#### **Final**

## Site Investigation Report Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7)

## Fort McClellan Calhoun County, Alabama

### **Prepared for:**

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**Revision 0** 

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### **Executive Summary**

In accordance with Contract Number DACA21-96-D-0018, Task Order CK05, IT Corporation completed a site investigation (SI) at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), at Fort McClellan in Calhoun County, Alabama. The SI was conducted to determine whether chemical constituents are present at the site, and, if present, whether the concentrations present an unacceptable risk to human health or the environment. The SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), consisted of the sampling and analysis of 63 surface soil screening samples, 4 subsurface soil samples, 1 surface water sample, and 1 sediment sample. Four direct-push soil borings installed at the site provided site-specific geological characterization information.

The surface soils screening for hydrocarbons at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), indicated that total petroleum hydrocarbons-diesel range organics (TPH-DRO) were present in surface soils. TPH-DRO concentrations ranged from less than 11 mg/kg to 100 mg/kg. However, the TPH-DRO data were collected for screening purposes only; therefore, instrument calibration requirements for the method were waived. Consequently, the quantitative results of this screening level TPH-DRO analysis should be considered estimated.

Chemical analysis of the four subsurface soil samples (including two subsurface soil samples that were relocated to the locations with the highest surface soil screening results), one surface water sample, and one sediment sample was limited to SVOCs only. SVOCs were not detected in any of the subsurface soil, surface water, or sediment samples collected at the site. In the future land-use scenario, portions of Parcel 122(7) will be reused for retail, passive recreation, and for the Eastern Bypass. Under these land-use scenarios, the concentrations of TPH-DRO in surface soils are not expected to pose a significant threat to human health or ecological receptors.

Based on the results of the SI, past operations at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), do not appear to have adversely impacted the environment. The low levels of TPH-DRO detected in surface soils at the site do not pose an unacceptable risk to human health and the environment. Therefore, IT recommends "No Further Action" and unrestricted land reuse with regard to hazardous, toxic, and radioactive waste at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

#### 1.0 Introduction

The U.S. Army has selected Fort McClellan (FTMC) located in Calhoun County, Alabama, for closure by the Base Realignment and Closure (BRAC) Commission under Public Laws 100-526 and 101-510. The 1990 Base Closure Act, Public Law 101-510, established the process by which U.S. Department of Defense (DOD) installations would be closed or realigned. The BRAC Environmental Restoration Program requires investigation and cleanup of federal properties prior to transfer to the public domain. The U.S. Army is conducting environmental studies of the impact of suspected contaminants at parcels at FTMC under the management of the U.S. Army Corps of Engineers (USACE)-Mobile District. The USACE contracted with IT Corporation (IT) to perform the site investigation (SI) at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), under Contract Number DACA21-96-D-0018, Task Order CK05.

This SI report presents specific information and results compiled from the SI, including field sampling and analysis, conducted at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

#### 1.1 Project Description

The Former Fog Oil Storage Area West of the Skeet Range was identified as an area to be investigated prior to property transfer. The site was classified as a Category 7 site in the environmental baseline survey (EBS) (Environmental Science and Engineering, Inc. [ESE], 1998). Category 7 sites are areas that are not evaluated and/or that require further evaluation.

A site-specific field sampling plan (SFSP) attachment (IT, 1998a) and a site-specific safety and health plan (SSHP) attachment were finalized in December 1998. The SFSP and SSHP were prepared to provide technical guidance for sample collection and analysis at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). The SFSP was used in conjunction with the SSHP as attachments to the installation-wide work plan (IT, 1998b) and the installation-wide sampling and analysis plan (SAP) (IT, 2000a). The SAP includes the installation-wide safety and health plan (SHP) and quality assurance plan (QAP).

The SI included fieldwork to collect 63 surface soil screening samples, 4 subsurface soil samples, 1 surface water sample, and 1 sediment sample. Data from the field investigation were used to determine whether potential site-specific chemicals are present at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

#### 1.2 Purpose and Objectives

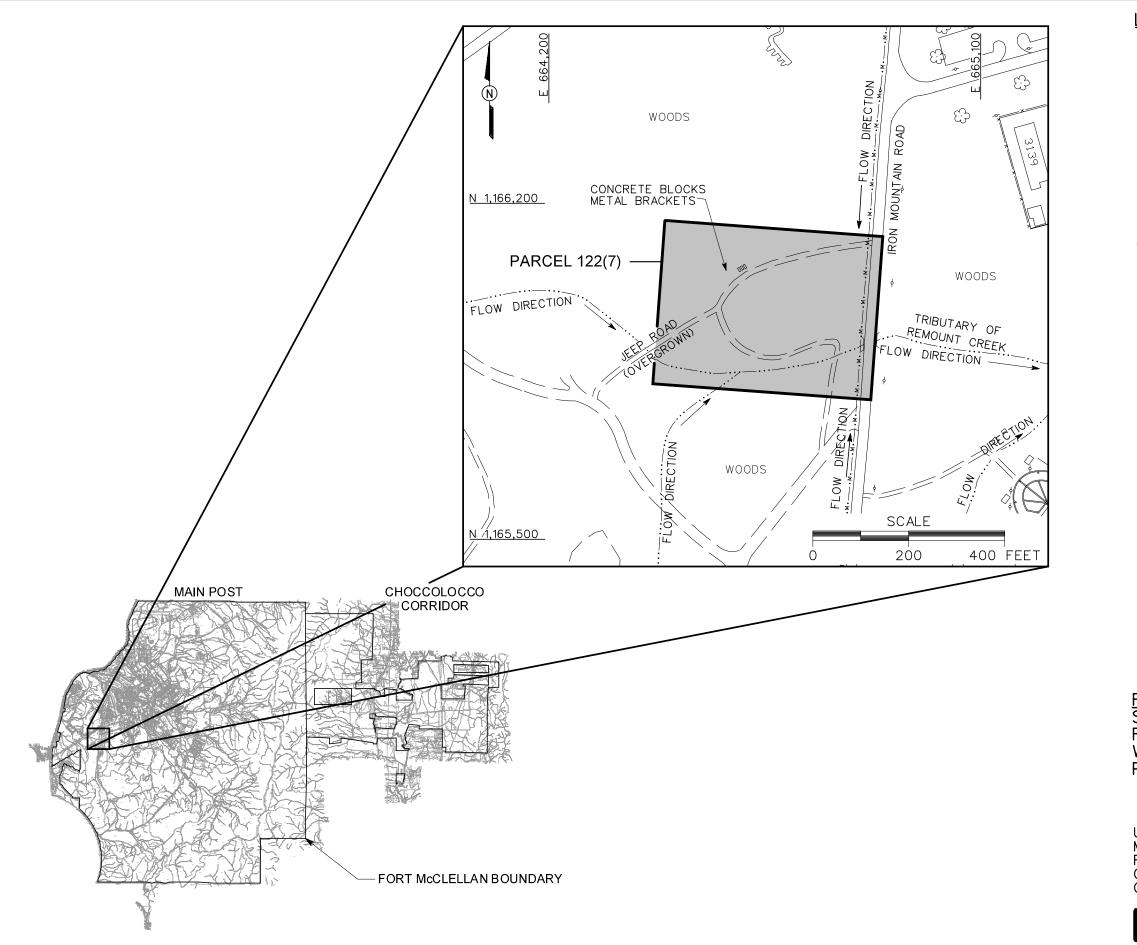
The SI program was designed to collect data from site media and provide a level of defensible data and information in sufficient detail to determine whether chemical constituents are present at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), at concentrations that present an unacceptable risk to human health or the environment. Based on the conclusions presented in this SI report, the BRAC Cleanup Team will decide either to propose "No Further Action" at the site or to conduct additional work at the site.

#### 1.3 Site Description and History

The Former Fog Oil Storage Area West of the Skeet Range is located just west of Iron Mountain Road on the Main Post near the skeet range (Figure 1-1). The dates of use for the site could not be determined. The parcel, which covers approximately 3.5 acres, is bounded by mostly wooded or undeveloped areas (Figure 1-2). The overgrown remains of a dirt road traverse the site from northeast to southwest. This road and the cleared area (Parcel 122[7]) are visible only in the 1949 photograph composite of the Environmental Photographic Interpretation Center report (U.S. Environmental Protection Agency [EPA], 1990). The entire site is now covered with trees and brush. Near the center of the site, concrete blocks, metal stays, and brackets were found by IT personnel during the June 1998 site walk. These items may be the remains of fog oil drum racks.

Fog oil was used by the military to produce an obscurant for concealing troops, beach landings, and supplies during World War II and the Korean War. Fog oil smoke can be produced from mobile personnel carriers (mobile smoke) or from stationary locations (static smoke). The petroleum distillate the military labels "fog oil" is also used as diesel engine lubricating oil. Industrial uses of the oil are in metal-working oils, cutting oils, newspaper ink, agricultural pesticides, livestock spray, and medicinal uses such as laxatives (3D International Environmental Group [3D], 1996).

Fog oil is the middle distillate product of crude petroleum oil. There is not an exact formulation for fog oil, and it can be described as a mineral oil, petroleum distillate, or hydrotreated heavy napthenic base oil (3D, 1996). The military has used standard grade fuels (SGF 1 and SGF 2), diesel fuel, jet fuel petroleum grade 4, and kerosene to produce smoke (3D, 1996). SGF 2 is similar to Society of Automotive Engineers No. 20 motor oil (Brubaker, et al., 1992). SGF 2 has not been used since 1956; SGF 1 has not been supplied to the military since the 1970s (3D, 1996). SGF 2 has been modified to reduce aromatic hydrocarbons. An analysis of SGF 2



**LEGEND** 

UNIMPROVED ROADS AND PARKING

PAVED ROADS AND PARKING

BUILDING



TREES / TREELINE



PARCEL BOUNDARY





— CULVERT WITH HEADWALL



SURFACE DRAINAGE / CREEK



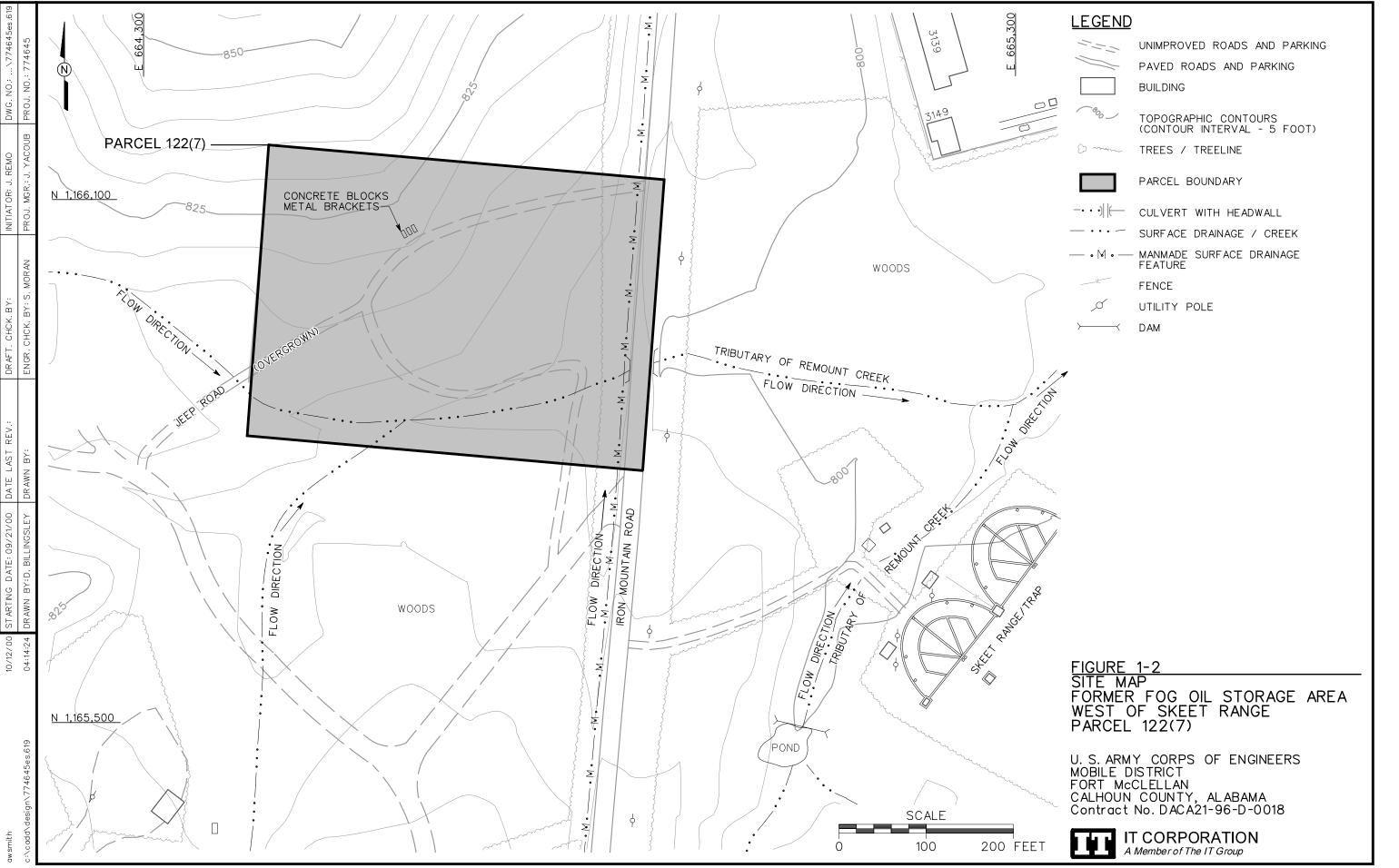
MANMADE SURFACE DRAINAGE FEATURE

UTILITY POLE

FIGURE 1-1 SITE LOCATION MAP FORMER FOG OIL STORAGE AREA WEST OF SKEET RANGE PARCEL 122(7)

U. S. ARMY CORPS OF ENGINEERS MOBILE DISTRICT FORT McCLELLAN CALHOUN COUNTY, ALABAMA Contract No. DACA21-96-D-0018





performed in August 1995 indicated the presence of aliphatic, alkane, and alkene hydrocarbons (3D, 1996); aromatic hydrocarbons were not detected in the sample. Early fog oils contained approximately 50 percent aliphatic compounds and 50 percent aromatic compounds.

The Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), falls within the "Possible Explosive Ordnance Impact Area" shown on Plate 10 of the FTMC Archive Search Report, Maps (USACE, 1998).

Parcel 122(7) slopes to the southeast and ranges in elevation from approximately 805 to 835 feet above mean sea level. Surface runoff follows topography and flows south-southeast toward a tributary to Remount Creek, which runs west to east through the southern portion of the site.

## 2.0 Previous Investigations

An EBS was conducted by ESE to document current environmental conditions of all FTMC property (ESE, 1998). The study was to identify sites that, based on available information, have no history of contamination and comply with DOD guidance for fast-track cleanup at closing installations. The EBS also provides a baseline picture of FTMC properties by identifying and categorizing the properties by seven criteria:

- 1. Areas where no storage, release, or disposal of hazardous substances or petroleum products has occurred (including no migration of these substances from adjacent areas)
- 2. Areas where only release or disposal of petroleum products has occurred
- 3. Areas where release, disposal, and/or migration of hazardous substances has occurred, but at concentrations that do not require a removal or remedial response
- 4. Areas where release, disposal, and/or migration of hazardous substances has occurred, and all removal or remedial actions to protect human health and the environment have been taken
- 5. Areas where release, disposal, and/or migration of hazardous substances has occurred, and removal or remedial actions are underway, but all required remedial actions have not yet been taken
- 6. Areas where release, disposal, and/or migration of hazardous substances has occurred, but required actions have not yet been implemented
- 7. Areas that are not evaluated or require additional evaluation.

The EBS was conducted in accordance with Community Environmental Response Facilitation Act (CERFA) (CERFA-Public Law 102-426) protocols and DOD policy regarding contamination assessment. Record searches and reviews were performed on all reasonably available documents from FTMC, the Alabama Department of Environmental Management (ADEM), EPA Region IV, and Calhoun County, as well as a database search of Comprehensive Environmental Response, Compensation, and Liability Act-regulated substances, petroleum products, and Resource Conservation and Recovery Act-regulated facilities. Available historical maps and aerial photographs were reviewed to document historical land uses. Personal and telephone interviews of past and present FTMC employees and military personnel were

conducted. In addition, visual site inspections were conducted to verify conditions of specific property parcels.

The Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), was classified as a Category 7 CERFA site. The site lacked adequate documentation and, therefore, required additional evaluation to determine the environmental condition of the parcel.

## 3.0 Current Site Investigation Activities

This chapter summarizes SI activities conducted by IT at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), including unexploded ordnance (UXO) avoidance activities, hydrocarbon screening, and environmental sampling and analysis.

#### 3.1 UXO Avoidance

UXO avoidance was performed at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), following methodology outlined in Section 4.1.7 of the SAP (IT, 2000a). IT UXO personnel used a Schonstedt Heliflux Magnetic Locator to perform a surface sweep of the parcel prior to site access. After the parcel was cleared for access, sample locations were cleared using a Foerster Ferex Electromagnetic Detector following procedures outlined in Section 4.1.7.3 of the SAP (IT, 2000a).

#### 3.2 Hydrocarbon Screening

Surface soil screening samples for hydrocarbon analysis were collected from 63 locations at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). The surface soil screening sample locations and rationale are presented in Table 3-1. The sampling locations were placed at 50-foot intervals in a grid covering the approximately 2-acre parcel, as shown on Figure 3-1. The surface soil screening samples were analyzed for total petroleum hydrocarbons-diesel range organics (TPH-DRO) according to the methodology presented in Screening Methodology in this section.

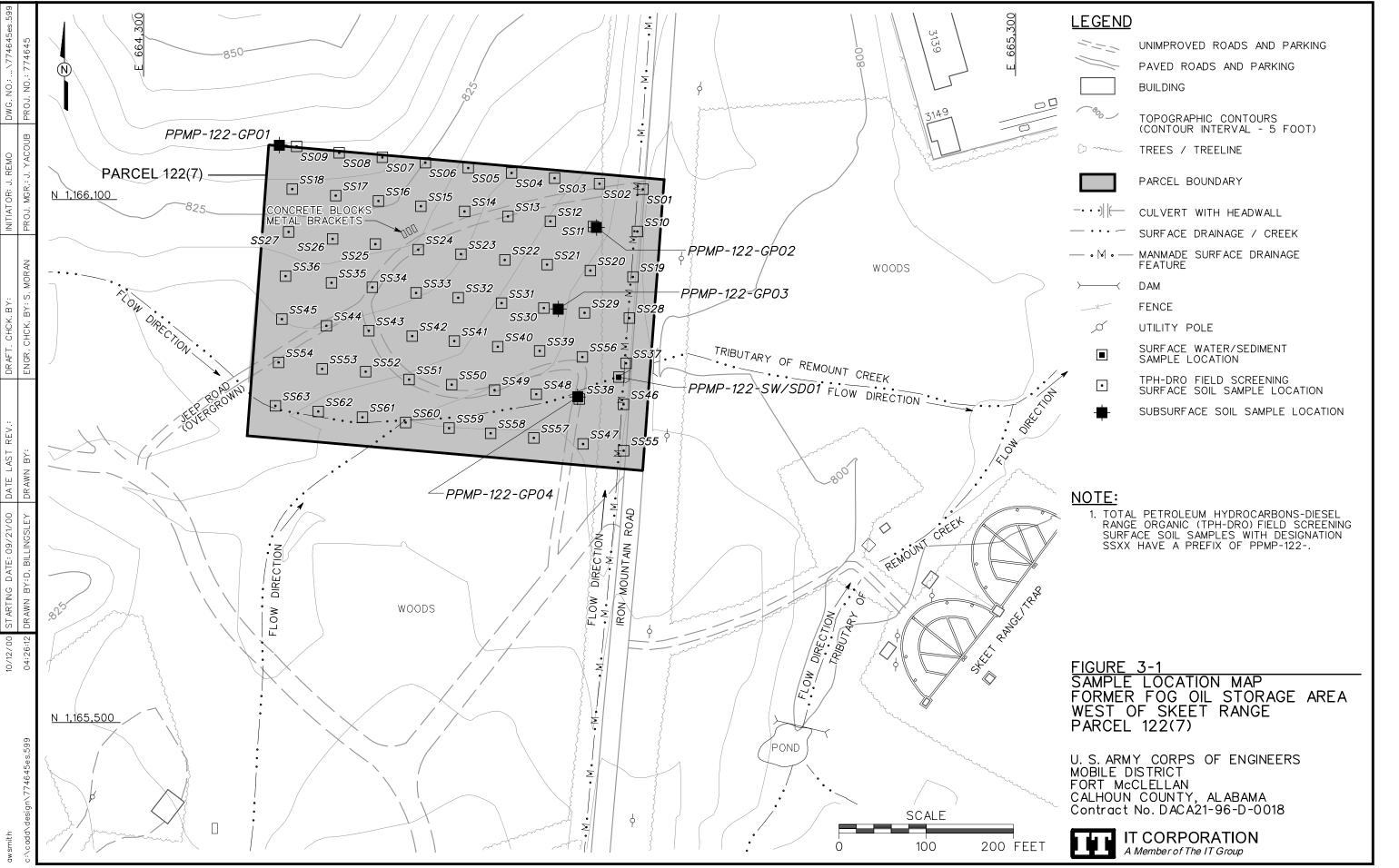
**Sample Collection.** Surface soil screening samples were collected from the upper 0.5 foot of soil with direct-push technology using the methodology specified in Section 4.9.1.1 of the SAP (IT, 2000a). Surface soil screening samples were collected by first removing surface debris, such as rocks and vegetation, from the immediate sample area. The soil was collected with the sampling device and screened with a photoionization detector (PID) in accordance with Section 4.7.1.1 of the SAP (IT, 2000a). The sample was transferred to a clean stainless-steel bowl, homogenized, and placed in the appropriate sample containers. Sample collection logs are included in Appendix A.

**Screening Methodology.** Surface soil analyses for hydrocarbon compounds were performed by Quanterra Environmental Services in Knoxville, Tennessee using a screening-level version of EPA Method 8015B for TPH-DRO. This analytical method was selected because fog oil is a middle distillate product of crude petroleum oil and consists of various mixtures of medium to

Table 3-1

## Sampling Locations and Rationale Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

Sample Designation	Media Sampled	Sample Location Rationale
Surface Soil Screening, Locations PPMP-122-SS01 through SS63	Surface	Surface soil screening samples for heavy hydrocarbons analysis were collected at 63 locations within the parcel. The screening locations were evenly spaced on 50-foot centers in a grid covering approximately 2 acres.
PPMP-122-GP01	Soil	A subsurface soil sample was collected at the highest elevation within the parcel. This sampling location is in the northwest corner of the parcel and is upgradient of any potential contaminants on the site.
PPMP-122-GP02		A subsurface soil sample was collected at a surface soil screening location (PPMP-122-SS11) that had elevated TPH-DRO concentrations.
PPMP-122-GP03		A subsurface soil sample was collected at a surface soil screening location (PPMP-122-SS30) that had elevated TPH-DRO concentrations.
PPMP-122-GP04		A subsurface soil sample was collected from a low elevation within the parcel, where runoff could collect before infiltrating to the subsurface soil or migrating to off site surface water bodies.
PPMP-122-SW/SD01	Surface Water Sediment	Surface water and sediment samples were collected from an intermittent tributary to Remount Creek that runs through the southern portion of the parcel.



heavy molecular weight hydrocarbon compounds found in fuels and motor oil from which fog oil is derived (IT, 1998a). Instrument calibration requirements for the screening-level analysis were waived to facilitate the analysis. As such, the quantitative results of this screening level TPH-DRO analysis should be considered estimated. This approach was selected over the on-site gas chromatography analysis described in the SFSP (IT,1998a) because it was more cost effective for the small number of samples collected.

Based on the TPH-DRO surface soil screening results, two of the four proposed subsurface soil borings (PPMP-122-GP02 and PPMP-122-GP03) were relocated to areas where the surface soil screening data indicated elevated concentrations of TPH-DRO. Section 5.1 presents the surface soil screening results. Appendix A contains the sample collection logs, and Appendix B contains the analytical reports for the surface soil screening samples.

#### 3.3 Environmental Sampling

The environmental sampling performed during the SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), included the collection of subsurface soil samples and surface water and sediment samples for chemical analysis. The sample locations were determined by observing site physical characteristics during a site walkover, by reviewing historical documents pertaining to activities conducted at the site, and based on the surface soil hydrocarbon screening results. The sample locations, media, and rationale are summarized in Table 3-1. Sampling locations are shown on Figure 3-1. Samples were submitted for laboratory analysis of site-related parameters listed in Section 3.5.

#### 3.3.1 Subsurface Soil Sampling

Subsurface soil samples were collected from four soil borings at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), as shown on Figure 3-1. Subsurface soil sampling locations and rationale are presented in Table 3-1. Subsurface soil sample designations, depths, and quality assurance/quality control (QA/QC) samples are listed in Table 3-2. Soil boring sampling locations were determined in the field by the on-site geologist based on the sampling rationale, the results of surface soil screening, the presence of surface structures, and site topography. IT contracted TEG, Inc., a direct-push technology subcontractor, to assist in subsurface soil sample collection.

#### Table 3-2

## Subsurface Soil Sample Designations and QA/QC Samples Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

		Sample		QA/QC Samples					
Sample		Depth	Field	Field		Analytical			
Location	Sample Designation	(ft. bgs)	Duplicates	Splits	MS/MSD	Suite			
PPMP-122-GP01	PPMP-122-GP01-DS-KY0001-REG	6-8				TCL SVOCs			
PPMP-122-GP02	PPMP-122-GP02-DS-KY0002-REG	2-5				TCL SVOCs			
PPMP-122-GP03	PPMP-122-GP03-DS-KY0003-REG	6-8				TCL SVOCs			
PPMP-122-GP04	PPMP-122-GP04-DS-KY0004-REG	3-6	PPMP-122-GP04-DS-KY0005-FD	PPMP-122-GP04-DS-KY0006-FS	PPMP-122-GP04-DS-KY0004-MS PPMP-122-GP04-DS-KY0004-MSD	TCL SVOCs			

FD - Field duplicate.

FS - Field split.

ft. bgs - feet below ground surface.

MS/MSD - Matrix spike/matrix spike duplicate.

QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.

TCL - Target compound list.

**Sample Collection.** Subsurface soil samples were collected from soil borings at depths greater than 1 foot below ground surface (bgs) in the unsaturated zone. The soil borings were advanced and samples collected using the direct-push sampling procedures specified in Section 4.9.1.1 of the SAP (IT, 2000a). Sample collection logs are included in Appendix A. The samples were analyzed for semivolatile organic compounds (SVOC) using EPA Method 8270C.

Subsurface soil samples were collected continuously until direct-push sampler refusal was encountered. Samples were field screened using a PID in accordance with Section 4.7.1.1 of the SAP (IT, 2000a) to measure for volatile organic vapors. The sample displaying the highest reading was selected and sent to the laboratory for analysis; however, at those locations where PID readings were not greater than background, the deepest sample interval above the saturated zone was submitted for analysis. The sample was transferred from the sampler to a clean stainless-steel bowl, homogenized, and placed in the appropriate sample containers. Samples submitted for laboratory analysis are summarized in Table 3-2. The on-site geologist constructed a detailed boring log for each soil boring. The boring log for each borehole is included in Appendix C.

#### 3.3.2 Surface Water Sampling

One surface water sample was collected from the tributary to Remount Creek in the southern portion of Parcel 122(7), as shown on Figure 3-1. The surface water sampling location and rationale are listed in Table 3-1. The surface water sample designation and QA/QC samples are listed in Table 3-3.

**Sample Collection.** The surface water sample was collected in accordance with the procedures specified in Section 4.9.1.3 of the SAP (IT, 2000a). The sample was collected by dipping a stainless-steel pitcher in the water and pouring the water into the appropriate sample container. The sample was collected after the field parameters had been measured using a calibrated water quality meter. The field parameter readings are presented in Table 3-4. The sample collection log is included in Appendix A. The sample was analyzed for SVOCs using EPA Method 8270C.

#### 3.3.3 Sediment Sampling

One sediment sample was collected at the same location as the surface water sample, as shown on Figure 3-1. The sediment sampling location and rationale are listed in Table 3-1. The sediment sample designation is listed in Table 3-3.

#### Table 3-3

#### Surface Water and Sediment Sample Designations and QA/QC Samples Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

		Sample	QA/QC Samples			
Sample		Depth	Field	Field		Analytical
Location	Sample Designation	(ft. bgs)	Duplicates	Splits	MS/MSD	Suite
	PMP-122-SW/SD01-SW-KY2001-REG PMP-122-SW/SD01-SD-KY1001-REG	NA 0-0.5	PPMP-122-SW/SD01-SW-KY2002-FD	PPMP-122-SW/SD01-SW- KY2003-FS		TCL SVOCs, TOC, Grain size (sediment only)

FD - Field duplicate.

FS - Field split.

ft. bgs - feet below ground surface.

MS/MSD - Matrix spike/matrix spike duplicate.

NA - Not applicable.

QA/QC - Quality assurance/quality control.

SVOC - Semivolatile organic compound.

TCL - Target compound list.

TOC - Total organic carbon.

Table 3-4

# Surface Water Field Parameters Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

		Specific	Dissolved				
Sample		Conductivity	Oxygen	ORP	Temperature	Turbidity	рН
Location	Date	(mS/cm) <sup>a</sup>	(mg/L)	(mV)	(°C)	(NTU)	(SU)
PPMP-122-SW/SD01	8-Feb-99	0.243	5.8	229.1	11.76	5.7	5.29

<sup>&</sup>lt;sup>a</sup> Specific conductivity values standardized to millisiemens per centimeter.

°C - Degrees Celsius.

mg/L - Milligrams per liter.

mS/cm - millisiemens per centimeter.

mV - Millivolts.

NTU - Nephelometric turbidity unit.

ORP - Oxidation-reduction potential.

SU - Standard unit.

**Sample Collection.** The sediment sample was collected in accordance with the procedures outlined in Section 4.9.1.2 of the SAP (IT, 2000a). The sample was collected from the upper 0.5 foot of sediment with a stainless-steel hand auger. The sediment was transferred to a stainless-steel bowl, homogenized, and placed in the appropriate sample containers. The sample collection log is included in Appendix A. The sample was analyzed for the parameters listed in Table 3-3 using methods outlined in Section 3.5.

#### 3.4 Surveying of Sample Locations

Sample locations were surveyed using global positioning system survey techniques described in Section 4.3 of the SAP (IT, 2000a) and conventional civil survey techniques described in Section 4.19 of the SAP (IT, 2000a). Horizontal coordinates were referenced to the U.S. State Plane Coordinate System, Alabama East Zone, North American Datum of 1983. Elevations were referenced to the North American Vertical Datum of 1988. Horizontal coordinates and elevations are included in Appendix D.

#### 3.5 Analytical Program

The subsurface soil, surface water, and sediment samples collected during the SI were analyzed for target compound list SVOCs (EPA Method 8270C). In addition, the sediment sample was analyzed for total organic carbon (EPA Method 9060) and grain size (American Society for Testing and Materials Method D421/D422). The specific suite of analyses performed was based on the potential site-specific chemicals historically at the site and EPA, ADEM, FTMC, and USACE requirements.

The samples were analyzed using EPA SW-846 methods, including Update III methods where applicable, as presented in Table 6-1 in Appendix B of the SAP (IT, 2000a). Data were reported and evaluated in accordance with Corps of Engineers South Atlantic Savannah Level B criteria (USACE, 1994) and the stipulated requirements for the generation of definitive data (Section 3.1.2 of Appendix B of the SAP [IT, 2000a]). Chemical data were reported via hard-copy data packages by the laboratory using Contract Laboratory Program-like forms. These packages were validated in accordance with EPA National Functional Guidelines by Level III criteria. A summary of validated data is included in Appendix E. The Data Validation Summary Report is included as Appendix F.

#### 3.6 Sample Preservation, Packaging, and Shipping

Sample preservation, packaging, and shipping followed requirements specified in Section 4.13.2 of the SAP (IT, 2000a). Sample containers, sample volumes, preservatives, and holding times for the analyses required in this SI are listed in Chapter 5.0, Table 5-1, of Appendix B of the SAP

(IT, 2000a). Sample documentation and chain-of-custody records were recorded as specified in Section 4.13 of the SAP (IT, 2000a).

Completed analysis request and chain of custody records (Appendix A) were secured and included with each shipment of sample coolers to Quanterra Environmental Services in Knoxville, Tennessee. Split samples were shipped to USACE South Atlantic Division Laboratory in Marietta, Georgia.

#### 3.7 Investigation-Derived Waste Management and Disposal

Investigation-derived waste (IDW) was managed and disposed as outlined in Appendix D of the SAP (IT, 2000a). The IDW generated during the SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), was segregated as follows:

- Soil boring cuttings
- Decontamination fluids
- Personal protective equipment.

Solid IDW was stored inside the fenced area surrounding Buildings 335 and 336 in lined roll-off bins prior to characterization and final disposal. Solid IDW was characterized using toxicity characteristic leaching procedure analysis. Based on the results, soil boring cuttings and personal protective equipment generated during the SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), were disposed as nonregulated waste at the Industrial Waste Landfill on the Main Post of FTMC.

Liquid IDW was contained in the existing 20,000-gallon sump associated with the Building T-338 vehicle washrack. Liquid IDW was characterized by volatile organic compound, SVOC, and metals analyses. Based on the analyses, liquid IDW was discharged as nonregulated waste to the FTMC wastewater treatment plant on the Main Post.

#### 3.8 Variances/Nonconformances

One variance to the SFSP was recorded during completion of the SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). The variance did not alter the intent of the investigation or the sampling rationale presented in Table 4-2 of the SFSP (IT, 1998a). The variance to the SFSP is summarized in Table 3-5 and included in Appendix G.

There were not any nonconformances to the SFSP recorded during completion of the SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

Table 3-5

#### Variance to the Site-Specific Field Sampling Plan Former Fog Oil Storage Area, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

Variance to the SFSP	Justification for Variance	Impact to Site Investigation
relocated from their proposed locations. PPMP- 122-GP02 was moved approximately 50 feet		Relocating the two subsurface soil samples allowed more accurate determination of the subsurface soil contamination.

#### 3.9 Data Quality

The subsurface soil, surface water, and sediment analytical data are presented in tabular form in Appendix E. The field samples were collected, documented, handled, analyzed, and reported in a manner consistent with the SI work plan; the FTMC SAP and QAP; and standard, accepted methods and procedures. Sample collection logs pertaining to the collection of these samples were reviewed and organized for this report and are included in Appendix A. As discussed in Section 3.8, one variance to the SFSP was recorded during completion of the SI. However, the variance did not impact the usability of the data.

Data Validation. A complete (100 percent) Level III data validation effort was performed on the reported subsurface soil, surface water, and sediment analytical data. The TPH-DRO soil screening sample data were not validated. Appendix F consists of a data validation summary report that was prepared to discuss the results of the validation. Selected results were rejected or otherwise qualified based on the implementation of accepted data validation procedures and practices. These qualified parameters are highlighted in the report. The validation-assigned qualifiers were added to the FTMC IT Environmental Management System<sup>™</sup> database for tracking and reporting. The data presented in this report, except where qualified, meet the principle data quality objective for this SI.

#### 4.0 Site Characterization

Subsurface investigations performed at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), provided soil data used to characterize the geology of the site. Because no wells were installed at Parcel 122(7), a hydrogeological characterization was not performed.

#### 4.1 Regional and Site Geology

#### 4.1.1 Regional Geology

Calhoun County includes parts of two physiographic provinces, the Piedmont Upland Province and the Valley and Ridge Province. The Piedmont Upland Province occupies the extreme eastern and southeastern portions of the county and is characterized by metamorphosed sedimentary rocks. The generally accepted range in age of these metamorphics is Cambrian to Devonian.

The majority of Calhoun County, including the Main Post of FTMC, lies within the Appalachian fold-and-thrust structural belt (Valley and Ridge Province) where southeastward-dipping thrust faults with associated minor folding are the predominant structural features. The fold-and-thrust belt consists of Paleozoic sedimentary rocks that have been asymmetrically folded and thrust-faulted, with major structures and faults striking in a northeast-southwest direction.

Northwestward transport of the Paleozoic rock sequence along the thrust faults has resulted in the imbricate stacking of large slabs of rock referred to as thrust sheets. Within an individual thrust sheet, smaller faults may splay off the larger thrust fault, resulting in imbricate stacking of rock units within an individual thrust sheet (Osborne and Szabo, 1984). Geologic contacts in this region generally strike parallel to the faults, and repetition of lithologic units is common in vertical sequences. Geologic formations within the Valley and Ridge Province portion of Calhoun County have been mapped by Warman and Causey (1962), Osborne and Szabo (1984), and Moser and DeJarnette (1992), and vary in age from Lower Cambrian to Pennsylvanian.

The basal unit of the sedimentary sequence in Calhoun County is the Cambrian Chilhowee Group. The Chilhowee Group consists of the Cochran, Nichols, Wilson Ridge, and Weisner Formations (Osborne and Szabo, 1984) but in Calhoun County is either undifferentiated or divided into the Cochran and Nichols Formations and an upper undifferentiated Wilson Ridge and Weisner Formation. The Cochran is composed of poorly sorted arkosic sandstone and conglomerate with interbeds of greenish-gray siltstone and mudstone. Massive to laminated, greenish-gray and black mudstone makes up the Nichols Formation, with thin interbeds of

siltstone and very fine-grained sandstone (Szabo et al., 1988). These two formations are mapped only in the eastern part of the county.

The Wilson Ridge and Weisner Formations are undifferentiated in Calhoun County and consist of both coarse-grained and fine-grained clastics. The coarse-grained facies appears to dominate the unit and consists primarily of coarse-grained, vitreous quartzite, and friable, fine- to coarse-grained, orthoquartzitic sandstone, both of which locally contain conglomerate. The fine-grained facies consists of sandy and micaceous shale and silty, micaceous mudstone which are locally interbedded with the coarse clastic rocks. The abundance of orthoquartzitic sandstone and quartzite suggests that most of the Chilhowee Group bedrock in the vicinity of FTMC belongs to the Weisner Formation (Osborne and Szabo, 1984).

The Cambrian Shady Dolomite overlies the Weisner Formation northeast, east, and southwest of the Main Post and consists of interlayered bluish-gray or pale yellowish-gray sandy dolomitic limestone and siliceous dolomite with coarsely crystalline porous chert (Osborne et al., 1989). A variegated shale and clayey silt have been included within the lower part of the Shady Dolomite (Cloud, 1966). Material similar to this lower shale unit was noted in core holes drilled by the Alabama Geologic Survey on FTMC (Osborne and Szabo, 1984). The character of the Shady Dolomite in the FTMC vicinity and the true assignment of the shale at this stratigraphic interval are still uncertain (Osborne, 1999).

The Rome Formation overlies the Shady Dolomite and locally occurs to the northwest and southwest of the Main Post as mapped by Warman and Causey (1962) and Osborne and Szabo (1984). The Rome Formation consists of variegated, thinly interbedded grayish-red-purple mudstone, shale, siltstone, and greenish-red and light gray sandstone, with locally occurring limestone and dolomite. The Conasauga Formation overlies the Rome Formation and occurs along anticlinal axes in the northeastern portion of Pelham Range (Warman and Causey, 1962), (Osborne and Szabo, 1984) and the northern portion of the Main Post (Osborne et al., 1997). The Conasauga Formation is composed of dark-gray, finely to coarsely crystalline medium- to thick-bedded dolomite with minor shale and chert (Osborne et al., 1989).

Overlying the Conasauga Formation is the Knox Group, which is composed of the Copper Ridge and Chepultepec dolomites of Cambro-Ordovician age. The Knox Group is undifferentiated in Calhoun County and consists of light medium gray, fine to medium crystalline, variably bedded to laminated, siliceous dolomite and dolomitic limestone that weather to a chert residuum

(Osborne and Szabo, 1984). The Knox Group underlies a large portion of the Pelham Range area.

The Ordovician Newala and Little Oak Limestones overlie the Knox Group. The Newala Limestone consists of light to dark gray, micritic, thick-bedded limestone with minor dolomite. The Little Oak Limestone is comprised of dark gray, medium- to thick-bedded, fossiliferous, argillaceous to silty limestone with chert nodules. These limestone units are mapped together as undifferentiated at FTMC and other parts of Calhoun County. The Athens Shale overlies the Ordovician limestone units. The Athens Shale consists of dark-gray to black shale and graptolitic shale with localized interbedded dark gray limestone (Osborne et al., 1989). These units occur within an eroded "window" in the uppermost structural thrust sheet at FTMC and underlie much of the developed area of the Main Post.

Other Ordovician-aged bedrock units mapped in Calhoun County include the Greensport Formation, Colvin Mountain Sandstone, and Sequatchie Formation. These units consist of various siltstones, sandstones, shales, dolomites, and limestones, and are mapped as one, undifferentiated unit in some areas of Calhoun County. The only Silurian-age sedimentary formation mapped in Calhoun County is the Red Mountain Formation. This unit consists of interbedded red sandstone, siltstone, and shale with greenish-gray to red silty and sandy limestone.

The Devonian Frog Mountain Sandstone consists of sandstone and quartitic sandstone with shale interbeds, dolomudstone, and glauconitic limestone (Szabo et al., 1988). This unit locally occurs in the western portion of Pelham Range.

The Mississippian Fort Payne Chert and the Maury Formation overlie the Frog Mountain Sandstone and are composed of dark- to light-gray limestone with abundant chert nodules and greenish-gray to grayish-red phosphatic shale, with increasing amounts of calcareous chert toward the upper portion of the formation (Osborne and Szabo, 1984). These units occur in the northwestern portion of Pelham Range. Overlying the Fort Payne Chert is the Floyd Shale, also of Mississippian age, which consists of thin-bedded, fissile brown to black shale with thin intercalated limestone layers and interbedded sandstone. Osborne and Szabo (1984) reassigned the Floyd Shale, which was mapped by Warman and Causey (1962) on the Main Post of FTMC, to the Ordovician Athens Shale on the basis of fossil data.

The Jacksonville Thrust Fault is the most significant structural geologic feature in the vicinity of FTMC, both for its role in determining the stratigraphic relationships in the area and for its contribution to regional water supplies. The trace of the fault extends northeastward for approximately 39 miles between Bynum, Alabama and Piedmont, Alabama. The fault is interpreted as a major splay of the Pell City Fault (Osborne and Szabo, 1984). The Ordovician sequence that makes up the Eden thrust sheet is exposed at FTMC through an eroded "window," or "fenster," in the overlying thrust sheet. Rocks within the window display complex folding with the folds being overturned and tight to isoclinal. The carbonates and shales locally exhibit well-developed cleavage (Osborne and Szabo, 1984). The FTMC window is framed on the northwest by the Rome Formation, north by the Conasauga Formation, northeast, east, and southwest by the Shady Dolomite, and southeast and southwest by the Chilhowee Group (Osborne et al., 1997).

#### 4.1.2 Site Geology

The soil mapped at Parcel 122(7) is the Anniston and Allen gravelly clay loam. The Anniston and Allen gravelly clay loam is typically reddish brown and is derived from shale or limestone bedrock. This soil has slow infiltration and poor moisture capacity, which makes it very susceptible to erosion (U.S. Department of Agriculture, 1961).

Bedrock beneath Parcel 122(7) is mapped as the undifferentiated Ordovician Little Oak and Newala Limestones (Osborne et al., 1997). The Newala Limestone consists of light to dark gray, micritic, thick-bedded limestone with minor dolomite. The Little Oak Limestone consists of dark gray, medium- to thick-bedded, fossiliferous, argillaceous to silty limestone with chert nodules (Osborne et al., 1989).

