy Response: See response to Comment 3. Exposure point concentrations were not calculated for this pathway (no RAGS Part D table 3s were prepared for this pathway). No changes are necessary to the report.