Based on direct-push soil boring data collected during the SI, soils at the site consist of a reddish-brown, silty clay from the ground surface to approximately 3 to 4.5 feet bgs. This soil was underlain by a reddish-brown gravelly clay to the bottom of each boring at 6 to 8 feet bgs. The soil descriptions from the direct-push borings confirm that Anniston and Allen gravelly clay loam primarily underlies the site. Bedrock was not encountered during direct-push activities at Parcel 122(7). Appendix C contains the boring logs.

#### 4.2 Site Hydrology

Precipitation in the form of rainfall averages about 54 inches annually in Anniston, Alabama, with infiltration rates annually exceeding evapotranspiration rates (National Oceanic and Atmospheric Administration, 1998). The major surface water features on the Main Post of

FTMC include Remount Creek, Cane Creek, and Cave Creek. These waterways flow in a general northwest to westerly direction towards the Coosa River on the western boundary of Calhoun County.

Parcel 122(7) slopes to the southeast toward a tributary to Remount Creek and ranges in elevation from approximately 805 to 835 feet above mean sea level. Surface runoff follows topography and flows south-southeast toward the tributary to Remount Creek located in the southern portion of the parcel (Figure 3-1).

### 5.0 Summary of Analytical Results

The results of TPH-DRO surface soil screening and SVOC analysis of samples collected at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), indicate that TPH-DRO were present in surface soils. However, SVOCs were not detected in subsurface soil, surface water, and sediment samples collected at the site. TPH-DRO surface soil screening results are presented in Appendix B, and all other analytical results are presented in Appendix E.

#### 5.1 Surface Soil Screening Results

Sixty-three surface soil-screening samples were collected for TPH-DRO analysis at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). Surface soil screening samples were collected from the upper 0.5 foot of soil at the locations shown on Figure 3-1. The screening results are presented in Table 5-1 and shown on Figure 5-1.

TPH-DRO concentrations in the surface soil screening samples ranged from less than 11 milligrams per kilogram (mg/kg) to 100 mg/kg (Table 5-1). The highest concentrations of TPH-DRO were at PPMP-122-SS11 and PPMP-122-SS38 (Figure 5-1). Based on the TPH-DRO screening results, subsurface soil sample PPMP-122-GP02 was relocated to surface soil screening location PPMP-122-SS11, and subsurface soil sample PPMP-122-GP03 was relocated to surface soil screening location PPMP-122-SS30. The results of the SVOC analysis of the subsurface soil samples collected are presented in Section 5.2

#### 5.2 Subsurface Soil Analytical Results

Four subsurface soil samples were collected for SVOC analysis at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). Subsurface soil samples were collected at depths greater than 1 foot bgs at the locations shown on Figure 3-1.

**Semivolatile Organic Compounds**. SVOCs were not detected in the subsurface soil samples collected at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

#### 5.3 Surface Water Analytical Results

One surface water sample was collected at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). The surface water sample location is shown on Figure 3-1.

**Semivolatile Organic Compounds**. SVOCs were not detected in the surface water sample collected at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

Table 5-1

# TPH-DRO Surface Soil Screening Results Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

(Page 1 of 2)

Sample	Sample	Sample	Sample Depth	Result	Data	Reporting Limit
Location	Number	Date	(Feet bgs)	(mg/kg)	Qualifier	(mg/kg)
PPMP-122-SS01	KY0007	2/2/1999	0.0-0.5	15	J, NV	12
PPMP-122-SS02	KY0008	2/2/1999	0.0-0.5	14	J, NV	12
PPMP-122-SS03	KY0009	2/2/1999	0.0-0.5	36	J, NV	12
PPMP-122-SS04	KY0010	2/2/1999	0.0-0.5	26	J, NV	12
PPMP-122-SS05 PPMP-122-SS06	KY0011	2/2/1999	0.0-0.5	33	J, NV J, NV	12 13
	KY0012	2/2/1999	0.0-0.5	28	J, NV J, NV	12
PPMP-122-SS07 PPMP-122-SS08	KY0013 KY0014	2/2/1999 2/2/1999	0.0-0.5 0.0-0.5	45 27	J, NV J, NV	13
PPMP-122-SS09	KY0015	2/2/1999	0.0-0.5	15	J, NV	12
PPMP-122-SS10	KY0016	2/2/1999	0.0-0.5	27	J, NV	12
PPMP-122-SS10	KY0017	2/2/1999	0.0-0.5	76	J, NV	12
PPMP-122-SS11	KY0018	2/3/1999	0.0-0.5	14	J, NV	12
PPMP-122-SS13	KY0019	2/3/1999	0.0-0.5	19	J, NV	12
PPMP-122-SS14	KY0020	2/3/1999	0.0-0.5	ND	J, NV	12
PPMP-122-SS15	KY0020	2/3/1999	0.0-0.5	21	J, NV	12
PPMP-122-SS16	KY0021	2/3/1999	0.0-0.5	29	J, NV	12
PPMP-122-SS17	KY0023	2/4/1999	0.0-0.5	25	J, NV	13
PPMP-122-SS18	KY0024	2/4/1999	0.0-0.5	22	J, NV	12
PPMP-122-SS19	KY0025	2/2/1999	0.0-0.5	27	J, NV	11
PPMP-122-SS20	KY0026	2/2/1999	0.0-0.5	33	J, NV	13
PPMP-122-SS21	KY0027	2/3/1999	0.0-0.5	21	J, NV	12
PPMP-122-SS22	KY0028	2/3/1999	0.0-0.5	23	J, NV	12
PPMP-122-SS23	KY0029	2/3/1999	0.0-0.5	18	J, NV	12
PPMP-122-SS24	KY0030	2/3/1999	0.0-0.5	17	J, NV	12
PPMP-122-SS25	KY0031	2/3/1999	0.0-0.5	15	J, NV	12
PPMP-122-SS26	KY0032	2/4/1999	0.0-0.5	21	J, NV	12
PPMP-122-SS27	KY0033	2/4/1999	0.0-0.5	17	J, NV	12
PPMP-122-SS28	KY0034	2/2/1999	0.0-0.5	ND	J, NV	11
PPMP-122-SS29	KY0035	2/2/1999	0.0-0.5	52	J, NV	13
PPMP-122-SS30	KY0036	2/3/1999	0.0-0.5	56	J, NV	13
PPMP-122-SS31	KY0037	2/3/1999	0.0-0.5	13	J, NV	12
PPMP-122-SS32	KY0038	2/3/1999	0.0-0.5	ND	J, NV	12
PPMP-122-SS33	KY0039	2/3/1999	0.0-0.5	ND	J, NV	12
PPMP-122-SS34	KY0040	2/3/1999	0.0-0.5	21	J, NV	12
PPMP-122-SS35	KY0041	2/4/1999	0.0-0.5	17	J, NV	12
PPMP-122-SS36	KY0042	2/4/1999	0.0-0.5	15	J, NV	12
PPMP-122-SS37	KY0043	2/2/1999	0.0-0.5	21	J, NV	12
PPMP-122-SS38	KY0044	2/2/1999	0.0-0.5	100	J, NV	14
PPMP-122-SS39	KY0045	2/3/1999	0.0-0.5	38	J, NV	13
PPMP-122-SS40	KY0046	2/3/1999	0.0-0.5	57	J, NV	13
PPMP-122-SS41	KY0047	2/3/1999	0.0-0.5	17	J, NV	12
PPMP-122-SS42	KY0048	2/3/1999	0.0-0.5	24	J, NV	13
PPMP-122-SS43	KY0049	2/3/1999	0.0-0.5	ND	J, NV	12
PPMP-122-SS44	KY0050	2/4/1999	0.0-0.5	12	J, NV	12
PPMP-122-SS45	KY0051	2/4/1999	0.0-0.5	23	J, NV	13

Table 5-1

## TPH-DRO Surface Soil Screening Results Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

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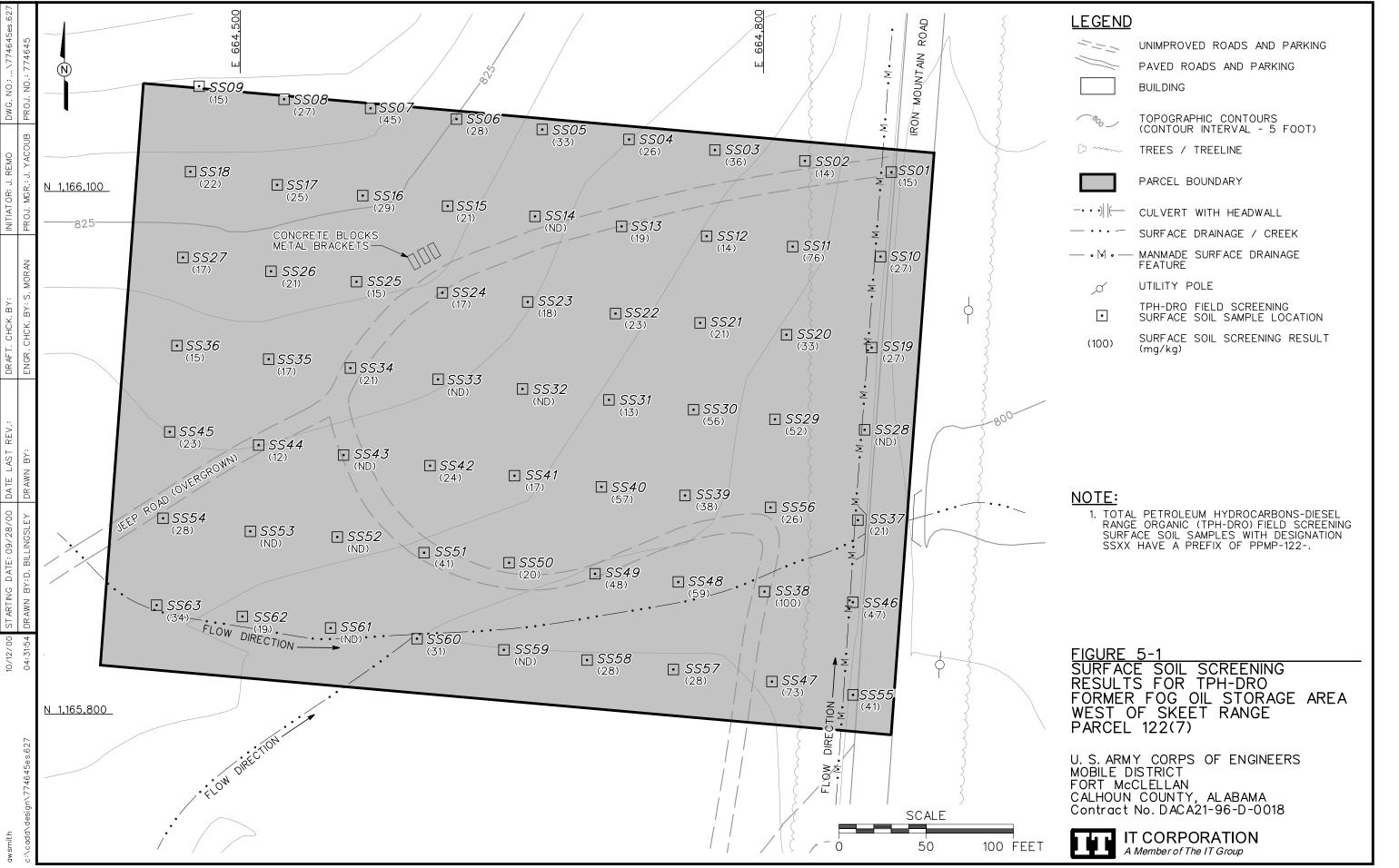
Sample	Sample	Sample	Sample Depth	Result	Data	Reporting Limit
Location	Number	Date	(Feet bgs)	(mg/kg)	Qualifier	(mg/kg)
PPMP-122-SS46	KY0052	2/2/1999	0.0-0.5	47	J, NV	23
PPMP-122-SS47	KY0053	2/2/1999	0.0-0.5	73	J, NV	14
PPMP-122-SS48	KY0054	2/3/1999	0.0-0.5	59	J, NV	13
PPMP-122-SS49	KY0055	2/3/1999	0.0-0.5	48	J, NV	13
PPMP-122-SS50	KY0056	2/3/1999	0.0-0.5	20	J, NV	13
PPMP-122-SS51	KY0057	2/3/1999	0.0-0.5	41	J, NV	13
PPMP-122-SS52	KY0058	2/3/1999	0.0-0.5	ND	J, NV	13
PPMP-122-SS53	KY0059	2/4/1999	0.0-0.5	ND	J, NV	13
PPMP-122-SS54	KY0060	2/4/1999	0.0-0.5	28	J, NV	13
PPMP-122-SS55	KY0061	2/2/1999	0.0-0.5	41	J, NV	11
PPMP-122-SS56	KY0062	2/3/1999	0.0-0.5	26	J, NV	13
PPMP-122-SS57	KY0063	2/3/1999	0.0-0.5	28	J, NV	13
PPMP-122-SS58	KY0064	2/3/1999	0.0-0.5	28	J, NV	14
PPMP-122-SS59	KY0065	2/3/1999	0.0-0.5	ND	J, NV	13
PPMP-122-SS60	KY0066	2/3/1999	0.0-0.5	31	J, NV	14
PPMP-122-SS61	KY0067	2/3/1999	0.0-0.5	ND	J, NV	13
PPMP-122-SS62	KY0068	2/4/1999	0.0-0.5	19	J, NV	13
PPMP-122-SS63	KY0069	2/4/1999	0.0-0.5	34	J, NV	14

Analyses performed by Quanterra Environmental Services using a screening-level version of EPA Method 8015B for TPH-DRO.

bgs - below ground surface mg/kg - milligrams per kilogram ND - not detected J - estimated concentration

NV - not validated

TPH-DRO - Total petroleum hydrocarbons-diesel range organics.



#### 5.4 Sediment Analytical Results

One sediment sample was collected at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). The sample was collected from the upper 0.5 foot of sediment at the sample location shown on Figure 3-1.

**Semivolatile Organic Compounds**. SVOCs were not detected in the sediment sample collected at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

**Total Organic Carbon**. The total organic carbon concentration in the sediment sample was 11,800 mg/kg, as summarized in Appendix E.

*Grain Size*. The results of grain size analysis for the sediment sample are included in Appendix E.

### 6.0 Summary and Conclusions and Recommendations

IT, under contract to USACE, completed an SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), at FTMC in Calhoun County, Alabama. The SI was conducted to determine whether chemical constituents are present at site, and, if present, whether the concentrations present an unacceptable risk to human health or the environment. The SI at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), consisted of the sampling and analysis of 63 surface soil screening samples, 4 subsurface soil samples, 1 surface water sample, and 1 sediment sample. Four direct-push soil borings installed at the site provided site-specific geological characterization information.

The surface soils screening for hydrocarbons at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), indicated that TPH-DRO were present in surface soils. TPH-DRO concentrations ranged from less than 11 mg/kg to 100 mg/kg. However, the TPH-DRO data were collected for screening purposes only; therefore, instrument calibration requirements for the method were waived. Consequently, the quantitative results of this screening level TPH-DRO analysis should be considered estimated.

Chemical analysis of the four subsurface soil samples (including two subsurface soil samples that were relocated to locations with elevated surface soil screening results), one surface water sample, and one sediment sample was limited to SVOCs only. SVOCs were not detected in any of the subsurface soil, surface water, or sediment samples collected at the site. In the future land-use scenario, portions of Parcel 122(7) will be reused for retail, passive recreation, and for the Eastern Bypass (FTMC, 1997). Under these land-use scenarios, the concentrations of TPH-DRO in surface soils are not expected to pose a significant threat to human health or ecological receptors.

Based on the results of the SI, past operations at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7), do not appear to have adversely impacted the environment. The low levels of TPH-DRO detected in surface soils at the site do not pose an unacceptable risk to human health and the environment. Therefore, IT recommends "No Further Action" and unrestricted land reuse with regard to hazardous, toxic, and radioactive waste at the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7).

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# ATTACHMENT 1 LIST OF ABBREVIATIONS AND ACRONYMS

#### List of Abbreviations and Acronyms

2.12	Establishment of the second	1961	Abellementer	400	delinated
2,431	1.6 dichosphosoparish will		trapes the effect defect	1900	Chemical and COMPL Turning Conductivity Meter
2,4,5-0	2.0 inching transparent and	(interes	11.5. date: Contr. for Softs Personne and Personne Medicine	1366	Control Lawrence Children Stage Street Service Stage Control
6.4,3400	en e			100	equipment entires dispose
300	All Innealmed Environment Comp.	100	spenigra oblinida	1000	applicate and report from
480	discharges.	*	inequal distribution in tendent sturiety	170	U.S. Spreamond Processo Agrees
AC.	Subsept cyclick	0	distant	100	Special Section of the Control of th
Aditi	Assistant and Alber passelly leaves, 2 in 8 percent object, model	10.P	Contract Laboratory Projects	THE	Exchanged Paragratic Inspection Cont.
A452	Assessment and Albert gravelly leaves, A in 34 percent shapes, conduct	(3)	Aboutgloom	2.750,000	
AARE:	Assume and Albergrowth Sums. 10 to 15 percent steps; rested	1018	Administratives, between, and orders to be discussed.	100	reparent team
A483	Assume and Alber grandly frame, 41 to 15 percent stapes, artified	-1008	discountaines, illerators, and determine	100	Section and September 16.
ACURE	Assessing Conference of Governmental Bullionist Hyperical	0.44	MARKET TO SERVICE STREET	100	molegical consening fallow.
ADDIN	Maluna Department of December and Management	COC	state of water	tie.	espirates
ARE	salves represe limit	.00E	Coop of Trapleton	1.4	MACO WAT
AHA	proceeding belong all to	City.	Making the contest	10	policies ent.
AL	Aldrena	OIL	contiled top tring load	79	MITTHE.
and.	sales	190	contration in the last last	100	State displacement
ANGO	Assess Area Stant	10-02	miner ETT	THEN	Related Edgests, Sec.
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ASP	securities regris point	C2634	concepted the experient model	201	Bleed
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CORN	Commonly Environmental Regions Facilitative Act	181	Scotogy and Exchangers, No.	1267	Ground Your Broke Fram
CERN	Copy of Engineer fronts Atlantic Sevannin	(00)	commenced barrier server	1000	Gaughysiad Servey Systems, Inc.
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#### List of Abbreviations and Acronyms (Continued)\_

GW	groundwater	mh	inorganic silts, micaceous or diatomaceous fine, sandy or silt soils	ows	oil/water separator
gw	well-graded gravels; gravel-sand mixtures	MHz	megahertz	oz	ounce
HA	hand auger	μg/g	micrograms per gram	PAH	polynuclear aromatic hydrocarbon
HCI	hydrochloric acid	μg/kg	micrograms per kilogram	Parsons	Parsons Engineering Science, Inc.
HD	distilled mustard	μg/L	micrograms per liter	Pb	lead
HDPE	high-density polyethylene	μmhos/cm	micromhos per centimeter	PCB	polychlorinated biphenyl
Herb.	herbicides	min	minimum	PCE	perchloroethene
HNO <sub>3</sub>	nitric acid	MINICAMS	miniature continuous air sampling system	PCP	pentachlorophenol
hr	hour	ml	inorganic silts and very fine sands	PDS	Personnel Decontamination Station
H&S	health and safety	mL	milliliter	PEL	permissible exposure limit
HSA	hollow-stem auger	mm	millimeter	Pest.	pesticide
HTRW	hazardous, toxic, and radioactive waste	MM	mounded material	PG	professional geologist
4	out of control, data rejected due to low recovery	MOGAS	motor vehicle gasoline	PID	photoionization detector
ICAL	initial calibration	MPA	methyl phosphonic acid	PkA	Philo and Stendal soils local alluvium, 0 to 2 percent slopes
ICB	initial calibration blank	MR	molasses residue	POL	petroleum, oils, and lubricants
ICP	inductively-coupled plasma	MS	matrix spike	PP	peristaltic pump
ICS	interference check sample	mS/cm	millisiemens per centimeter	ppb	parts per billion
ID	inside diameter	MSD	matrix spike duplicate	PPE	personal protective equipment
IDL	instrument detection limit	msl	mean sea level	ppm	parts per million
IDLH	immediately dangerous to life or health	MtD3	Montevallo shaly, silty clay loam, 10 to 40 percent slopes, severely eroded	PPMP	Print Plant Motor Pool
IDW	investigation-derived waste	mV	millivolts	ppt	parts per thousand
IMPA	isopropylmethyl phosphonic acid	MW	monitoring well	PSSC	potential site-specific chemical
in.	inch	N/A	not applicable; not available	pt	peat or other highly organic silts
Ing	ingestion	NAD	North American Datum	PVC	polyvinyl chloride
Inh	inhalation	NAD83	North American Datum of 1983	QA	quality assurance
ΙP	ionization potential	NAVD88	North American Vertical Datum of 1988	QA/QC	quality assurance/quality control
IPS	International Pipe Standard	ND	not detected	QAP	installation-wide quality assurance plan
IRDMIS	Installation Restoration Data Management Information System	NE	no evidence; northeast	QC	quality control
ISCP	Installation Spill Contingency Plan	NFA	No Further Action	QST	QST Environmental Inc.
IT	IT Corporation	ng/L	nanograms per liter	qty	quantity
ITEMS	IT Environmental Management System TM	NGVD	National Geodetic Vertical Datum	Qual	qualifier
<b>'</b> J'	estimated concentration	NIC	notice of intended change	'R'	rejected; resample
JeB2	Jefferson gravelly fine sandy loam, 2 to 6 percent slopes, eroded	NIOSH	National Institute for Occupational Safety and Health	RCRA	Resource Conservation and Recovery Act
JeC2	Jefferson gravelly fine sandy loam, 6 to 10 percent slopes, eroded	No.	number	RDX	cyclonite
JfB	Jefferson stony fine sandy loam, 0 to 10 percent slopes have strong slopes	NOAA	National Oceanic and Atmospheric Administration	ReB3	Rarden silty clay loams
K	conductivity	NR	not requested	REG	field sample
L	lewisite; liter	ns	nanosecond	REL	recommended exposure limit
LC <sub>50</sub>	lethal concentration for 50 percent of population tested	N-S	north to south	RFA	request for analysis
LD <sub>50</sub>	lethal dose for 50 percent of population tested	nТ	nanotesla	RI	remedial investigation
1	liter	NTU	nephelometric turbidity unit	RL	reporting limit
LCS	laboratory control sample	O&G	oil and grease	RPD	relative percent difference
LEL	lower explosive limit	OD	outside diameter	RRF	relative response factor
LT	less than the certified reporting limit	OE	ordnance and explosives	RSD	relative standard deviation
max	maximum	oh	organic clays of medium to high plasticity	RTK	real-time kinematic
MDL	method detection limit	ol	organic silts and organic silty clays of low plasticity	SAD	South Atlantic Division
mg/kg	milligrams per kilogram	OP	organophosphorus	SAE	Society of Automotive Engineers
mg/L	milligrams per liter	ORP	oxidation-reduction potential	SAIC	Science Applications International Corporation
mg/m <sup>3</sup>	milligrams per cubic meter	OSHA	Occupational Safety and Health Administration	SAP	installation-wide sampling and analysis plan
<i>G</i> ·-	•				

KN/4040/Acronyms/Acro Attach.doc/03/22/01(1:24 PM)

Att. 1 Page 2 of 3

#### List of Abbreviations and Acronyms (Continued)

sc	clayey sands; sand-clay mixtures
Sch.	schedule
SD	sediment
SDG	sample delivery group
SDZ	•
SEMS	safe distance zone; surface danger zone
SFSP	Southern Environmental Management & Specialties, Inc.
SGF	site-specific field sampling plan
SHP	standard grade fuels
SI	installation-wide safety and health plan
SI SL	site investigation
	standing liquid
sm SN4	silty sands; sand-silt mixtures
SM SOP	Serratia marcescens
	standard operating procedure
sp	poorly graded sands; gravelly sands
SP S= 00	sump pump
Sr-90	strontium-90
Ss	stony rough land, sandstone series
SS SSC	surface soil
SSHO	site-specific chemical
	site safety and health officer
SSHP	site-specific safety and health plan
SSSL	site-specific screening level
STB	supertropical bleach
STEL	short-term exposure limit
STOLS	Surface Towed Ordnance Locator System®
Std. units	standard units
SU SVOC	standard unit
SW	semivolatile organic compound
SW-846	surface water
3 W -040	U.S. EPA Test Methods for Evaluating Solid Waste: Physical/Chemical Methods
SZ	support zone
TAL	target analyte list
TAT	turn around time
ТВ	trip blank
TCA	trichloroethane
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TCDF	tetrachlorodibenzofurans
TCE	trichloroethene
TCL	target compound list
TCLP	toxicity characteristic leaching procedure
TDGCL	thiodiglycol
TDGCLA	thiodiglycol chloroacetic acid
TERC	Total Environmental Restoration Contract
TIC	tentatively identified compound
TLV	threshold limit value
TN	Tennessee
TOC	top of casing; total organic carbon

TPH	total petroleum hydrocarbons
TRADOC	U.S. Army Training and Doctrine Command
TRPH	total recoverable petroleum hydrocarbons
TWA	time weighted average
UCL	upper confidence limit
UCR	upper certified range
'U'	not detected above reporting limit
USACE	U.S. Army Corps of Engineers
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USAEC	U.S. Army Environmental Center
USAEHA	U.S. Army Environmental Hygiene Agency
USACMLS	U.S. Army Chemical School
USAMPS	U.S. Army Military Police School
USATEU	U.S. Army Technical Escort Unit
USATHAMA	U.S. Army Toxic and Hazardous Material Agency
USCS	Unified Soil Classification System
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank
UXO	unexploded ordnance
VOA	volatile organic analyte
VOC	volatile organic compound
VOH	volatile organic hydrocarbon
VQlfr	validation qualifier
VQual	validation qualifier
VX	nerve agent (O-ethyl-S-[diisopropylaminoethyl]-methylphosphonothiolate)
Weston	Roy F. Weston, Inc.
WP	installation-wide work plan
WS	watershed
WSA	Watershed Screening Assessment
WWI	World War I
WWII	World War II
XRF	x-ray fluorescence
yd³	cubic yards

#### SAIC - Data Qualifiers, Codes and Footnotes, 1995 Remedial Investigation

N/A - Not analyzed

ND - Not detected

#### **Boolean Codes**

LT - Less than the certified reporting limit

#### Flagging Codes

- 9 Non-demonstrated/validated method performed for USAEC
- B Analyte found in the method blank or QC blank
- C Analysis was confirmed
- D Duplicate analysis
- I Interfaces in sample make quantitation and/or identification to be suspicious
- J Value is estimated
- K Reported results are affected by interfaces or high background
- N Tentatively identified compound (match greater than 70%)
- Q Sample interference obscured peak of interest
- R Non-target compound analyzed for but not detected (GC/MS methods)
- S Non-target compound analyzed for and detected (GC/MS methods)
- T Non-target compound analyzed for but not detected (non GC/MS methods)
- U Analysis in unconfirmed
- Z Non-target compound analyzed for and detected (non-GC/MS methods)

#### Qualifiers

- J The low-spike recovery is low
- N The high-spike recovery is low
- R Data is rejected

#### **APPENDIX A**

### SAMPLE COLLECTION LOGS AND ANALYSIS REQUEST/CHAIN-OF-CUSTODY RECORDS

**SAMPLE COLLECTION LOGS** 



	Project:		Fort McC Jeanie Yacoub		
	Former Fog Oil Sto PPMP-122-SS01 KY0007	orage Area W	Vest of the Ske	RFA / COC Number: Collection Date: Collection Time:	2/2/19 10:26
	PPMP-122-SS01-SS	S-KY0007-R	EG	Start Depth:	
Sampling Method:	DP			End Depth:	6 "
Analytical Suite DRO	Container Flt Frtn Qty Size N A 1 4	Units Type		Sample Team:	Kwin Arnold Tim Mathes
Comments:					
Sketch Locati	ion:	•			* KNOOT  icon  mountain  Rdi
					Roll

Logged BY / Date: \_\_\_\_\_ Reviewed BY / Date:



# Sample Collection Log Project: 774645 Fort McClellan

	Manager: Jeanie Yacoub	•	
		RFA / COC Number:	
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2/2/99
Location Code:	PPMP-122-SS02	Collection Time:	10:33
Sample Number:	KY0008		
Sample Name:	PPMP-122-SS02-SS-KY0008-REG	Start Depth:	
ampling Method:	DP	End Depth:	6
Analytical Suite	Containers Flt Frtn Qty Size Units Type	Canada Tagan	Kivin Asseld
DRO	N A 1 4 02 CWM	Sample Team:	Kevin Arnold Tim Mathis
Comments:			
Sketch Locat	ion:	* /vo8	
			noustain Rd.
Logged BY	/ Date: Jun 1 2/2/99	Reviewed BY/ I	Date:



	Project:	774645 Fort M Manager: Jeanie Ya		lan	
Location Code: Sample Number:	PPMP-122-SS03 KY0009	orage Area West of the		4 / COC Number: Collection Date: Collection Time:	2/2/99
Sample Name: Sampling Method:				Start Depth: End Depth:	6"
Analytical Suite	Container Flt Frtn Qty Size N A 1 4			Sample Team:	Kwin Arnold Tim Mathes
Comments:					
Sketch Locati			* * * * * * * * * * * * * * * * * * *	noun 12d.	, n
Logged BY	/ Date: June	1/2/19	Rev	iewed BY /	)ate:



	<b>Project:</b>	774645 Fort McC Manager: Jeanie Yacoub	lellan	
Location Code: P Sample Number: K Sample Name: P Sampling Method: D	PMP-122-SS04 (Y0010 PMP-122-SS04-S	s	RFA / COC Number: Collection Date: Collection Time: Start Depth: End Depth: Sample Team:	0:47
Comments:				( ) MC V · I M ( )
Sketch Location	n:	*	ico mo Ro	in this
Logged BY/	Date: fun	Md 2/2/99 A	Reviewed BY / I	Date:



	Project:	774645 Fort McC Manager: Jeanie Yacoub		
Location Code: Sample Number:	PPMP-122-SS05 KY0011 PPMP-122-SS05-S		RFA / COC Number: Collection Date: Collection Time: Start Depth: End Depth:	2/2/19 10:52 0',
Analytical Suite DRO	Flt Frtn Qty Size N A 1 4	Units Type  oz CWM	Sample Team:	Kevin Ainald Tim Mathis
Comments: Sketch Locati	on:	, 11 Rea		1
		* Klooli Rea	i, ro	Afrin

Logged BY / Date: 12/2/99 Reviewed BY / Date:



774645 Fort McClellan

	Project:	Manager: Jeanie Yacoub		
Location Code: Sample Number:	PPMP-122-SS06 KY0012 PPMP-122-SS06-SS DP Containers		RFA / COC Number: Collection Date: Collection Time: Start Depth: End Depth: Sample Team:	0
Comments:				
Sketch Locati	ion:	* * * * * * * * * * * * * * * * * * * *	icon ha	Λ



	Project: 7/4045 FOR INCC Manager: Jeanie Yacoub		
	E E Oil Stange Amen West of the Ske	RFA / COC Number:	
	Former Fog Oil Storage Area West of the Ske PPMP-122-SS07	Collection Date:	2/2/99
Sample Number:		Collection Time:	11:05
	PPMP-122-SS07-SS-KY0013-REG	Start Depth:	0'
ampling Method:		End Depth:	6"
Analytical Suite	Containers Flt Frtn Qty Size Units Type		Kevin Anold Tim Mathis
DRO	N A 1 4 oz CWM		Tim Mathis
Comments:			
Comments:			
Comments:	on:		
Comments:  Sketch Locati	on: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	on: 40013		
	on: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\		
	on: \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	1(0)	

Logged BY / Date: \[ \langle \



	Project:	774645 Fort McC		
Location Code: Sample Number:	PPMP-122-SS08 KY0014 PPMP-122-SS08-S	orage Area West of the Ske S-KY0014-REG	RFA / COC Number:  Collection Date: Collection Time:  Start Depth: End Depth:	
Analytical Suite  DRO	Container Fit Frtn Qty Size N A 1 4		Sample Team:	Kevin Anold Tim Mathis
Comments:				
Sketch Locati	ion:	**	inon to n	



Logged BY / Date:

	Project: //4045 Fort MCC Manager: Jeanie Yacoub		
Location Code: Sample Number: Sample Name: ampling Method:	PPMP-122-SS09-SS-KY0015-REG DP Containers	RFA / COC Number:  Collection Date: Collection Time:  Start Depth: End Depth:	0' 6"
Analytical Suite DRO	Flt Frtn Qty Size Units Type  N A 1 4 oz CWM	Sample Team:	Kwin Anold Tim Mathes
Sketch Locati	ion:	1 ,	
	thooks (leg)	ron Rol.	



	Project:	774645 Fort McC	Clellan	
	T 02.5	arege Area West of the Ske	RFA / COC Number:	1./0
Location Code:	PPMP-122-SS10	orage Area West of the Ske	Collection Date: Collection Time:	3/2/97 13:53
Sample Number: Sample Name: Sampling Method:	PPMP-122-SS10-S	S-KY0016-REG	Start Depth: End Depth:	
Analytical Suite	Container Flt Frtn Qty Size  N A 1 4	rs Units Type oz CWM	Sample Team:	Kevin Ainold Tim Mathes
DRO			en general d	() m Pinines
Comments:				
Sketch Locat	ion:			
				W + V 0 1 6
				# # YO 16  Lian Monntain  Rd.
				Monntain
				Rd.
	)			
Logged BY	/ Date: Jun	Ald a/a/A	Reviewed BY / 1	Date:



	Project:	774645 F Manager: Jo	Fort McClel eanie Yacoub	lan		
			$RF_{\lambda}$	A / COC Num	ber:	
	Former Fog Oil Sto PPMP-122-SS11	rage Area Wes	st of the Ske			2-2-99
Sample Number:	KY0017 PPMP-122-SS11-SS	5-KY0017-REC	Ţ.	Collection T		
Sampling Method:				End De	pth: pth:	6"
Analytical Suite	Containers Flt Frtn Qty Size  N A 1 4	Units Type		Sample Te	am:	TIM MATHES KEVIN ARNOLD
Sketch Locat	ion:		coro	IN THE 2		
	C02	umr 2	XY X X X X X X X X X X X X X X X X X X		tow MOUNTAIN RD.	

Logged BY / Date:

2-2-99

Reviewed BY / Date.



	Project:	774645 Fort Mcc Manager: Jeanie Yacouk		
Location Code: Sample Number:	PPMP-122-SS12 KY0018 PPMP-122-SS12-SS DP Container	s	Collection Time:  Start Depth: End Depth:	2/3/99 <del>KY00</del> 0850 0' 6"
Analytical Suite DRO	Fit Frtn Qty Size  N. A. 1. 4	Units Type  oz GWM	Sample Team: _	Kevin Ainold Tim Mathes
Comments:				
Sketch Locati	ion:		* KY0018	mount in
Logged BY	/ Date:	MM 2/3/19	Reviewed BY/ D	)ate:



	Project: //4045 FORT MICCIO		
Location Code: Sample Number:	Former Fog Oil Storage Area West of the Ske PPMP-122-SS13	RFA / COC Number:  Collection Date:  Collection Time:  Start Depth:	2/3/11 10:26 0'
ampling Method:  Analytical Suite  DRO	OP  Containers Flt Frtn Qty Size Units Type  N A 1 4 oz CWM		Kerin Aineld Tin Mathes
Comments:			
Sketch Locat	ion:  * KY0019	mou (d	int.
tery.			



	Project: 7/4645 Fort McClo		
Location Code: Sample Number:	Former Fog Oil Storage Area West of the Ske PPMP-122-SS14 KY0020 PPMP-122-SS14-SS-KY0020-REG	RFA / COC Number: Collection Date: Collection Time: Start Depth: End Depth:	2/3/19 13:42 0' 6"
Analytical Suite	Containers Flt Frtn Qty Size Units Type N A 1 4 oz CWM	Sample Team:	Kerin Arnold Tim Mathes
Comments:  Sketch Location	on:		-/ /
	* K40030		'.00\
			nountain chi



774645 Fort McClellan

	Project:	Manager: Jeanie Yacoub	•	
Location Code: Sample Number:	PPMP-122-SS15 KY0021 PPMP-122-SS15-SS	rage Area West of the Ske -KY0021-REG	RFA / COC Number:  Collection Date: Collection Time:  Start Depth: End Depth:	2/3/99 1439 0'
Analytical Suite	Containers Flt FrtnQty Size N A 1 4			Kerin Arnold Tim Mathes
Comments:				
Sketch Locat	ion:	Jaro	Column	mon to in
			6th row	



	F 1 4 1 4 4 4 4 4 .	74645 Fort McCl Manager: Jeanie Yacoub	ellan	
Location Code: Sample Number:	PPMP-122-SS16 KY0022	ge Area West of the Ske	RFA / COC Number: Collection Date: Collection Time:	2/3/99 16:35
Sample Name: Sampling Method:	PPMP-122-SS16-SS-F	Y 10022-REG	Start Depth: End Depth:	
Analytical Suite  DRO	Containers Flt Frtn Qty Size U	nits Type oz CWM		Kerin Ainold Tim Mathes
Sketch Locati	on:	ad 1	M	
		and colum	•	rountain id.
		* KA	7th cow	



		RFA / COC Number:	122-020H99-Q9
Site	Former Fog Oil Storage Area West of the Ske	Collection Date:	2/4/19
Location Code	PPMP-122-SS17	Collection Time:	0914
Sample Number		-	,
-	PPMP-122-SS17-SS-KY0023-REG	Start Depth:	0
ampling Method	: DP	End Depth:	6"
Analytical Suite	Containers Flt Frtn Qty Size Units Type	Sample Team: _	Kevin Aineld Tim Mathes
DRO	NA1 4 oz CWM		Tim Mathes
Sketch Loca	ion:		1 1
	V 2 nd colum	Λ	7 /
		h low	La.



Logged BY / Date: June

## Sample Collection Log

	Project: 774645 Fort MCC Manager: Jeanie Yacoub		
		RFA / COC Number:	122-Q20499-QST
Site:	Former Fog Oil Storage Area West of the Ske		2/4/19
	PPMP-122-SS18	Collection Time:	0952
Sample Number:	KY0024		
Sample Name:	PPMP-122-SS18-SS-KY0024-REG	Start Depth: End Depth:	0
ampling Method:	DP	1	
Analytical Suite	Containers Flt Frtn Qty Size Units Type  N A 1 4 02 CWM	Sample Team:	Kevin Acnold I'm Mathes
<u> 11 milje fra st. kospet i i i i i i i i i i i i i i i i i i i</u>	1003 Burns - American de Maria		
Sketch Locat	ion:		
	Vandcolumn 9th row		- lican fain

Reviewed BY / Date:



774645 Fort McClellan

	Project:	Manager: Jeanie Yacoub		
Site: ]	Former Fog Oil Sto	rage Area West of the Ske	RFA / COC Number: Collection Date:	2/2/99
Location Code:	PPMP-122-SS19		Collection Time:	- : : i - i
Sample Number:	KY0025	LANGOS DEC		0′
_	PPMP-122-SS19 <b>-</b> SS	S-KY0025-REG	Start Depth: End Depth:	<u> </u>
ampling Method:				á
Analytical Suite DRO	Container: Flt Frtn Qty Size  N A 1 4		Sample Team:	Kevin Amold Tim Mathes
Comments:				
				, ,
Sketch Location	ON:			Iran Montain * Rd.
				KY035 KX
			·	
Logged BY	Date: Jum	And 2/2/99.	Reviewed BY / L	Date:



774645 Fort McClellan

Manager: Jeanie Yacoub

Site: Former Fog Oil Storage Area West of the Ske Location Code: PPMP-122-SS20 Sample Number: KY0026 Sample Name: PPMP-122-SS20-SS-KY0026-REG Sampling Method: DP  Containers Analytical Suite Flt Frtn Qty Size Units Type	Collection Date: Collection Time: Start Depth: End Depth:	2-2-99 /527 
DRO N A 1 4 oz CWM	Sample Team:	KENN ARNOLD
Comments:	1	
Logged BY / Date: TML 2-2-99 1	, RON HOUN	



	<del></del>	
Project:	774645	Fort McClellan
i rojeci.	Manager:	Jeanie Yacoub

		RFA / COC Number:	
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2/3/99
Location Code:	PPMP-122-SS21	Collection Time:	0859
Sample Number:	KY0027		
Sample Name:	PPMP-122-SS21-SS-KY0027-REG	Start Depth:	o'
Sampling Method:	DP	End Depth:	6 "
Analytical Suite	Containers Flt Frtn Qty Size Units Type	Sample Team:	Kevin Ainold Tim Mathes
DRO	N A 1 4 oz CWM		Tim Mathes
Comments:			
Sketch Locat	ion:		
		* KY002	mounta, n
Logged BY	/ Date: 1/2/3/99 F	Reviewed BY / D	Date:



	Project:	774645 Fort McCle Manager: Jeanie Yacoub	ellan	
Location Code: Sample Number:	PPMP-122-SS22 KY0028 PPMP-122-SS22-SS	orage Area West of the Ske S-KY0028-REG S Units Type	FA / COC Number: Collection Date: Collection Time: Start Depth: End Depth: Sample Team:	0
Comments:				
Sketch Locati	ion:	* KA0098	~	icon fr. n
Logged BY	/ Date: Vinn	Md 2/3/19 Re	viewed BY/ I	Date:



**Project:** 

### Sample Collection Log

774645 Fort McClellan

	Manager: Jeanie Yacoub		
	Former Fog Oil Storage Area West of the Ske PPMP-122-SS23	RFA / COC Number:  Collection Date:  Collection Time:	2/3/19
Sample Number: Sample Name:	KY0029 PPMP-122-SS23-SS-KY0029-REG	Start Depth:	o´
ampling Method:	DP	End Depth:	6"
Analytical Suite	Containers Flt Frtn Qty Size Units Type N A 1 4 oz CWM	Sample Team:	Kevin Ainold Tim Mathes
Comments:			
Sketch Locati	ion: * kY002'	9	noun n
			(A.
	L AM		
Logged BY	/ Date: Jun / 2/3/99 F	Reviewed BY / D	)ate:



Logged BY / Date:

	Project: 774645 Fort Mc Manager: Jeanie Yacou		
Location Code: Sample Number:	PPMP-122-SS24-SS-KY0030-REG	Collection Time:  Start Depth:  End Depth:	2/3/99 14:42 0' 6" Kevin Ainold Tim Mathes
Comments:Sketch Locati			1/M / M(Me)
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	Project:		Fort McCle Jeanie Yacoub	llan		
Location Code: P. Sample Number: K	XY0031 PPMP-122-SS25-SS		est of the Ske	FA / COC Number: Collection Date: Collection Time: Start Depth: End Depth:	,	
	Container: Flt Frtn Qty Size  N A 1 4	Units Type		Sample Team:	Kevin A Tim Mi	Arnold nthes
Comments:  Sketch Location	n:		13dcolv	7th row	ico.	ntain.



	Project:	774645 Fort McC	Clellan	
Location Code: Sample Number:	PPMP-122-SS26 KY0032 PPMP-122-SS26-SS	rage Area West of the Ske S-KY0032-REG		122-020549- QST 2/4/99 0919 0'
Analytical Suite	Container Flt Frtn Qty Size N A 1 4	s Units Type oz CWM	Sample Team:	Kevin Alnold Tim Mathes
Sketch Locat	ion:			
	1	V <sub>3</sub> cd column 8th cov	)	Lay. Ly. N

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/19

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#### Sample Collection Log

774645 Fort McClellan

Manager: Jeanie Yacoub			
	RFA / COC Number:	122-020499-0ST	
Former Fog Oil Storage Area West of the Ske	Collection Date:	2/4/19	
	Collection Time:	1006	
KY0033	Gr. A.D. walke	0'	
		6"	
	Епа Деріп:		
	Communication Transmitted	Kin Anold	
N A 1 4 oz CWM	Sample Team	Tim Mathes	
tion:    3ch column   4th row		mountain d.	
	tion:	PPMP-122-SS27  KY9033  PPMP-122-SS27-SS-KY0033-REG  Start Depth:  End Depth:  Containers Flt Frtn Qty Size Units Type  N A 1 4 oz CWM  Sample Team:	



Project: 774645 Fort McC Manager: Jeanie Yacoub	
Site: Former Fog Oil Storage Area West of the Ske	RFA / COC Number:
Location Code: PPMP-122-SS28 Sample Number: KY0034	Collection Time: 14: 14
Sample Name: PPMP-122-SS28-SS-KY0034-REG Sampling Method: DP	Start Depth: 0'  End Depth: 6''
Analytical Suite  Containers Flt Frtn Qty Size Units Type  N A 1 4 oz CWM	Sample Team: Kwin Ainold Tim Mathes
Comments:	
Sketch Location:	
	Lion Mountain 1201
Logged BY / Date: Jum how 2/2/19	Reviewed BY / Date:



Project: 774645 Fort McC Manager: Jeanie Yacoub	Clellan	
	RFA / COC Number:	
Site: Former Fog Oil Storage Area West of the Ske	Collection Date:	2-2-99
Location Code: PPMP-122-SS29	Collection Time:	
Sample Number: KY0035		
Sample Name: PPMP-122-SS29-SS-KY0035-REG	Start Depth:	o" 6"
Sampling Method: <b>DP</b>	End Depth:	6"
Containers Analytical Suite Flt Frtn Qty Size Units Type		***************************************
DRO N A 1 4 oz CWM	Sample Team: _	TIM MATHES KEVIN ARNOLD
	سب	KEVIN ARMOLD
Sketch Location:		
COLUMN A XYOU35	MOUNTAIN RO	

Logged BY / Date: Z-z-99 Reviewed BY / Date:



Location Code:	Former Fog Oil Storage Area West of the Ske PPMP-122-SS30	RFA / COC Number:  Collection Date:  Collection Time:	2/3/99
Sample Number: Sample Name: Sampling Method:	PPMP-122-SS30-SS-KY0036-REG	Start Depth: End Depth:	0' 6"
Analytical Suite	Containers Flt Frtn Qty Size Units Type  N A 1 4 oz CWM	Sample Team: _	Kevin Amold Tim Mathes
Comments:			
Sketch Locat		* KY003	iron fan n
	/ Date: him My 2/3/99 1	Reviewed BY / D	



Project: 774645 Fort McCl Manager: Jeanie Yacoub	lellan	
Site: Former Fog Oil Storage Area West of the Ske  Location Code: PPMP-122-SS31  Sample Number: KY0037  Sample Name: PPMP-122-SS31-SS-KY0037-REG  Sampling Method: DP  Containers  Analytical Suite Flt Frtn Qty Size Units Type  DRO N A 1 4 oz CWM	End Depth:	1047  0' 6"  Kevin Asnold  Tim Mathes
Comments:  Sketch Location:	* FY0037	iron tain red.



# Sample Collection Log Project: 774645 Fort McClellan

	- Manager.		
	Former Fog Oil Storage Area West of the Ske	RFA / COC Number: _ Collection Date: _	2/3/19
	PPMP-122-SS32	Collection Time:	13:52
Sample Number:	PPMP-122-SS32-SS-KY0038-REG	Start Depth:	o'
Sample Name: ampling Method:		End Depth:	6 "
Analytical Suite	Containers Flt Frtn Qty Size Units Type	-	Kevin Amold Tim Mathes
DRO	N A 1 4 oz CWM		Tim Mathes
Comments:			
Sketch Locat	ion:	* KY0038	mon tain
			-
Logged BY	1 Date: Kim hld 2/3/99	Reviewed BY / L	Date:



	_	
Project:	774645	Fort McClellan
i rojeci.	Manager:	Jeanie Yacoub

Location Code: Sample Number:	Former Fog Oil Storage Area West of the Ske PPMP-122-SS33 KY0039	RFA/COC Number:  Collection Date:  Collection Time:	2/3/99 1446 0'
Sample Name: Sampling Method:	PPMP-122-SS33-SS-KY0039-REG DP	Start Depth: End Depth:	<i>b</i> ''
Analytical Suite	Containers Flt Frtn Qty Size Units Type  N A 1 4 oz CWM	Sample Team:	Kwin Amel Tim Mathes
Comments:			
Sketch Locat		h column	nountain
		6th row	
Logged RY	/ Date: 2 / / / 2/3/99	Reviewed BY / L	Date:



Project: 774645 Fort McClellan
Manager: Jeanie Yacoub

Site: Former Fog Oil Storage Area West of the Ske Location Code: PPMP-122-SS34 Sample Number: KY0040 Sample Name: PPMP-122-SS34-SS-KY0040-REG	RFA/COC Number:  Collection Date: Collection Time:  Start Depth:	2/3/99 16:53
Sampling Method: DP	End Depth:	<del>-6</del> "
Containers Analytical Suite Fit Frtn Qty Size Units Type  DRO N A 1 4 oz CWM		Kevin Arnold Tim Mathes
Comments:		
Sketch Location:		
A <sup>4th</sup> (	Colnma 7th ow	round, n
Logged BY / Date: Jum W 2/3/29 F	Reviewed BY / D	Pate:



Project: 774645 Fort McClellan
Manager: Jeanie Yacoub

		RFA / COC Number:	122-020499- OST
Cita:	Former Fog Oil Storage Area West of the Ske	Collection Date:	1.1 100
	PPMP-122-SS35	Collection Time:	<del></del>
Sample Number:	KY0041		/
Sample Name:	PPMP-122-SS35-SS-KY0041-REG	Start Depth:	<u> </u>
ampling Method:		End Depth:	6"
Analytical Suite	Containers Flt Frtn Qty Size Units Type N A 1 4 oz CWM	Sample Team:	Kerin Ainold Tim Mathes
Comments:			
Sketch Locat	ion:		
	With column 8th com		word win
	1. All 11		
Logged BY	/ Date: / Mal 2/4/19	Reviewed BY /	Date: M. Azls



Logged BY / Date:

## Sample Collection Log

	Project: //4045 FOR IVICO		
			122-920\$99- QST
Location Code:	Former Fog Oil Storage Area West of the Ske PPMP-122-SS36	Collection Date: Collection Time:	1017
Sample Number: Sample Name:	KY0042 PPMP-122-SS36-SS-KY0042-REG	Start Depth:	
ampling Method:	DP Containers	End Depth:	
Analytical Suite DRO	Flt Frtn Qty Size Units Type  N A 1 4 oz CWM	Sample Team:	Kerin Ainold Tim Mathes
Sketch Locat	ion:		icon tour

Reviewed BY / Date;//



	Former Fog Oil Storage Area West of the Ske PPMP-122-SS37 KY0043	RFA / COC Number: _ Collection Date: Collection Time:	2/0/99 14:25
Sample Name:	PPMP-122-SS37-SS-KY0043-REG	Start Depth:	
Analytical Suite	Containers Flt Frtn Qty Size Units Type  N A 1 4 oz CWM	End Depth: _ Sample Team: _	Kevin Amold Tim Mathes
Comments:			
Sketch Locat	ion:		Icon Mountain Rdi
			* FY043
	1 Date: Thun hald 2/2/99 1	Reviewed BY / D	



**Project:** 

#### Sample Collection Log

774645 Fort McClellan

Manager: Jeanie Yacoub

Site: Former Fog Oil Storage Area West of the Ske	Id II / COC Humber.		
Site: Former Fog On Storage Area West of the Six	Collection Date:	2-2-	99
Location Code: PPMP-122-SS38	Collection Date: Collection Time:	15	42
Sample Number: KY0044			/
Sample Name: PPMP-122-SS38-SS-KY0044-REG	Start Depth: End Depth:		,
ampling Method: DP	End Depth:	6'	•
Containers Analytical Suite Flt Frtn Qty Size Units Type  DRO N A 1 4 oz CWM	Sample Team:	TIM	MATHE
Comments:			
Sketch Location:		wsall Ro.	



Logged BY / Date:

# Sample Collection Log

	Project:	774645 Fort McC		
Location Code: Sample Number:	PPMP-122-SS39	orage Area West of the Ske S-KY0045-REG	RFA / COC Number:  Collection Date: Collection Time:  Start Depth: End Depth:	2/3/99 0916
Sampling Method:	DP Container	*S		/
Analytical Suite  DRO	Fit Frtn Qty Size N A 1 4	oz CWM	Sample Team:	Kevin Amold Tim Mathes
Comments:				
Sketch Locat	ion:			
				mountain (d)
			* KY0045	

Reviewed BY / Date:



	Project:	774645 Fort Mc		
Location Code: Sample Number:	PPMP-122-SS40 KY0046 PPMP-122-SS40-S	*S	Collection Time:  Start Depth: End Depth:	2/3/99 1056 0' 6" Kevin Ainold Tim Mathes
Comments:				
Sketch Locat			* KY 0046	mountain col.
Logged BY	/ Date: Kum	Ild 2/3/99	Reviewed BY/ D	)ate:



	5 Fort McClellan er: Jeanie Yacoub	
Site: Former Fog Oil Storage Area Location Code: PPMP-122-SS41 Sample Number: KY0047	RFA / COC Number:  Collection Date:  Collection Time:	2/3/99
Sample Name: PPMP-122-SS41-SS-KY0047 Sampling Method: DP	-REG Start Depth: End Depth:	71
Analytical Suite  Flt Frtn Qty Size Units Ty  DRO  N A 1 4 0z CW	YM Sample Team:	Kevin Ainold Tim Mathes
Comments:	·	
Sketch Location:		mountain M.
	* KY0047	
Logged BY / Date: June	$\frac{1}{2\sqrt{3}/99}$ Reviewed BY / 1	Date:



	Project:	774645 Fort McC Manager: Jeanie Yacoub		
			RFA / COC Number:	
Site:	Former Fog Oil Sto	orage Area West of the Ske	Collection Date:	2/3/99
Location Code:	PPMP-122-SS42		Collection Time:	1454
Sample Number:	KY0048		-	,
Sample Name:	PPMP-122-SS42-SS	S-KY0048-REG	Start Depth:	U

Sampling Method: DP End Depth:

Analytical Suite

Containers
Fit Frtn Qty Size Units Type

Sample Team:

NA 1 4 oz CWM

Tim Mathes

Comments:		
Sketch Location:		
	5th, 6/nm	mountain rd.
	6 <sup>th</sup> row	

Logged BY / Date: July 2/3/99 Reviewed BY / Date:



774645 Fort McClellan

Manager: Jeanie Yacoub		
Site: Former Fog Oil Storage Area West of the Ske Location Code: PPMP-122-SS43 Sample Number: KY0049	RFA / COC Number: _ Collection Date: _ Collection Time:	2/3/19 2/3/19 XA 16:56
Sample Name: PPMP-122-SS43-SS-KY0049-REG	Start Depth:	o'
Sampling Method: <b>DP</b>	End Depth:	6"
	Вна Верии.	
Analytical Suite	Sample Team:	Kerin Ainold Tim Mathes
Sketch Location:		1 1
Logged BY / Date: hm	7th Row Reviewed BY/D	mountain d.



Droinat:	774645	Fort McClellan
Project:	Manager:	Jeanie Yacoub

		RFA / COC Number:	122-029499-451
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	a/4/99
	PPMP-122-SS44	Collection Time:	0930
Sample Number:	KY0050		/
Sample Name:	PPMP-122-SS44-SS-KY0050-REG	Start Depth:	
Sampling Method:	DP	End Depth:	<u>b</u>
Analytical Suite	Containers Fit Frtn Qty Size Units Type N. A. 1. 4. 02. CWM	Sample Team:	Kevin Amold Um Mathes
DRO	N A 1 4 oz CWM		I'm Mathes
DRO	NA III 2 W V V	<u>                                     </u>	Um Marnes
Comments:			
Sketch Locat	tion:		
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Project: 774645 Fort McClellan
Manager: Jeanie Yacoub

			RFA / COC Number:	122,020499- Q5T
Location Code: PPMP-122-SS45  Sample Number: KY0051  Sample Name: PPMP-122-SS45-SS-KY0051-REG  Impling Method: DP  Containers  Analytical Suite  Fit FrinQty Size Units Type  DRO  N A 1 4 oz CWM  Sketch Location:  Sketch Location:	Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2/4/19
Sample Number: KY0051 Sample Name: PPMP-122-SS45-SS-KY0051-REG  mapling Method: DP  Containers Analytical Suite  Fit Frin Qty Size Units Type  DRO  N A 1 4 oz CWM  Sample Team: Konn Analytical Suite  Sketch Location:				
Sample Name: PPMP-122-SS45-SS-KY0051-REG impling Method: DP  Containers Analytical Suite Fit Frtn Qty Size Units Type DRO N A 1 4 oz CWM  Sketch Location:  Sketch Location:	Sample Number:	KY0051		/
Containers Analytical Suite Fit Frin Qty Size Units Type Sample Team:  Kwin Analytical Suite Tim Mathis  Comments:  Sketch Location:	Sample Name:	PPMP-122-SS45-SS-KY0051-REG	Start Depth:	0
Containers Analytical Suite  Fit Frin Qty Size Units Type  DRO  N. A. 1 4 oz CWM  Sample Team:  Kein Analytical Suite  Tim Mothes  Sketch Location:			End Depth:	6"
Analytical Suite Fit Frin Oty Size Units Type  Sample Team:    Sample Team:   Sam				
Sketch Location:	Analytical Suite	Flt Frtn Qty Size Units Type	Sample Team:	Kerin Hinold
Sketch Location:	DRO	N A 1 4 oz CWM		Tim Mathes
Sketch Location:				
Sketch Location:				
icon mountain and the column	Comments:			
icon mountain and the column				
icon mountain and the column				
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Sth Column  100  100  100  100  100  100  100  1				
Sth Column  100  100  100  100  100  100  100  1				
Sth Column  100  100  100  100  100  100  100  1				1(0)
Sth Column  100  100  100  100  100  100  100  1				mount
Sth Column  100  100  100  100  100  100  100  1				1 1
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1 A July Reviewed BY / Date:		9 -		
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A July Reviewed BY / Date:		1 1 1 Cow		
A July Reviewed BY / Date:		1		
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Droinat.	774645	Fort McClellan
Project:	Manager:	Jeanie Yacoub

		RFA / COC Number:		
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2/2/19	
	PPMP-122-SS46	Collection Time:	14:35	
Sample Number:	KY0052	-	,	
Sample Name:	PPMP-122-SS46-SS-KY0052-REG	Start Depth:	0	
Sampling Method:	DP	End Depth:	6 "	
Analytical Suite	Containers Flt Frtn Qty Size Units Type	Sample Team: _	Kevin Arnold Tim Mathes	
DRO	N A 1 4 oz CWM		Tim Mathes	
Comments:				
Sketch Locat	ion:			
			Ican Mountain 1201	
			KY052	
Logged BY	1 Date: Jum 1 2/2/99	Reviewed BY / I	Date:	



	Project:	774645 Fort McC Manager: Jeanie Yacoub	Clellan	
Location Code: Sample Number:	PPMP-122-SS47	orage Area West of the Ske	Start Depth:	2-Z-99 1604
Sampling Method: Analytical Suite DRO	DP Container Flt Frtn Qty Size N A 1 4	Units Type	End Depth:	TIM MATAST KEVIN ARNOLD
Comments:				
Sketch Locat	ion:	XY0053	IRON MOUNTAIN RD.	
Logged BY	/ Date: <u></u>	Me 1	l Reviewed BY/ L	Date:



Proj	ect: 774645 Fort McC  Manager: Jeanie Yacouk		
Site: Former Formal Location Code: PPMP-122-Sample Number: KY0054	g Oil Storage Area West of the Sko SS48	RFA / COC Number: _ Collection Date: _ Collection Time: _	2/3/99
Sample Name: PPMP-122- Sampling Method: DP	-SS48-SS-KY0054-REG	Start Depth: End Depth:	0' 6"
	ontainers ty Size Units Type  4 oz CWM	Sample Team: _	Kevin Arnold Tim Mathes
Comments:  Sketch Location:			
			mountain
•		* KY 0054	
Logged BY / Date:	<u></u>	Reviewed BY / D	ate:



Project: 774645 Fort McCl Manager: Jeanie Yacoub	lellan	
Site: Former Fog Oil Storage Area West of the Ske Location Code: PPMP-122-SS49  Sample Number: KY0055  Sample Name: PPMP-122-SS49-SS-KY0055-REG  Sampling Method: DP  Containers	RFA / COC Number: _ Collection Date: Collection Time: Start Depth: End Depth:	2/3/99 1107 0' 6"
DRO N A 1 4 oz CWM	Sample Team: _	Kwin Ainold Tim Mathes
Sketch Location:		
	* KYOP55	noun ain
Logged BY / Date: Jun 1 2/3/19 Re	eviewed BY / D	ate:



	Project:	774645 Fort McC Manager: Jeanie Yacoub		
Location Code: Sample Number:	PPMP-122-SS50 KY0056 PPMP-122-SS50-S	*S	RFA / COC Number: Collection Date: Collection Time: Start Depth: End Depth: Sample Team:	2/3/99 1405 0' 6" Kein Anold Tim Mathes
Comments:				
Sketch Locat	ion:			mountain and
		* KY00	56	
Logged BY	/ Date:	held 2/3/99 1	Reviewed BY / L	



Project:	774645	Fort McC	lellan
1 Toject.	Manager:	Jeanie Yacoub	
			REA / C

	RFA / COC Number:	
Site: Former Fog Oil Storage Area West of the Ske	Collection Date:	2/3/99
Location Code: PPMP-122-SS51	Collection Time:	
Sample Number: KY0057		
Sample Name: PPMP-122-SS51-SS-KY0057-REG	Start Depth:	
ampling Method: DP	End Depth:	6"
Containers Analytical Suite Flt Frtn Qty Size Units Type  DRO N A 1 4 02 CWM	Sample Team:	Kerin Arnold Tim Mathes
DRO N A 1 4 oz CWM	T	lim Mathes
Comments:		
Sketch Location:		
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Logged BY / Date: hand half 2/3/99 B	Reviewed BY / $I$	Date:



Project: 774645 Fort McCle Manager: Jeanie Yacoub	ellan	
Site: Former Fog Oil Storage Area West of the Ske  Location Code: PPMP-122-SS52  Sample Number: KY0058  Sample Name: PPMP-122-SS52-SS-KY0058-REG  Sampling Method: DP  Containers  Analytical Suite Flt Frtn Qty Size Units Type  DRO N A 1 4 oz CWM	RFA / COC Number:  Collection Date: Collection Time:  Start Depth: End Depth:  Sample Team:	2/3/99 17:05 0 6" Kevin Aineld Tim Mathics
Comments:		
Sketch Location:		rd.
Logged BY / Date: hum A 3/99 Re	eviewed BY / I	Date:



Project: 774645 Fort McClellan
Manager: Jeanie Yacoub

	Manager: Jeanie Yacoub		
Location Code: Sample Number:	PPMP-122-SS53-SS-KY0059-REG		O C
Analytical Suite	Containers Flt Frtn Qty Size Units Type N A 1 4 oz CWM	Sample Team:	Kevin Arnald Tim Mathes
Comments:			
Sketch Locat	ion:  68th Celumn  8th row		icon tain



	Project: 774645 Fort McC Manager: Jeanie Yacoub		
Location Code: Sample Number:	Former Fog Oil Storage Area West of the Ske PPMP-122-SS54 KY0060	Collection Date: Collection Time:	172-020499-QST 2/4/99 1029
Sample Name: Sampling Method:	PPMP-122-SS54-SS-KY0060-REG DP	Start Depth: End Depth:	<u> </u>
Analytical Suite	Containers Flt Frtn Qty Size Units Type N A 1 4 oz CWM		Kerin Ainold Tim Mathes
Comments:			, ,
Sketch Locat	ion:		
	6th Colom		won win
	Ath con		

2/4/99 Reviewed BY/ Date:



Project:	774645 Fort McC	Clellan	
		RFA / COC Number: _	
Location Code: PPMP-122-SS55	orage Area West of the Ske	Collection Date: Collection Time:	3/2/99
Sample Number: KY0061 Sample Name: PPMP-122-SS55-S Sampling Method: DP	S-KY0061-REG	Start Depth: _ End Depth: _	o' 6"
Analytical Suite Container Flt Frtn Qty Size  N A 1 4	Units Type	Sample Team: _	Kevin Arnald Tim Mathes
Sketch Location:			Lian fring Mountain
Logged BY / Date:	The lot 2/2/99	Reviewed BY / D	1



	Project:	774645 Fort McC Manager: Jeanie Yacoub	Clellan	
Location Code: Sample Number:	PPMP-122-SS56 KY0062 PPMP-122-SS56-S	rs Units Type	RFA / COC Number: Collection Date: Collection Time: Start Depth: End Depth: Sample Team:	0842
Comments:				
Sketch Location	on:		*	icon tain



Logged BY / Date:

#### Sample Collection Log

774645 Fort McClellan **Project:** Manager: Jeanie Yacoub RFA / COC Number: Site: Former Fog Oil Storage Area West of the Ske Collection Date: Location Code: PPMP-122-SS57 Collection Time: Sample Number: KY0063 Sample Name: PPMP-122-SS57-SS-KY0063-REG Start Depth: End Depth: Sampling Method: DP **Containers** Sample Team: Kevin Ainold
Tim Mathes Flt Frtn Qty Size Units Type **Analytical Suite** N A 1 DRO Comments: **Sketch Location:** 

Reviewed BY / Date:



Proje	ect: 774645 Fort McC Manager: Jeanie Yacoub	Clellan	
Site: Former Fog  Location Code: PPMP-122-	Oil Storage Area West of the Ske	RFA / COC Number:  Collection Date:  Collection Time:	2/3/99
Sample Number: KY0064 Sample Name: PPMP-122- ampling Method: DP	SS58-SS-KY0064-REG	Start Depth: End Depth:	0' 6"
	ntainers y Size Units Type 4 oz CWM	Sample Team:	Kwin Ainold Tim Mathes
Comments:			
Sketch Location:			icon In. in
			(M'
Logged BY / Date: {		Reviewed BY / D	) () ate:



		74645 Fort McCle Manager: Jeanie Yacoub	ellan	
Location Code: Sample Number:	PPMP-122-SS59-SS-KY DP  Containers Flt Frtn Qty Size Uni	e Area West of the Ska	RFA / COC Number:  Collection Date: Collection Time:  Start Depth: End Depth:  Sample Team:	2/3/99 1409  0' 6"  Kevin Ainold  Tim Mathes
Comments:				
Sketch Locati	on:			icon tonn
Logged BY	Date: Kuir	# KY J 2/3/19 Re	viewed BY / D	ate:



Logged BY / Date:

	Project:	774645 Fort M Manager: Jeanie Yaco	cClellan	
Location Code: Sample Number:	PPMP-122-SS60 KY0066	orage Area West of the S	RFA / COC Number Collection Dat Collection Tim Start Dept	e: 2/3/99 e: 152]
	PPMP-122-SS60-S	2-V I 0000-VEQ	Siari Depi End Dept	h: 6''
ampling Method:  Analytical Suite  DRO	Container Flt Frtn Qty Size N A 1 4	Units Type		Kenin Ainold Tim Mathes
Comments:				
Sketch Locat	ion:			
				nountain,
		7th Co		
		<b></b>	6th row	



774645 Fort McClellan

	Manager: Jeanie Yacoub		
		RFA / COC Number:	
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2/3/49
Location Code:	PPMP-122-SS61	Collection Time:	17:16
Sample Number:	KY0067		,
Sample Name:	PPMP-122-SS61-SS-KY0067-REG	Start Depth:	0
ampling Method:	DP	End Depth:	6 "
Analytical Suite	Containers Flt Frtn Qty Size Units Type N A 1 4 oz CWM	Sample Team:	Kevin Ainold Tim Mathes
			I'm Mathes
Comments:			
Comments:			
Sketch Locat	ion:		1 1
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Logged BY / Date:

2/3/99

Reviewed BY / Date:



	Project:	774645 Fort McC Manager: Jeanie Yacoub		
Location Code: Sample Number:	PPMP-122-SS62 KY0068 PPMP-122-SS62-S	orage Area West of the Ske S-KY0068-REG	RFA / COC Number:  Collection Date: Collection Time:  Start Depth: End Depth:	0948
Analytical Suite	Container Flt Frtn Qty Size	TS Units Type  OZ CWM	Sample Team:	Kerin Amold Tim Mathes
Comments:				
Sketch Locat				Lay lay v
	1+1	Column		(0(1)
		8 <sup>th</sup> cow		

Reviewed BY / Date:



Project:	774645	Fort McClellan	
i rojeci.	Managare	Jeanie Vacouh	

	Manager. Counte Aucous		
Location Code: Sample Number:	PPMP-122-SS63-SS-KY0069-REG	Collection Date: Collection Time: Start Depth: End Depth:	
Comments:			
Sketch Locati	on:  Ath Inn  Ath on		mount din
		Davianad RV / I	Data:



**Project:** 

# Sample Collection Log

774645 Fort McClellan

	Manager: Jeanie Yacoub		
	i	RFA / COC Number:	122-021799-QSK
Site:	Former Fog Oil Storage Area West of the Ske		2-17-99
Location Code:	PPMP-122-GP01	Collection Time:	
Sample Number: Sample Name:	KY0001 PPMP-122-GP01-DS-KY0001-REG	Start Depth: End Depth:	6'
Sampling Method:	DP	End Depth:	<u>&amp;</u>
	Containers Flt Frtn Qty Size Units Type SN B 1 8 oz CWM	Sample Team:	Messer
Comments:			

Logged BY / Date:

**Sketch Location:** 

Reviewed BY / Date:

A 2/18/99



**Project:** 

### Sample Collection Log

774645 Fort McClellan

Manager: Jeanie Yacoub

			177 021786 MCK
	- 000 N N		122-021799-QSK
·-·	Former Fog Oil Storage Area West of the Ske	Collection Date:	2-17-99
Location Code:	PPMP-122-GP02	Collection Time:	
Sample Number:			_
Sample Name:	PPMP-122-GP02-DS-KY0002-REG	Start Depth:	Z'
Sampling Method:	DP	Start Depth: End Depth:	_5'
	Containers		
	Flt Frtn Qty Size Units Type	Sample Team:	Messer
SEMIVOLATILE	S_N B 1 8 oz CWM		
•			
Comments:			

**Sketch Location:** 

Z-17-99 Reviewed BY / Date: 2/18/29



## Sample Collection Log Project: 774645 Fort McClellan

	Wianager.		
		RFA / COC Number:	122-021799- QSK
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2-17-99
Location Code:	PPMP-122-GP03	Collection Time:	
Sample Number:	KY0003  PDACE 122 CD03 DS KV0003-REG	Start Depth: End Depth:	
Sample Name:	PPMP-122-GP03-DS-KY0003-REG	Start Depth.	
Sampling Method:	DP	End Depth:	
Analytical Suite	Containers Flt Frtn Qty Size Units Type	Sample Team:	Messer
SEMIVOLATILE	S_N B 1 8 oz CWM		
<b>Comments:</b>			

Logged BY / Date:

**Sketch Location:** 

Reviewed BY / Date:

218/99



**Project:** 

### Sample Collection Log

774645 Fort McClellan

	Project: Manager: Jeanie Yacoub		
		RFA / COC Number:	122-02/899-05
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2-17-99
Location Code:	PPMP-122-GP04	Collection Time:	
Sample Number: Sample Name:	KY0004 PPMP-122-GP04-DS-KY0004-REG	Start Depth: End Depth:	3'
Sampling Method:	DP	End Depth:	_6'
Analytical Suite	Containers Fit Frtn Qty Size Units Type S_N B 1 8 oz CWM	Sample Team:	MÉSSER
Com, it is glost the impact status.			
Comments:			

Logged BY / Date:

**Sketch Location:** 

2/17/55 Reviewed BY / Date:



**Sketch Location:** 

## Sample Collection Log

Project:	774645 Fort McC Manager: Jeanie Yacoub	Clellan	
		RFA / COC Number:	122-021799- QSK
Former Fog Oil Sto	orage Area West of the Ske	Collection Date:	2-17-99
		Collection Time:	0930
KY0004-MS	DS-KY0004-MS		_
DP		End Depth:	6
Flt Frtn Qty Size	Units Type	Sample Team:	Messel
ES_N B 1 8	oz CWM		
•	Former Fog Oil Sto PPMP-122-GP04 KY0004-MS PPMP-122-GP04-I DP Containe Flt Frtn Qty Size	Former Fog Oil Storage Area West of the Ske PPMP-122-GP04 KY0004-MS PPMP-122-GP04-DS-KY0004-MS	KY0004-MS PPMP-122-GP04-DS-KY0004-MS  Start Depth: End Depth:  Containers Fit Frtn Qty Size Units Type  Sample Team:

Logged BY / Date: 2/17/99 Reviewed BY / Date: 4 2/18/99



## Sample Collection Log Project: 774645 Fort McClellan

	- 6		
		RFA / COC Number: (	22-021799-QSH
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	
	PPMP-122-GP04	Collection Time:	0930
Sample Number:	KY0004-MSD PPMP-122-GP04-DS-KY0004-MSD	Start Depth:	
Sample Nume. Sampling Method:		End Depth:	
Analytical Suite	Containers Flt Frtn Qty Size Units Type	Sample Team:	Messer
SEMIVOLATIL	ES_N B 1 8 oz CWM		

**Sketch Location:** 

Comments:

Logged BY / Date: 2-17-98 Reviewed BY / Date: 2118/99



**Sketch Location:** 

Logged BY / Date:

## Sample Collection Log

		<b>A</b>		
	Project:	774645 Fort McC Manager: Jeanie Yacoub		
			RFA / COC Number:	122-02 1799- OSK
Site:	Former Fog Oil Sto	orage Area West of the Ske	Collection Date:	2-17-99
	PPMP-122-GP04		Collection Time:	0930
=	PPMP-122-GP04-I	OS-KY0005-FD	Start Depth: End Depth:	3′
Sampling Method:	Containe			
	Flt Frtn Qty Size		Sample Team:	Messer
Comments:				

2-17-99 Reviewed BY / Date:



Droject.	774645	Fort McClellan
Project:	Manager:	Jeanie Yacoub

		RFA / COC Number:	122-021799-5ADL
Site:	Former Fog Oil Storage Area West of the Ske	Collection Date:	2-17-99
	PPMP-122-GP04	Collection Time:	
Sample Number: Sample Name: Sampling Method:	PPMP-122-GP04-DS-KY0006-FS	Start Depth: End Depth:	
Analytical Suite	Containers Flt Frtn Qty Size Units Type	Sample Team:	Messer
SEMIVOLATILE	ES_N B 1 8 oz CWM	egic zambro	
Comments:			
Sketch Locat	ion:		

Logged BY / Date: Z-17-98 Reviewed BY / Date: Z-17-98





	Project:	774645 Fort McC		
			RFA / COC Number:	127-070899- QSI
Site:	Former Fog Oil Sto	orage Area West of the Sk	Collection Date:	2 /9/19
Location Code:	PPMP-122-SW-SD	01	Collection Time:	0900
<del>-</del>	PPMP-122-SW/SD	01-SW-KY2001-REG	Start Depth:	0'
Sampling Method:	GRAB		End Depth:	<u>X .5</u>
Analytical Suite	Container Flt Frtn Qty Size	Units Type	Sample Team:	Kevin Ainold Jason Biown
SEMIVOLATILE	SINB 1 1	L. Amb. Glass		Jason Brown
	ere in the second	Conductivity Turbidity		

Comments:				
Skotch I coation:				

2/1/41 Reviewed BY / Date Logged BY / Date:



	Prineri:	45 Fort McC ger: Jeanie Yacoub	lellan	
Location Code: Sample Number: Sample Name:	PPMP-122-SW/SD01-SW-K	a West of the Sk	RFA / COC Number:  Collection Date:  Collection Time:  Start Depth:  End Depth:	2/8/99 0900 0'
Sampling Method:  Analytical Suite  SEMIVOLATILE	Containers Flt Frtn Qty Size Units T S N B 1 1 L A			Kain Anold Jason Brown
Surface Water Par		/cm) (NTU)	ssOxygen, Temperature (ppm) (G)	

**Sketch Location:** 

**Comments:** 

Logged BY / Date: Winn life 2/8/19 Reviewed BY / Date:



774645 Fort McClellan

**Project:** Manager: Jeanie Yacoub RFA/COC Number: 177-02879-5/ Site: Former Fog Oil Storage Area West of the Sk Collection Date: Location Code: PPMP-122-SW-SD01 Collection Time: Sample Number: KY2003 Sample Name: PPMP-122-SW/SD01-SW-KY2003-FS Start Depth: End Depth: Sampling Method: GRAB Containers Flt Frtn Qty Size Units Type **Analytical Suite** Sample Team: L Amb: Glass -SEMIVOLATILES IN B. 1 Brown Jason

Surface Water Parameters: (mV) (SU) (mS/cm) (NTU) (ppm) (C)	
Comments:	_
	_
	_
	_

**Sketch Location:** 

Logged BY / Date: Lim le W 2/8/19 Reviewed BY / Date



	Project: 774645 Fort		
	Parcel 122	RFA/COC Number: 123	2-070899-Osh
Location Code: Sample Number:	PPMP-122-SW/SD01-SD-KY1001-RE0	Collection Time:	2/4/99 0900 # 0 H
Analytical Suite	Containers Flt FrtnQty Size Units Type  S_N B 1 8 oz CWM  N C 1 4 oz CWM  N D 1 8 oz CWM	Sample Team:	Kenin Arnold Sason Brown

Comments:			
Sketch Location:			

Logged RV / Date

frum / 2/8/97

Reviewed BY / Date:

219199

ANALYSIS REQUES	ST/CHAIN-OF-CU	ISTODY RECORDS



# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020299-QST

Project Number: 774645

Project Name: Fort McClellan

Sample Coordinator: John W. Andrew Turnaround Time: 7 clays

Samples Shipment Date: 02-FEB-99

Lab Destination: QUANTERRA - TAMPA

Lab Contact: Michelle Lersch

Project Contact: Randy McBride

Carrier/Waybill No.: Fed Ex/7901 9899 3310

Bill To: Duane Nielsen

Page 1 of 2

312 Directors Drive Knoxville

37923

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Report To: Duane Nielsen

312 Directors Drive Knoxville

37923

Z

Special Instru	Special Instructions: 7 day 747	747					
Possible Haz	Possible Hazard Indentification:	nt 🗌 Poison B	B Unknown	Sample Disposal:	Disposal by Lab	Archive	(mos.)
1. Relinquished By, (Signature/Affiliation)	on)		Date: $0^2/0^2/99$	1. Received By (Signature/Affiliation)			Date: Time:
2. Relinquished By (Signature/Affiliation)	hed By	ΔF	Date: Time:	2. Received By (Signature/Affiliation)			Date: Time:
3. Relinquished By (Signature/Affiliation)	hed By	ΩF	Date: Time:	3. Received By (Signature/Affiliation)			Date: Time:
Comments:	Comments: Plase FA	J Samish	p rosult	s to John	rosules to John Andrew within	4917	Nos
gahr i	days at telephone # 256-848-3551.	# 256-	84/8-3551.				
Sample	Sample Name	Sample Sample Date Time	Container	Ctr Qty Preservative	Requested Testing Program		Condition On Fil CID Receipt

zz

Deisel Range Organics by 8015B Deisel Range Organics by 8015B Deisel Range Organics by 8015B Deisel Range Organics by 8015B Deisel Range Organics by 8015B

1 None except cool to 4 C 1 None except cool to 4 C 1 None except cool to 4 C

Container

02-FEB-99 10:42 4 oz CWM 02-FEB-99 10:47 4 oz CWM

02-FEB-99 | 10:26 4 oz CWM 02-FEB-99 | 10:33 4 oz CWM

PMP-122-SS01-SS-KY0007-REG PMP-122-SS02-SS-KY0008-REG PMP-122-SS03-SS-KY0009-REG

Sample Name

Sample No

10:52 4 oz CWM

02-FEB-99

PMP-122-SS04-SS-KY0010-REG

KY0010

KY0011 KY0012

6000Y

**4**70008 KY0007

KY0013 KY0014

PMP-122-SS05-SS-KY0011-REG PMP-122-SS06-SS-KY0012-REG PMP-122-SS07-SS-KY0013-REG PMP-122-SS08-SS-KY0014-REG

02-FEB-99 | 10:57 | 4 oz CWM 02-FEB-99 | 11:05 | 0z CWM 02-FEB-99 | 11:13 | 0z CWM

z z

z

z z

Deisel Range Organics by 8015B

Deisel Range Organics by 8015B Deisel Range Organics by 8015B



# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 122-020299-QST

Page 2 of 2

Sample		Sample Sample	Sample		AND THE RESERVE OF THE PROPERTY OF THE PROPERT	Requested Testing		Condition On
Š	Sample Name	Date	Time	Container	Preservative	Program	Fil CID	Receipt
KY0015	PPMP-122-SS09-SS-KY0015-REG	02-FEB-99 11:20 4 oz CWM	11:20 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0016	PPMP-122-SS10-SS-KY0016-REG	02-FEB-99	13:53 4 oz	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0017	PPMP-122-SS11-SS-KY0017-REG	02-FEB-99 15:20 4 oz	15:20 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0025	PPMP-122-SS19-SS-KY0025-REG	02-FEB-99	14:05 4 oz	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0026	PPMP-122-SS20-SS-KY0026-REG	02-FEB-99	15:27 4 oz	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0034	PPMP-122-SS28-SS-KY0034-REG	02-FEB-99 14:14 4 oz	14:14 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0035	PPMP-122-SS29-SS-KY0035-REG	02-FEB-99	15:32 4 oz	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0043	PPMP-122-SS37-SS-KY0043-REG	02-FEB-99 14:25 4 oz	14:25 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0044	PPMP-122-SS38-SS-KY0044-REG	02-FEB-99	15:42 4 oz	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0052	PPMP-122-SS46-SS-KY0052-REG	02-FEB-99 14:35 4 oz	14:35 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0053	PPMP-122-SS47-SS-KY0053-REG	02-FEB-99	16:04 4 oz	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0061	PPMP-122-SS55-SS-KY0061-REG	02-FEB-99 15:05 4 oz	15:05 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	



# CHAIN OF CUSTODY RECORD ANALYSIS REOUEST AND

Reference Document No: 122-020399-QST

Page 1 of 2

Project Number: 774645

Samples Shipment Date: 03-FEB-99

312 Directors Drive Bill To: Duane Nielsen

Project Name: Fort McClellan

Lab Destination: QUANTERRA - TAMPA Lab Contact: Michelle Lersch

Knoxville

TN 37923

Sample Coordinator: John W. Andrew Turnaround Time:

Project Contact: Randy McBride

Carrier/Waybill No.: Fed Ex/ 7916 8110 4220

TN 37923 Knoxville

312 Directors Drive

Report To: Duane Nielsen

40 (FAX) 256-848-355/

Comments: Plase 10,000 1050/45 60

John Andow within soun

Condition On zz z Z Z Deisel Range Organics by 8015B Requested Testing None except cool to 4 C Preservative इं द 03-FEB-99 | 10:26 4 oz CWM 08:59 4 oz CWM 03-FEB-99 10:38 4 oz CWM 09:08 4 oz CWM 03-FEB-99 | 08:50 4 oz CWM 03-FEB-99 | 10:47 4 oz CWM 03-FEB-99 | 09:16 4 oz CWM 03-FEB-99 | 10:56 4 oz CWM Sample Time 03-FEB-99 Sample Date PMP-122-SS22-SS-KY0028-REG PPMP-122-SS12-SS-KY0018-REG PMP-122-SS13-SS-KY0019-REG PMP-122-SS21-SS-KY0027-REG PMP-122-SS30-SS-KY0036-REG PMP-122-SS31-SS-KY0037-REG PMP-122-SS39-SS-KY0045-REG PPMP-122-SS40-SS-KY0046-REG Sample No XX0018 KY0046 (Y0019 KY0028 KY0036 KY0045 **<Y0027** KY0037



# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 122-020399-QST

Page 2 of 2

Sample No	Sample Name	Sample Sample Date Time	Sample Time	Container	Preservative	Requested Testing Program	FII CID	Condition On Receipt
KY0054	PPMP-122-SS48-SS-KY0054-REG 03-FEB-99 09:23 4 oz	03-FEB-99	09:23	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0055	PPMP-122-SS49-SS-KY0055-REG	03-FEB-99   11:07   0z	11:07	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0062	PPMP-122-SS56-SS-KY0062-REG	03-FEB-99 08:42 4 oz	08:42	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0063	PPMP-122-SS57-SS-KY0063-REG	03-FEB-99 09:31 4 oz CWM	09:31	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0064	PPMP-122-SS58-SS-KY0064-REG	03-FEB-99 11:14 4 oz	11:14	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	Z	



# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020399-QEST

1 of

Page

Project Number: 774645

Project Name: Fort McClellan

Sample Coordinator: John W. Andrew

Turnaround Time: 76495

Samples Shipment Date: 04-FEB-99

Lab Destination: QUANTERRA - TAMPA Lab Contact: Michelle Lersch

Carrier/Waybill No.: Fed Ex/7902 0015 1658 Project Contact: Randy McBride

Bill To: Duane Nielsen

312 Directors Drive Knoxville

TN 37923

Report To: Duane Nielsen

312 Directors Drive Knoxville

TN 37923

Special Instructions: FAX sample results to John Andrew at 256-848-3551 within 7 days.	1 within 7 days.	
Possible Hazard Indentification:  Non-hazard  Flammable Skin Irritant  Poison B  Unknown	Sample Disposal:  Unknown Return to Client Disposal by Lab	(mos.)
1. Relinquished By Time: 1430 (Signature/Affiliation)		Date:
2. Relinquished By Signature/Affiliation)	2. Received By (Signature/Affiliation)	Date: Time:
3. Relinquished By Date: (Signature/Affiliation)	3. Received By (Signature/Affiliation)	Date: Time:
Comments Seven day turnaround time!		

Condition On Receipt

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Deisel Range Organics by 8015B Deisel Range Organics by 8015B

1 None except cool to 4 C 1 None except cool to 4 C 1 None except cool to 4 C

Preservative

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Container

Sample Time

Sample Date

03-FEB-99 | 13:42 4 oz CWM

PPMP-122-SS14-SS-KY0020-REG PPMP-122-SS15-SS-KY0021-REG PMP-122-SS16-SS-KY0022-REG PMP-122-SS23-SS-KY0029-REG PMP-122-SS24-SS-KY0030-REG PMP-122-SS25-SS-KY0031-REG PMP-122-SS32-SS-KY0038-REG PMP-122-SS33-SS-KY0039-REG

KY0020

**KY0029** 

**CY0030** 

**(Y0031** 

CY0022

**〈Y0021** 

KY0038 KY0039

Sample Name

Sample

03-FEB-99 16:35 4 oz CWM 03-FEB-99 | 14:39 4 oz CWM

03-FEB-99 | 13:48 4 oz CWM

14:42 4 oz CWM

03-FEB-99

03-FEB-99 | 16:43 4 oz CWM 03-FEB-99 | 13:52 4 oz CWM 14:46 4 oz CWM

03-FEB-99

Requested Testing Program

z

Deisel Range Organics by 8015B Deisel Range Organics by 8015B

None except cool to 4 C

None except cool to 4 C None except cool to 4 C None except cool to 4 C

None except cool to 4 C

Deisel Range Organics by 8015B Deisel Range Organics by 8015B Deisel Range Organics by 8015B Deisel Range Organics by 8015B

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# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No; 122-020399-QEST Page 2 of 2

Sample No	Sample Name	Sample Sample Date Time	Sample Time	Container	Preservative	Requested Testing Program	Fil CID	Condition On Receipt
,4XY0040	PPMP-122-SS34-SS-KY0040-REG	03-FEB-99	16:53 4 oz (	oz CWM	1 None except cool to 4 C	None except cool to 4 C Deisel Range Organics by 8015B	2	
KY0047	PPMP-122-SS41-SS-KY0047-REG	03-FEB-99	13:59 4 oz (	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	2	
XY0048	PPMP-122-SS42-SS-KY0048-REG	03-FEB-99	14:54 4 oz (	oz CWM	1 None except cool to 4 C	7,	2 2	
KY0049	PPMP-122-SS43-SS-KY0049-REG	03-FEB-99	16:56 4 oz (	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015R		
-KY0056	PPMP-122-SS50-SS-KY0056-REG	03-FEB-99	14:05 4 oz (	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	? 2	
✓ KY0057	PPMP-122-SS51-SS-KY0057-REG	03-FEB-99	15:11 4 oz C	oz CWM	1 None except cool to 4 C	Deisel Rande Ordanics by 8015B	2 2	
KY0058	PPMP-122-SS52-SS-KY0058-REG	03-FEB-99	17:05 4 oz CWM	oz CWM	1 None except cool to 4 C	Deisel Rande Organics by 8015B	z	
, KY0065	PPMP-122-SS59-SS-KY0065-REG	03-FEB-99	14:09 4 oz CWM	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	2 2	
KY0066	PPMP-122-SS60-SS-KY0066-REG	03-FEB-99 15:21 4 oz CWM	15:21 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	2 2	
KY0067	PPMP-122-SS61-SS-KY0067-REG	03-FEB-99   17:16 4 oz CWM	17:16 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	:  2	



# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020499-QST

Page

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Samples Shipment Date: 05-FEB-99

Lab Destination: QUANTERRA - TAMPA

Lab Contact: Michelle Lersch

Project Contact: Randy McBride

Carrier/Waybill No.: Fed Ex/7902 0088 9731

N ORMS

Sample Coordinator: John W. Andrew

Turnaround Time:

Project Name: Fort McClellan

Project Number: 774645

312 Directors Drive Bill To: Duane Nielsen Knoxville

TN 37923

Report To: Duane Nielsen

312 Directors Drive

TN 37923

Knoxville

Date: 2/6/99 1000 (mos.) Time: Date: Time: Time: Date: Archive Disposal by Lab Sample Disposal: Return to Client 3. Received By (Signature/Affiliation) 1. Received By (Signature/Affiliation) 2. Received By (Signature/Affiliation) Poison B Unknown Date: 2/5/99 Time: Time: Date: Time: Date: Skin Irritant Possible Hazard Indentification: Flammable 1. Relinquished By (Signature/Affiliation) 3. Relinguished By (Signature/Affiliation) Special Instructions: 2. R**elinquished** By (Signature/Affliation) Non-hazard Comments:

Sample No	Sample Name	Sample Sample Date Time	Sample Time	Container	\$ \$	Preservative	Requested Testing Program	Fil CID	Condition On Receipt
KY0023	PPMP-122-SS17-SS-KY0023-REG	04-FEB-99 09:14 4	09:14	4 oz CWM	Ξ	1 None except cool to 4 C	Deisel Range Organics by 8015B	Z	
KY0024	PPMP-122-SS18-SS-KY0024-REG	04-FEB-99 09:52 4	09:52	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0032	PPMP-122-SS26-SS-KY0032-REG	04-FEB-99 09:19 4	09:19	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0033	PPMP-122-SS27-SS-KY0033-REG	04-FEB-99 10:06 4	10:06	t oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0041	PPMP-122-SS35-SS-KY0041-REG	04-FEB-99 09:24 4	09:24	\$ oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
/KY0042	PPMP-122-SS36-SS-KY0042-REG	04-FEB-99 10:17 4 c	10:17	t oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
/KY0050	PPMP-122-SS44-SS-KY0050-REG	04-FEB-99 09:30 4 c	06:30	t oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
/KY0051	PPMP-122-SS45-SS-KY0051-REG	04-FEB-99 10:23 4 c	10:23	1 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	



# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No; 122-020499-QST

Page 2 of 2

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	Sample No	Sample Name	Sample Sample Date Time	Sample Time	Container	Preservative	Requested Testing Program	Fil CID	Condition On Receipt	
٠,								!		
7		PPMP-122-SS53-SS-KY0059-REG 04-FEB-99 09:36 4 0	04-FEB-99	09:36	t oz CWM	1 None except cool to 4 C	None except cool to 4 C Deisel Range Organics by 8015B	z		
_		PPMP-122-SS54-SS-KY0060-REG 04-FEB-99 10:29 4	04-FEB-99	10:29	t oz CVM	1 None except cool to 4 C	Deisel Range Organics by 8015B	Z		
<u> </u>	KY0068	PPMP-122-SS62-SS-KY0068-REG 04-FEB-99 09:48 4 c	04-FEB-99	09:48 A	t oz CWM	1 None except cool to 4 C	None except cool to 4 C Deisel Range Organics by 8015B	z		
-	KY0069	KY0069 PPMP-122-SS63-SS-KY0069-REG 04-FEB-99 10:35 4 c	04-FEB-99	10:35	t oz CVVM	1 None except cool to 4 C	None except cool to 4 C Deisel Range Organics by 8015B	z		

# TECHNOLOGY CORPORATION

# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

D Reference Document No: 122-020899-QSK)RD Page 1 of 1

HABOADIBS

Project Number: 774645

Project Name: Fort McClellan

Turnaround Time: \\ ormal

Samples Shipment Date: 09-FEB-99

Lab Destination: Quanterra Environmental Services - Knoxville

Lab Contact: John Reynolds Project Contact: Randy McBride Carrier/Waybill No.: Quality Express/ Courier

Report To: Duane Nielsen

TN 37923

312 Directors Drive

Knoxville

Bill To: Duane Nielsen

312 Directors Drive
Knoxville

TN 37923

Special Instructions:	tructions:								
Possible Ha:	Possible Hazard Indentification:		Poison B 🗌 Unknown 🔀	1 .	Sample Disposal:	Disposal by Lab	Archive	(mos.)	
1. Relinquished By (Signature/Affiliation)	uished By	IT Core		66/	1. Received By (Signature/Affiliation)	A MASA	)	Date: 7.9.5 Time: 0830	83.C
2. Relinquished By (Signature/Affiliation)	jished By	13	Date: 🥦		2. Received By (Signature/Affiliation)	Just State		Date: 2-8-8 Time: 14:30	\$ 2
3. Relinquished By (Signature/Affiliation)	Jished By Williation)		Date: Time:		3. Received By (Signature/Affiliation)			Date: Time:	
Comments:	;;					Rad Custage One	10100 2015 July 00.9.99	to	
Sample	Sample Name	Sample Sa	Sample Time Container	15 A5	Preservative	Requested Testing Program		Con Fil CID R	Condition Or Receipt
	PPMP-122-SW-SD01-SD-KY1001-REG 08-FEB-99   09:00 B oz CWM	08-FEB-99 (	19:00 B oz CWM	+ +	None except cool to 4 C Semivolatiles by 8270C	Semivolatiles by 8270C Total Organic Carbon by 9060	<u>N</u> 06		
KY1001 PP	PPMP-122-SW-SD01-SD-KY1001-REG 08-FEB-99 09:00 4 oz CWM PPMP-122-SW-SD01-SD-KY1001-REG 08-FEB-99 09:00 8 oz CWM	08-FEB-99 (08-FEB-99 (0	9:00 4 oz CWM 9:00 8 oz CWM	-	None Required	Grain Size by ASTM D421/D422	1422 N		
	PPMP-122-SW-SD01-SW-KY2001-REG 08-FEB-99 09:00 1 L Amb. Glass	08-FEB-99 (	99:00 1 L Amb. Gla	ISS 1	None except cool to 4 C None except cool to 4 C	Semivolatiles by 8270C Semivolatiles by 8270C	X		
KY2002 PP		ין איי ייין יייטע	1						

# 14918090169

# NTERNATIONAL TECHNOLOGY

# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020899-QSK

Page 1 of

Project Number: 774645

Project Name: Fort McClellan

Sample Coordinator: John W. Andrew Turnaround Time: 1000 a

Samples Shipment Date: 09-FEB-99

Lab Destination: Quanterra Environmental Services - Knoxville

Lab Contact: John Reynolds

Carrier/Waybill No.: Quality Express/ Courier Project Contact: Randy McBride

Report To: Duane Nielsen

37923

Z

Knoxville

312 Directors Drive

Bill To: Duane Nielsen

Z 312 Directors Drive Knoxville

Date: 2.9.5 Filme: 083 Date: 2-8% Time: 1/20 (mos.) Time: Date: Archive Disposal by Lab Sample Disposal 1. Received By (Signature/Affiliation) 2. Received By (Signature/Affiliation) Return to Client Received B\( \) (Signature/Affiliation) Poison B Unknown X 400 Time: 0820 Date: Skin Irritant Possible Hazard Indentification: Flammable 1. Relinquished By (Signature/Affiliation) 2. Relinquished By (Signature/Affiliation) 3. Relinquished By (Signature/Affiliation) Special Instructions: Non-hazard Comments: Condition On Receipt FI CID rotal Organic Carbon by 9060 Srain Size by ASTM D421/D422 Requested Testing Semivolatiles by 8270C Semivolatiles by 8270C Semivolatiles by 8270C None except cool to 4 C Preservative None Required ਤੇ ਤੋਂ PPMP-122-SW-SD01-SW-KY2001-REQ 08-FEB-99 | 09:00 | 1 L Amb. Glass PPMP-122-SW-SD01-SW-KY2002-FD | 08-FEB-99 | 09:00 |1 L Amb. Glass Container PPMP-122-SW-SD01-SD-KY1001-REG 08-FEB-99 | 09:00 | 8 oz CWM PPMP-122-SW-SD01-SD-KY1001-REG 08-FEB-99 | 09:00 B oz CWM Sample Time PPMP-122-SW-SD01-SD-KY1001-REG 08-FEB-99 KY2002 KY1001 KY1001 KY1001

## INTERNATIONAL CORPORATION TECHNOLOGY

# CHAIN OF CUSTODY RECORD ANALYSIS REOUEST AND

Reference Document No: 122-021799-QSK

HUDSISDH

Page 1 of 1

Project Number: 774645

Project Name: Fort McClellan

Sample Coordinator: John W. Andrew Turnaround Time:  $N_{olms}$ 

Samples Shipment Date: 18-FEB-99

Lab Destination: Quanterra Environmental Services - Knoxville

TN 37923

312 Directors Drive

Knoxville

Bill To: Duane Nielsen

Project Contact: Randy McBride Lab Contact: John Reynolds

Carrier/Waybill No.: Quality Express/ Courier

312 Directors Drive Report To: Duane Nielsen

Z Knoxville

37923

Sample Disposal: Possible Hazard Indentification:

Date: ン 1タ 57 Time: 0830 Date: 27.18.99 (mos.) Archive Disposal by Lab Poison B 🔲 Unknown 🏿 Return to Client 📋 フ//6/19 | 1. Received BV つ8み | (Signature/Affiliation)

2. Received By (Signature/Affiliation) Received By

Date: >-(8999

Time:

2. Relinquished By (Signature/Affiliation)

1. Relinquished By (Signature/Affiliation)

3. Relinquished By (Signature/Affiliation)

Date: Time:

Skin Irritant

Flammable

Non-hazard

Special Instructions:

Time: 13:10

Time: Date:

(Signature/Affiliation)

Time: Date:

OF 2-16-40

Comments:

		olames olames	Sample		2		Reminested Testing		Condition On
oampie No	Sample Name	Date	Time	Container	ŠŠ	Preservative	Program	Fil CID	Receipt
KY0001/	KY0001 / PPMP-122-GP01-DS-KY0001-REG	17-FEB-99 15:00 B oz	15:00	3 oz CWM	2	None except cool to 4 C	Semivolatiles by 8270C	z	
KY0002/	<y0002 p="" ppmp-122-gp02-ds-ky0002-reg<=""></y0002>	17-FEB-99 13:30 8 oz CWM	13:30	3 oz CWM	2 -	None except cool to 4 C Semivolatiles by 8270C	Semivolatiles by 8270C	z	
KY0003 /	(Y0003 / PPMP-122-GP03-DS-KY0003-REG 17-FEB-99 11:30 8 oz	17-FEB-99	11:30	3 oz CWM	N N	None except cool to 4 C Semivolatiles by 8270C	Semivolatiles by 8270C	z	
KY0004 /	(Y0004 PPMP-122-GP04-DS-KY0004-REG 17-FEB-99 09:30 B oz	17-FEB-99	09:30	3 oz CWM	2	None except cool to 4 C Semivolatiles by 8270C	Semivolatiles by 8270C	z	
KY0004-MS	KY0004-MS_PPMP-122-GP04-DS-KY0004-MS-MS   17-FEB-99   09:30 B oz	17-FEB-99	09:30	3 oz CWM	<b>2</b> −	None except cool to 4 C	Semivolatiles by 8270C	z	٠.
KY0004-MS	KY0004-MSJPPMP-122-GP04-DS-KY0004-MSD-MS 17-FEB-99   09:30   8 oz	17-FEB-99	09:30	3 oz CWM	<u>2</u> -	None except cool to 4 C	Semivolatiles by 8270C	Z	
KY0005	KY0005 PPMP-122-GP04-DS-KY0005-FD 17-FEB-99 09:30 B oz	17-FEB-99	06:30	3 oz CWM	S -	None except cool to 4 C Semivolatiles by 8270C	Semivolatiles by 8270C	z	

## APPENDIX B SURFACE SOIL SCREENING RESULTS



Quanterra Incorporated 5910 Breckenridge Parkway, Suite H Tampa, Florida 33610

813 621-0784 Telephone 813 623-6021 Fax

#### **ANALYTICAL REPORT**

PROJECT NO. 774645

Ft. McClellan

Lot #: B9B030188

Duane Nielsen

IT Corp - Ft. McClellan

#### QUANTERRA INCORPORATED

Certification Numbers: E84059, HRS84297

FDEP CompQAP: 870270G

Michele Lersch

Project Manager

February 12, 1999



#### **Report Narrative**

Quanterra Lot: B9B030188

IT

Project: 774645/Ft. McClellan

Diesel Range Organics, 8015-MOD:

No QC problems or anomalies were encountered with the preparation or analysis of these samples for the Diesel Range Organics by the modified SW-846 method 8015.



#### **SAMPLE SUMMARY**

#### B9B030188

<u>WO #</u>	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CQG9V	001	PPMP-122-SS01-SS-KY0007-REG	02/02/99	10:26
CQGA0	002	PPMP-122-SS02-SS-KY0008-REG	02/02/99	10:33
CQGA1	003	PPMP-122-SS03-SS-KY0009-REG	02/02/99	10:42
CQGA2	004	PPMP-122-SS04-SS-KY0010-REG	02/02/99	10:47
CQGA4	005	PPMP-122-SS05-SS-KY0011-REG	02/02/99	10:52
CQGA5	006	PPMP-122-SS06-SS-KY0012-REG	02/02/99	10:57
CQGA6	007	PPMP-122-SS07-SS-KY0013-REG	02/02/99	11:05
CQGA8	008	PPMP-122-SS08-SS-KY0014-REG	02/02/99	11:13
CQGA9	009	PPMP-122-SS09-SS-KY0015-REG	02/02/99	11:20
CQGAE	010	PPMP-122-SS10-SS-KY0016-REG	02/02/99	
CQGAF	011	PPMP-122-SS11-SS-KY0017-REG	02/02/99	
CQGAH	012	PPMP-122-SS19-SS-KY0025-REG	02/02/99	14:05
CQGAM	013	PPMP-122-SS20-SS-KY0026-REG	02/02/99	15:27
CQGAN	014	PPMP-122-SS28-SS-KY0034-REG	02/02/99	
CQGC3	015	PPMP-122-SS29-SS-KY0035-REG	02/02/99	
CQGC9	016	PPMP-122-SS37-SS-KY0043-REG	02/02/99	
CQGCC	017	PPMP-122-SS38-SS-KY0044-REG	02/02/99	
CQGCF	018	PPMP-122-SS46-SS-KY0052-REG	02/02/99	
CQGCH	019	PPMP-122-SS47-SS-KY0053-REG	02/02/99	
~QGCK	020	PPMP-122-SS55-SS-KY0061-REG	02/02/99	
			=, -=, 32	,,,,

#### NOTE (S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



#### **METHODS SUMMARY**

#### B9B030188

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3550
Total Residue as Percent Solids	MCAWW 160.3 MOD	MCAWW 160.3 MOD

#### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.



#### **EXECUTIVE SUMMARY - Detection Highlights**

#### B9B030188

PARAMETER	RESUI	л	REPORTIN LIMIT	IG UNITS	ANALYTICAL METHOD
PAGELLIA					
PPMP-122-SS01-SS-KY0007-REG 02/02/99	10:26	001			
Diesel Range Organics	15		12	mg/kg	SW846 8015 MOD
Percent Solids	86.7		0.10	¥	MCAWW 160.3 MOD
PPMP-122-SS02-SS-KY0008-REG 02/02/99	10:33	002			
Diesel Range Organics	14		12	mg/kg	SW846 8015 MOD
Percent Solids	85.3		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS03-SS-KY0009-REG 02/02/99	10:42	003			
Diesel Range Organics	36		12	mg/kg	SW846 8015 MOD
Percent Solids	82.7		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS04-SS-KY0010-REG 02/02/99	10:47	004			
Diesel Range Organics	26		12	mg/kg	SW846 8015 MOD
Percent Solids	80.2		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS05-SS-KY0011-REG 02/02/99	10:52	005			
Diesel Range Organics	33		12	mg/kg	SW846 8015 MOD
Percent Solids	81.5		0.10	ક	MCAWW 160.3 MOD
PPMP-122-SS06-SS-KY0012-REG 02/02/99	10:57	006			
Diesel Range Organics	28		13	mg/kg	SW846 8015 MOD
Percent Solids	79.8		0.10	8	MCAWW 160.3 MOD
PPMP-122-SS07-SS-KY0013-REG 02/02/99	11:05	007			
Diesel Range Organics	45		12	mg/kg	SW846 8015 MOD
Percent Solids	80.4		0.10	ક	MCAWW 160.3 MOD
PPMP-122-SS08-SS-KY0014-REG 02/02/99	11:13	800			
Diesel Range Organics	27		13	mg/kg	SW846 8015 MOD
Percent Solids	77.6		0.10	8	MCAWW 160.3 MOD
PPMP-122-SS09-SS-KY0015-REG 02/02/99	11:20	009			
Diesel Range Organics	15		12	mg/kg	SW846 8015 MOD
Percent Solids					



#### **EXECUTIVE SUMMARY - Detection Highlights**

#### B9B030188

			REPORTING		ANALYTICAL
PARAMETER	RESUL	л	LIMIT	UNITS	METHOD
PPMP-122-SS10-SS-KY0016-REG 02/02/99	13:53	010			
Diesel Range Organics Percent Solids	27 86.7		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
Percent Solius	86.7		0.10	•	MCAWW 160.3 MOD
PPMP-122-SS11-SS-KY0017-REG 02/02/99	15:20	011			
Diesel Range Organics	76		12	mg/kg	SW846 8015 MOD
Percent Solids	81.6		0.10	¥	MCAWW 160.3 MOD
PPMP-122-SS19-SS-KY0025-REG 02/02/99	14:05	012			
Diesel Range Organics	27		11	mg/kg	SW846 8015 MOD
Percent Solids	89.5		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS20-SS-KY0026-REG 02/02/99	15:27	013			
Diesel Range Organics	33		13	mg/kg	SW846 8015 MOD
Percent Solids	75.8		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS28-SS-KY0034-REG 02/02/99	14:14	014			
Percent Solids	88.2		0.10	8	MCAWW 160.3 MOD
PPMP-122-SS29-SS-KY0035-REG 02/02/99	15:32	015			
Diesel Range Organics	52		13	mg/kg	SW846 8015 MOD
Percent Solids	75.5		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS37-SS-KY0043-REG 02/02/99	14:25	016			
Diesel Range Organics	21		12	mg/kg	SW846 8015 MOD
Percent Solids	85.5		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS38-SS-KY0044-REG 02/02/99	15:42	017			
Diesel Range Organics	100		14	mg/kg	SW846 8015 MOD
Percent Solids	70.0		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS46-SS-KY0052-REG 02/02/99	14:35	018			
Diesel Range Organics	47		23	mg/kg	SW846 8015 MOD
Percent Solids	88.2		0.10	*	MCAWW 160.3 MOD
(Continu	ed on	next	page)		



#### **EXECUTIVE SUMMARY - Detection Highlights**

#### B9B030188

PARAMETER	RESUL	T	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PPMP-122-SS47-SS-KY0053-REG 02/02/99	16:04	019			
Diesel Range Organics Percent Solids	73 70.8		14 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS55-SS-KY0061-REG 02/02/99	15:05	020			
Diesel Range Organics Percent Solids	41 88.1		11 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD



#### Client Sample ID: PPMP-122-SS01-SS-KY0007-REG

#### GC Semivolatiles

Lot-Sample #: B9B030188-001 Date Sampled: 02/02/99	Work Order #: Date Received:		Matrix: SOLID
Prep Batch #: 9035376	Analysis Date:		
Dilution Factor: 1	<pre>Initial Wgt/Vol: Method:</pre>	<del>-</del>	Final Wgt/Vol.: 1 mL MOD
PARAMETER Diesel Range Organics	RESULT 15	REPORTING LIMIT 12	UNITS mg/kg
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	

143

NOTE (S):

Tetratriacontane



#### Client Sample ID: PPMP-122-SS02-SS-KY0008-REG

#### GC Semivolatiles

Lot-Sample #...: B9B030188-002 Work Order #...: CQGA0102 Matrix.....: SOLID

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 14 12 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane85(31 - 144)

NOTE(S):



#### Client Sample ID: PPMP-122-SS03-SS-KY0009-REG

#### GC Semivolatiles

Lot-Sample #...: B9B030188-003 Work Order #...: CQGA1102 Matrix.....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...:
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...:
 02/10/99

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 17 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 36 12 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS
Tetratriacontane 73 (31 - 144)

NOTE (S):



#### Client Sample ID: PPMP-122-SS04-SS-KY0010-REG

#### GC Semivolatiles

Lot-Sample #...: B9B030188-004 Work Order #...: CQGA2102 Matrix.....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...
 02/10/99

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture**....: 20 **Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 26 12 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS
Tetratriacontane 69 (31 - 144)

NOTE (S):



#### Client Sample ID: PPMP-122-SS05-SS-KY0011-REG

#### GC Semivolatiles

Lot-Sample #...: B9B030188-005 Work Order #...: CQGA4102 Matrix.....: SOLID

Prep Date....: 02/04/99
Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 33 12 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS

SURROGATE RECOVERY LIMITS
Tetratriacontane 58 (31 - 144)

NOTE(S):



### Client Sample ID: PPMP-122-SS06-SS-KY0012-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-006 Work Order #...: CQGA5102 Matrix....: SOLID

Date Sampled...: 02/02/99 Date Received..: 02/03/99 **Prep Date....:** 02/04/99 **Analysis Date..:** 02/10/99

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 20 Method..... SW846 8015 MOD

REPORTING

RESULT PARAMETER UNITS LIMIT Diesel Range Organics 28 mg/kg 13

> PERCENT RECOVERY

RECOVERY LIMITS

SURROGATE Tetratriacontane (31 - 144)

NOTE(S):



### Client Sample ID: PPMP-122-SS07-SS-KY0013-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-007 Work Order #...: CQGA6102 Matrix....: SOLID

Date Received..: 02/03/99 Date Sampled...: 02/02/99 **Prep Date....:** 02/04/99 **Analysis Date..:** 02/10/99

Prep Batch #...: 9035376

Initial Wgt/Vol: 30 g Dilution Factor: 1 Final Wgt/Vol..: 1 mL

Method..... SW846 8015 MOD **\* Moisture....:** 20

REPORTING

LIMIT UNITS PARAMETER RESULT Diesel Range Organics mg/kg 45 12

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE (31 - 144)Tetratriacontane 78

NOTE (S):



Client Sample ID: PPMP-122-SS08-SS-KY0014-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-008 Work Order #...: CQGA8102 Matrix.....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...:
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...:
 02/10/99

Prep Date....: 02/04/99
Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**\* Moisture....:** 22 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 27 13 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane68LIMITS(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS09-SS-KY0015-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-009 Work Order #...: CQGA9102 Matrix....: SOLID

Date Received..: 02/03/99 Date Sampled...: 02/02/99 **Prep Date....:** 02/04/99 **Analysis Date..:** 02/10/99

**Prep Batch #...:** 9035376

Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL Dilution Factor: 1

Method.....: SW846 8015 MOD **\* Moisture....:** 16

REPORTING

RESULT UNITS PARAMETER LIMIT Diesel Range Organics 15 12 mg/kg

> RECOVERY PERCENT RECOVERY LIMITS

SURROGATE Tetratriacontane 96 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS10-SS-KY0016-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-010 Work Order #...: CQGAE102 Matrix.....: SOLID

**Prep Date....:** 02/04/99 **Analysis Date..:** 02/10/99

**Prep Batch #...:** 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 13 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 27 12 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS
Tetratriacontane 84 (31 - 144)

NOTE(S):



Client Sample ID: PPMP-122-SS11-SS-KY0017-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-011 Work Order #...: CQGAF102 Matrix....: SOLID

**Date Sampled...:** 02/02/99 **Date Received..:** 02/03/99 **Prep Date....:** 02/04/99 **Analysis Date..:** 02/10/99

**Prep Batch #...:** 9035376

Initial Wgt/Vol: 30 g Dilution Factor: 1 Final Wgt/Vol..: 1 mL

Method.....: SW846 8015 MOD **\* Moisture....:** 18

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 76 12 mg/kg

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE (31 - 144)Tetratriacontane 65

NOTE (S):



### Client Sample ID: PPMP-122-SS19-SS-KY0025-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-012 Work Order #...: CQGAH102 Matrix....: SOLID

Date Sampled...: 02/02/99 Date Received..: 02/03/99 **Prep Date....:** 02/04/99 **Analysis Date..:** 02/10/99

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

\* Moisture....: 11 Method....: SW846 8015 MOD

REPORTING

PARAMETER RESULT **LIMIT** UNITS Diesel Range Organics 27 11 mg/kg

PERCENT RECOVERY SURROGATE RECOVERY LIMITS

Tetratriacontane 60 (31 - 144)

NOTE (S):



Client Sample ID: PPMP-122-SS20-SS-KY0026-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-013 Work Order #...: CQGAM102 Matrix.....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...
 02/11/99

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 24 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 33 mg/kg

PERCENT RECOVERY

SURROGATE RECOVERY

Tetratriacontane 64 (31 - 144)

NOTE (S):



Final Wgt/Vol..: 1 mL

# IT CORP - FT. MCCLELLAN

# Client Sample ID: PPMP-122-SS28-SS-KY0034-REG

# GC Semivolatiles

Lot-Sample #...: B9B030188-014 Work Order #...: CQGAN102 Matrix.....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...
 02/11/99

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g

\* Moisture....: 12 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics ND 11 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane59(31 - 144)

NOTE (S):



# Client Sample ID: PPMP-122-SS29-SS-KY0035-REG

### GC Semivolatiles

Lot-Sample #: B9B030188-015	Work Order #:	CQGC3102	Matrix: SOLID
Date Sampled: 02/02/99	Date Received:	02/03/99	
Prep Date: 02/04/99	Analysis Date:	02/11/99	
Prep Batch #: 9035376			
Dilution Factor: 1	<pre>Initial Wgt/Vol:</pre>	_	Final Wgt/Vol: 1 mL
<b>% Moisture:</b> 25	Method:	SW846 8015	MOD
		REPORTING	
PARAMETER	RESULT	LIMIT	UNITS
Diesel Range Organics	52	13	mg/kg
	PERCENT	RECOVERY	

LIMITS (31 - 144)

RECOVERY

67

NOTE (S):

SURROGATE

Tetratriacontane



# Client Sample ID: PPMP-122-SS37-SS-KY0043-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-016 Work Order #...: CQGC9102 Matrix.....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...:
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...:
 02/11/99

**Prep Batch #...:** 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 21 12 mg/kg

PERCENT

RECOVERY

SURROGATERECOVERYLIMITSTetratriacontane54(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS38-SS-KY0044-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-017 Work Order #...: CQGCC102 Matrix....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...:
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...:
 02/11/99

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 100 14 mg/kg

PERCENT RECOVERY

SURROGATE RECOVERY LIMITS

Tetratriacontane 64 (31 - 144)

NOTE (S):



# Client Sample ID: PPMP-122-SS46-SS-KY0052-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-018 Work Order #...: CQGCF102 Matrix....: SOLID

Date Sampled...: 02/02/99 Date Received..: 02/03/99 **Prep Date....:** 02/04/99 Analysis Date..: 02/11/99

**Prep Batch #...:** 9035376

Dilution Factor: 2 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 12 Method..... SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 47 23 mg/kg

PERCENT RECOVERY SURROGATE RECOVERY LIMITS

Tetratriacontane 66 (31 - 144)

Results and reporting limits have been adjusted for dry weight.

NOTE (S):



### Client Sample ID: PPMP-122-SS47-SS-KY0053-REG

### GC Semivolatiles

Lot-Sample #:	B9B030188-019	Work Order #:	CQGCH102	Matrix: SOLID
	/ /		00/03/00	

Prep Batch #...: 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**\* Moisture....:** 29 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 73 14 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane63(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS55-SS-KY0061-REG

### GC Semivolatiles

Lot-Sample #...: B9B030188-020 Work Order #...: CQGCK102 Matrix.....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...
 02/11/99

**Prep Batch #...:** 9035376

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 12 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 41 11 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY

Tetratriacontane 53 (31 - 144)

NOTE (S):



### METHOD BLANK REPORT

### GC Semivolatiles

Client Lot #...: B9B030188

Work Order #...: CQHTC101

Matrix....: SOLID

MB Lot-Sample #: B9B040000-376

**Prep Date....:** 02/04/99

**Analysis Date..:** 02/09/99

**Prep Batch #...:** 9035376

Final Wgt/Vol..: 1 mL

Dilution Factor: 1

Initial Wgt/Vol: 30 g

REPORTING

PARAMETER

LIMIT

METHOD UNITS

Diesel Range Organics

RESULT ND

10

mg/kg

SW846 8015 MOD

PERCENT

RECOVERY

SURROGATE

RECOVERY

LIMITS

Tetratriacontane

95

(31 - 144)

### NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



# LABORATORY CONTROL SAMPLE EVALUATION REPORT

### GC Semivolatiles

Client Lot #...: B9B030188 Work Order #...: CQHTC102 Matrix....: SOLID

LCS Lot-Sample#: B9B040000-376

Prep Date....: 02/04/99 Analysis Date..: 02/09/99

Prep Batch #...: 9035376

Dilution Factor: 1 Final Wgt/Vol..: 1 mL

Initial Wgt/Vol: 30 g

PARAMETER PERCENT RECOVERY LIMITS

PARAMETER RECOVERY LIMITS METHOD

Diesel Range Organics 75 (38 - 115) SW846 8015 MOD

SURROGATE PERCENT RECOVERY
LIMITS

Tetratriacontane 86 (31 - 144)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



### MATRIX SPIKE SAMPLE EVALUATION REPORT

### GC Semivolatiles

Client Lot #...: B9B030188 Work Order #...: CQGCF103-MS Matrix....: SOLID

 Date Sampled...:
 02/02/99
 Date Received...
 02/03/99

 Prep Date.....:
 02/04/99
 Analysis Date...
 02/11/99

**Prep Batch #...:** 9035376

Dilution Factor: 2 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**\* Moisture....:** 12

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Diesel Range Organics	84	(21 - 122)			SW846 8015 MOD
	97	(21 - 122)	8.5	(0-44)	SW846 8015 MOD
		PERCENT		RECOVERY	
SURROGATE		RECOVERY		LIMITS	
Tetratriacontane		72		(31 - 144	)
		76		(31 - 144	)

### NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



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# TAMPA LABORATORY CONDITION UPON RECEIPT FORM

Client: 7+ Date Received:	213199	Lot N	Number:	MCC/	e 1/e 30/88	<u>n</u>	<del></del>
Received By:	SUS_	CUR	Completed By:		20/0/		
Cooler/Shipping Int	formation.			-			
Type: Cooler YCC	<del></del>						
Cooler ID/Track #						<del>T</del>	
Temp (Celsius)	4°C					$\vdash$	
Cooler ID/Track #					<del></del>	┼	
Temp (Celsius)						<del>                                     </del>	
Any "NO" response	s or discrepancies shou	ıld be explained in the '	"Comments" section be	elow.			
		CHECKLIST			YES	NO	NT A
1. Were custody se	als on shipping contain	ner(s) intact? Check "N	A" if hand delivered.		LES	NO	NA T
If "Yes," check of	one: CUSTODY SEAI	L SAVEDA UNABL	E TO SAVE CUSTOR	Y SEAT	U		
2. Were custody pa	pers properly included	with samples?	· · · · · · · · · · · · · · · · · · ·	- OLAL	2		<del></del>
3. Were custody pa	pers properly filled our	t (ink, signed, match la	bels)?		1		
4. Did all bottles an	rive in good condition	(unbroken)?	······································		4		
5. Were all bottle la	bels complete (sample	#, date, signed, analys	is, preservatives)?		-		
6. Were correct bot	tles used for the tests in	ndicated?		<del></del>	~		
7. Were proper sam	ple preservation techni	iques indicated?					
. Were samples red	ceived within holding t	imes? If "No," NCM re	equired.		-		
If air bubbles we	re found, indicate in co	resence of air bubbles?			4		
11 Were the sample	s received with a town	t ice? If "No," check o	one: NO ICE   BLUI	E ICE 🗆	-		
If "No," check of	s received with a temp	erature blank? RECOR	CD TEMPERATURE	ABOVE	1		
UNABLE TO DETE	RMINE TEMP □ TEN	MP TAKEN FROM ICI	E/WATER NEAR SAM	MPLES 🗌			r.
NOTE: TOC and VO	s checked and recorded	by S.R. (see back for	Page 2 - Sample pH)?				Not inspected:
then a pH check is no	A sumples are checked t required/performed b	d by laboratory analyst. by Sample Receiving an	s. If response is "Not.	Inspected,"			- Page 2 not 🖫
			a Page 2 is not application	able.			completed 🔲
Comments:	cepted into the laborate	ory?			4		
Comments.							
			· · · · · · · · · · · · · · · · · · ·				
Complete if applicable	NCM#				-		
		hay aliba	Check one: Notified I	PM by E-mail	I∐ Hai	d Cor	эу □
Project Manager initia	ls/date reviewed:	1002 74199					
Corrective Action:		• '		<del></del>			
Torractive Action	anlate d bar/d-t						
Corrective Action con	ipieted by/date:						
SOP: TAMP-QA-0007; Rev	v. 0: Rev. Date: 2/20/96					I	Page 1



# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020299-QSK

Page 1 of 2

Project Number: 774645

Project Name: Fort McClellan

Sample Coordinator: John W. Andrew Turnaround Time:

Samples Shipment Date: 02-FEB-99

Lab Destination: Quanterra Environmental Services - Knoxville

Lab Contact: John Reynolds MIChele Levsch

Carrier/Waybill No.: Fed Ex 7901-9899-3310

Project Contact: Randy McBride

312 Directors Drive Knoxville

Bill To: Duane Nielsen

TN 37923

Report To: Duane Nielsen

312 Directors Drive

TN 37923 Knoxville

Date: 2/03/99 Time: (000 # (mos.) Time: Time: Date: Date: Archive Disposal by Lab 9t 14th John Androw Sample Disposal: (Signature/Affiliation) 3. Received By 2. Received By (Signature/Affiliation) 1. Received By (Signature/Affiliation) Poison B Unknown Date: 02/02/99 2 Time: 1645 SHINSOI Time: Date Date: Skin Irritant <\\circ\< Possible Hazard Indentification: Flammable Special Instructions: Comments: Mase 2. Relinquished By (Signature/Affiliation) 3. Relinquished By (Signature/Affiliation) 1. Relinquished By (Signature/Affiliation) Non-hazard

Sample No	Sample Name	Sample Sample Date Time	Sample Time	Container	g c	Preservative	Requested Testing Program	Fil CID	Condition On Receipt
XY0007	PPMP-122-SS01-SS-KY0007-REG	02-FEB-99 10:26 4	10:26	4 oz CVM	-	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0008	PPMP-122-SS02-SS-KY0008-REG	02-FEB-99 10:33 4	10:33	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0009	PPMP-122-SS03-SS-KY0009-REG	02-FEB-99 10:42 4	10:42	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0010	PPMP-122-SS04-SS-KY0010-REG	02-FEB-99 10:47 4	10:47	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
XY0011	PPMP-122-SS05-SS-KY0011-REG	02-FEB-99 10:52 4	10:52	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0012	PPMP-122-SS06-SS-KY0012-REG	02-FEB-99 10:57 4	10:57	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0013	PPMP-122-SS07-SS-KY0013-REG	02-FEB-99 11:05 4	11:05	4 oz CWM	-	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0014	PPMP-122-SS08-SS-KY0014-REG	02-FEB-99 11:13 4 c	11:13	4 oz CWM		None except cool to 4 C	Deisel Range Organics by 8015B	z	



# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020299-QSK

2 of 2 Page

Sample		Sample Sample	Sample			Requested Testing		Condition On
<b>8</b>	Sample Name	Date	Time	Container	Preservative	Program	Fil CID	Receipt
KY0015	PPMP-122-SS09-SS-KY0015-REG	02-FEB-99	11:20 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
/KY0016	PPMP-122-SS10-SS-KY0016-REG	02-FEB-99	13:53 4 0	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
XXX0017	PPMP-122-SS11-SS-KY0017-REG	02-FEB-99	15:20 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0025	PPMP-122-SS19-SS-KY0025-REG	02-FEB-99	14:05 4 0	oz CVM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0026	PPMP-122-SS20-SS-KY0026-REG	02-FEB-99 15:27 4 c	15:27 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
-KY0034	PPMP-122-SS28-SS-KY0034-REG	02-FEB-99 14:14 4 oz CWM	14:14 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0035	PPMP-122-SS29-SS-KY0035-REG	02-FEB-99	15:32 4 oz CWM	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
XXY0043	PPMP-122-SS37-SS-KY0043-REG	02-FEB-99	14:25 4 oz CWM	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0044	PPMP-122-SS38-SS-KY0044-REG	02-FEB-99 15:42 4 oz CWM	15:42 4	oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
XXX0052	PPMP-122-SS46-SS-KY0052-REG	02-FEB-99	14:35 4 oz CWM	oz CVVM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
/KY0053	PPMP-122-SS47-SS-KY0053-REG	02-FEB-99	16:04 4 oz CWM	OZ CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
, KY0061	PPMP-122-SS55-SS-KY0061-REG	02-FEB-99   15:05 4 oz CWM	15:05 4	oz CVMM	1 None except cool to 4 C	None except cool to 4 C Deisel Range Organics by 8015B	Z	



Quanterra Incorporated 5910 Breckenridge Parkway, Suite H Tampa, Florida 33610

813 621-0784 Telephone 813 623-6021 Fax

# **ANALYTICAL REPORT**

PROJECT NO. 774645

Ft. McClellan

Lot #: B9B040175

Duane Nielsen

IT Corp - Ft. McClellan

### QUANTERRA INCORPORATED

Certification Numbers: R84059, HRS84297

FDEP CompQAP: 870270G

**Michele Lersch**Project Manager

February 12, 1999



# **Report Narrative**

Quanterra Lot: B9B040175

IT

Project: 774645/Ft. McClellan

Diesel Range Organics, 8015-MOD:

No QC problems or anomalies were encountered with the preparation or analysis of these samples for the Diesel Range Organics by the modified SW-846 method 8015.



# SAMPLE SUMMARY

### B9B040175

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
СОНВО	001	PPMP-122-SS12-SS-KY0018-REG	02/03/99	08:50
CQH8R	002	PPMP-122-SS12-SS-KY0019-REG	02/03/99	10:26
CQH8T	003	PPMP-122-SS12-SS-KY0027-REG	02/03/99	08:59
COH8V	004	PPMP-122-SS12-SS-KY0028-REG	02/03/99	10:38
сонвх	005	PPMP-122-SS12-SS-KY0036-REG	02/03/99	09:08
COH90	006	PPMP-122-SS12-SS-KY0037-REG	02/03/99	10:47
COH91	007	PPMP-122-SS12-SS-KY0045-REG	02/03/99	09:16
COH93	008	PPMP-122-SS12-SS-KY0046-REG	02/03/99	10:56
CQH95	009	PPMP-122-SS12-SS-KY0054-REG	02/03/99	09:23
COH97	010	PPMP-122-SS12-SS-KY0055-REG	02/03/99	11:07
СОН98	011	PPMP-122-SS12-SS-KY0062-REG	02/03/99	08:42
сон9А	012	PPMP-122-SS12-SS-KY0063-REG	02/03/99	09:31
СОН9С	013	PPMP-122-SS12-SS-KY0064-REG	02/03/99	11:14

### NOTE (S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



# **METHODS SUMMARY**

### B9B040175

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3550
Total Residue as Percent Solids	MCAWW 160.3 MOD	MCAWW 160.3 MOD

### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes", EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.



# **EXECUTIVE SUMMARY - Detection Highlights**

# B9B040175

			REPORTING		ANALYTICAL
PARAMETER	RESUL	T	LIMIT	UNITS	METHOD
PPMP-122-SS12-SS-KY0018-REG 02/03/99	08:50	001			
Diesel Range Organics	14		12	mg/kg	SW846 8015 MOD
Percent Solids	85.6		0.10	<b>*</b>	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0019-REG 02/03/99	10:26	002			
Diesel Range Organics	19		12	mg/kg	SW846 8015 MOD
Percent Solids	83.7		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0027-REG 02/03/99	08:59	003			
Diesel Range Organics	21		12	mg/kg	SW846 8015 MOD
Percent Solids	82.0		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0028-REG 02/03/99	10:38	004			
Diesel Range Organics	23		12	mg/kg	SW846 8015 MOD
Percent Solids	80.4		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0036-REG 02/03/99	09:08	005			
Diesel Range Organics	56		13	mg/kg	SW846 8015 MOD
Percent Solids	78.9		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0037-REG 02/03/99	10:47	006			
Diesel Range Organics	13		12	mg/kg	SW846 8015 MOD
Percent Solids	81.4		0.10	ક	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0045-REG 02/03/99	09:16	007			
Diesel Range Organics	38		13	mg/kg	SW846 8015 MOD
Percent Solids	75.5		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0046-REG 02/03/99	10:56	800			
Diesel Range Organics	57		13	mg/kg	SW846 8015 MOD
Percent Solids	78.8		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0054-REG 02/03/99	09:23	009			
Diesel Range Organics	59		13	mg/kg	SW846 8015 MOD
Percent Solids	79.9		0.10	ક	MCAWW 160.3 MOD
(Contin	ued on	next	page)		



# **EXECUTIVE SUMMARY - Detection Highlights**

# B9B040175

PARAMETER	RESULT		REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PPMP-122-SS12-SS-KY0055-REG 02/03/99	11:07	010			
Diesel Range Organics Percent Solids	48 74.6		13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0062-REG 02/03/99	08:42	011			
Diesel Range Organics Percent Solids	26 79.1		13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0063-REG 02/03/99	09:31	012			
Diesel Range Organics Percent Solids	28 75.1		13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS12-SS-KY0064-REG 02/03/99	11:14	013			
Diesel Range Organics Percent Solids	28 73.4		14 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD



### Client Sample ID: PPMP-122-SS12-SS-KY0018-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-001 Work Order #...: CQH8Q102 Matrix.....: SOLID

Date Sampled...: 02/03/99 Date Received..: 02/04/99

**Prep Date....:** 02/05/99 **Analysis Date..:** 02/09/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 14 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 14 12 mg/kg

SURROGATE PERCENT

RECOVERY

Tetratriacontane 55

<u>RECOVERY</u> <u>LIMITS</u> 55 (31 - 144)

RECOVERY

NOTE (S):



# Client Sample ID: PPMP-122-SS12-SS-KY0019-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-002 Work Order #...: CQH8R102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...
 02/04/99

 Prep Date.....:
 02/05/99
 Analysis Date...
 02/09/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 19 12 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS
Tetratriacontane 56 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS12-SS-KY0027-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-003 Work Order #...: CQH8T102 Matrix....: SOLID

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 21 12 mg/kg

PERCENT RECOVERY

SURROGATE RECOVERY LIMITS

Tetratriacontane 56 (31 - 144)

NOTE (S):



# Client Sample ID: PPMP-122-SS12-SS-KY0028-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-004 Work Order #...: CQH8V102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...:
 02/04/99

 Prep Date.....:
 02/05/99
 Analysis Date...:
 02/09/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 23 12 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane50LIMITS

NOTE(S):



# Client Sample ID: PPMP-122-SS12-SS-KY0036-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-005 Work Order #...: CQH8X102 Matrix.....: SOLID

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 56 13 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane47LIMITS(31 - 144)

NOTE (S):



# Client Sample ID: PPMP-122-SS12-SS-KY0037-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-006 Work Order #...: CQH90102 Matrix..... SOLID

**Date Sampled...:** 02/03/99 Date Received..: 02/04/99 **Prep Date....:** 02/05/99 **Analysis Date..:** 02/09/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 19 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 13 12 mg/kg

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE Tetratriacontane 47 (31 - 144)

NOTE (S):



# Client Sample ID: PPMP-122-SS12-SS-KY0045-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-007 Work Order #...: CQH91102 Matrix....: SOLID

**Date Sampled...:** 02/03/99 **Date Received..:** 02/04/99 **Prep Date....:** 02/05/99 **Analysis Date..:** 02/11/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 24 Method....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 38 13 mg/kg

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE Tetratriacontane 63 (31 - 144)

NOTE(S):



# Client Sample ID: PPMP-122-SS12-SS-KY0046-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-008 Work Order #...: CQH93102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...:
 02/04/99

 Prep Date.....:
 02/05/99
 Analysis Date...:
 02/11/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

\* Moisture....: 21 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 57 13 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS
Tetratriacontane 48 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS12-SS-KY0054-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-009 Work Order #...: CQH95102 Matrix....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...:
 02/04/99

 Prep Date....:
 02/05/99
 Analysis Date...:
 02/11/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**Moisture**....: 20 **Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 59 13 mg/kg

 PERCENT
 RECOVERY

 RECOVERY
 LIMITS

 58
 (31 - 144)

NOTE (S):

SURROGATE

Tetratriacontane



### Client Sample ID: PPMP-122-SS12-SS-KY0055-REG

### GC Semivolatiles

**Lot-Sample** #...: B9B040175-010 **Work Order** #...: CQH97102 Matrix..... SOLID

**Date Sampled...:** 02/03/99 Date Received..: 02/04/99 **Analysis Date..:** 02/11/99

**Prep Date....:** 02/05/99 Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 25 Method..... SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 48 13 mg/kg

PERCENT RECOVERY SURROGATE RECOVERY LIMITS Tetratriacontane 54 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS12-SS-KY0062-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-011 Work Order #...: CQH98102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...
 02/04/99

 Prep Date.....:
 02/05/99
 Analysis Date...
 02/11/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 21 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 26 13 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY

Tetratriacontane 60 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS12-SS-KY0063-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-012 Work Order #...: CQH9A102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...:
 02/04/99

 Prep Date.....:
 02/05/99
 Analysis Date...:
 02/11/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 28 13 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontaneRECOVERYLIMITS57(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS12-SS-KY0064-REG

### GC Semivolatiles

Lot-Sample #...: B9B040175-013 Work Order #...: CQH9C102 Matrix.....: SOLID

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 28 14 mg/kg

PERCENT RECOVERY
RECOVERY LIMITS

<u>RECOVERY</u> <u>LIMITS</u> 55 (31 - 144)

NOTE (S):

SURROGATE

Tetratriacontane



### METHOD BLANK REPORT

### GC Semivolatiles

**Client Lot #...:** B9B040175

Work Order #...: CQK6R101

Matrix....: SOLID

MB Lot-Sample #: B9B050000-341

**Prep Date....:** 02/05/99

Final Wgt/Vol..: 1 mL

**Analysis Date..:** 02/09/99

Prep Batch #...: 9036341

Dilution Factor: 1

Initial Wgt/Vol: 30 g

REPORTING

PARAMETER RESULT LIMIT UNITS METHOD Diesel Range Organics

ND 10 mg/kg SW846 8015 MOD

PERCENT

RECOVERY

SURROGATE RECOVERY LIMITS

Tetratriacontane 98 (31 - 144)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



### LABORATORY CONTROL SAMPLE EVALUATION REPORT

### GC Semivolatiles

Client Lot #...: B9B040175 Work Order #...: CQK6R102 Matrix.....: SOLID

LCS Lot-Sample#: B9B050000-341

**Prep Date....:** 02/05/99 **Analysis Date..:** 02/09/99

Prep Batch #...: 9036341

Dilution Factor: 1 Final Wgt/Vol..: 1 mL

Initial Wgt/Vol: 30 g

PERCENT RECOVERY

PARAMETER RECOVERY LIMITS METHOD

Diesel Range Organics 73 (38 - 115) SW846 8015 MOD

SURROGATE PERCENT RECOVERY

LIMITS

Tetratriacontane 99 (31 - 144)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



### MATRIX SPIKE SAMPLE EVALUATION REPORT

### GC Semivolatiles

Client Lot #...: B9B040175 Work Order #...: CQH8Q104-MS Matrix.....: SOLID

Prep Date....: 02/05/99 Analysis Date..: 02/09/99

Prep Batch #...: 9036341

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**\* Moisture....:** 14

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHO	)	
Diesel Range Organics	64	(21 - 122)			SW846	8015	MOD
	85	(21 - 122)	23	(0-44)	SW846	8015	MOD
		PERCENT		RECOVERY			
SURROGATE	·	RECOVERY		LIMITS			
Tetratriacontane		45		(31 - 144	)		
		47		(31 - 144	)		

### NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



# TAMPA LABORATORY CONDITION UPON RECEIPT FORM

Client: Date Received: Received By:	2-4-99 24 Mars		Lot N	ct Name: umber: Completed	Fo-7 By:2/	H M B9B0 H 200	40/75	//0	
Cooler/Shipping Int	formation:  Box Other/					,			
Cooler ID/Track #								7	
Temp (Celsius)	4.						<del></del>	╅~~~	
Cooler ID/Track #								+	
Temp (Celsius)								<del></del>	
	es or discrepancies shou	CHECKLIST				elow.	YES	NO	NA
	one: CUSTODY SEA		NABL	E IO SAVI	E CUSTOL	Y SEAL ⊟			
	apers properly filled ou		atah la	hola)2		·			
	rive in good condition		atcii ia	Dels):					
	abels complete (sample		analys	is preservat	tives)?		-		
	ttles used for the tests i			io, preserva					
7. Were proper san	nple preservation techn	iques indicated?		<del></del>		·····			
	ceived within holding								
9. Were all VOA b	ottles checked for the	oresence of air bu	ıbbles?	)	·				
If air bubbles we	ere found, indicate in co	omment section.					,		_
	n direct contact with w						_		
If "No," check of	es received with a tempone:	perature blank? F	RECO	RD TEMPI	ERATURE	ABOVE			
UNABLE TO DETE	ERMINE TEMP 🗆 TE	MP TAKEN FRO	ом іс	E/WATER	NEAR SAI	MPLES 🗍			
12. Were sample pl NOTE: TOC and Ve	Is checked and recorde OA samples are checke ot required/performed	ed by S.R. (see band by laboratory	ack for	Page 2 - Sa	mple pH)? use is "Not	Inspected."			Not inspected: - Page 2 not
13. Were samples a	ccepted into the labora	tory?						<u> </u>	completed [1]
Comments:									
Project Manager init	ole: NCM#:ials/date reviewed:	Mx 2/5/9.				PM by E-ma		ard Co	ру 🗆
Corrective Action co	ompleted by/date:						-		

SOP: TAMP-QA-0007; Rev. 0: Rev. Date: 2/20/96



# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020399-QST

Page 1 of 2

Project Number: 774645

Project Name: Fort McClellan

Sample Coordinator: John W. Andrew

Turnaround Time:

Samples Shipment Date: 03-FEB-99

Lab Destination: QUANTERRA - TAMPA

Lab Contact: Michelle Lersch Project Contact: Randy McBride

Report To: Duane Nielsen

TN 37923

312 Directors Drive

Knoxville

Bill To: Duane Nielsen

TN 37923 312 Directors Drive Knoxville Carrier/Waybill No.: Fed Ex/ 7916 8110 4220

Date: 2-4-99 Time: 10:8 (mos.) Time: Date: Time: Date: Within spron Archive Disposal by Lab Sample Disposal: 3. Received By Poison B Unknown Feturn to Client 1. Received By (Signature/Affiliation) 2. Received By (Signature/Affiliation) (Signature/Affiliation) Date: 02/03/95 Time: 1436 report results Date: Time: Date: to (FAX) 256-848-3551 Skin Irritant Possible Hazard Indentification: 2/2/ Flammable Comments: Maso Special Instructions: 7 1. Relinquished BX (Signature/Affiliation) 3. Relinquished By (Signature/Affiliation) 2. Relinquished By (Signature/Affiliation) Non-hazard

Sample	Sample Name	Sample Sample Date Time	Sample Time	Container	<b>5</b> C	Preservative	Requested Testing Program	Fil CID	Condition On Receipt
870078	PPMP-122-SS12-SS-KY0018-REG	03-FEB-99 08:50		4 oz CVM	Ž -	None except cool to 4 C	Deisel Range Organics by 8015B	Z	
KY0019	PPMP-122-SS13-SS-KY0019-REG	03-FEB-99 10:26	Z.	oz CWM	Ž -	None except cool to 4 C	Deisel Range Organics by 8015B	z	
-KY0027	PPMP-122-SS21-SS-KY0027-REG	03-FEB-99 08:59	2	I oz CWM	Ž -	None except cool to 4 C	Deisel Range Organics by 8015B	z	
XY0028	PPMP-122-SS22-SS-KY0028-REG	03-FEB-99 10:38	4	oz CWM	Ž -	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
(KY0036 F	PPMP-122-SS30-SS-KY0036-REG	03-FEB-99 09:08	<b>Z</b>	oz CWM	ž	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0037	PPMP-122-SS31-SS-KY0037-REG	03-FEB-99 10:47	₹.	oz CWM	ž -	None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0045	PPMP-122-SS39-SS-KY0045-REG	03-FEB-99 09:16	09:16 4	oz CWM	Ž -	None except cool to 4 C	Deisel Range Organics by 8015B	z	The state of the s
KY0046 P	PPMP-122-SS40-SS-KY0046-REG	03-FEB-99 10:56	10:56 4	oz CWM	ž -	None except cool to 4 C	Deisel Range Organics by 8015B	Z	



# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 122-020399-QST

Page 2 of 2

Sample		Sample Sample	Sample		:	Requested Testing	i	Condition On	
S Z	Sample Name	Cate	Ē	Container	Preservative	riogiam	rii cid	Necelpt	
KY0054	PPMP-122-SS48-SS-KY0054-REG	03-FEB-99 09:23 4 oz CWM	09:23	t oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	 Z		
KY0055	PPMP-122-SS49-SS-KY0055-REG	03-FEB-99 11:07 4 oz CWM	11:07	t oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z		
KY0062	KY0062 PPMP-122-SS56-SS-KY0062-REG 03-FEB-99 08:42 4 oz CWM	03-FEB-99	08:42	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z		
KY0063		03-FEB-99 09:31 4 oz	09:31	4 oz CWM		Deisel Range Organics by 8015B	z		-
KY0064	KY0064 PPMP-122-SS58-SS-KY0064-REG	03-FEB-99 11:14 4 0z	11:14	4 oz CVM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z		



Quanterra Incorporated 5910 Breckenridge Parkway, Suite H Tampa, Florida 33610

813 621-0784 Telephone 813 623-6021 Fax

### **ANALYTICAL REPORT**

PROJECT NO. 774645

Ft. McClellan

Lot #: B9B050114

Duane Nielsen

IT Corp - Ft. McClellan

### QUANTERRA INCORPORATED

Certification Numbers: E84059, HRS84297

FDEP CompQAP: 870270G

Michele Lersch Project Manager

February 12, 1999



## **Report Narrative**

Quanterra Lot: B9B050114

IT

Project: 774645/Ft. McClellan

### Diesel Range Organics, 8015-MOD:

No QC problems or anomalies were encountered with the preparation or analysis of these samples for the Diesel Range Organics by the modified SW-846 method 8015.



### SAMPLE SUMMARY

### B9B050114

<u>WO #</u>	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CQJ1E	001	PPMP-122-SS14-SS-KY0020-REG	02/03/99	13:42
CQJ1M	002	PPMP-122-SS15-SS-KY0021-REG	02/03/99	14:39
CQJ1Q	003	PPMP-122-SS16-SS-KY0022-REG	02/03/99	16:35
CQJ1T	004	PPMP-122-SS23-SS-KY0029-REG	02/03/99	13:48
CQJ1W	005	PPMP-122-SS24-SS-KY0030-REG	02/03/99	14:42
CQJ20	006	PPMP-122-SS25-SS-KY0031-REG	02/03/99	16:43
CQJ23	007	PPMP-122-SS32-SS-KY0038-REG	02/03/99	13:52
CQJ24	800	PPMP-122-SS33-SS-KY0039-REG	02/03/99	14:46
CQJ26	009	PPMP-122-SS34-SS-KY0040-REG	02/03/99	16:53
CQJ29	010	PPMP-122-SS41-SS-KY0047-REG	02/03/99	
CQJ2E	011	PPMP-122-SS42-SS-KY0048-REG	02/03/99	14:54
CQJ2F	012	PPMP-122-SS43-SS-KY0049-REG	02/03/99	
CQJ2G	013	PPMP-122-SS50-SS-KY0056-REG	02/03/99	14:05
CQJ2J	014	PPMP-122-SS51-SS-KY0057-REG	02/03/99	15:11
CQJ2L	015	PPMP-122-SS52-SS-KY0058-REG	02/03/99	17:05
CQJ2P	016	PPMP-122-SS59-SS-KY0065-REG	02/03/99	14:09
CQJ2R	017	PPMP-122-SS60-SS-KY0066-REG	02/03/99	
CQJ2T	018	PPMP-122-SS61-SS-KY0067-REG	02/03/99	17:16
**************************************	• •			

### WOTE (S):

.he analytical results of the samples listed above are presented on the following pages.

- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



### **METHODS SUMMARY**

### B9B050114

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3550
Total Residue as Percent Solids	MCAWW 160.3 MOD	MCAWW 160.3 MOD

### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

 ${\tt EPA-600/4-79-020}$ , March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.



# **EXECUTIVE SUMMARY - Detection Highlights**

### B9B050114

DADAMETED	DECIT	<b></b>	REPORTING		ANALYTICAL
PARAMETER	RESUL	ıΓ	LIMIT	UNITS	METHOD
PPMP-122-SS14-SS-KY0020-REG 02/03/99	13:42	001			
Percent Solids	84.0		0.10	ક	MCAWW 160.3 MOD
PPMP-122-SS15-SS-KY0021-REG 02/03/99	14:39	002			
Diesel Range Organics Percent Solids	21 81.9		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS16-SS-KY0022-REG 02/03/99	16:35	003			
Diesel Range Organics Percent Solids	29 83.8		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS23-SS-KY0029-REG 02/03/99	13:48	004			
Diesel Range Organics Percent Solids	18 82.1		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS24-SS-KY0030-REG 02/03/99	14:42	005			
Diesel Range Organics Percent Solids	17 83.5		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS25-SS-KY0031-REG 02/03/99	16:43	006			
Diesel Range Organics Percent Solids	15 85.0		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS32-SS-KY0038-REG 02/03/99	13:52	007			
Percent Solids	82.3		0.10	ક	MCAWW 160.3 MOD
PPMP-122-SS33-SS-KY0039-REG 02/03/99	14:46	800			
Percent Solids	81.0		0.10	ક્ષ	MCAWW 160.3 MOD
PPMP-122-SS34-SS-KY0040-REG 02/03/99	16:53	009			
Diesel Range Organics Percent Solids	21 83.6		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
(Continu	ied on i	next ]	page)		



# **EXECUTIVE SUMMARY - Detection Highlights**

### B9B050114

PARAMETER	RESUI	LT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
PPMP-122-SS41-SS-KY0047-REG 02/03/99	13:59	010			
Diesel Range Organics Percent Solids	27 82.4		12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS42-SS-KY0048-REG 02/03/99	14:54	011			
Diesel Range Organics Percent Solids	24 79.7		13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS43-SS-KY0049-REG 02/03/99	16:56	012			
Percent Solids	81.1		0.10	ક	MCAWW 160.3 MOD
PPMP-122-SS50-SS-KY0056-REG 02/03/99	14:05	013			
Diesel Range Organics Percent Solids	20 77.4		13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS51-SS-KY0057-REG 02/03/99	15:11	014			
Diesel Range Organics Percent Solids	<b>4</b> 1 78.6		13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS52-SS-KY0058-REG 02/03/99	17:05	015			
Percent Solids	79.3		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS59-SS-KY0065-REG 02/03/99	14:09	016			
Percent Solids	74.5		0.10	*	MCAWW 160.3 MOD
PPMP-122-SS60-SS-KY0066-REG 02/03/99	15:21	017			
Diesel Range Organics Percent Solids	31 69.5		14 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
PPMP-122-SS61-SS-KY0067-REG 02/03/99	17:16	018			
Percent Solids	74.9		0.10	*	MCAWW 160.3 MOD



### Client Sample ID: PPMP-122-SS14-SS-KY0020-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-001 Work Order #...: CQJ1E102 Matrix....: SOLID

Date Sampled...: 02/03/99 Date Received..: 02/05/99 **Prep Date....:** 02/07/99 Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 16 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics ND 12 mg/kg

PERCENT

RECOVERY RECOVERY LIMITS

SURROGATE Tetratriacontane 77 (31 - 144)

NOTE(S):



### Client Sample ID: PPMP-122-SS15-SS-KY0021-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-002 Work Order #...: CQJ1M102 Matrix....: SOLID

**Date Sampled...:** 02/03/99 Date Received..: 02/05/99

**Prep Date....:** 02/07/99 **Analysis Date..:** 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

\* Moisture....: 18 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 21 12 mg/kg

PERCENT RECOVERY SURROGATE RECOVERY LIMITS Tetratriacontane 58 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS16-SS-KY0022-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-003 Work Order #...: CQJ1Q102 Matrix....: SOLID

**Date Sampled...:** 02/03/99 **Date Received..:** 02/05/99 **Analysis Date..:** 02/10/99

**Prep Date....:** 02/07/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**% Moisture....:** 16 Method....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 29 mg/kg

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE Tetratriacontane (31 - 144)56

NOTE (S):



### Client Sample ID: PPMP-122-SS23-SS-KY0029-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-004 Work Order #...: CQJ1T102 Matrix....: SOLID Date Sampled...: 02/03/99 Date Received..: 02/05/99

Prep Date....: 02/03/99

Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**\* Moisture....:** 18 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 18 12 mg/kg

PERCENT RECOVERY RECOVERY LIMITS

SURROGATERECOVERYLIMITSTetratriacontane62(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS24-SS-KY0030-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-005 Work Order #...: CQJ1W102 Matrix..... SOLID

Date Sampled...: 02/03/99 Date Received..: 02/05/99 Prep Date....: 02/07/99 Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 16 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT UNITS LIMIT Diesel Range Organics 17 12 mg/kg

PERCENT RECOVERY SURROGATE RECOVERY LIMITS

Tetratriacontane 52 (31 - 144)

NOTE (S):



Client Sample ID: PPMP-122-SS25-SS-KY0031-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-006 Work Order #...: CQJ20102 Matrix....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...
 02/05/99

 Prep Date.....:
 02/07/99
 Analysis Date...
 02/10/99

**Prep Batch #...:** 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 15 12 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane63(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS32-SS-KY0038-RKG

### GC Semivolatiles

Lot-Sample #...: B9B050114-007 Work Order #...: CQJ23102 Matrix....: SOLID

Date Sampled...: 02/03/99 Date Received..: 02/05/99

**Prep Date....:** 02/07/99 Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 18 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics ND 12 mg/kg

PERCENT RECOVERY SURROGATE RECOVERY LIMITS

Tetratriacontane 59 (31 - 144)

Results and reporting limits have been adjusted for dry weight.

NOTE (S):



### Client Sample ID: PPMP-122-SS33-SS-KY0039-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-008 Work Order #...: CQJ24102 Matrix ..... SOLID

**Date Received..:** 02/05/99 **Date Sampled...:** 02/03/99 **Prep Date....:** 02/07/99 **Analysis Date..:** 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture**....: 19 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics ND 12 mg/kg

> PERCENT RECOVERY

RECOVERY LIMITS

SURROGATE Tetratriacontane 58 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS34-SS-KY0040-REG

### GC Semivolatiles

**Lot-Sample** #...: B9B050114-009 **Work Order** #...: CQJ26102 Matrix....: SOLID

Date Sampled...: 02/03/99 Date Received..: 02/05/99 **Prep Date....:** 02/07/99 Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

RECOVERY

**\* Moisture....:** 16 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 12 mg/kg

PERCENT SURROGATE RECOVERY

LIMITS Tetratriacontane (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS41-SS-KY0047-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-010 Work Order #...: CQJ29102 Matrix....: SOLID

**Date Sampled...:** 02/03/99 **Date Received..:** 02/05/99 **Prep Date....:** 02/07/99 Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 18 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 27 12 mg/kg

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE Tetratriacontane 72 (31 - 144)

NOTE(S):



### Client Sample ID: PPMP-122-SS42-SS-KY0048-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-011 Work Order #...: CQJ2E102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...:
 02/05/99

 Prep Date.....:
 02/07/99
 Analysis Date...:
 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**№ Moisture....:** 20 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 24 13 mg/kg

PERCENT RECOVERY
RECOVERY LIMITS

SURROGATERECOVERYLIMITSTetratriacontane67(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS43-SS-KY0049-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-012 Work Order #...: CQJ2F102 Matrix....: SOLID

**Date Sampled...:** 02/03/99 **Date Received..:** 02/05/99 **Analysis Date..:** 02/10/99

**Prep Date....:** 02/07/99

**Prep Batch #...:** 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 19 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics ND 12 mg/kg

> PERCENT RECOVERY RECOVERY

SURROGATE LIMITS Tetratriacontane 56 (31 - 144)

NOTE(S):



### Client Sample ID: PPMP-122-SS50-SS-KY0056-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-013 Work Order #...: CQJ2G102 Matrix....: SOLID

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 20 13 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS
Tetratriacontane 52 (31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS51-SS-KY0057-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-014 Work Order #...: CQJ2J102 Matrix....: SOLID

**Date Sampled...:** 02/03/99 Date Received..: 02/05/99 **Prep Date....:** 02/07/99 Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 21 Method..... SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 41 13 mg/kg

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE Tetratriacontane 59 (31 - 144)

NOTE(S):



### Client Sample ID: PPMP-122-SS52-SS-KY0058-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-015 Work Order #...: CQJ2L102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...
 02/05/99

 Prep Date.....:
 02/07/99
 Analysis Date...
 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

RECOVERY

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics ND 13 mg/kg

SURROGATE PERCENT
RECOVERY

SURROGATERECOVERYLIMITSTetratriacontane56(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS59-SS-KY0065-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-016 Work Order #...: CQJ2P102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...
 02/05/99

 Prep Date.....:
 02/07/99
 Analysis Date...
 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 26 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics ND 13 mg/kg

PERCENT RECOVERY
RECOVERY LIMITS

SURROGATERECOVERYLIMITSTetratriacontane59(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS60-SS-KY0066-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-017 Work Order #...: CQJ2R102 Matrix.....: SOLID

 Date Sampled...:
 02/03/99
 Date Received...:
 02/05/99

 Prep Date.....:
 02/07/99
 Analysis Date...:
 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 31 14 mg/kg

PERCENT

RECOVERY

SURROGATERECOVERYLIMITSTetratriacontane48(31 - 144)

NOTE (S):



### Client Sample ID: PPMP-122-SS61-SS-KY0067-REG

### GC Semivolatiles

Lot-Sample #...: B9B050114-018 Work Order #...: CQJ2T102 Matrix..... SOLID

Date Sampled...: 02/03/99 Date Received..: 02/05/99 **Prep Date....:** 02/07/99 Analysis Date..: 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 25 Method.....: SW846 8015 MOD

REPORTING

PARAMETER UNITS RESULT LIMIT Diesel Range Organics 13 mg/kg

> PERCENT RECOVERY RECOVERY LIMITS

SURROGATE Tetratriacontane (31 - 144)

NOTE (S):



### METHOD BLANK REPORT

### GC Semivolatiles

Client Lot #...: B9B050114

Work Order #...: CQKVT101

Matrix....: SOLID

MB Lot-Sample #: B9B080000-168

**Prep Date....:** 02/07/99

**Analysis Date..:** 02/10/99

Prep Batch #...: 9039168

Initial Wgt/Vol: 30 g

Final Wgt/Vol..: 1 mL

Dilution Factor: 1

REPORTING

PARAMETER

LIMIT

UNITS METHOD

mg/kg

Diesel Range Organics

ND

10

SW846 8015 MOD

SURROGATE Tetratriacontane PERCENT RECOVERY RECOVERY LIMITS

93

(31 - 144)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



### LABORATORY CONTROL SAMPLE EVALUATION REPORT

### GC Semivolatiles

Client Lot #...: B9B050114 Work Order #...: CQKVT102 Matrix.....: SOLID

LCS Lot-Sample#: B9B080000-168

**Prep Date....:** 02/07/99 **Analysis Date..:** 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Final Wgt/Vol..: 1 mL

Initial Wgt/Vol: 30 g

PERCENT RECOVERY

PARAMETER RECOVERY LIMITS METHOD

Diesel Range Organics 73 (38 - 115) SW846 8015 MOD

SURROGATE PERCENT RECOVERY

SURROGATERECOVERYLIMITSTetratriacontane93(31 - 144)

NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: B9B050114 Work Order #...: CQJ1E104-MS Matrix..... SOLID

MS Lot-Sample #: B9B050114-001 CQJ1E105-MSD

 Date Sampled...:
 02/03/99
 Date Received...
 02/05/99

 Prep Date.....:
 02/07/99
 Analysis Date...
 02/10/99

Prep Batch #...: 9039168

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**% Moisture....:** 16

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	RPD	RPD LIMITS	METHO	D	
Diesel Range Organics	68 58	(21 - 122) (21 - 122)	13	(0-44)	SW846 SW846		
SURROGATE Tetratriacontane	_	PERCENT RECOVERY 66 59		RECOVERY LIMITS (31 - 144 (31 - 144	•		

#### NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



### TAMPA LABORATORY CONDITION UPON RECEIPT FORM

Client:	I Ftmcc/	<u> </u>	ect Name: <del>1</del>	=+ MC	Clel	lon	050114
Date Received:	2/05/199		lumber:		ŀ	39C	050114
Received By:	Tur aga	CUR	Completed By:	m Zh	<del>/r_</del>	F	· · · · · · · · · · · · · · · · · · ·
Cooler/Shipping Inf	formation:				V		•
Type: Cooler	Box Other/_						
Cooler ID/Track #						T	
Temp (Celsius)	40						
Cooler ID/Track #						I	
Temp (Celsius)							
Any "NO" response	s or discrepancies shou	old be explained in the	"Comments" section	below.	VEC	No	
Were custody se	als on shipping contain		A" if hand delivered		YES	NO	NA NA
	one: CUSTODY SEAI				/ /		
	pers properly included		L TO SAVE COSTC	DI SEAL []			
	pers properly filled out		bels)?		-	<u> </u>	
	rive in good condition						
	abels complete (sample		sis, preservatives)?		//		
	tles used for the tests in						
	ple preservation techn						
	ceived within holding t						
	ottles checked for the pare found, indicate in co		?				
	direct contact with we		NO ICE - DI	TD Y CD (			
11 Were the sample	es received with a temp	perature blank? DECO	DD TEMPEDATUR	E A POME			
If "No," check of	one:	erature blank: RECO.	RD IEMPERATUR	E ABOVE			
UNABLE TO DETE	RMINE TEMP 🗆 TEM	MP TAKEN FROM IC	E/WATER NEAR SA	AMPLES 🗆			
12. Were sample pH	Is checked and recorde	d by S.R. (see back for	Page 2 - Sample pH	)?			Not inspected.
then a nH check is no	OA samples are checked	d by laboratory analys by Sample Benefities	ts. If response is "No	ot Inspected,"	j		- Page 2 not
	ot required/performed		na Page 2 is not appl	icable.			completed
-	ccepted into the laborat	ory?					
Comments:							
					·		
Complete if applicab			Check one: Notifie	d PM by E-mai	і 🗆 на	ard Co	py 🗆
Project Manager initi	als/date reviewed:	ML 2/5/99					
Corrective Action:	<del></del>	1-1					
					<del></del>		
Corrective Action co	mpleted by/date:						



# CHAIN OF CUSTODY RECORD ANALYSIS REQUEST AND

Reference Document No: 122-020399-QEST

Page 1 of

Project Number: 774645

Project Name: Fort McClellan

Sample Coordinator: John W. Andrew

Turnaround Time: 7days

Lab Destination: QUANTERRA - TAMPA

Samples Shipment Date: 04-FEB-99

Lab Contact: Michelle Lersch Project Contact: Randy McBride

312 Directors Drive Knoxville

Bill To: Duane Nielsen

TN 37923

Report To: Duane Nielsen

312 Directors Drive Knoxville

Z

2/05/29 Condition On 1,000/ (mos.) Time: Date: Date: Date: 음 Archive Deisel Range Organics by 8015B Requested Testing Y Disposal by Lab Sample Disposal 1 None except cool to 4 C Date: 02/04/199 1. Received By 3. Received By (Signature/Affiliation) Poison B Unknown Return to Client 2. Received By (Signature/Amiliation (Gignature/Affiliation FAX sample results to John Andrew at 256-848-3551 within 7 days. Carrier/Waybill No.: Fed Ex/7902 0015 1658 रं हैं Time: /430 Container 03-FEB-99 | 13:42 4 oz CWM Date: HIME: Date: Time: Sample Time Skin Irritant Comments: Seven day turnaround time!! Possible Hazard Indentification: PPMP-122-SS14-SS-KY0020-REG Special Instructions: Relinquished By 3. Relinquished By (Signature/Affiliation) Relinquished By (Signature/Affiliation) (Signature/Affiliation) Non-hazard Sample No KY0020

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leisel Range Organics by 8015B Deisel Range Organics by 8015B

Deisel Range Organics by 8015B Deisel Range Organics by 8015B Deisel Range Organics by 8015B Deisel Range Organics by 8015B

Deisel Range Organics by 8015B

1 None except cool to 4 C 1 None except cool to 4 C 
03-FEB-99 | 14:39 4 oz CWM 03-FEB-99 | 16:35 4 oz CWM 03-FEB-99 | 13:48 | 4 oz CWM 03-FEB-99 | 14:42 | 0z CWM 03-FEB-99 | 16:43 4 oz CWM 03-FEB-99 | 13:52 | 4 oz CWM 03-FEB-99 | 14:46 4 oz CWM

PPMP-122-SS15-SS-KY0021-REG PMP-122-SS16-SS-KY0022-REG

KY0021 KY0022 PPMP-122-SS23-SS-KY0029-REG PMP-122-SS24-SS-KY0030-REG PMP-122-SS25-SS-KY0031-REG PPMP-122-SS32-SS-KY0038-REG PMP-122-SS33-SS-KY0039-REG

KY0029 KY0030 KY0038 KY0039

KY0031



# ANALYSIS REQUEST AND CHAIN OF CUSTODY RECORD

Reference Document No: 122-020399-QEST

Page 2 of 2

Sample No	Sample Name	Sample Sample Date Time	sample Time	Container	Preservative	Requested Testing Program	Fil	Condition On Receipt
KY0040	PPMP-122-SS34-SS-KY0040-REG	03-FEB-99 16:53 4 oz CWM	16:53	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0047	PPMP-122-SS41-SS-KY0047-REG	03-FEB-99	13:59	13:59 4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	Z	
KY0048	PPMP-122-SS42-SS-KY0048-REG	03-FEB-99 14:54 4 oz CWM	14:54	4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
CY0049	PPMP-122-SS43-SS-KY0049-REG	03-FEB-99	16:56	16:56 4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0056	PPMP-122-SS50-SS-KY0056-REG	03-FEB-99 14:05 4 oz CWM	14:05	t oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0057	PPMP-122-SS51-SS-KY0057-REG	03-FEB-99	15:11	15:11 4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
(Y0058	PPMP-122-SS52-SS-KY0058-REG	03-FEB-99 17:05 4 oz CWM	17:05	t oz CVM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0065	PPMP-122-SS59-SS-KY0065-REG	03-FEB-99	14:09	14:09 4 oz CVM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0066	PPMP-122-SS60-SS-KY0066-REG	03-FEB-99 15:21 4 oz CWM	15:21	t oz CVM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	
KY0067	PPMP-122-SS61-SS-KY0067-REG	03-FEB-99	17:16	17:16 4 oz CWM	1 None except cool to 4 C	Deisel Range Organics by 8015B	z	



Quanterra Incorporated 5910 Breckenridge Parkway, Suite H Tampa, Florida 33610

813 621-0784 Telephone 813 623-6021 Fax

#### **ANALYTICAL REPORT**

PROJECT NO. 774645

Ft. McClellan

Lot #: B9B060105

Duane Nielsen

IT Corp - Ft. McClellan

#### QUANTERRA INCORPORATED

Certification Numbers: E84059, HRS84297

FDEP CompQAP: 870270G

Michele Lersch

Project Manager

February 15, 1999



#### **Report Narrative**

Quanterra Lot: B9B060105

IT

Project: 774645/Ft. McClellan

Diesel Range Organics, 8015-MOD:

No QC problems or anomalies were encountered with the preparation or analysis of these samples for the Diesel Range Organics by the modified SW-846 method 8015.



#### **SAMPLE SUMMARY**

#### B9B060105

WO #	SAMPLE#	CLIENT SAMPLE ID	DATE	TIME
CQKAJ CQKAL CQKAM CQKAN CQKAP CQKAQ CQKAR	001 002 003 004 005 006 007 008 009	KY0023 KY0024 KY0032 KY0033 KY0041 KY0042 KY0050 KY0051 KY0059	DATE  02/04/99 02/04/99 02/04/99 02/04/99 02/04/99 02/04/99 02/04/99 02/04/99 02/04/99	09:52 09:19 10:06 09:24 10:17 09:30 10:23
COKAX COKAX	010 011 012	KY0060 KY0068 KY0069	02/04/99 02/04/99 02/04/99	10:29 09:48
NOTE (S	) :			

#### NOTE(S):

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, naint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.



#### **METHODS SUMMARY**

#### B9B060105

PARAMETER	ANALYTICAL METHOD	PREPARATION METHOD
Extractable Petroleum Hydrocarbons	SW846 8015 MOD	SW846 3550
Total Residue as Percent Solids	MCAWW 160.3 MOD	MCAWW 160.3 MOD

#### References:

MCAWW "Methods for Chemical Analysis of Water and Wastes",

EPA-600/4-79-020, March 1983 and subsequent revisions.

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical

Methods", Third Edition, November 1986 and its updates.



#### **EXECUTIVE SUMMARY - Detection Highlights**

#### B9B060105

	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
KY0023	3 02/04/99 09:14 001				
	Diesel Range Organic Percent Solids	s 25 79.0	13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0024	02/04/99 09:52 002				
	Diesel Range Organic Percent Solids	s 22 83.0	12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0032	02/04/99 09:19 003				
	Diesel Range Organic Percent Solids	21 81.0	12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0033	02/04/99 10:06 004				
	Diesel Range Organica Percent Solids	17 81.9	12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0041	02/04/99 09:24 005				
	Diesel Range Organics Percent Solids	17 81.3	12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0042	02/04/99 10:17 006				
	Diesel Range Organics Percent Solids	3 15 81.6	12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0050	02/04/99 09:30 007				
	Diesel Range Organics Percent Solids	12 82.3	12 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0051	02/04/99 10:23 008				
	Diesel Range Organics Percent Solids	23 78.0	13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0059	02/04/99 09:36 009				
	Percent Solids	76.2	0.10	¥	MCAWW 160.3 MOD
		(Continued on next	page)		



#### **EXECUTIVE SUMMARY - Detection Highlights**

#### B9B060105

	PARAMETER	RESULT	REPORTING LIMIT	UNITS	ANALYTICAL METHOD
KY0060	02/04/99 10:29 010				
	Diesel Range Organics Percent Solids	28 76.4	13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0068	02/04/99 09:48 011				
	Diesel Range Organics Percent Solids	19 75. <b>4</b>	13 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD
KY0069	02/04/99 10:35 012				
	Diesel Range Organics Percent Solids	34 73.5	1 <b>4</b> 0.10	mg/kg %	SW846 8015 MOD MCAWW 160.3 MOD



Client Sample ID: KY0023

#### GC Semivolatiles

Lot-Sample #...: B9B060105-001 Work Order #...: CQKAJ102 Matrix.....: SOLID

 Date Sampled...:
 02/04/99
 Date Received...
 02/06/99

 Prep Date.....:
 02/09/99
 Analysis Date...
 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 25 13 mg/kg

PERCENT RECOVERY
SURROGATE RECOVERY LIMITS

SURROGATE RECOVERY LIMITS
Tetratriacontane 79 (31 - 144)

NOTE(S):



Client Sample ID: KY0024

#### GC Semivolatiles

Lot-Sample #...: B9B060105-002 Work Order #...: CQKAK102 Matrix....: SOLID

Date Sampled...: 02/04/99 Date Received..: 02/06/99

**Prep Date....:** 02/09/99 Analysis Date..: 02/11/99

Prep Batch #...: 9040480 Dilution Factor: 1

Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 17 Method....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 22 12 mg/kg

PERCENT RECOVERY SURROGATE RECOVERY LIMITS

Tetratriacontane 86 (31 - 144)

NOTE(S):



Client Sample ID: KY0032

#### GC Semivolatiles

Lot-Sample #...: B9B060105-003 Work Order #...: CQKAL102 Matrix.....: SOLID

 Date Sampled...:
 02/04/99
 Date Received...:
 02/06/99

 Prep Date.....:
 02/09/99
 Analysis Date...:
 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**Method**.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics 21 12 mg/kg

Diesel Range Organics 21 12 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontane72LIMITS(31 - 144)

NOTE (S):



Client Sample ID: KY0033

#### GC Semivolatiles

Lot-Sample #...: B9B060105-004 Work Order #...: CQKAM102 Matrix.....: SOLID

Prep Date....: 02/09/99 Analysis Date..: 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.:: 1 mL

**\* Moisture....:** 18 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 17 12 mg/kg

64

PERCENT RECOVERY RECOVERY
LIMITS
(31 - 144)

NOTE (S):

SURROGATE

Tetratriacontane



Client Sample ID: KY0041

#### GC Semivolatiles

Lot-Sample #...: B9B060105-005 Work Order #...: CQKAN102 Matrix....: SOLID

Date Sampled...: 02/04/99 Date Received..: 02/06/99 **Prep Date....:** 02/09/99 Analysis Date..: 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 19 Method..... SW846 8015 MOD

REPORTING

PARAMETER RESULT <u>LIMI</u>T UNITS Diesel Range Organics 17 12 mg/kg

PERCENT

72

RECOVERY

RECOVERY

LIMITS (31 - 144)

NOTE (S):

SURROGATE

Tetratriacontane



Client Sample ID: KY0042

#### GC Semivolatiles

Lot-Sample #...: B9B060105-006 Work Order #...: CQKAP102 Matrix..... SOLID

**Date Sampled...:** 02/04/99 Date Received..: 02/06/99 **Prep Date....:** 02/09/99 Analysis Date..: 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1

Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 18 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 12 nng/kg

> PERCENT RECOVERY

RECOVERY LIMITS

SURROGATE Tetratriacontane 71 (31 - 144)

NOTE (S):



Client Sample ID: KY0050

#### GC Semivolatiles

Lot-Sample #...: B9B060105-007 Work Order #...: CQKAQ102 Matrix....: SOLID

 Date Sampled...:
 02/04/99
 Date Received...
 02/06/99

 Prep Date.....:
 02/09/99
 Analysis Date...
 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

RECOVERY

\* Moisture....: 18 Method....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 12 12 mg/kg

SURROGATE PERCENT RECOVERY

SURROGATE RECOVERY LIMITS
Tetratriacontane 67 (31 - 144)

NOTE (S):



Client Sample ID: KY0051

#### GC Semivolatiles

Lot-Sample #...: B9B060105-008 Work Order #...: CQKAR102 Matrix.....: SOLID

 Date Sampled...:
 02/04/99
 Date Received...
 02/06/99

 Prep Date.....:
 02/09/99
 Analysis Date...
 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 22 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 23 13 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontaneRECOVERYLIMITS71(31 - 144)

NOTE (S):



Client Sample ID: KY0059

#### GC Semivolatiles

Lot-Sample #...: B9B060105-009 Work Order #...: CQKAT102 Matrix.....: SOLID

**Prep Date....:** 02/09/99 **Analysis Date..:** 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 24 **Method.....:** SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS

Diesel Range Organics ND 13 mg/kg

SURROGATEPERCENTRECOVERYLIMITS

Tetratriacontane 64 (31 - 144)

NOTE (S):



Client Sample ID: KY0060

#### GC Semivolatiles

Lot-Sample #...: B9B060105-010 Work Order #...: CQKAV102 Matrix.....: SOLID

Prep Date....: 02/09/99 Analysis Date..: 02/11/99
Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 28 13 mg/kg

SURROGATEPERCENTRECOVERYTetratriacontaneRECOVERYLIMITS72(31 - 144)

NOTE (S):



Client Sample ID: KY0068

#### GC Semivolatiles

Lot-Sample #...: B9B060105-011 Work Order #...: CQKAW102 Matrix.....: SOLID

 Date Sampled...:
 02/04/99
 Date Received..:
 02/06/99

 Prep Date.....:
 02/09/99
 Analysis Date...
 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**Method**....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS
Diesel Range Organics 19 13 mg/kg

SURROGATEPERCENTRECOVERYECOVERYLIMITS

Tetratriacontane 61 (31 - 144)

NOTE (S):



Client Sample ID: KY0069

#### GC Semivolatiles

Lot-Sample #...: B9B060105-012 Work Order #...: CQKAX102 Matrix....: SOLID

Date Sampled...: 02/04/99 Date Received..: 02/06/99

**Prep Date....:** 02/09/99 **Analysis Date..:** 02/12/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol..: 1 mL

**\* Moisture....:** 27 Method.....: SW846 8015 MOD

REPORTING

PARAMETER RESULT LIMIT UNITS Diesel Range Organics 34 14 mg/kg

> PERCENT RECOVERY RECOVERY

SURROGATE LIMITS Tetratriacontane 78 (31 - 144)

NOTE (S):



#### METHOD BLANK REPORT

#### GC Semivolatiles

**Client Lot #...:** B9B060105

Work Order #...: CQMF8101

Matrix....: SOLID

MB Lot-Sample #: B9B090000-480

**Prep Date....:** 02/09/99

Analysis Date..: 02/11/99

Prep Batch #...: 9040480

Final Wgt/Vol..: 1 mL

Dilution Factor: 1

Initial Wgt/Vol: 30 g

REPORTING

PARAMETER

Diesel Range Organics

RESULT

LIMIT

UNITS METHOD

mg/kg

SW846 8015 MOD

PERCENT

RECOVERY

RECOVERY

SURROGATE Tetratriacontane

47

ND

LIMITS (31 - 144)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.



RECOVERY

#### LABORATORY CONTROL SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: B9B060105 Work Order #...: CQMF8102 Matrix..... SOLID

LCS Lot-Sample#: B9B090000-480

**Prep Date....:** 02/09/99 **Analysis Date..:** 02/11/99

Prep Batch #...: 9040480

Dilution Factor: 1 Final Wgt/Vol..: 1 mL

Initial Wgt/Vol: 30 g

PERCENT RECOVERY

RECOVERY PARAMETER LIMITS

METHOD Diesel Range Organics 77 (38 - 115) SW846 8015 MOD

PERCENT SURROGATE RECOVERY

LIMITS Tetratriacontane 45 (31 - 144)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters



#### MATRIX SPIKE SAMPLE EVALUATION REPORT

#### GC Semivolatiles

Client Lot #...: B9B060105 Work Order #...: CQKAX104-MS Matrix.....: SOLID

**Prep Date....:** 02/09/99 **Analysis Date..:** 02/12/99

Prep Batch #...: 9040480

Dilution Factor: 1 Initial Wgt/Vol: 30 g Final Wgt/Vol.: 1 mL

**\* Moisture....:** 27

	PERCENT	RECOVERY		RPD	
PARAMETER	RECOVERY	LIMITS	RPD	LIMITS	METHOD
Diesel Range Organics	59	(21 - 122)			SW846 8015 MOD
	46	(21 - 122)	14	(0-44)	SW846 8015 MOD
		PERCENT		RECOVERY	
SURROGATE	_	RECOVERY		LIMITS	
Tetratriacontane		68		(31 - 144	<del>)</del>
		58		(31 - 144	)

#### NOTE (S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

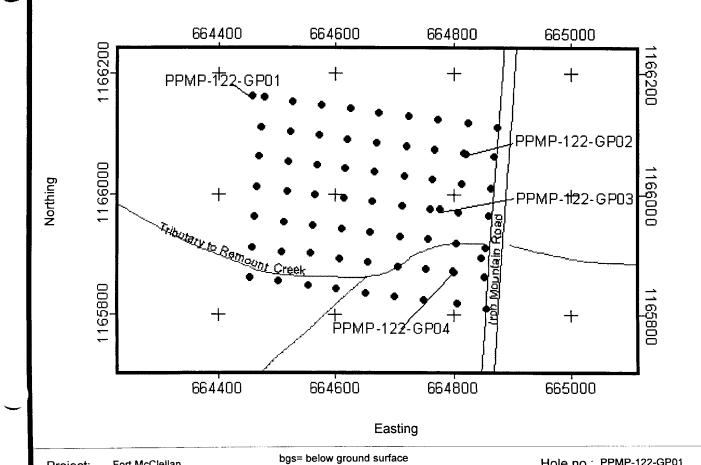
# APPENDIX C BORING LOGS

#### **BORING LOGS**

	HTF	RW DRILLIN	IG LOG		HOLE NUMBER	MP-122-GP01		
1. Company name: IT C	orporation	2. Drill Sul	ocontractor: TEG		Sheet 1 of 2	sheets		
	cClellan		4. Location:	PPMP-122				
5. Name of driller: Bill Mu	ırphy		6. Mfr designation	of drill: Geoprobe				
7. Sizes and types of drilling	g and sampling e	quipment:	8. Hole location	Former Fog	Oil Storage Area			
Direct Push			9. Surface elevatio	n (feet above mean s	ea level): 835.24			
2" acetate lined soi	l sampler		10. Date started:	02/17/99 11	Date completed:	02/17/99		
12. Overburden thickness (feet bgs): >8			15. Depth groundw	rater encountered (fee	t bgs):			
13. Depth drilled into rock (	feet bgs):		•	16. Depth to water and elapsed time after drilling completed (feet bgs):				
14. Total depth of hole (feet	t bgs): 8		17. Other water le	17. Other water level measurements (specify):				
18. Geotechnical samples:	Disturbed:	Und	disturbed:	sturbed: 19. Total no. of core boxes:				
20. Samples for chemical analysis:	voc	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:		
			svoc			N/A		
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geolog	ist:			
				J. ME	SSER			

Project:

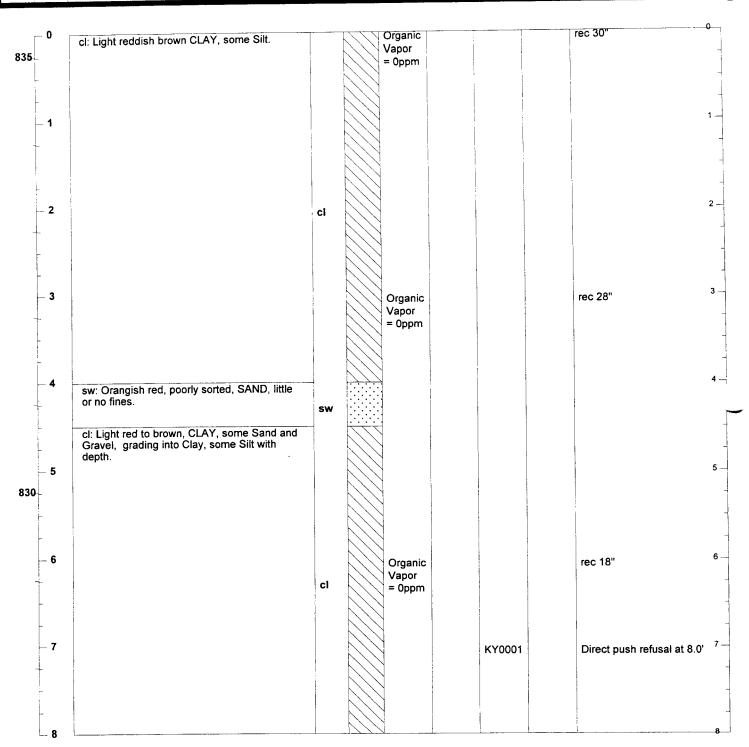
Fort McClellan



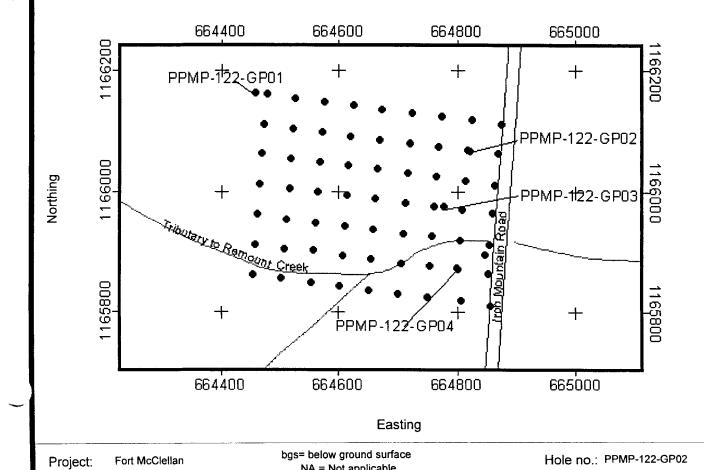
NA = Not applicable

Hole no.: PPMP-122-GP01

HTRW [	ORILLING LOG (Co	ntinuation	Sheet	:)			F	IOLE NUM	BER: PPMP-122-GP01
Project: Fort	McClellan	Geologist:	J. ME	ESSER			S	sheet 2 of 2	2 sheets
Elev. (a) Depth (b)	Description of Materials (c)		USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no.	Blow count (g)	Remarks (h)

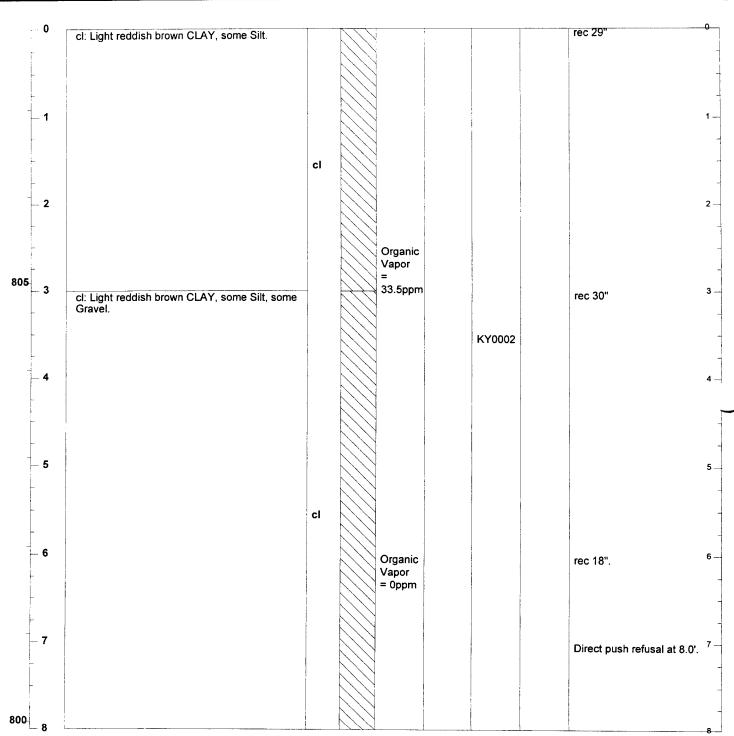


HTR	RW DRILLIN	IG LOG		HOLE NUMBER	MP-122-GP02		
Corporation	2. Drill Sub	bcontractor: TEG		Sheet 1 of 2 s	sheets		
McClellan		4. Location:	PPMP-122				
Murphy		6. Mfr designation	of drill: Simco Earth	probe 200 ATV			
ing and sampling er	quipment:	8. Hole location	Former Fog	Oll Storage Area			
133 on		9. Surface elevation	on (feet above mean se	ea level): 807.91			
il sampıer		10. Date started:	02/17/99 11.	Date completed:	02/17/99		
s (feet bgs): >8		15. Depth groundy	water encountered (fee	t bgs):			
3. Depth drilled into rock (feet bgs):  16. Depth to water and elapsed time after drilling completed (feet							
eet bgs): 8		17. Other water le	evel measurements (sp	neasurements (specify):			
Disturbed:	Unc	disturbed:	isturbed: 19. Total no. of core boxes:				
Voc	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:		
		svoc			N/A		
Backfilled	Monitoring well	Other (specify)	Geolog	ist:			
			J. ME	SSER			
V	Corporation  McClellan  Murphy  ing and sampling ed  pil sampler  s (feet bgs): >8  c (feet bgs): 8  Disturbed:	Corporation  McClellan  Murphy ing and sampling equipment:  pil sampler  s (feet bgs): >8  c (feet bgs):  pet bgs): 8  Disturbed: Unc	Corporation  2. Drill Subcontractor: TEG  McClellan  4. Location:  Murphy  6. Mfr designation  8. Hole location  9. Surface elevation  10. Date started:  10. Date started:  11. Depth grounds  12. Drill Subcontractor: TEG  13. Metals  14. Location:  15. Metals  16. Metals  17. Other water leads  18. Hole location  9. Surface elevation  19. Surface elevation  10. Date started:  11. Other water leads  12. Drill Subcontractor: TEG  13. Location:  14. Location:  15. Hole location  9. Surface elevation  16. Depth grounds  17. Other water leads  17. Other water leads  18. Hole location  9. Surface elevation  19. Surface elevation  10. Date started:  10. Depth grounds  11. Other water leads  12. Drill Subcontractor: TEG  13. Location:  14. Location:  15. Hole location  9. Surface elevation  16. Depth to water leads  16. Depth to water leads  17. Other water leads  17. Other water leads  18. Hole location  9. Surface elevation  19. Surface elevation  10. Date started:  10. Depth grounds  10. Depth to water leads  11. Other water leads  12. Drill Subcontractor:  18. Hole location  9. Surface elevation  19. Surface elevation  10. Date started:  10. Depth grounds  11. Other water leads  12. Drill Subcontractor:  13. Metals  14. Location:  15. Depth grounds  16. Depth to water leads  17. Other water leads  17. Other water leads  18. Hole location  19. Surface elevation  19. Surface elevation  10. Date started:  10. Depth grounds  10. Depth ground	Corporation  2. Drill Subcontractor: TEG  McClellan  4. Location: PPMP-122  Murphy  6. Mfr designation of drill: Simco Earth ing and sampling equipment:  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  6. Mfr designation of drill: Simco Earth 10. Date started: 02/17/99 11.  6. Mfr designation of drill: Simco Earth 10. Date started: 02/17/99 11.  6. Mfr designation of drill: Simco Earth 10. Date started: 02/17/99 11.  7. Date started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  8. Hole location Former Fog  9. Surface elevation (feet above mean sognition started: 02/17/99 11.  9. Complete Surface elevation (feet above mean sognition started: 02/17/99 11.  9. Complete Surface Elevation started: 02/17/99 11.  9. Comple	Corporation  2. Drill Subcontractor: TEG  Sheet 1 of 2 started: PPMP-122  Murphy  6. Mfr designation of drill: Simco Earthprobe 200 ATV  ing and sampling equipment:  8. Hole location  9. Surface elevation (feet above mean sea level): 807.91  10. Date started: 02/17/99  11. Date completed:  6. (feet bgs): >8  15. Depth groundwater encountered (feet bgs):  16. Depth to water and elapsed time after drilling completed (feet bgs):  17. Other water level measurements (specify):  Disturbed:  Undisturbed:  19. Total no. of core boxes:  VOC  Metals  Other (specify)  Other (specify)  Other (specify)		

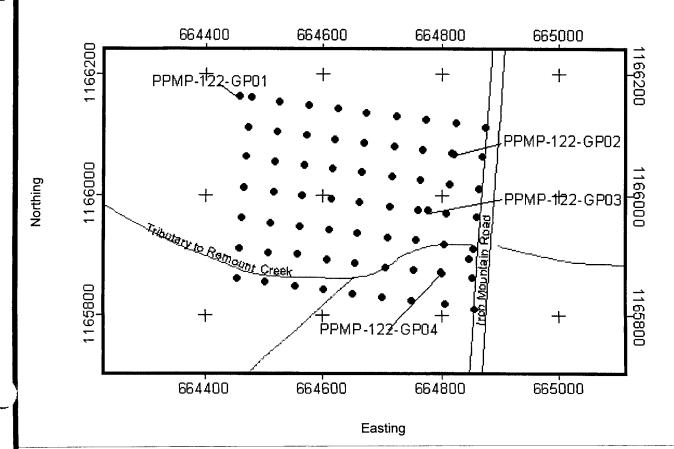


NA = Not applicable

HTRW DRILL	ING LOG (Co	ontinuation	Shee	t)			1	HOLE NUMBER: PPMP-122-GP02		
Project: Fort McClellar	1	Geologist:	J. MI	ESSER				Sheet 2 of 2 sheets		
Elev. (a) Depth (b) Des	cription of Materials (c)		USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no.	Blow count	Remarks (h)	



	HOLE NUMBER PPMP-122-GP03									
1. Company name: IT C	Corporation	2. Drill Sub	ocontractor: TEG		Sheet 1 of 2 sheets					
	IcClellan	PPMP-122	P-122							
5. Name of driller: Bill Mu	ırphy		6. Mfr designation o	6. Mfr designation of drill: Simco Earthprobe 200 ATV						
7. Sizes and types of drilling	g and sampling ec	quipment:	8. Hole location	8. Hole location Former Fog Oil Storage Area						
Direct Push	_		9. Surface elevation	n (feet above mean se	ea level): 807.42					
2" Acetate lined Soi	1 Sampler		10. Date started:	02/17/99 11.	1. Date completed: 02/17/99					
12. Overburden thickness (	feet bgs): >8		15. Depth groundwater encountered (feet bgs):							
13. Depth drilled into rock (f	feet bgs):		16. Depth to water a	and elapsed ng completed (feet bgs	ys):					
14. Total depth of hole (feet bgs): 8			17. Other water level measurements (specify):							
18. Geotechnical samples:	Disturbed:	Unc	disturbed:	19. Total no.	no. of core boxes:					
20. Samples for chemical analysis:	voc	Metals	Other (specify)	Other (specify)	Other (specify)	21. Total core recovery:				
			svoc			N/A				
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geolog	Geologist:					
			1	J. MES	SSER					



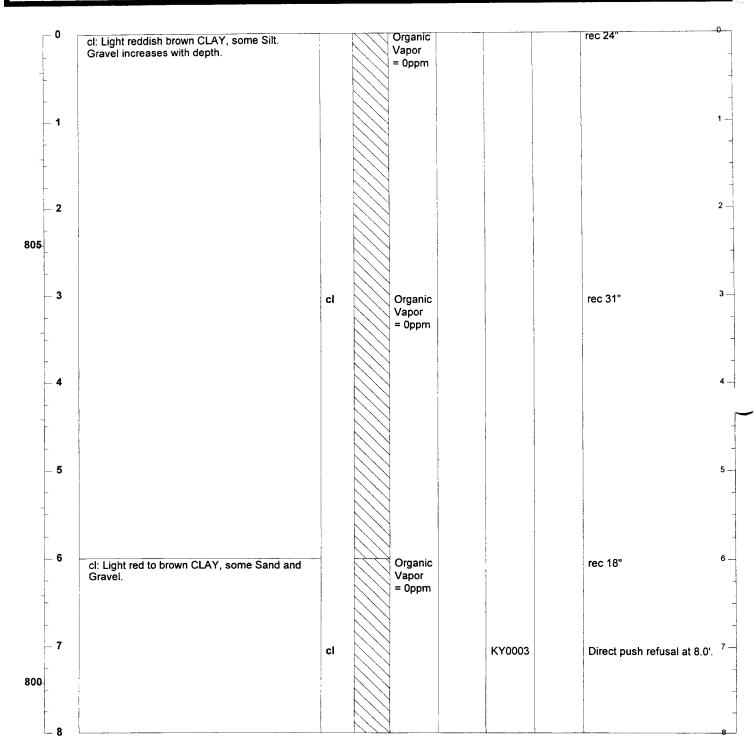
Project:

Fort McClellan

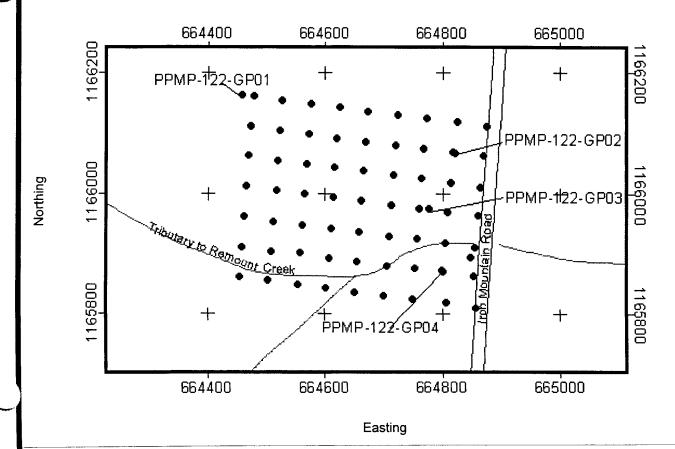
bgs= below ground surface NA = Not applicable

Hole no.: PPMP-122-GP03

HTRW DRILLING LOG (Continuation Sheet)  HOLE NUMBER: PPMP-122-GP03											
Proje	ect: F	ort McClellan	Geologist: J. MESSER					S	Sheet 2 of 2 sheets		
Elev. (a)	Depth (b)	Description of Materials (c)	i	USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no.	Blow count (g)	Remarks (h)	



	HOLE NUMBER PPMP-122-GP04									
1. Company name: IT C	Corporation		Sheet 1 of 2 sheets							
	/IcClellan	PPMP-122	PPMP-122							
5. Name of driller: Bill Mu	urphy		6. Mfr designation (	6. Mfr designation of drill: Simco Earthprobe 200 ATV						
7. Sizes and types of drillin	g and sampling ec	quipment:	8. Hole location	Former Fc	og Oil Storage Area					
Direct Push			9. Surface elevation	on (feet above mean s	sea level): 806.21					
2" Acetate lined Soi	l Sampler		10. Date started:	02/17/99 11	1. Date completed: 02/17/99					
12. Overburden thickness (	(feet bgs): >6		15. Depth groundwater encountered (feet bgs):							
13. Depth drilled into rock (	(feet bgs):		16. Depth to water time after drillin	r and elapsed ng completed (feet bo	gs):					
14. Total depth of hole (fee	it bgs): 6		17. Other water lev	vel measurements (s	specify):					
18. Geotechnical samples:	Disturbed:	Und	listurbed:	19. Total no	19. Total no. of core boxes:					
20. Samples for chemical analysis:	voc	Metals	Other (specify)	Other (specify	y) Other (specify)	21. Total core recovery:				
			svoc			N/A				
22. Disposition of hole:	Backfilled	Monitoring well	Other (specify)	Geolog	gist:					
				J. MF	. MESSER					



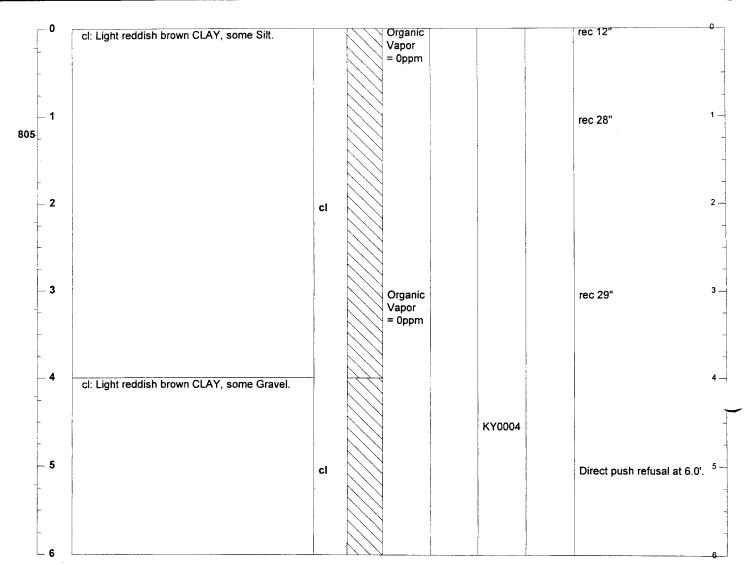
Project:

Fort McClellan

bgs= below ground surface NA = Not applicable

Hole no.: PPMP-122-GP04

HTRW DRILLING LOG (Continuation Sheet)  HOLE NUMBER: PPMP-122-GP04									
Project: Fort McClell	Geologist: J. MESSER					S	Sheet 2 of 2 sheets		
Elev.  (a)  Depth  (b)	escription of Materials (c)		USCS / Lithology	Graphic	Field screening results (d)	Geotech sample or core box no. (e)	Analytical sample no. (f)	Blow count (g)	Remarks (h)



## APPENDIX D SURVEY DATA

## Appendix D

## Survey Data Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

(Page 1 of 2)

Sample Location	Northing	Easting	Ground Elevation (ft msl)	Top of Casing Elevation (ft msl)
PPMP-122-GP01	1166160.98	664457.28	835.24	NA NA
PPMP-122-GP02	1166066.27	664821.18	807.91	NA
PPMP-122-GP03	1165972.97	664777.38	807.42	NA
PPMP-122-GP04	1165871.97	664799.36	806.21	NA
PPMP-122-SS01	1166110.23	664874.14	804.85	NA
PPMP-122-SS02	1166116.67	664824.56	812.05	NA
PPMP-122-SS03	1166122.97	664772.96	814.38	NA
PPMP-122-SS04	1166129.03	664723.72	815.89	NA
PPMP-122-SS05	1166134.73	664673.95	822.33	NA
PPMP-122-SS06	1166140.72	664624.78	828.48	NA
PPMP-122-SS07	1166146.89	664575.47	833.00	NA
PPMP-122-SS08	1166152.06	664525.91	833.32	NA
PPMP-122-SS09	1166159.52	664477.16	834.98	NA
PPMP-122-SS10	1166061.73	664867.94	803.46	NA
PPMP-122-SS11	1166067.54	664817.51	808.92	NA
PPMP-122-SS12	1166073.49	664768.20	811.15	NA
PPMP-122-SS13	1166079.09	664719.44	814.31	NA
PPMP-122-SS14	1166084.87	664669.76	818.03	NA
PPMP-122-SS15	1166090.74	664619.67	822.98	NA
PPMP-122-SS16	1166096.74	664571.01	827.54	NA
PPMP-122-SS17	1166102.93	664521.95	828.22	NA
PPMP-122-SS18	1166110.49	664472.19	828.41	NA
PPMP-122-SS19	1166009.59	664862.78	803.28	NA
PPMP-122-SS20	1166016.90	664813.99	806.70	NA
PPMP-122-SS21	1166023.77	664764.42	810.08	NA
PPMP-122-SS22	1166029.08	664715.92	811.26	NA
PPMP-122-SS23	1166035.78	664665.62	816.44	NA
PPMP-122-SS24	1166041.01	664616.65	820.52	NA
PPMP-122-SS25	1166047.39	664567.42	822.17	NA
PPMP-122-SS26	1166053.34	664518.43	823.62	NA
PPMP-122-SS27	1166061.29	664467.90	824.19	NA
PPMP-122-SS28	1165962.43	664858.76	803.17	NA
PPMP-122-SS29	1165968.38	664807.36	805.62	NA
PPMP-122-SS30	1165973.95	664760.71	807.48	NA
PPMP-122-SS31	1165979.58	664712.17	812.43	NA
PPMP-122-SS32	1165985.85	664662.56	814.00	NA
PPMP-122-SS33	1165991.38	664614.21	817.50	NA
PPMP-122-SS34	1165997.80	664563.92	819.49	NA
PPMP-122-SS35	1166002.91	664517.08	820.36	NA
PPMP-122-SS36	1166010.68	664464.49	820.01	NA NA
PPMP-122-SS37	1165910.60	664854.95	801.96	NA

## Appendix D

## Survey Data Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7) Fort McClellan, Calhoun County, Alabama

(Page 2 of 2)

			Ground	Top of Casing
			Elevation	Elevation
Sample Location	Northing	Easting	(ft msl)	(ft msl)
PPMP-122-SS38	1165869.57	664801.33	806.34	NA
PPMP-122-SS39	1165924.75	664755.80	806.90	NA
PPMP-122-SS40	1165929.64	664707.87	809.04	NA
PPMP-122-SS41	1165936.05	664657.99	812.70	NA
PPMP-122-SS42	1165941.80	664609.59	816.90	NA
PPMP-122-SS43	1165947.89	664560.01	817.67	NA
PPMP-122-SS44	1165953.67	664511.31	817.25	NA
PPMP-122-SS45	1165961.26	664460.34	819.96	NA
PPMP-122-SS46	1165863.47	664852.05	798.41	NA
PPMP-122-SS47	1165818.00	664805.65	807.45	NA
PPMP-122-SS48	1165875.11	664751.97	807.45	NA
PPMP-122-SS49	1165879.79	664704.22	808.74	NA
PPMP-122-SS50	1165886.12	664654.95	810.45	NA
PPMP-122-SS51	1165891.88	664606.2	811.76	NA
PPMP-122-SS52	1165900.90	664556.38	812.99	NA
PPMP-122-SS53	1165904.15	664506.53	813.78	NA
PPMP-122-SS54	1165911.63	664456.46	819.39	NA
PPMP-122-SS55	1165810.29	664855.73	796.66	NA
PPMP-122-SS56	1165917.86	664804.85	805.88	NA
PPMP-122-SS57	1165824.91	664749.11	807.19	NA
PPMP-122-SS58	1165830.28	664699.64	808.79	NA
PPMP-122-SS59	1165836.17	664651.95	810.06	NA
PPMP-122-SS60	1165842.57	664602.13	811.14	NA
PPMP-122-SS61	1165848.68	664552.60	811.30	NA
PPMP-122-SS62	1165855.32	664501.97	812.34	NA
PPMP-122-SS63	1165861.79	664452.80	814.01	NA
PPMP-122-SW-SD01	1165894.82	664846.70	803.47	NA

Horizontal coordinates referenced to the U.S. State Plane Coordinate System, Alabama East Zone, North American Datum, 1983.

Elevations referenced to the North American Vertical Datum of 1988.

ft msi - Feet mean sea level

NA - Not applicable, temporary well not installed.

## APPENDIX E SUMMARY OF VALIDATED ANALYTICAL DATA

Summary of Vall. J. Surface Water Data
Former Fog Oil Storage Area West of the Skeet Range (Parcel 122)
Fort McClellan, Alabama

PPMP-122-SW-SD01 PPMP-122 KY2002 08-FFB-99		Result Qual VQual		U U O	U U 10.	U U 10.	U U 10.	U U O.	U U 10.	U U 10.	U U 10.	O O O O	U U 10.	U U 10.	U U 10.	U U 10.	.01 U U	.01 U U	.05 U U	U U 10.	.05 U U	.05 U U	.05 U U	U U 10.	.01 U U	U U 10.	U U 10.	.01 U U	O O O SO.	.05 U U	.01 U U	U U 10.	.01 U U	U U 10.
PPMP-122-SW-SD01 PPMP-122 KY2001 08-FFR-99		Result Qual VQual		U U 10.	U U 10.	U U O	U U O.	U U 10.	U U O.	U U O.	.01 U U	.05 U U	U U 10.	U U O.	U U 10.	U U 10.	U U 10.	U U O.	.05 U U	U U O.	.05 U U	.05 U U	.05 U U	U U 10.	.01 U U	.01 U U	.01 U U	U U IO.	.05 U U	U U OSO.	U U O.	U U 10.	U U IO.	.01 U U
Location Code: Associated Site: Sample No:	Sampte Date.	Flt Units		mg/L	T/gm	mg/L	mg/L	T/Sm	mg/L	mg/L	mg/L	T/gm	mg/L	mg/L	mg/L	T/gm	mg/L	mg/L	T/gm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
	User Test Group Lab Method	Parameter	SEMIVOLATILES SW8270 W	1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	I,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol	2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol	2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene	2-Chlorophenol	2-Methylnaphthalene	2-Methylphenol	2-Nitroaniline	2-Nitrophenol	3,3'-Dichlorobenzidine	3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl phenyl ether	4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl phenyl ether	4-Methylphenol	4-Nitroaniline	4-Nitrophenol	Acenaphthene	Acenaphthylene	Anthracene	Benzo(a)anthracene

Summary of Validated Surface Water Data Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) Fort McClellan, Alabama

PPMP-122-SW-SD01 PPMP-122	KY2002 08-FEB-99		Result Qual VQual			O O 10.	.01 U U	.01 U U	U U 10.	U U 10.	U U 10.	.01 U U	U U 10.	U U 10.	O O 10.	.01 U U	.01 U U	.01 U U	U U 10.	U U O.	U U 10.	U U 10.	.05 U U	U U 10.	.01 U U	U U 10:	n	.01 U U	.05 U U	n n 10.	U U 10.	.01 U U	.01 U U	.01 U U	U U O.	.0023 JB B
PPMP-122-SW-SD01 PPMP-122	KY2001 08-FFB-99	}	Result Qual VQual			.01 U U	.01 U U	U U IO.	U U 10.	U U . 10.	U U 10.	U U U.	J U 10.	U U U.	U U 10.	.01 U U	.01 U U	.01 U U	.01 U U	U U IO.	U U O.	U U O.	U U O.	U U 10.	U U O.	U U IO.	U U 10.	.01 U U	.05 U U	U U O	.01 U U	U U O	U U 10.	.01 U U	U U U.	U U 10.
Location Code: Associated Site:	Sample No:	sample Date.	Flt Units			mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	T/gm	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
		User Test Group	Lab Method Parameter	SEMIVOLATILES	SW8270_W	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(ghi)perylene	Benzo(k)fluoranthene	Butyl benzyl phthalate	Carbazole	Chrysene	Di-n-butyl phthalate	Di-n-octyl phthalate	Dibenz(a,h)anthracene	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	bis(2-Chloroethoxy)methane	bis(2-Chloroethyl)ether	bis(2-Chloroisopropyl)ether	bis(2-Ethylhexyl)phthalate

Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) Fort McClellan, Alabama Summary of Valid. J. Surface Water Data

PPMP-122-SW-SD01 PPMP-122	KY2002	08-FEB-99		Result Qual VQual			U U 10.	U U 10.
PPMP-122-SW-SD01 PPMP-122	KY2001	08-FEB-99		Result Qual VQual			U U 10.	U U 10.
Location Code: Associated Site:	Sample No:	Sample Date:		Flt Units			mg/L	mg/L
			User Iest Group Lab Method	Parameter	SEMIVOLATILES	SW8270_W	n-Nitroso-di-n-propylamine	n-Nitrosodiphenylamine

Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) Summary of Valida. Jubsurface Soil Data

Fort McClellan, Alabama

Report Date: 07/10/00										Page	l of 6	9
Heer Test Groun	Location Code: Associated Site: Sample No: Sample Date:	PPMP-122-GP01 PPMP-122 KY0001 17-FEB-99		PPMP-122-GP02 PPMP-122 KY0002 17-FEB-99	iP02 2 9		PPMP-122-GP03 PPMP-122 KY0003 17-FEB-99 6 - 8	2-GP03 122 03 3-99		PPMP-PPMP-KN KN K	PPMP-122-GP04 PPMP-122 KY0004 17-FEB-99	4
Oser Test Oraș Lab Method	Sample Depth:	Q - Q		C - 7				0				,
Parameter	Units	Result Qual VQual	al	Result Qual VQual	ıal VQua	7	Result Qual VQual	Jual 1	'Qual	Resul	t Qual	Result Qual VQual
SEMIVOLATILES												
SW8270_S									;			,
1,2,4-Trichlorobenzene	mg/kg	.42 U UJ	1	4.	n ni		.39	n	5	4.	n 1	3 :
1,2-Dichlorobenzene	mg/kg	.42 U U		4.	n n		.39	<b>D</b>	D	7.	n t	D :
1,3-Dichlorobenzene	mg/kg	.42 U U		4.	n n		.39	n	Þ	7.	) 1	<b>D</b>
I,4-Dichlorobenzene	mg/kg	.42 U UJ	-	4.	u uj		.39	$\supset$	E	7.	4 U	n :
2,4,5-Trichlorophenol	mg/kg	.42 U U		4.	n n		.39	n	Þ	7.	⊃	D
2,4,6-Trichlorophenol	mg/kg	.42 U U		4.	n n		.39	n	Ω	٠.	n t	n
2,4-Dichlorophenol	mg/kg	.42 U U		4.	n n		.39	n	n	7.	n +	) ;
2,4-Dimethylphenol	mg/kg	.42 U U		4.	n n		.39	Ω	n	٠.	.4 U	ם ו
2,4-Dinitrophenol	mg/kg	2 U C		1.9	n n		1.9	Ω	n	1.9	n (	⊃ ;
2,4-Dinitrotoluene	mg/kg	.42 U L		4.	n n		.39	n	ב	*.	.4 U	D :
2,6-Dinitrotoluene	mg/kg	.42 U L		4.	n n		.39	n	<b>D</b> :	•	D	) :
2-Chloronaphthalene	mg/kg	.42 U L		4.	n n		.39	Ω	n	•	4. U	⊃ ;
2-Chlorophenol	mg/kg	.42 U U.	ī	4.	n n		.39	D	5		4. U	5 :
2-Methylnaphthalene	mg/kg	.42 U L	hora.	4.	n n		.39	n	D	٠.	4. U	);
2-Methylphenol	mg/kg	.42 U L		4.	n n		.39	⊃	כ	•		o ;
2-Nitroaniline	mg/kg	2 U L		6.1	n n		1.9	n	n :	1.9	n :	) :
2-Nitrophenol	mg/kg	.42 U C	_	4.	n n		.39	⊃	D :	•	4. U :	o :
3,3'-Dichlorobenzidine	mg/kg	2 U L		1.9	n n		9.1	⊃ :	<b>)</b> :	6.1	0 6	) F
3-Nitroaniline	mg/kg	2 U L	_	1.9	n n		6.1	→ :	) <b>:</b>	<u>.</u>		) I
4,6-Dinitro-2-methylphenol	mg/kg	2 U C	para,	1.9	n ::		6.1	) :	ם כ	y. 1		o =
4-Bromophenyl phenyl ether	mg/kg			4. <b>.</b>			ξέ. 0ς	) :	ם כ	•	t <	) <u>=</u>
4-Chloro-3-methylphenol	mg/kg	.42 U 24.		4. ·			ę	o ;	ם כ			· =
4-Chloroaniline	mg/kg	.42 U L		4.			98.	o :	) :	•	t. ₹	ם כ
4-Chlorophenyl phenyl ether	mg/kg	.42 U L		4.			9£.	_	); 	•		ב כ
4-Methylpherol	mg/kg	.42 U L	1	4.			.39	)	<b>)</b> ;	•	4. U :	<b>)</b> [
4-Nitroaniline	mg/kg	2 U C	_	1.9			9.1	<b>&gt;</b>	);	-	6. G	ב כ
4-Nitrophenol	mg/kg	2 U L		1.9	n n		6.1	_	o :	i		ב כ
Acenaphthene	mg/kg	.42 U	I	4.	n n		.39	$\supset$	o :	•		)
Acenaphthylene	mg/kg	.42 U	,	₫.	n n		.39	D	э:			) <u>:</u>
Anthracene	mg/kg	.42 U L	D	4.			.39	n	<b>)</b>			<b>)</b>
Benzo(a)anthracene	mg/kg	.42 U L	D	4.	u U		.39	Þ	)		<del>4</del> .	<b>-</b>

Summary of Validated Subsurface Soil Data Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) Fort McClellan, Alabama

Result Qual VQual PPMP-122-GP04 PPMP-122 17-FEB-99 KY0005 3-6 4 4. 4. 4. .41 4. 4 14. 4. 4. 4. 4. 41 4 4. 4. 4. Sample Date: Location Code: Associated Site: Sample No: Sample Depth: mg/kg mg/kg mg/kg mg/kg Unitsmg/kg mg/kg 4-Bromophenyl phenyl ether 4-Chlorophenyl phenyl ether 4,6-Dinitro-2-methylphenol 4-Chloro-3-methylphenol 1,2,4-Trichlorobenzene 3,3'-Dichlorobenzidine 2,4,5-Trichlorophenol 2,4,6-Trichlorophenol 1,4-Dichlorobenzene 2-Chloronaphthalene 2-Methylnaphthalene 1,2-Dichlorobenzene 1,3-Dichlorobenzene 2,4-Dichlorophenol 2,4-Dimethylphenol Benzo(a)anthracene 2,4-Dinitrotoluene 2,6-Dinitrotoluene 2,4-Dinitrophenol 4-Chloroaniline 2-Chlorophenol 2-Methylphenol 4-Methylphenol Acenaphthylene 3-Nitroaniline Acenaphthene 4-Nitrophenol 2-Nitroaniline 2-Nitrophenol 4-Nitroaniline Parameter Lab Method SEMIVOLATILES User Test Group SW8270\_S

Summary of Valid. \_\_ubsurface Soil Data
Former Fog Oil Storage Area West of the Skeet Range (Parcel 122)
Fort McClellan, Alabama

Report Date: 07/10/00									Page	3 of 6	
	Location Code: Associated Site: Sample No:	PPMP-122-GP01 PPMP-122 KY0001	_	PPMP-122-GP02 PPMP-122 KY0002		PPMP-122-GP03 PPMP-122 KY0003	5P03 22 3	Id	PPMP-122-GP04 PPMP-122 KY0004	-GP04 22 34	
User Test Group Lab Method	Sample Date: Sample Depth:	1/-FEB-99 6 - 8		17-FEB-99 2 - 5		1/-FEB-3 6 - 8	£.		3 - 6	£	
Parameter	Units	Result Qual VQual	VQual	Result Qual VQual	ual	Result Q	Result Qual VQual	R	Result Qual VQual	ual V	Qual
SEMIVOLATILES SW8270 S											
Benzo(a)pyrene	mg/kg	.42 U	n	.4 U	n	.39	u u		4.	Ω	n
Benzo(b)fluoranthene	mg/kg	.42 U	n	.4 U	Ω	.39	n n		4.	n	Ω
Benzo(ghi)perylene	mg/kg	.42 U	n	.4 U	Ω	.39	n n		4.	Ω	n
Benzo(k)fluoranthene	mg/kg	.42 U	n	.4 U	n	.39	n n		4.	Ω	n
Butyl benzyl phthalate	mg/kg	.42 · U	n	D 4:	n	.39	n n		4.	Ω	n
Carbazole	mg/kg	.42 U	Ω	.4 U	Ω	.39	n n		4.	Ω	Ŋ
Chrysene	mg/kg	.42 U	Ω	.4 U	n	.39	n n		4.	Ω	Ω
Di-n-butyl phthalate	mg/kg	.42 U	Ω	.4 U	Ω	.39	n n		4.	Ω	n
Di-n-octyl phthalate	mg/kg	.42 U	n	.4 U	Ω	.39	n n		4.	Ω	n
Dibenz(a,h)anthracene	mg/kg	.42 U	Ω	.4 U	Ω	.39	n n		4.	n	Ω
Dibenzofuran	mg/kg	.42 U	Ω	.4 U	Ω	.39	n n		4.	n	n
Diethyl phthalate	mg/kg	.42 U	Ω	.4 U	n	.39	n n		4.	Ω	כ
Dimethyl phthalate	mg/kg	.42 U	Ω	.4 U	Ω	.39	n n		4.	Ω	ח
Fluoranthene	mg/kg	.42 U	Ω	.4 U	Ω	.39	n n		4.	Ω	n
Fluorene	mg/kg	.42 U	Ω	.4 U	n	.39	n n		4.	n	n
Hexachlorobenzene	mg/kg	.42 U	Ω	.4 U	U	.39	n n		4	Ω	ח
Hexachlorobutadiene	mg/kg	.42 U	n	.4 U	n	.39	n n		4,	Ω	D
Hexachlorocyclopentadiene	mg/kg	2 U	Ω	1.9 U	n	1.9	n n		1.9	n	Ω
Hexachloroethane	mg/kg	.42 U	n :	. 4 U	D :	.39	n n		4. •	⊃ :	) :
Indeno(1,2,3-cd)pyrene	mg/kg ″	.42 U	o :	D 4.	o :	.39	o :		4, ₹	) :	ב כ
Isophorone	mg/kg mg/kg	.42 U	) <u>=</u>	4. 4 0 1		95. 30			i 4	o =	0 =
Nitrohensene	mo/ko	42 11	· 🗀	÷ 4:	n	.39	n n		4.	D	Ω
Pentachlorophenol	mg/kg	2 U	n	1.9 U	Ω	1.9	n n		1.9	n	Ω
Phenanthrene	mg/kg	.42 U	n	.4 U	n	.39	u u		4.	n	n
Phenol	mg/kg	.42 U	Ω	.4 U	n	.39	n n		4.	Ω	ם
Pyrene	mg/kg	.42 U	Ω	.4 U	n	.39	n n		4.	Ω	Ω
bis(2-Chloroethoxy)methane	mg/kg	.42 U	n	.4 U	n	.39	n n		4.	n	Ω
bis(2-Chloroethy1)ether	mg/kg	.42 U	Ω	.4 U	n	.39	n n		4.	n	ם:
bis(2-Chloroisopropyl)ether	mg/kg	.42 U	n	.4 U	Ω	.39	n n		4.	n	
bis(2-Ethylhexyl)phthalate	mg/kg	.42 U	Ω	.4 U	n	.39	n n		4.	Ω	)

Summary of Validated Subsurface Soil Data Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) Fort McClellan, Alabama

PPMP-122-GP04	PPMP-122	KY0005	17-FEB-99	3 - 6	Result Qual VQual			.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	2 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	2 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U	.41 U U
Location Code:	Associated Site:	Sample No:	Sample Date:	Sample Depth:	Units			mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
				User Test Group Lab Method	Parameter	SEMIVOLATILES	SW8270_S	Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(ghi)perylene	Benzo(k)fluoranthene	Butyl benzyl phthalate	Carbazole	Chrysene	Di-n-butyl phthalate	Di-n-octyl phthalate	Dibenz(a,h)anthracene	Dibenzofuran	Diethyl phthalate	Dimethyl phthalate	Fluoranthene	Fluorene	Hexachlorobenzene	Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane	Indeno(1,2,3-cd)pyrene	Isophorone	Naphthalene	Nitrobenzene	Pentachlorophenol	Phenanthrene	Phenol	Pyrene	bis(2-Chloroethoxy)methane	bis(2-Chloroethyl)ether	bis(2-Chloroisopropyl)ether	bis(2-Ethylhexyl)phthalate

Summary of Valid

Jubsurface Soil Data
Former Fog Oil Storage Area West of the Skeet Range (Parcel 122)
Fort McClellan, Alabama

Page 5 of 6

	Location Code:	PPMP-122-GP01	PPMP-122-GP02	PPMP-122-GP03	PPMP-122-GP04
	Associated Site:	PPMP-122	PPMP-122	PPMP-122	PPMP-122
	Sample No:	KY0001	KY0002	KY0003	KY0004
	Sample Date:	17-FEB-99	17-FEB-99	17-FEB-99	17-FEB-99
User Test Group Lah Method	Sample Depth:	8 - 9	2 - 5	8 - 9	3 - 6
Parameter	Units	Result Qual VQual	Result Qual VQual	Result Qual VQual	Result Qual VQual
SEMIVOLATILES					
SW8270_S					
n-Nitroso-di-n-propylamine	mg/kg	.42 U UJ	.4 U UJ	.39 U UJ	.4 U UJ
n-Nitrosodiphenylamine	mg/kg	.42 U U	U U 4.	U U 65.	.4 U U

## Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) Summary of Validated Subsurface Soil Data Fort McClellan, Alabama

Report Date: 07/10/00

PPMP-122-GP04 Location Code:

PPMP-122 Associated Site:

KY0005 17-FEB-99 Sample No: Sample Date: Sample Depth:

3 - 6

Units

User Test Group
Lab Method
Parameter
SEMIVOLATILES

Result Qual VQual

4. 4.

mg/kg mg/kg

n-Nitroso-di-n-propylamine n-Nitrosodiphenylamine

SW8270\_S

n

Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) ed Sediment Data Summary of Va

Fort McClellan, Alabama

Report Date: 07/10/00

Result Qual VQual PPMP-122-SW-SD01 08-FEB-99 PPMP-122 6. - 0 KY1001 Location Code: Associated Site: Sample No: Sample Date: Sample Depth: UnitsParameter User Test Group Lab Method

SEMIVOLATILES

SW8270 S

1,2,4-Trichlorobenzene

mg/kg mg/kg 2,4,5-Trichlorophenol 1,4-Dichlorobenzene 1,3-Dichlorobenzene 1,2-Dichlorobenzene

46 46 mg/kg mg/kg mg/kg

2,4,6-Trichlorophenol

2,4-Dichlorophenol 2,4-Dimethylphenol

.46 .2.2 .46 .46 .46 mg/kg mg/kg

mg/kg mg/kg

mg/kg mg/kg

2-Chloronaphthalene

2,4-Dinitrotoluene 2,6-Dinitrotoluene

2,4-Dinitrophenol

2-Methylnaphthalene

2-Chlorophenol

2-Methylphenol

2-Nitroaniline 2-Nitrophenol

mg/kg mg/kg

.46 .46

mg/kg

.46 2.2 .46

mg/kg mg/kg

3,3'-Dichlorobenzidine

3-Nitroaniline

mg/kg

2.2 2.2 2.2 2.2

mg/kg mg/kg

4-Bromophenyl phenyl ether 4,6-Dinitro-2-methylphenol

4-Chloro-3-methylphenol

4-Chloroaniline

mg/kg

.46 .46 .46 .46

> mg/kg mg/kg

> > 4-Chlorophenyl phenyl ether

4-Methylphenol

4-Nitrophenol Acenaphthene

4-Nitroaniline

mg/kg mg/kg mg/kg

2.2

.46

mg/kg mg/kg

mg/kg

.46 .46

.46

Benzo(a)anthracene

Anthracene

Acenaphthylene

Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) Fort McClellan, Alabama Summary of Validated Sediment Data

	Location Code:	PPMP-122-SW-SD01 PPMP-122	SW-SD(	01
	Sample No:	KY1001	100	
	Sample Date:	08-FEB-99	B-99	
User Test Group I ab Method	Sample Depth:	. 0	05	
Parameter	Units	Result Qual VQual	Qual	VQual
SEMIVOLATILES	and the second s		:	
SW8270_S				
Benzo(a)pyrene	mg/kg	.46	n	Ω
Benzo(b)fluoranthene	mg/kg	.46	Ω	Ω
Benzo(ghi)perylene	mg/kg	.46	n	n
Benzo(k)fluoranthene	mg/kg	.46	n	Ω
Butyl benzyl phthalate	mg/kg	.46	Ω	Ω
Carbazole	mg/kg	.46	D	Ω
Chrysene	mg/kg	.46	D	n
Di-n-butyl phthalate	mg/kg	.46	Ω	Ω
Di-n-octyl phthalate	mg/kg	.46	Ω	D
Dibenz(a,h)anthracene	mg/kg	.46	n	Ŋ
Dibenzofuran	mg/kg	.46	n	D
Diethyl phthalate	mg/kg	.46	Ω	Ω
Dimethyl phthalate	mg/kg	.46	n	Ω
Fluoranthene	mg/kg	.46	Ω	Ω
Fluorene	mg/kg	.46	n	Ω
Hexachlorobenzene	mg/kg	.46	Ω	Ω
Hexachlorobutadiene	mg/kg	.46	Ω	Ω
Hexachlorocyclopentadiene	mg/kg	2.2	Ω	Ω
Hexachloroethane	mg/kg	.46	Ω	Ω
Indeno(1,2,3-cd)pyrene	mg/kg	.46	Ω	Ω
Isophorone	mg/kg	.46	Ω	n
Naphthalene	mg/kg	.46	Ω	D
Nitrobenzene	mg/kg	.46	n	n
Pentachlorophenol	mg/kg	2.2	n	Ω
Phenanthrene	mg/kg	.46	Ω	Ω
Phenol	mg/kg	.46	n	Ω
Pyrene	mg/kg	.46	n	Ω
bis(2-Chloroethoxy)methane	mg/kg	.46	Ω	Ω
bis(2-Chloroethyl)ether	mg/kg	.46	Ω	Ω
bis(2-Chloroisopropy1)ether	mg/kg	.46	Ω	n
bis(2-Ethylhexyl)phthalate	mg/kg	.46	Ω	Ω

Former Fog Oil Storage Area West of the Skeet Range (Parcel 122) .d Sediment Data Summary of Va.

Fort McClellan, Alabama

Report Date: 07/10/00

PPMP-122-SW-SD01 Location Code:

PPMP-122

08-FEB-99 KY1001

Associated Site:
Sample No:
Sample Date:
Sample Depth:

0 - .5

Units

Result Qual VQual

Parameter SEMIVOLATILES SW8270\_S

User Test Group Lab Method

n-Nitroso-di-n-propylamine n-Nitrosodiphenylamine

mg/kg mg/kg

ככ

.46

Total Organic Carbon S 0906MS

TOC

mg/kg

11800

3 of 3

GRAIN SIZE ANALYSIS

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IT Project ID: Fort McClellan IT Project No.: 774645.17020300

IT GEOTECHNICAL LABORATORY OAK RIDGE, TN (423) 482-6497

## PARTICLE-SIZE ANALYSIS ASTM D 422

PPMP-122-SW/SDO1

Project Name

Fort McClellan

Client Sample No.

KY1001

Project No.

774645.17020300

IT Lab Sample No.

ETDC-8213

Specific Gravity = 2.65

assumed for calculations

Moisture Content =

49.7%

based on dry sample weight

## SIEVE ANALYSIS

	Sieve	Diameter	Percent
С	No.	mm	Finer
0	3"	75.000	100.0%
Α	1.5"	37.500	100.0%
R S	0.75"	19.000	100.0%
S E	0.375"	9.500	99.0%
	#4	4.750	94.5%
	#10	2.000	88.6%

	Sieve	Diameter	Percent
	No.	mm	Finer
F	#20	0.850	84.1%
1	#40	0.425	74.9%
N	#60	0.250	66.6%
E	#100	0.149	60.1%
	#140	0.106	56.7%
	#200	0.075	53.8%

## HYDROMETER ANALYSIS

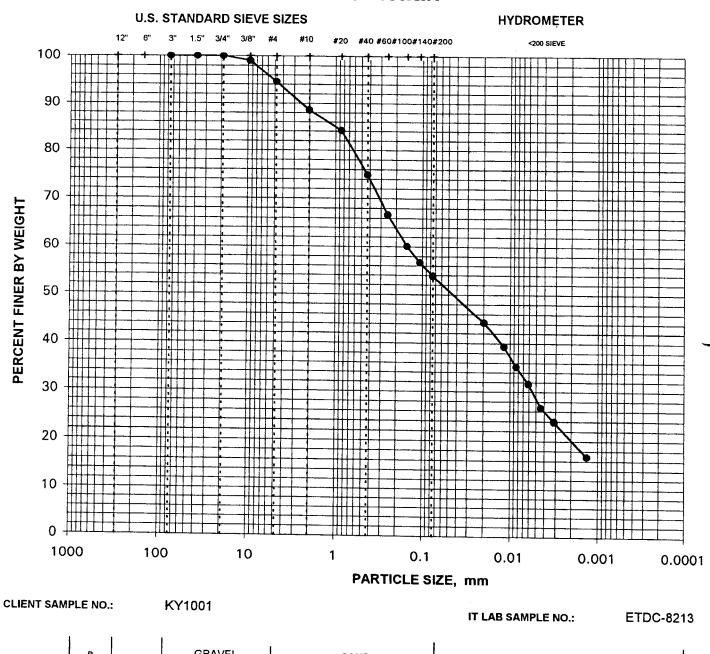
	Diameter	Percent
<b>.</b>	mm	Finer
H Y		
D		
R		
0	0.01969	44.2%
M	0.01167	39.3%
E T	0.00844	35.1%
Ë	0.00608	31.6%
R	0.00435	26.7%
	0.00309	23.9%
	0.00133	16.8%

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IT Project ID: Fort McClellan IT Project No.: 774645.17020300

LABORATORY
OAK RIDGE, TN
(423) 482-6497

## Fort McClellan



							II LAB SAMPLE NO.:	E1DC-8213
B 0	c o	GRA	VEL		SAN	D		
E R S	8 L E S	C O A R S E	F 	C O A R S E	M E D I U	F   N E	SILT 2-75 r CLAY <2 m	

## APPENDIX F DATA VALIDATION SUMMARY REPORT

## Data Validation Summary Report for the Site Investigation Performed at the Former Fog Oil Storage Area West of Skeet Range (Parcel PPMP-122) Fort McClellan, Calhoun County, Alabama

## 1.0 Introduction

Level III data validation was performed on 100 percent of the environmental samples collected at Parcel PPMP-122. The analytical data consisted of three sample delivery groups (SDG): PK121221, PK121222, and PK121223, which were analyzed by Quanterra Incorporated. Both soil and water matrices were validated. In addition, an evaluation of the field split (FS) data, which was analyzed by the U.S. Army Corps of Engineers-South Atlantic Division laboratory, is included in this report. The chemical parameters for which the samples were analyzed, are identified below:

Parameter (Method)
Target Compound List Semivolatiles by Gas Chromatography SW-846 8270C
Wet Chemistry - Total Organic Carbon by SW846-9060

## 2.0 Procedures

The sample data were validated following the logic identified in the 1994 U.S. Environmental Protection Agency (EPA) Contract Laboratory Program National Functional Guidelines For Inorganic Data Review and the 1994 EPA Contract Laboratory Program National/Functional Guidelines For Organic Review for all areas except blanks. Region III Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses (April 1993) and Region III National/Functional Guidelines for Organic Data Review (June 1992) were applied to the areas associated with blank contamination. Specific quality control (QC) criteria, as identified in the quality assurance plan (QAP), analytical methods, and laboratory standard operating procedures (SOP) were applied to all sample results. As the result of the use of Update III SW-846 test methods for the analytical data and the application of the Contract Laboratory Program (CLP) guidelines during the validation process, there were instances where specific QC requirements for all target compounds were not defined. This primarily occurred in the organic, gas chromatography (GC) and GC/Mass Spectrometry (MS) calibration areas and is due to the fact that the analytical methods are "performance-based", and allows the use of average calibration responses in lieu of individual responses, which are defined by CLP protocol. In light of applying CLP guidelines to SW-846 methods and evaluating the usability of the data during the validation process, specific QC criteria were determined to address all target compounds and are identified in this report for each parameter, as well as, in the validation checklists, which

function as worksheets. All completed validation checklists are on file in the Knoxville office. For those analytical methods not addressed by the CLP and Region III guidelines, the validation was based on the method requirements (i.e., SW-846, Code of Federal Regulations, SOPs, QAP) and technical judgement following the logic of the CLP validation guidelines.

## 3.0 Summary of Data Validation Findings

The overall quality of the data was determined to be acceptable. Individual validation reports have been prepared for each parameter in each SDG and the overall results of the validation findings are summarized in this report. The validation qualifier data entry verification report (Attachment A) is also provided. This is a complete listing of all of the analytical results and the validation qualifiers assigned for PPMP-122 sites. It also identifies the 'use' column, which indicates which result to use in the event of a reanalysis. A listing of the validation qualifiers and the reason codes, along with their definitions is also found in Attachment A. The following section highlights the key findings of the data validation for each analysis.

## 4.0 Analysis-Specific Data Validation Summaries

## 4.1 Target Compound List Semivolatiles by GC/MS SW-846-8270C

Overall, the data are of good quality and are usable as reported by the laboratory with the exceptions noted below. Data were reviewed for the following:

## **Holding Times**

Technical holding time criteria were met for all samples.

## Initial and Continuing Calibration

All initial and continuing calibrations associated with the project samples met QC criteria.

## Blanks

The 5X/10X rule for contaminants found in the associated equipment rinses and method blanks was applied to all sample results. All were found to be acceptable with the exception of the following:

Note: 'B' qualifiers were applied to all of the following sample results.

			Associated Blank
SDG/SDGs	Samples Affected	Analyte/Analytes	Contamination
PK121222	KY2002	Bis(2-ethylhexyl)phthalate	Method

<sup>&#</sup>x27;B' qualifiers assigned to designate blank contamination, which are identification qualifiers, take precedence over estimating qualifiers, assigned due to quantitation.

## Surrogate Recoveries

All surrogate recoveries met QC criteria.

## Matrix Spike/Matrix Spike Duplicate

Matrix spike/matrix spike duplicates (MS/MSD) was performed for the project samples and all QC criteria were met with the exception of the following:

SDG	Samples Affected	Analyte/Analytes	Validation Qualifier
PK121223	KY1001, KY1002, KY1003, KY1004, KY1005	1,4-Dichlorobenzene, 1,2,4-Trichlorobenzene, n-Nitrosodi-n-propylamine, 2-Chlorophenol	UJ

## Laboratory Control Sample

All QC criteria was met for the laboratory control sample (LCS) associated with the project sample analyses.

## Field Duplicates

Original and field duplicate (FD) results were evaluated and no problems were identified.

## Internal Standards

All internal standards met QC criteria.

## Quantitation

Results quantified between the maximum detection limit (MDL) and the reporting limit (RL), which the lab qualified as 'J', were qualified as estimated 'J'; unless blank contamination was present or the results were rejected.

## 4.2 Wet Chemistry - Total Organic Carbon by SW846-9060

Overall, the data are of good quality and are usable as reported by the laboratory with the

exceptions noted below. Data were reviewed for the following:

## **Holding Times**

Technical holding time criteria were met for all samples.

## Initial and Continuing Calibration

All initial and continuing calibrations associated with the project samples met QC criteria.

## Blanks

The 5X rule for contaminants found in the associated equipment rinses and method blanks was applied to all sample results. All were found to be acceptable.

## Matrix Spike/Matrix Spike Duplicate

MS/MSDs and LCS were performed for the project samples, and all QC criteria were met.

## Field Duplicates

Original and FD results were evaluated and no problems were noted.

## Quantitation

Results quantified between the MDL and the RL, which the lab qualified as 'J', were qualified as estimated 'J'; unless blank contamination was present or the results were rejected.

## 5.0 Quality Assurance Field Split Sample Data Evaluation

Data from the quality assurance split samples supplied to IT by the U.S. Army Corps of Engineers were reviewed for comparability to the original and FD results. Relative percent differences were calculated and the results are summarized in this section.

## Field Split Data for SDG PK121222

Note: FS Laboratory - Specialized Assays, Inc., Nashville, Tennessee

Original Sample ID	Field Duplicate ID	Field Split ID
KY2001	KY2002	KY2003

## Comments:

• **Semivolatiles.** bis(2-Ethylhexyl)phthalate, a common laboratory contaminant,

was detected in the FD below the RL, but not in the original or FS samples.

## Field Split Data for SDG PK121223

Note: FS Laboratory - Specialized Assays, Inc., Nashville, Tennessee

Original Sample ID	Field Duplicate ID	Field Split ID
KY0004	KY0005	KY0006

## Comments:

• **Semivolatiles.** No semivolatiles were detected in the original, FD or FS samples.

## ATTACHMENT A DATA VALIDATION QUALIFIER ENTRY VERIFICATION REPORT

## **Validation Qualifiers**

- U Not detected. The compound/analyte was analyzed for, but not detected above the associated reporting limit.
- J The compound/analyte was positively identified; the reported value is the estimated concentration of the constituent detected in the sample analyzed.
- B The concentration reported was detected significantly above the levels reported in the associated equipment rinse samples and/or laboratory method and trip blanks. (5X/10X Rule was applied).
- R The reported sample results are rejected due to the following:
  - 1. Severe deficiencies in the supporting quality control data.
  - 2. Anomalies noted in the sampling and/or analysis process which could affect the validity of the reported data.
  - 3. The presence or absence of the constituent cannot be verified based on the data provided.
  - 4. To indicate not to use a particular result in the event of a reanalysis.
- UJ The compound/analyte was analyzed for, but not detected above the established reporting limit. However, review and evaluation of supporting QC data and/or sampling and analysis process have indicated that the "nondetect" may be inaccurate or imprecise. The nondetect result should be estimated.

## **Validation Reason Code Definitions**

Reason Code	Description
01	Sample received outside of 4+/-2 degrees Celsius
01A	Improper sample preservation
02	Holding time exceeded
02A	Extraction
02B	Analysis
03	Instrument performance – outside criteria
03A	BFB
03B	DFTPP
03C	DDT and/or Endrin % breakdown exceeds criteria
03D	Retention time windows
03E	Resolution
04	Initial calibration results outside specified criteria
04A	Compound mean RRF QC criteria not met
04B	Individual % RSD criteria not met
04C	Correlation coefficient >0.995
05	Continuing calibration results outside specified criteria
05A	Compound mean RRF QC criteria not met
05B	Compound % D QC criteria not met
06	Result qualified as a result of the 5x/10x blank correction
06A	Method or preparation blank
06B	ICB or CCB
06C	ER
06D	TB
06E	FB
07	Surrogate recoveries outside control limits
07A	Sample
07B	Associated method blank or LCS
08	MS/MSD/Duplicate results outside criteria
08A	MS and/or MSD recovery not within control limits (accuracy)
08B	% RPD outside acceptance criteria (precision)
09	Post digestion spike outside criteria (GFAA)
10	Internal standards outside specified control limits
10A	Recovery
10B	Retention time
11	Laboratory control sample recoveries outside specified limits
11A	Recovery
11B	% RPD (if run in duplicate)
12	Interference check standard
13	Serial dilution
14	Tentatively identified compounds
15	Quantitation
16	Multiple results available; alternate analysis preferred
17	Field duplicate RPD criteria is exceeded
18	Percent difference between original and second column exceeds QC criteria
19	Professional judgement was used to qualify the data
20	Pesticide clean-up checks
21	Target compound identification
22	Radiological calibration
23	Radiological quantitation
24	Reported result and/or lab qualifier revised to reflect validation findings
<u></u>	reported result and/or lab qualifier revised to reflect validation findings

## Validation Qualify - Data Entry Verification

For McClellan

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Page:

Analysis 00:00 11:25 Lab Sample: COWMFS CQWMFS COWMFS COWMFS CQWMFS COWMFS COWMFS CQWMFS COWMFS COWMFS CQWMFS CQWMFS CQWMFS CQWMFS CQWMFS COWMFS COWMFS CQWMFS CQWMFS CQWMFS CQWMFS CQWMFS CQWMFS COWMFS CQWMFS CQWMFS COWMFS COWMFS COWMFS COWMFS CQWMFS COWMFS CQWMFS COWMFS COWMFS CQWMFS COWMFS COWMFS COWMFS COWMFS CQWMFS COWMFS CQWMFS Reason Codes 08B 08B 08A 08A 08A Hit Use BCF VQlfr: 5 Olfr: mg/kg Units: mg/kg Result: 4 4 4 4 4 4 4 4 4 42.42 42 42 42 42 2 2 2 2 2 2 4-CHLOROPHENYL PHENYL ETHER 4-BROMOPHENYL PHENYL ETHER BIS(2-CHLOROETHOXY)METHANE 2,2'-OXYBIS(1-CHLOROPROPANE) BIS(2-ETHYLHEXYL) PHTHALATE 4,6-DINITRO-2-METHYLPHENOL 4-CHLORO-3-METHYLPHENOL BIS(2-CHLOROETHYL) ETHER BUTYL BENZYL PHTHALATE .2,4-TRICHLOROBENZENE BENZO(K)FLUORANTHENE BENZO(B)FLUORANTHENE 2-METHYLNAPHTHALENE 2-CHLORONAPHTHALENE 3,3'-DICHLOROBENZIDINE 2,4,5-TRICHLOROPHENOL 2,4,6-TRICHLOROPHENOI ,3-DICHLOROBENZENE 1,2-DICHLOROBENZENE 1,4-DICHLOROBENZENE BENZO(A)ANTHRACENE BENZO(GHI)PERYLENE 2,4-DICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,6-DINITROTOLUENE 2,4-DINITROTOLUENE PERCENT MOISTURE 2,4-DINITROPHENOL ACENAPHTHYLENE 2-METHYLPHENOL 4-CHLOROANILINE 2-CHLOROPHENOL 4-METHYLPHENOL BENZO(A)PYRENE 2-NITROANILINE 3-NITROANILINE 4-NITROANILINE **ACENAPHTHENE** 2-NITROPHENOL 4-NITROPHENOL ANTHRACENE Parameter: CHRYSENE FIt REX Dil: 0 0 z Z Analytical/Extraction SW3550 NONE Method:

Run Date. September 22, 2000

SW8270 D2216

Number:

Sample

KY0001

# Validation Qualifier Data Entry Verification

Fort McClellan

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Page:

Analytical Met	Analytical/Extraction Method:	Fit REX Dil:	Parameter:	Result:	Units:	QIffr:	Hit Use BCF	. VQIfr:	Reason Codes	Lab Sample:	Analysis Time:
SW8270	SW3550	Z 0 1	DI-N-BUTYL PHTHALATE	.42	mg/kg	= =	=   >   z	11		COWMES	11.25
			DI-N-OCTYL PHTHALATE	:42	me/kg	) <u>=</u>	)	) <b>=</b>		COWMES	50:11
			DIBENZ(A,H)ANTHRACENE	.42	mg/kg	n	>	n		COWMFS	11:25
			DIBENZOFURAN	.42	mg/kg	n	N Y U	Ω		COWMFS	11:25
			DIETHYL PHTHALATE	.42	mg/kg	Ω	N Y U	Ω		CQWMFS	11:25
			DIMETHYL PHTHALATE	.42	mg/kg	Ω	N Y U	Ω		CQWMFS	11:25
			FLUORANTHENE	.42	mg/kg	n	N Y	Ω		CQWMFS	11:25
			FLUORENE	.42	mg/kg	Ω	n X	Ω		CQWMFS	11:25
			HEXACHLOROBENZENE	.42	mg/kg	Ω	N Y U	Ω		CQWMFS	11:25
			HEXACHLOROBUTADIENE	.42	mg/kg	n	n X z	Ω		CQWMFS	11:25
			HEXACHLOROCYCLOPENTADIENE	2	mg/kg	Ω	N Y U	Ω		CQWMFS	11:25
			HEXACHLOROETHANE	.42	mg/kg	n	n × v	n		CQWMFS	11:25
			INDENO(1,2,3-CD)PYRENE	.42	mg/kg	Ω	D Y Z	Ω		CQWMFS	11:25
			ISOPHORONE	.42	mg/kg	Ω	n Y z	n		CQWMFS	11:25
			N-NITROSODI-N-PROPYLAMINE	.42	mg/kg	n	∩ ≻ z	Ω	08A	CQWMFS	11:25
			N-NITROSODIPHENYLAMINE	.42	mg/kg	Ω	O Y Z	n		CQWMFS	11:25
			NAPHTHALENE	.42	mg/kg	n	o > z	Ω		CQWMFS	11:25
			NITROBENZENE	.42	mg/kg	n	∩ ≻ z	Ω		CQWMFS	11:25
			PENTACHLOROPHENOL	2	mg/kg	Ω	n Y N	Ω		CQWMFS	11:25
			PHENANTHRENE	.42	mg/kg	Ω	n ⊁	Ω		CQWMFS	11:25
			PHENOL	.42	mg/kg	Ω	N Y N	n		CQWMFS	11:25
			PYRENE	.42	mg/kg	Ω	N Y U	$\cap$		CQWMFS	11:25
D2216	NONE	- 0 Z	PERCENT MOISTURE				Y Y P			CQWMMS	00:00
SW8270	SW3550	- 0 Z	1,2,4-TRICHLOROBENZENE	4.	mg/kg	n	N Y U	n	08A 08B	COWMMS	00:05
			1,2-DICHLOROBENZENE	4.	mg/kg	Ω	∩ ≻ z	Ω		COWMMS	00:05
			1,3-DICHLOROBENZENE	4.	mg/kg	U	>	Ω		COWMMS	00:05
			1,4-DICHLOROBENZENE	4.	mg/kg	Ω	N Y U	S	08A 08B	COWMMS	00:02
			2,2'-OXYBIS(1-CHLOROPROPANE)	4.	mg/kg	Ω	N Y U	D		CQWMMS	00:00
			2,4,5-TRICHLOROPHENOL	4.	mg/kg	n	N Y U	Ω		CQWMMS	00:05
			2,4,6-TRICHLOROPHENOL	4.	mg/kg	Ω	N Y U	Ω		CQWMMS	00:05
			2,4-DICHLOROPHENOL	4.	mg/kg	Ω	O Y N	n		CQWMMS	00:00
			2,4-DIMETHYLPHENOL	4.	mg/kg	Ŋ	n Y	Ω		CQWMMS	00:05
			2,4-DINITROPHENOL	1.9	mg/kg	Ω	n X	n		CQWMMS	00:05
			2,4-DINITROTOLUENE	4.	mg/kg	n	N Y U	Ω		CQWMMS	00:00
			2,6-DINITROTOLUENE	4.	mg/kg	Ω	N Y U	Ω		CQWMMS	00:00
			2-CHLORONAPHTHALENE	4.	mg/kg	n	N Y U	Ω		COWMMS	00:05
			2-CHLOROPHENOL	4	mg/kg	Ω	N Y U	m	08A	CQWMMS	00:00
			2-METHYLNAPHTHALENE	4.	mg/kg	n	N Y U	Ω		CQWMMS	\$0:00
			2-METHYLPHENOL	4.	mg/kg	Ω	N Y U	ם		CQWMMS	50:00
			2-NITROANILINE	1.9	mg/kg	Ω	∩ ⊁ z	Ω		CQWMMS	50:00
			2-NITROPHENOL	4.	mg/kg	Ω	n X	n		CQWMMS	50:00
			3,3'-DICHLOROBENZIDINE	1.9	mg/kg	n	n X N	Ω		CQWMMS	00:05
			3-NITROANILINE	1.9	mg/kg	Ω	N Y U	n		CQWMMS	50:00

KY0002

Run Date: September 22, 2000

KY0001

Sample Number:

## Validation Qualify Data Entry Verification

Fort McClellan

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Analysis Time: 00:05 00:05 00:05 00:05 00:05 00:05 00:05 00:05 00:05 00:05 00:05 00:05 00:05 00:09 00:05 00:00 00:05 00:05 00:05 00:05 00:05 00:00 00:05 00:05 00:05 00:05 00:05 00:00 00:05 00:05 00:05 00:05 00:00 00:05 00:05 00:05 Lab Sample: COWMMS COWMMS COWMMS COWMMS COWMMS COWMMS COWMMS COWMMS CQWMMS CQWMMS COWMMS COWMMS COWMMS COWMMS COWMMS COWMMS CQWMMS CQWMMS COWMMS COWMMS COWMMS CQWMMS SWMWS COWMMS COWMMS COWMMS COWMMS COWMMS COWMMS CQWMMS COWMMS Reason Codes 08B Hit Use BCF Olfr: mg/kg Result: 6.1 1.9 1.9 4-CHLOROPHENYL PHENYL ETHER 4-BROMOPHENYL PHENYL ETHER BIS(2-CHLOROETHOXY)METHANE HEXACHLOROCYCLOPENTADIENE BIS(2-ETHYLHEXYL) PHTHALATE 4,6-DINITRO-2-METHYLPHENOL N-NITROSODI-N-PROPYLAMINE 4-CHLORO-3-METHYLPHENOL BIS(2-CHLOROETHYL) ETHER BUTYL BENZYL PHTHALATE N-NITROSODIPHENYLAMINE BENZO(K)FLUORANTHENE BENZO(B)FLUORANTHENE DIBENZ(A,H)ANTHRACENE HEXACHLOROBUTADIENE DI-N-BUTYL PHTHALATE DI-N-OCTYL PHTHALATE INDENO(1,2,3-CD)PYRENE BENZO(A)ANTHRACENE HEXACHLOROBENZENE DIMETHYL PHTHALATE BENZO(GHI)PERYLENE PENTACHLOROPHENOL HEXACHLOROETHANE DIETHYL PHTHALATE ACENAPHTHYLENE 4-CHLOROANILINE 4-METHYLPHENOL BENZO(A)PYRENE 4-NITROANILINE **ACENAPHTHENE** FLUORANTHENE DIBENZOFURAN 4-NITROPHENOL PHENANTHRENE NITROBENZENE NAPHTHALENE ANTHRACENE SOPHORONE CARBAZOLE CHRYSENE Parameter: FLUORENE PYRENE Fit REX Dil: 0

Run Date: September 22, 2000

z

SW3550

SW8270

KY0002

Analytical/Extraction

Number:

Sample

# Validation Qualifier Data Entry Verification

## Fort McClellan

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N 0 1 PERCENT MOISTURE  N 0 1 1.24-TRICHLOROBENZENE 1.2-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROBENZENE 1.3-DICHLOROPHENOL 1.3-DICHLO			
0 I 1.2.4-TRICHLOROBENZENE         39         mg/kg         U           1.2.4-DICHLOROBENZENE         39         mg/kg         U           1.3-DICHLOROBENZENE         39         mg/kg         U           2.2-OXYBIS(1-CHLOROPROPANE)         39         mg/kg         U           2.4.5-TRCHLOROPHENOL         39         mg/kg         U           2.4.5-TRCHLOROPHENOL         39         mg/kg         U           2.4.DINTROPLENOL         39         mg/kg         U           2.4-DINTROPLUENE         39         mg/kg         U           2.4-DINTROPLUENE         39         mg/kg         U           2.4-DINTROPHENOL         39         mg/kg         U           3.4-DICHLOROBENZINE	y p	COWMNS	00:00
COBENZENE         39         mg/kg         U           COBENZENE         39         mg/kg         U           CORDHENDE         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COROPHENOL         39         mg/kg         U           CORDHENOL         39         mg/kg         U           COLUENE         39         mg/kg         U           FHENOL         39         mg/kg         U           APHTHALENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           ANDL         19         mg/kg         U           ANDL         19         mg/kg         U           ANDL         19         mg/kg         U           ANDL         19         mg/kg         U           ANDL         10         mg/kg         U	Y U UJ 08A 08B	COWMNS	11.59
COBENZENE         39         mg/kg         U           CORDPHENOL         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COPHENOL         39         mg/kg         U           COPHENOL         39         mg/kg         U           COLUENE         39         mg/kg         U           TOLUENE         39         mg/kg         U           TOLUENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           LINE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           LINE         1.9         mg/kg         U           LINE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           LINE         39         mg/kg         U           LINE         39         mg/kg         U		COWMNS	65-11
COBENZENE         39         mg/kg         U           C-CHLOROPROPANE)         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COROPHENOL         39         mg/kg         U           COPHENOL         39         mg/kg         U           COPHENOL         39         mg/kg         U           PHENOL         1.9         mg/kg         U           PHENOL         39         mg/kg         U           TOLUENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U <t< td=""><td>λυυν</td><td>COWMNS</td><td>11:59</td></t<>	λυυν	COWMNS	11:59
1-CHLOROPROPANE)  1-CHLOROPROPANE)  39 mg/kg U  COROPHENOL  39 mg/kg U  CLUENC  39 mg/kg U  MRKg U  MR	Y U UJ 08A 08B	COWMNS	11:59
COROPHENOL   39   mg/kg   U   COROPHENOL   39   mg/kg   U   COPHENOL   39   mg/kg   U   COPHENOL   39   mg/kg   U   COLUENE   39   mg/kg   U   COLUENC   COLUENE   39   mg/kg   U   COLUENC   COLUENC   30   mg/kg   U   COLUENC	y u u	COWMNS	11:59
OROPHENOL         39         mg/kg         U           CIPHENOL         39         mg/kg         U           CLPHENOL         1.9         mg/kg         U           PHENOL         39         mg/kg         U           TOLUENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           LINE         1.9         mg/kg         U           APHTHALENE         39         mg/kg         U           ENDE         1.9         mg/kg         U           APHTHALENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           APIN         1.9         mg/kg         U           APIN         1.9         mg/kg         U <t< td=""><td>V U U</td><td>COWMNS</td><td>11:59</td></t<>	V U U	COWMNS	11:59
OPHENOL         39         mg/kg         U           TLPHENOL         39         mg/kg         U           PHENOL         1.9         mg/kg         U           FOLUENE         39         mg/kg         U           TOLUENE         39         mg/kg         U           TOLUENE         39         mg/kg         U           TOLUENE         39         mg/kg         U           TOLUENE         39         mg/kg         U           TENOL         39         mg/kg         U           TENOL         39         mg/kg         U           APHTHALENE         39         mg/kg         U           ANDL         1.9	0 0 X	COWMNS	11.59
19	A U U	COWMNS	11:59
PHENOL  1.9 mg/kg U  TOLUENE  39 mg/kg U  TOLUENE  39 mg/kg U  APHTHALENE  30 mg/kg U  APHTHALENE  30 mg/kg U  APHTHALATE  31 mg/kg U  APHTHALATE  32 mg/kg U  APHTHALATE  33 mg/kg U  APHTHALATE  34 mg/kg U  APHTHALATE  35 mg/kg U  APHTHALATE  36 mg/kg U  APHTHALATE  37 mg/kg U  APHTHALATE  38 mg/kg U  APHTHALATE  39 mg/kg U  APHTHALATE  30 mg/kg U  APHTHALATE  40 mg/kg U  APHTHALATE  40 mg/kg U  APHTHALATE  40 mg/kg U  APHTHALATE  40	A D D	COWMNS	11:59
TOLUENE         39         mg/kg         U           TOLUENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           HENOL         39         mg/kg         U           HENOL         39         mg/kg         U           HENOL         39         mg/kg         U           LINE         1.9         mg/kg         U           LINE         1.9         mg/kg         U           LINE         1.9         mg/kg         U           LINE         1.9         mg/kg         U           LINE         39         mg/kg         U           ENYL PHENYL ETHER         39         mg/kg         U           MILINE         39         mg/kg         U           MILINE         39         mg/kg         U           MOL         39         mg/kg         U           MOL         1.9	y u u	COWMNS	11:59
TOLUENE         39         mg/kg         U           APHTHALENE         39         mg/kg         U           HENOL         39         mg/kg         U           HENOL         39         mg/kg         U           LINE         39         mg/kg         U           LINE         39         mg/kg         U           LINE         1.9         mg/kg         U           LINE         1.9         mg/kg         U           LINE         1.9         mg/kg         U           LINE         1.9         mg/kg         U           ENYL PHENYL ETHER         39         mg/kg         U           MILINE         39         mg/kg         U           ENYL PHENYL ETHER         39         mg/kg         U           MOL         39         mg/kg         U           MOL         1.9         mg/kg         U           MOL         1.9         mg/kg         U           MOL         1.9         mg/kg         U           MOL         1.9         mg/kg         U           NOL         1.9         mg/kg         U           NCL         1.9	y u u	COWMNS	11:59
APHTHALENE  39 mg/kg U  APHTHALENE  39 mg/kg U  HENOL  1.9 mg/kg U  LINE  1.9 mg/kg U  LINE  NOL  SOBENZIDINE  1.9 mg/kg U  BORNZIDINE  1.0 mg/kg U  BORNZIDINE  1.0 mg/kg U  BORNZIDINE  1.0 mg/kg	A O V	COWMNS	11:59
HENOL	y u v	COWMNS	11:59
APHTHALENE  39 mg/kg U  LINE  1.9 mg/kg U  NOL  NOL  OBENZIDINE  1.9 mg/kg U	Y U UJ 08A	COWMNS	11:59
HENOL  LINE	y u u	COWMNS	11:59
LINE         1.9         mg/kg         U           NOL         39         mg/kg         U           NOL         39         mg/kg         U           LINE         1.9         mg/kg         U           2-METHYLPHENOL         1.9         mg/kg         U           ENYL PHENYL ETHER         39         mg/kg         U           MILINE         39         mg/kg         U           MOL         39         mg/kg         U           IENOL         1.9         mg/kg         U           NOL         1.9         mg/kg         U           IENOL         1.9         mg/kg         U           NOL         1.9         mg/kg         U           NOL         1.9         mg/kg         U           NOL         1.9         mg/kg         U           IND         mg/kg         U         D           NOL         3.9         mg/kg         U           NORANTHENE         3.9         mg/kg         U           NORANTHENE         3.9         mg/kg         U           OETHYL) ETHER         3.9         mg/kg         U           NURKE	v v v	COWMNS	11:59
NOL  OBENZIDINE  1.9  mg/kg  1.9  mg/kg  1.9  mg/kg  U  ENYL PHENYL ETHER  39  mg/kg  U  ENYL PHENYL ETHER  39  mg/kg  U  ENVL  INB  INB  INB  INB  INB  INB  INB  IN	y u u	COWMNS	11:59
ROBENZIDINE         1.9         mg/kg         U           J.NE         1.9         mg/kg         U           2-METHYLPHENOL         1.9         mg/kg         U           ENYL PHENYL ETHER         39         mg/kg         U           METHYLPHENOL         39         mg/kg         U           MILINE         39         mg/kg         U           MILINE         39         mg/kg         U           MILINE         1.9         mg/kg         U           MILINE         1.9         mg/kg         U           MOL         1.9         mg/kg         U           MORANTHENE         39         mg/kg         U           MORANTHENE         39         mg/kg         U           MORANTHENE         39         mg/kg         U           <	Y U U	COWMNS	11:59
1.9 mg/kg U 2-METHYLPHENOL 1.9 mg/kg U 6NYL PHENYL ETHER 3.9 mg/kg U MILINE 6NYL PHENYL ETHER 3.9 mg/kg U MIRK 6NOL 6NOL 6NOL 6NOL 6NOL 6NOL 6NOL 6NOL	y u u	COWMNS	11:59
2-METHYLPHENOL  39 mg/kg U	y u u	COWMINS	11:59
ENYL PHENYL ETHER         .39         mg/kg         U           -METHYLPHENOL         .39         mg/kg         U           MILINE         .39         mg/kg         U           MENYL PHENYL ETHER         .39         mg/kg         U           MOL         .19         mg/kg         U           MOL         .19         mg/kg         U           MOL         .19         mg/kg         U           MOL         .19         mg/kg         U           MOL         .39         mg/kg         U           MOL         .39         mg/kg         U           MORAN         .39         mg/kg         U           MORANTHENE         .39         mg/kg         U           MORANTHENE         .39         mg/kg         U           MORANTHENE         .39         mg/kg         U           OETHOXY)METHANE         .39         mg/kg         U           MORANTHENE         .39         mg/kg         U           MORANTHENE         .39         mg/kg         U           MORANTHENE         .39         mg/kg         U           MORANTHENE         .39         mg/kg <td< td=""><td>y u u</td><td>COWMINS</td><td>11:59</td></td<>	y u u	COWMINS	11:59
-METHYLPHENOL         39         mg/kg         U           VILINE         39         mg/kg         U           IENYL PHENYL ETHER         39         mg/kg         U           IENOL         1.9         mg/kg         U           INE         1.9         mg/kg         U           INE         39         mg/kg         U           IENE         39 <t< td=""><td>Y U U</td><td>COWMNS</td><td>11:59</td></t<>	Y U U	COWMNS	11:59
Marke   39	ллХ	COWMNS	11:59
IENYL PHENYL ETHER         .39         mg/kg         U           JINE         1.9         mg/kg         U           JINE         1.9         mg/kg         U           JINE         1.9         mg/kg         U           NOL         1.9         mg/kg         U           NOL         39         mg/kg         U           ENE         39         mg/kg         U           RENE         39         mg/kg         U           NORANTHENE         39         mg/kg         U           OCTHOXY)METHANE         39         mg/kg         U           OCTHOXY)METHANE         39         mg/kg         U           OCTHYL) ETHER         39         mg/kg         U           SYL PHTHALATE         39         mg/kg         U           SYL PHTHALATE         39         mg/kg         U           SSP         mg/kg         U         U           SSP </td <td>A O O</td> <td>COWMNS</td> <td>11:59</td>	A O O	COWMNS	11:59
HENOL	A U U	COWMNS	11:59
1.9 mg/kg   U     1.9 mg/kg   U     1.9 mg/kg   U     2.9 mg/kg   U     3.9 mg/kg   U     1.4 mg/kg   U     1.5 mg/kg	λ υ υ	COWMNS	11:59
VOL         1.9         mg/kg         U           ENE         39         mg/kg         U           YLENE         39         mg/kg         U           ITHRACENE         39         mg/kg         U           ITHRACENE         39         mg/kg         U           RENE         39         mg/kg         U           BERYLENE         39         mg/kg         U           DORANTHENE         39         mg/kg         U           OETHOXY)METHANE         39         mg/kg         U           OETHYL) ETHER         39         mg/kg         U           HEXYL) PHTHALATE         39         mg/kg         U           39         mg/kg <td>Y U U</td> <td>COWMNS</td> <td>11:59</td>	Y U U	COWMNS	11:59
ENE         .39         mg/kg         U           YLENE         .39         mg/kg         U           IE         .39         mg/kg         U           THRACENE         .39         mg/kg         U           RENE         .39         mg/kg         U           CORANTHENE         .39         mg/kg         U           CORTHOXY)METHANE         .39         mg/kg         U           OETHYL) ETHER         .39         mg/kg         U           HEXYL) PHTHALATE         .39         mg/kg         U	ллх	COWMNS	11:59
YLENE         39         mg/kg         U           IE         39         mg/kg         U           THRACENE         39         mg/kg         U           RENE         39         mg/kg         U           HERNE         39         mg/kg         U           HERYLENE         39         mg/kg         U           HERYLENE         39         mg/kg         U           OCTHOXY)METHANE         39         mg/kg         U           OETHYL) ETHER         39         mg/kg         U           HEXYL) PHTHALATE         39         mg/kg         U           39         mg/kg         U <td>y u u</td> <td>COWMNS</td> <td>11:59</td>	y u u	COWMNS	11:59
F	y u u	COWMNS	11:59
THRACENE       39       mg/kg       U         RENE       39       mg/kg       U         JORANTHENE       39       mg/kg       U         JERYLENE       39       mg/kg       U         JORANTHENE       39       mg/kg       U         OCTHOXY)METHANE       39       mg/kg       U         OCTHYL) ETHER       39       mg/kg       U         YL PHTHALATE       39       mg/kg       U	A n n	COWMNS	11:59
RENE         39         mg/kg         U           UORANTHENE         39         mg/kg         U           PERYLENE         39         mg/kg         U           UORANTHENE         39         mg/kg         U           OETHOXY)METHANE         39         mg/kg         U           OETHYL) ETHER         39         mg/kg         U           YL PHTHALATE         39         mg/kg         U           YL PHTHALATE         39         mg/kg         U	y u u	COWMNS	11:59
UORANTHENE       .39       mg/kg       U         PERYLENE       .39       mg/kg       U         UORANTHENE       .39       mg/kg       U         OETHOXY)METHANE       .39       mg/kg       U         OETHYL) ETHER       .39       mg/kg       U         YL PHTHALATE       .39       mg/kg       U         YL PHTHALATE       .39       mg/kg       U         .39       mg/kg       U         .39       mg/kg       U	n n A	COWMNS	11:59
DERYLENE   39 mg/kg U	Y U U	COWMNS	11:59
UORANTHENE       .39       mg/kg       U         OETHOXY)METHANE       .39       mg/kg       U         OETHYL) ETHER       .39       mg/kg       U         HEXYL) PHTHALATE       .39       mg/kg       U         YL PHTHALATE       .39       mg/kg       U         .39       mg/kg       U         .39       mg/kg       U	7 n n	COWMNS	11:59
OETHOXY)METHANE 39 mg/kg U OETHYL) ETHER 39 mg/kg U HEXYL) PHTHALATE 39 mg/kg U 39 mg/kg U 39 mg/kg U	A U U	COWMNS	11:59
OETHYL) ETHER .39 mg/kg U HEXYL) PHTHALATE .39 mg/kg U YL PHTHALATE .39 mg/kg U .39 mg/kg U .39 mg/kg U	ллх	COWMNS	11:59
HEXYL) PHTHALATE .39 mg/kg U YL PHTHALATE .39 mg/kg U .39 mg/kg U	n n A	COWMNS	11:59
SYL PHTHALATE 39 mg/kg U 39 mg/kg U 39 mg/kg U 39 mg/kg U	Y U U	CQWMNS	11:59
.39 mg/kg U	λυυ	CQWMNS	11:59
39 mg/kg U	n n A	CQWMNS	11:59
O 91/9	y u u	COWMNS	11:59

Run Date: September 22, 2000

KY0003

Sample Number:

# Validation Qualify." Data Entry Verification For McClellan

Run Date: September 22, 2000

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Sample Number:	Analytica Me	Analytical/Extraction Method:	Fk REX Dil:	Parameter:	Result:	Units:	Qlfr:	Hit Use BCF		VQIfr:	Reason Codes	Lab Sample:	Analysis Time:
KY0003	SW8270	SW3550	N 0 1	DI-N-BUTYL PHTHALATE	.39	mg/kg		×	n n	J		CQWMNS	11:59
				DI-N-OCTYL PHTHALATE	.39	mg/kg	U	> Z	n n	J		COWMNS	11:59
				DIBENZ(A,H)ANTHRACENE	.39	mg/kg	n	> Z	ח			COWMNS	11:59
				DIBENZOFURAN	.39	mg/kg	Ω	×	n	1		COWMNS	11:59
				DIETHYL PHTHALATE	.39	mg/kg	n	> Z	n n			COWMNS	11:59
				DIMETHYL PHTHALATE	.39	mg/kg	Ω	×	n n	1		COWMNS	11:59
				FLUORANTHENE	.39	mg/kg	n	> Z	n n	1		COWMNS	11:59
				FLUORENE	.39	mg/kg	Ω	×	n	Ī		COWMNS	11:59
				HEXACHLOROBENZENE	.39	mg/kg	Ω	×	n n	_		COWMNS	11:59
				HEXACHLOROBUTADIENE	.39	mg/kg	Ω	×	ח	Ω		COWMNS	11:59
				HEXACHLOROCYCLOPENTADIENE	1.9	mg/kg	Ω	×	n n	J		COWMNS	11:59
				HEXACHLOROETHANE	.39	mg/kg	Ω	> z	n n	1		COWMNS	11:59
				INDENO(1,2,3-CD)PYRENE	.39	mg/kg	Ω	> Z	n n			CQWMNS	11:59
				ISOPHORONE	.39	mg/kg	Ω	> Z	n n	h-ma,		CQWMNS	11:59
				N-NITROSODI-N-PROPYLAMINE	.39	mg/kg	n	≻ Z	n	in in	08B	COWMNS	11:59
				N-NITROSODIPHENYLAMINE	.39	mg/kg	Ω	×	ח	ם		COWMNS	11:59
				NAPHTHALENE	.39	mg/kg	Ω	×	n n	_		COWMNS	11:59
				NITROBENZENE	.39	mg/kg	Ω	> Z	n n	_		COWMNS	11:59
				PENTACHLOROPHENOL	1.9	mg/kg	Ω	×	n n			CQWMNS	11:59
				PHENANTHRENE	.39	mg/kg	Ω	×	n n	_		COWMNS	11:59
				PHENOL	.39	mg/kg	Ω	×	n n	_		COWMNS	11:59
				PYRENE	.39	mg/kg	U	> Z	n n	-		CQWMNS	11:59
KY0004	D2216	NONE	- 0 Z	PERCENT MOISTURE				YY	<u>d</u>			CQWMPS	00:00
	SW8270	SW3550	N 0 1	1,2,4-TRICHLOROBENZENE	4.	mg/kg	n	> z	חר	UJ 03	08A 08B	CQWMPS	17:48
				1,2-DICHLOROBENZENE	4.	mg/kg	Ω	> Z	U U	_		CQWMPS	17:48
				1,3-DICHLOROBENZENE	4.	mg/kg	n	> Z	$\mathbf{u} = \mathbf{u}$	ma		CQWMPS	17:48
				1,4-DICHLOROBENZENE	4.	mg/kg	Ω	Υ	n r	UJ 08	08A 08B	CQWMPS	17:48
				2,2'-OXYBIS(1-CHLOROPROPANE)	4.	mg/kg	Ω	×	n n			CQWMPS	17:48
				2,4,5-TRICHLOROPHENOL	4.	mg/kg	Ω	> Z	n n	_		CQWMPS	17:48
				2,4,6-TRICHLOROPHENOL	4.	mg/kg	Ω	> Z	n n			CQWMPS	17:48
				2,4-DICHLOROPHENOL	4.	mg/kg	Ω	×	n n			CQWMPS	17:48
				2,4-DIMETHYLPHENOL	4.	mg/kg	U	> Z	n n			CQWMPS	17:48
				2,4-DINITROPHENOL	1.9	mg/kg	Ω	×	n n			CQWMPS	17:48
				2,4-DINITROTOLUENE	4.	mg/kg	Ω	×	U U			CQWMPS	17:48
				2,6-DINITROTOLUENE	4.	mg/kg	U	> Z	n n	_		CQWMPS	17:48
				2-CHLORONAPHTHALENE	4.	mg/kg	n	> z	U U			CQWMPS	17:48
				2-CHLOROPHENOL	4.	mg/kg	n	×	ח	U 08	08A	CQWMPS	17:48
				2-METHYLNAPHTHALENE	4.	mg/kg	n	> Z	n n			CQWMPS	17:48
				2-METHYLPHENOL	4.	mg/kg	Ω	> Z	n n			CQWMPS	17:48
				2-NITROANILINE	1.9	mg/kg	Ω	> Z	n n			CQWMPS	17:48
				2-NITROPHENOL	4.	mg/kg	Ω	> z	n n			CQWMPS	17:48
				3,3'-DICHLOROBENZIDINE	6.1	mg/kg	n	×	n n			CQWMPS	17:48
				3-NITROANILINE	1.9	mg/kg	n	> Z	n n			CQWMPS	17:48

# Validation Qualifier Data Entry Verification

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Analytical/Extraction Method:	traction 1:	Fit REX Dil:	Parameter:	Result:	Units:	QIfr:	Hit Use BCF	e BCF	VQlfr:	Reason Codes	Lab Sample:	Analysis Time:
SW8270 S	SW3550	0 Z	4,6-DINITRO-2-METHYLPHENOL	1.9	mg/kg	Ω	X	Ω	Ω		CQWMPS	17:48
			4-BROMOPHENYL PHENYL ETHER	4.	mg/kg	Ω	z	n	n		CQWMPS	17:48
			4-CHLORO-3-METHYLPHENOL	4.	mg/kg	Ω	z	Ω	Ω		CQWMPS	17:48
			4-CHLOROANILINE	4.	mg/kg	Ω	×	D	Ω		CQWMPS	17:48
			4-CHLOROPHENYL PHENYL ETHER	4.	mg/kg	Ω	> Z	Ω	Ω		CQWMPS	17:48
			4-METHYLPHENOL	4.	mg/kg	Ω	×	n	Ω		CQWMPS	17:48
			4-NITROANILINE	1.9	mg/kg	Ω	> Z	D	n		CQWMPS	17:48
			4-NITROPHENOL	6.1	mg/kg	Ω	Z	D	Ω		CQWMPS	17:48
			ACENAPHTHENE	4.	mg/kg	Ω	> Z	n	Ω		CQWMPS	17:48
			ACENAPHTHYLENE	4.	mg/kg	Ω	z	n	Ω		CQWMPS	17:48
			ANTHRACENE	4.	mg/kg	Ω	z	Ω	Ω		CQWMPS	17:48
			BENZO(A)ANTHRACENE	4.	mg/kg	Ω	×	n	Ω		CQWMPS	17:48
			BENZO(A)PYRENE	4.	mg/kg	Ω	×	Ω	Ω		CQWMPS	17:48
			BENZO(B)FLUORANTHENE	4.	mg/kg	Ω	> z	D	Ω		CQWMPS	17:48
			BENZO(GHI)PERYLENE	4.	mg/kg	Ω	×	n	Ω		CQWMPS	17:48
			BENZO(K)FLUORANTHENE	4.	mg/kg	Ω	×	n	n		CQWMPS	17:48
			BIS(2-CHLOROETHOXY)METHANE	4.	mg/kg	Ω	×	D	n		CQWMPS	17:48
			BIS(2-CHLOROETHYL) ETHER	4.	mg/kg	Ω	×	ח	Ω		CQWMPS	17:48
			BIS(2-ETHYLHEXYL) PHTHALATE	4.	mg/kg	Ω	> z	D	Ω		CQWMPS	17:48
			BUTYL BENZYL PHTHALATE	4.	mg/kg	Ω	> z	D	Ω		CQWMPS	17:48
			CARBAZOLE	4.	mg/kg	n	> z	ם	Ω		CQWMPS	17:48
			CHRYSENE	4.	mg/kg	Ω	> z	n	Ω		CQWMPS	17:48
			DI-N-BUTYL PHTHALATE	4.	mg/kg	Ω	×	D	n		CQWMPS	17:48
			DI-N-OCTYL PHTHALATE	4.	mg/kg	Ω	×	D	Ω		CQWMPS	17:48
			DIBENZ(A,H)ANTHRACENE	4.	mg/kg	Ω	×	ח	Ω		CQWMPS	17:48
			DIBENZOFURAN	4.	mg/kg	Ω	×	n	D		CQWMPS	17:48
			DIETHYL PHTHALATE	4.	mg/kg	Ω	Ν	Ω	n		CQWMPS	17:48
			DIMETHYL PHTHALATE	4.	mg/kg	Ω	×	Ω	Ω		CQWMPS	17:48
			FLUORANTHENE	4:	mg/kg	Ω	Z		Ω		CQWMPS	17:48
			FLUORENE	4.	mg/kg	Ω	> Z	Ω	Ω		CQWMPS	17:48
			HEXACHLOROBENZENE	4.	mg/kg	Ω	×	n	Ω		CQWMPS	17:48
			HEXACHLOROBUTADIENE	4.	mg/kg	Ω	×	Ω	Ω		CQWMPS	17:48
			HEXACHLOROCYCLOPENTADIENE	1.9	mg/kg	Ω	N	D	Ω		CQWMPS	17:48
			HEXACHLOROETHANE	4.	mg/kg	Ω	≻ Z	Ω	Ω		CQWMPS	17:48
			INDENO(1,2,3-CD)PYRENE	4.	mg/kg	Ω	> Z	Ω	Ω		CQWMPS	17:48
			ISOPHORONE	4.	mg/kg	Ω	×	n	Ω		CQWMPS	17:48
			N-NITROSODI-N-PROPYLAMINE	4.	mg/kg	n	> Z	n	n	08B	CQWMPS	17:48
			N-NITROSODIPHENYLAMINE	4.	mg/kg	n	> z	n	Ω		CQWMPS	17:48
			NAPHTHALENE	4.	mg/kg	Ω	×	Ω	Ω		CQWMPS	17:48
			NITROBENZENE	4.	mg/kg	Ω	≻ Z	$\Box$	D		CQWMPS	17:48
			PENTACHLOROPHENOL	1.9	mg/kg	n	×	n	Ω		CQWMPS	17:48
			PHENANTHRENE	4.	mg/kg	D	×	Ω	n		CQWMPS	17:48
			PHENOL	4.	mg/kg	Ω	×	n	n		CQWMPS	17:48
-			PYRENE	4.	mg/kg	Ω	≻ Z	D D	ם		COWN	17:48

Run Date: September 22, 2000

Sample Number:

KY0004

# Validation Qualiff... Data Entry Verification For McClellan

Run Date: September 22, 2000

Sample Number:

KY0005

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Analytical/Extraction Method:	xtraction d:	FIt REX Dil:	di: Parameter:	Result:	Units:	Ólfr:	Hit Use BCF	VQlfr:	Reason Codes	Lab Sample:	Analysis Time:
D2216	NONE	0 Z	PERCENT MOISTURE				γ γ	:		CQWMQS	00:00
SW8270 S	SW3550	0 Z	1,2,4-TRICHLOROBENZENE	.41	mg/kg	Ω	> Z	m	08A 08B	COWMOS	19:08
			1,2-DICHLOROBENZENE	.41	mg/kg	D	> Z	Ω		COWMOS	19:08
			1,3-DICHLOROBENZENE	.41	mg/kg	D	> Z	n		CQWMQS	19:08
			1,4-DICHLOROBENZENE	.41	mg/kg	ם	> Z	UJ	08A 08B	COWMOS	19:08
			2,2'-OXYBIS(1-CHLOROPROPANE)	.41	mg/kg	D D	χ	n		CQWMQS	19:08
			2,4,5-TRICHLOROPHENOL	.41	mg/kg	n	×	n		COWMOS	19:08
			2,4,6-TRICHLOROPHENOL	14.	mg/kg	D	> Z	Ω		COWMOS	19:08
			2,4-DICHLOROPHENOL	14.	mg/kg	ם	γ	Ω		COWMOS	19:08
			2,4-DIMETHYLPHENOL	.41	mg/kg	n	× Z	U		COWMOS	19:08
			2,4-DINITROPHENOL	2	mg/kg	ם	> Z	n		CQWMQS	19:08
			2,4-DINITROTOLUENE	14.	mg/kg l	D	> 2	Ω		CQWMQS	19:08
			2,6-DINITROTOLUENE	.41	mg/kg	n	> z	Ω		CQWMQS	19:08
			2-CHLORONAPHTHALENE	.41	mg/kg	<u> </u>	×	Ω		CQWMQS	19:08
			2-CHLOROPHENOL	.41	mg/kg		<b>≻</b>	m	08A	CQWMQS	80:61
			2-METHYLNAPHTHALENE	.41	mg/kg l	ח	> z	Ω		CQWMQS	19:08
			2-METHYLPHENOL	.41	mg/kg	D	≻ Z	n		CQWMQS	19:08
			2-NITROANILINE	2	mg/kg l	5	> Z	Ω		CQWMQS	19:08
			2-NITROPHENOL	.41	mg/kg (	J	⊁ Z	Ω		CQWMQS	19:08
			3,3'-DICHLOROBENZIDINE	2	mg/kg l	Ū	≻ Z	n		CQWMQS	19:08
			3-NITROANILINE	2	mg/kg (	Ū	⊁ Z	n		CQWMQS	19:08
			4,6-DINITRO-2-METHYLPHENOL	2	mg/kg [	J	> Z	Ω		CQWMQS	19:08
			4-BROMOPHENYL PHENYL ETHER	14.	mg/kg (	J	≻ Z	Ω		CQWMQS	19:08
			4-CHLORO-3-METHYLPHENOL	14.	mg/kg (	J	≻ Z	Ω		CQWMQS	19:08
			4-CHLOROANILINE	14.	mg/kg l	,	×	Ω		CQWMQS	19:08
			4-CHLOROPHENYL PHENYL ETHER	14.	mg/kg (	Ţ	≻ Z	Ω		CQWMQS	19:08
			4-METHYLPHENOL	.41	mg/kg l	J	> Z	Ω		CQWMQS	19:08
			4-NITROANILINE	7	mg/kg l	-	> Z	Ω		CQWMQS	19:08
			4-NITROPHENOL	2	mg/kg l	J	> Z	n		CQWMQS	19:08
			ACENAPHTHENE	.41	mg/kg l		×	Ω		COWMOS	19:08
			ACENAPHTHYLENE	.41	mg/kg l	J	> Z	n		COWMOS	19:08
			ANTHRACENE	.41	mg/kg l	J	> Z	Ω		CQWMQS	19:08
			BENZO(A)ANTHRACENE	.41	mg/kg l	Ī	> Z	Ω		CQWMQS	19:08
			BENZO(A)PYRENE	.41	mg/kg l	1	> Z	Ω		COWMOS	19:08
			BENZO(B)FLUORANTHENE	.41	mg/kg l	]	×	Ω		COWMOS	19:08
			BENZO(GHI)PERYLENE	14.	mg/kg L	_	> z	Ω		CQWMQS	19:08
			BENZO(K)FLUORANTHENE	.41	mg/kg l	)	> Z	Ω		CQWMQS	19:08
			BIS(2-CHLOROETHOXY)METHANE	14.	mg/kg (	_	> Z	n		CQWMQS	19:08
			BIS(2-CHLOROETHYL) ETHER	.41	mg/kg	l l	> Z	Ω		CQWMQS	19:08
			BIS(2-ETHYLHEXYL) PHTHALATE	.41	mg/kg L	J	×	Ω		CQWMQS	19:08
			BUTYL BENZYL PHTHALATE	.41	mg/kg [	,	> Z	Ω		CQWMQS	19:08
			CARBAZOLE	.41	mg/kg [	1	χ	Ω		CQWMQS	19:08
			CHRYSENE	4.	mg/kg (		<b>≻</b> z	U		CQWMQS	19:08

# Validation Qualifier Data Entry Verification

Run Date: September 22, 2000

Number:

Sample

KY0005

Fort McClellan

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Page:

Analysis 19:08 19:08 19:08 19:08 19:08 19:08 19:08 19:08 80:61 19:08 19:08 00:00 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 19:08 19:08 19:08 10:15 10:15 10:15 Lab Sample: CQWMQS COWMOS COWMOS CQWMQS COWMOS COWMOS CQWMQS COWMOS COWMOS COWMOS CQWMQS COWMOS COWMOS COWMOS CQWMQS CQWMQS COWMOS COWMOS CQWMQS CQWMQS COWMOS CQM9WS SW9MQC CQM9WS COM9WS COM9WS Reason Codes 08B Hit Use BCF VQIfr: 5 zzOlfr: Units: mg/kg Result: 41 41 4. 4. 14. 2 4. 14. 4 4 4 4 4 4 4 HEXACHLOROCYCLOPENTADIENE 2,2'-OXYBIS(1-CHLOROPROPANE) N-NITROSODI-N-PROPYLAMINE N-NITROSODIPHENYLAMINE DIBENZ(A,H)ANTHRACENE HEXACHLOROBUTADIENE ,2,4-TRICHLOROBENZENE 2-METHYLNAPHTHALENE DI-N-BUTYL PHTHALATE DI-N-OCTYL PHTHALATE INDENO(1,2,3-CD)PYRENE 2-CHLORONAPHTHALENE 2.4.5-TRICHLOROPHENOL HEXACHLOROBENZENE 2,4,6-TRICHLOROPHENOL DIMETHYL PHTHALATE 1,2-DICHLOROBENZENE 1,3-DICHLOROBENZENE 1,4-DICHLOROBENZENE HEXACHLOROETHANE PENTACHLOROPHENOL DIETHYL PHTHALATE 2,4-DICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE PERCENT MOISTURE 2,4-DINITROPHENOL 2-CHLOROPHENOL 2-METHYLPHENOL **PHENANTHRENE** DIBENZOFURAN FLUORANTHENE 2-NITROANILINE NITROBENZENE NAPHTHALENE ISOPHORONE FLUORENE Parameter: PHENOL **PYRENE** FIt REX Dil: 0 z Z Z Analytical/Extraction SW3550 SW3550 NONE Method: SW8270 SW8270 D2216

KY1001

10:15

CQM9WS

mg/kg mg/kg mg/kg

3,3'-DICHLOROBENZIDINE

2-NITROPHENOL

3-NITROANILINE

CQM9WS

10:15

# Validation Qualify Data Entry Verification Fort McClellan

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HENOL  'L ETHER  46  ANOL   \$\frac{1}{2}\$ \frac{1}{2}\$ \fra	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS СОМ9WS	10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15	
5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4					CQM9WS	10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15
\$ 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4					CQM9WS	10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15
2.2.2.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4.4					CQM9WS	10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15
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2.2. 2. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.		**************************************			CQM9WS	10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15 10:15
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64. 4. 4. 4. 4. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. 6.	kg U	z	Y U	Ω	CQM9WS	10:15
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46 46 46 46 46 46 46 46 46 46 46	kg U	×	y U	Ω	CQM9WS	10:15
46 46 46 46 46 46 46 46 46	kg U	×	Y U	n	CQM9WS	10:15
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.46 .46 .2.2 .46	kg U	×	V U	Ω	CQM9WS	10:15
.46 .46 .2.2 .46	y U gy	×	V U	Ω	CQM9WS	10:15
.46 2.2 .46	og O	×	V U	Ω	CQM9WS	10:15
2.2 .46	cg U	×	V U	n	CQM9WS	10:15
.46	cg U	> Z	Y U	Ω	CQM9WS	10:15
, , , , , , , , , , , , , , , , , , ,	u g	Z	Y U	Ω	CQM9WS	10:15
INDENO(1,2,3-CD)FYRENE .46 mg/kg	U gy	z	V U	ם	COM9WS	10:15
.46	G O	> z	y u	Ω	CQM9WS	10:15
N-NITROSODI-N-PROPYLAMINE .46 mg/kg	U g	×	U Y	Ω	COM9WS	10:15
N-NITROSODIPHENYLAMINE .46 mg/kg	g U	×	ν υ	n	CQM9WS	10:15
NAPHTHALENE .46 mg/kg	n g	> z	ر n	n	COM9WS	10:15
.46	n s	z	ر n	n	CQM9WS	10:15
HENOL 2.2	n 83	×	n ,	Ω	CQM9WS	10:15
THRENE .46	n g	> Z	n /	n	CQM9WS	10:15
PHENOL .46 mg/kg	g U	×	n /	n	CQM9WS	10:15
PYRENE .46 mg/kg	n 8:	> Z	n ,	n	CQM9WS	10:15

Run Date: September 22, 2000

KY1001

Sample Number:

# Validation Qualifier Data Entry Verification Fort McClellan

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Analysis Lab Sample: Time:	3041610001SA 17:19	CQMD7W 17:43		CQMD7W 17:43	CQMD/W 17:43								<del>-</del>																											
Reason Codes 1 2 3 4 Lab S	30410	СОМ	CÓM		W COM	COM	MOO	MOO	COMD7W	, CÓM	COM		CÓM	MÒO CÓW	MQO MQO	WÓO WÓO CÓW CÓW	WÖD 20 WÖ	WQ 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	WQ 20 00 00 00 00 00 00 00 00 00 00 00 00	WQ 2				W W W W W W W W W W W W W W W W W W W	W W W W W W W W W W W W W W W W W W W															
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Olfr: E	ļ	ם	n	<b>&gt;</b> =	o =	) 	U	Ω	Ω	Ω	D	n		n	n	חחח	ככככ																							
Units:	mg/kg	mg/L	mg/L	mg/L	me/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	"	mg/L	mg/L mg/L	mg/L mg/L mg/L	mg/L mg/L mg/L	mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L		mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	mg/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L
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	ORGANIC CARBON, TOTAL	1,2,4-TRICHLOROBENZENE	1,2-Dichlorobenzene	1,3-DICHLOROBENZENE	2,2'-OXYBIS(1-CHLOROPROPANE)	2,4,5-TRICHLOROPHENOL	2,4,6-TRICHLOROPHENOL	ROPHENOL	IYLPHENOL	OPHENOL	OTOLUENE	OTOLUENE		2-CHLORONAPHTHALENE	AAPHTHALENE HENOL	2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE	AAPHTHALENE HENOL AAPHTHALENE HENOL	APHTHALENE HENOL APHTHALENE HENOL LINE	APHTHALENE HENOL HENOL HENOL ILINE ENOL	2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-NITROANIL.NE 3-3-DICHLOROBENZIDINE 3-NITROANII RIE	AAPHTHALENE HENOL AAPHTHALENE HENOL ILINE ENOL ROBENZIDINE ROBENZIDINE ILINE	2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-NITROPHENOL 3,3'-DICHLOROBENZIDINE 3-NITROANILINE 4-6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL PHENYL ETHER	2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-NITROPHENOL 3,3'-DICHLOROBENZIDINE 3-NITROANIL.NE 4-6-DINITRO-2-METHYLPHENOL 4-BROMOPHENYL PHENYL FTHER 4-CHLORO-3-METHYLPHENOL	VAPHTHALENE HENOL WAPHTHALENE HENOL ILINE ENOL ROBENZIDINE ILINE P-2-METHYLPHENOL IENYL PHENYL ETHER S-METHYLPHENOL INDIRE INNYL PHENYL INNE S-METHYLPHENOL	2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-NITROPHENOL 3,3'-DICHLOROBENZIDINE 3-NITROPHENOL 4-6-DINITRO2-METHYLPHENOL 4-BROMOPHENYL PHENYL ETHER 4-CHLORO-3-METHYLPHENOL 4-CHLOROANILINE 4-CHLOROPHENYL PHENYL ETHER 4-CHLOROANILINE				ALENE ALENE TYLPHEN HENYL I (LPHENYL I )HENYL I	ALENE ALENE TYLPHEN HENYL, I CLPHENYL, I PHENYL, I	SNE NE NE NAL I HENC	SNE NE NAL I HENC	# E ≥ ,	SNE NE NE NAL I HENG	# E E C					2-CHLORONAPHTHALENE 2-CHLOROPHENOL 2-METHYLNAPHTHALENE 2-METHYLPHENOL 2-NITROANILINE 3-3-LICHLOROBENZIDINE 3-S-DICHLOROBENZIDINE 4-S-DINITRO-2-METHYLPHENOL 4-STHORONILINE 4-CHLOROPHENYL PHENYL ETHER 4-CHLOROPHENYL PHENYL ETHER 4-CHLOROPHENYL PHENYL ETHER 4-CHLOROPHENYL PHENYL ETHER 4-CHLOROPHENYL PHENOL 4-NITROPHENOL 4-NITROPHENOL 4-NITROPHENOL 5-METHYLPHENE 6-METHYLPHENE BENZ(A)ANTHRACENE BENZ(A)ANTHRACENE BENZ(A)BYRENE BENZO(GHI)PERYLENE BENZO(GHI)PERYLENE BENZO(GHI)PERYLENE BENZO(K)FLUORANTHENE BIS(2-CHLOROETHYL) ETHER BIS(2-CHLOROETHYL) ETHER BIS(2-CHLOROETHYL) ETHER BIS(2-CHLOROETHYL) ETHER
Parameter:	ORGANIC C.	1,2,4-TRICHI	1,2-DICHLOF	1,4-DICHLO	2,2'-OXYBIS	2,4,5-TRICHI	2,4,6-TRICHI	2,4-DICHLOROPHENOL	2,4-DIMETHYLPHENOL	2,4-DINITROPHENOL	2,4-DINITROTOLUENE	2,6-DINITROTOLUENE	2-CHLORON		2-CHLOROPHENOL	2-CHLOROPI 2-METHYLN	2-CHLOROPHENOL 2-METHYLNAPHTH 2-METHYLPHENOL	2-CHLOROPHENC 2-METHYLNAPHI 2-METHYLPHENC 2-NITROANILNE	2-CHLOROPHEN 2-METHYLNAPH 2-METHYLPHEN 2-NITROPHENOL 2-NIT	2-CHLOROPI 2-METHYLP 2-MITROANI 2-NITROPHE 3,3'-DICHLOF	2-CHLOROPHENC 2-METHYLNAPHENC 2-METHYLPHENC 2-NITROANILINE 2-NITROPHENOL 3,3'-DICHLOROBE 3-NITROANILINE 4-6-DINITRO-2-ME	2-CHLOROPI 2-METHYLN 2-MITROANI 2-NITROPHE 3,3-DICHLOI 3-NITROANI 4,6-DINITRO	2-CHLOROPI 2-METHYLPL 2-NITROPHE 3,3'-DICHLOI 3-NITROANII 4,6-DINITRO 4-BROMOPH	2-CHLOROPHENOL 2-METHYLNAPHTH 2-METHYLPHENOL 2-NITROPHENOL 3,3-DICHLOROBENI 3-NITROANILNE 4,6-DINITRO-2-METI 4-BROMOPHENYL P 4-CHLORO-3-METH 4-CHLORO-NILNE	2-CHLOROPI 2-METHYLPL 2-METHYLPL 2-NITROPHE 3,3-DICHLOI 3-NITROANI 4,6-DINITRO 4-CHLOROA 4-CHLOROA 4-CHLOROA	2-CHLOROPHENOL 2-METHYLNAPHTH 2-METHYLNAPHTHOL 2-NITROPHENOL 3,3'-DICHLOROBEN 3-NITROANILINE 4,6-DINITRO-2-METH 4-CHLORO-3-METH 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL 4-CHLOROPHENYL	2-CHLOROPHENC 2-METHYLPHENC 2-NITROANILINE 2-NITROPHENOL 3,3-DICHLOROBI 3,3-DICHLOROBI 3,4-DINITROANILINE 4,6-DINITROANILINE 4-CHLORO3-MET 4-CHLOROANILINE 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHENY	2-CHLOROPHEN 2-METHYLPHEN 2-MITROANILINI 2-NITROPHENOI 3,3-DICHLOROB 3-NITROANILINE 4,6-DINITRO-2-ME 4-CHLOROANILI 4-CHLOROPHENY 4-CHLOROPHENY 4-CHLOROPHEN 4-CHLOROPHEN 4-METHYLPHEN 4-METHYLPHEN 4-MITROANILINE	2-CHLOROPHENC 2-METHYLNAPH 2-METHYLNAPHENC 2-NITROPHENOL 3,3-DICHLOROBI 3-NITROANILINE 4,6-DINITRO-2-MI 4-CHLORO-3-MET 4-CHLORO-3-MET 4-CHLOROPHENY 4-CHLOROPHENY 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Run Date: September 22, 2000

Sample Number:

KY1001 KY2001

## Validation Qualify - Data Entry Verification

For McClellan

Run Date. September 22, 2000

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Analysis Time: 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 17:43 18:22 18:22 18:22 18:22 18:22 18:22 18:22 17:43 17:43 17:43 18:22 18:22 18:22 18:22 18:22 18:22 18:22 18:22 Lab Sample: CQMD7W CQMD7W COMD7W CQMD7W COMD7W CQMD7W CQMD7W COMD7W CQMD7W CQMD9W CQMD9W CQMD9W COMD9W CQMD9W CQMD9W CQMD7W COMD9W COMD9W CQMD9W COMD9W CQMD9W COMD9W COMD9W CQMD9W CQMD9W CQMD9W COMD9W Reason Codes 7 Hit Use BCF VQlfr: zz $\mathbf{z}$ **ZZZZZZZZ** Offr: Units: mg/L g/L mg/L g/L mg/Lmg/L mg/L mg/L mg/L mg/L mg/Lmg/L mg/L mg/L mg/L Result: HEXACHLOROCYCLOPENTADIENE 2,2'-OXYBIS(1-CHLOROPROPANE) N-NITROSODI-N-PROPYLAMINE N-NITROSODIPHENYLAMINE DIBENZ(A,H)ANTHRACENE HEXACHLOROBUTADIENE 1,2,4-TRICHLOROBENZENE INDENO(1,2,3-CD)PYRENE 2-METHYLNAPHTHALENE 2-CHLORONAPHTHALENE DI-N-OCTYL PHTHALATE DI-N-BUTYL PHTHALATE 2,4,5-TRICHLOROPHENOL HEXACHLOROBENZENE 2,4,6-TRICHLOROPHENOL DIMETHYL PHTHALATE 1,2-DICHLOROBENZENE PENTACHLOROPHENOL ,3-DICHLOROBENZENE ,4-DICHLOROBENZENE HEXACHLOROETHANE DIETHYL PHTHALATE 2,4-DICHLOROPHENOL 2,4-DIMETHYLPHENOL 2,6-DINITROTOLUENE 2,4-DINITROTOLUENE 2,4-DINITROPHENOL 2-METHYLPHENOL 2-CHLOROPHENOL DIBENZOFURAN FLUORANTHENE PHENANTHRENE 2-NITROANILINE NITROBENZENE NAPHTHALENE ISOPHORONE Parameter: FLUORENE **PHENOL PYRENE** Fit REX Dil: 0 0 z Z Analytical/Extraction SW3520 SW3520 Method: SW8270 SW8270 Number: KY2002 KY2001

COMD9W

COMD9W CQMD9W M60MD0

mg/L mg/L mg/L

4,6-DINITRO-2-METHYLPHENOL

3,3'-DICHLOROBENZIDINE

2-NITROPHENOL

3-NITROANILINE

mg/L

# Validation Qualifier Data Entry Verification

Fort McClellan

Run Date: September 22, 2000

Sample Number: -----KY2002

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Page:

Analysis Time:	CC.01	77.01	18:22	18:22	18:22	18:22	18:22	18:22	18-22	18:22	18:22	18.72	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18.22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22	18:22
Lab Sample:	COMPOW	COMPON	CQMD9W	CQMD9W	COMD9W	CQMD9W	CQMD9W	CQMD9W	COMD9W	COMD9W	COMDOW	COMD9W	COMDOW	COMD9W	COMD9W	COMD9W	COMD9W	COMD9W	COMD9W	CQMD9W	CQMD9W	CQMD9W	COMD9W	COMD9W	COMD9W	COMD9W	COMD9W	COMD9W	COMD9W	CQMD9W	COMD9W	CQMD9W	CQMD9W	CQMD9W	CQMD9W	CQMD9W	CQMD9W	CQMD9W	CQMD9W	CQMD9W	COMD9W	COMD9W	COMD9W	CQMD9W
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Units:	l/om	à à	1/2	1/8111	mg/∟	mg/L	mg/L	mg/L	mg/L	mg/L	me/L	me/I.	mg/l.	me/L	me/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Result:	0.1	: -	. i	10.	10:	10.	.05	.05	.01	.01	10.	10.	.01	10.	.01	.01	10.	.01	.0023	.01	.01	.01	.01	.01	.01	.01	.01	.01	10.	.01	.01	.01	.05	.01	10.	.01	10.	10.	10.	.01	.05	.01	.01	.01
Parameter:	4-BROMOPHENYL PHENYL ETHER	4-CHLORO-3-METHY! PHENO!	4-CHI OROANII INF	4.CHI OROPHENVI DIJENVI ETHED	4 METHOD DIENOL	4-MEIHYLPHENOL	4-NITROANILINE	4-NITROPHENOL	ACENAPHTHENE	ACENAPHTHYLENE	ANTHRACENE	BENZ(A)ANTHRACENE	BENZO(A)PYRENE	BENZO(B)FLUORANTHENE	BENZO(GHI)PERYLENE	BENZO(K)FLUORANTHENE	BIS(2-CHLOROETHOXY)METHANE	BIS(2-CHLOROETHYL) ETHER	BIS(2-ETHYLHEXYL) PHTHALATE	BUTYL BENZYL PHTHALATE	CARBAZOLE	CHRYSENE	DI-N-BUTYL PHTHALATE	DI-N-OCTYL PHTHALATE	DIBENZ(A,H)ANTHRACENE	DIBENZOFURAN	DIETHYL PHTHALATE	DIMETHYL PHTHALATE	FLUORANTHENE	FLUORENE	HEXACHLOROBENZENE	HEXACHLOROBUTADIENE	HEXACHLOROCYCLOPENTADIENE	HEXACHLOROETHANE	INDENO(1,2,3-CD)PYRENE	ISOPHORONE	N-NITROSODI-N-PROPYLAMINE	N-NITROSODIPHENYLAMINE	NAPHTHALENE	NITROBENZENE	PENTACHLOROPHENOL	PHENANTHRENE	PHENOL	PYRENE
Fit REX Dii:	0 Z																																											
Analytical/Extraction Method:	SW3520																																											
Analytic M	SW8270																																											

## APPENDIX G VARIANCES/NONCONFORMANCES

	Variance No: PARCEL122FEB.VR1
	Linked w/NC No: x
INTERNATIONAL	<b>Date of Issue:</b> 2\28\99
TECHNOLOGY CORPORATION	Page _1 of 1
Project Name: Fort McClellan - CK05	Project Number: 774645
-Varianc	e Report -
I.Description: (by the person identifying the change)	
FORMER FOG OIL STORAGE AREA PARCEL 122(7)	
Two proposed subsurface soil samples PPMP-122-GP02 and PPMI	P-122-GP03 were relocated from their proposed sample locations.
Identified by: Jeffrey Tarr, PG - IT Site Manager	Date: 2-28-99
II. Justification For Variance	
	rcel that detected the greatest concentrations of diesel range courately determine the presence or absence of subsurface soil is moved approximately 50 feet southwest of its proposed location
III. Applicable Document/Work Plan: (by the person identifying th	e change)
Final Site-Specific Field Sampling Plan Former Fog Oil Storage A	rea Parcel 122(7), December 1998.
Distribution List:	- Signatures -
Jeanne Yacoub, IT Project Manager     Steve Moran, IT Technical Lead	Requested by: Jeffrey Tap, PG - IT Site Manager 3/29/99
3. Jeffrey Tarr, IT Site Manager 4. Randy McBride, IT QA Officer	geful Taw Date
5. Mr. Ellis Pope, US Army Corps of Engineers	Approved by: Slow Color 11/3/59 Date
6. Mr. Ross McCollum, US Army Corps of Engineers	Project Manager Approval Lanne Juon 5/5/99 Date
	QA Approval:Randy McBride MMC 3/30/99 Date

## DRAFT SITE INVESTIGATION REPORT AND DRAFT DECISION DOCUMENT FOR FOG OIL STORAGE AREA WEST OF THE SKEET RANGE PARCEL 122(7) FORT McCLELLAN, ALABAMA

## FORT McCLELLAN, ALABAMA RESPONSE TO COMMENTS BY ENVIRONMENTAL PROTECTION AGENCY REGION 4

As addressed in a letter from Bart Reedy, EPA, to Ron Levy, BRAC Environmental Coordinator, October 27, 2000.

**Comment:** 

During the last Base Closure Team meeting on 10/24-10/25/00, the results of several Site Investigations were discussed. During the presentations and subsequent discussions, the comments and concerns that had been presented were addressed. Additionally, some of the pending Site Investigations and Decision Documents yet to be reviewed were presented.

Based on the above presentations and discussions, all of the comments and concerns were addressed for Parcel 122(7) aka Former Fog Oil Storage Area. I agree with the finds presented in the Decision Document and approve the Site Investigation Report. Please forward the final version of these documents for inclusion in EPA files. Please consider this a final approval letter for the final version of the documents referenced.

I concur with the Decision Document and approve the Report as written.

**Response:** 

Comments noted.

## DRAFT SITE INVESTIGATION REPORT AND DRAFT DECISION DOCUMENT FOR FOG OIL STORAGE AREA WEST OF THE SKEET RANGE PARCEL 122(7) FORT McCLELLAN, ALABAMA RESPONSE TO COMMENTS BY ADEM

## COMMENTS ON DRAFT SITE INVESTIGATION REPORT

## **General Comments**

Comment 1: ADEM is in general agreement with the conclusions and

recommendations of the Draft Site Investigation Report for the Former Fog Oil Storage Area West of the Skeet Range, Parcel 122(7). Based on the analytical results from samples collected during the Site Investigation, it appears that operations at the site have had minimal impact on the environment, and the potential threat to human and ecological receptors

from the site is low.

Response:

Comment noted.

## Specific Comments

Comment 1: Figure 4-2: The groundwater contours are based on three monitoring

wells. Please dash the contours where they are inferred.

Response: A Figure 4-2 (groundwater elevation map) was not included in the draft SI

report because no wells were installed at the site. IT is unsure what the

comment refers to.