**DEPARTMENT OF THE ARMY**

**OFFICE OF ASSISTANT CHIEF OF STAFF FOR INSTALLATION MANAGEMENT**
**U.S. ARMY FORT MONMOUTH**
**P.O. 148**
**OCEANPORT, NEW JERSEY 07757**

February 10, 2015

Ms. Linda Range
New Jersey Department of Environmental Protection
Case Manager
Bureau of Southern Field Operations
401 East State Street, 5th Floor
PO Box 407
Trenton, NJ 08625

**Re: Underground Storage Tanks within ECP Parcel 76**
**Fort Monmouth, New Jersey**

**Attachments:**

A. Site Figure for Parcel 76
B. Resubmission of *Unregulated Heating Oil Tank Remedial Investigation and Closure Report, Main Post – ECP Parcel 76 (200 Area)*
C. USTs 261 and 261B Previous Approval by NJDEP
D. UST 262 File Review
E. UST 263 File Review
F. UST 264 File Review
G. UST 265 File Review
H. UST 266 File Review
I. UST 267 File Review
J. UST 268 File Review
K. UST 269 File Review
L. USTs 270 and 271 Previous Approval by NJDEP

**Previous Correspondence:**

1. NJDEP letter to the Army dated May 30, 2013, re: *Army's January 31, 2013 Correspondence – Miscellaneous USTs.*
2. Army letter to NJDEP dated January 31, 2013, re: *NJDEP's Response to Army Correspondence (Dated March 16, 2012).*
3. NJDEP letter to the Army dated July 10, 2012, re: *March 2012 Army Response to NJDEP Correspondence Letter Dated October 28, 2008.*
4. Army letter to NJDEP dated March 16, 2012, re: *Army's Response to NJDEP Correspondence (Dated October 28, 2008), Draft Site Investigation.*
5. NJDEP letter to the Army dated October 28, 2008, re: *Draft Site Investigation Report.*

Dear Ms. Range:

The U.S. Army Fort Monmouth (FTMM) has reviewed existing file information for underground storage tank (UST) sites at Fort Monmouth within Environmental Condition of Property (ECP) Parcel 76. In response to NJDEP's July 10, 2012 comments in Correspondence (3), we are submitting the following additional information pertaining to ECP Parcel 76 for your review and approval:

- A drawing showing the locations of underground storage tanks (USTs) of interest within Parcel 76 is provided as Attachment A.
- The June 2011 *Remedial Investigation and Closure Report* for the western 200 Area of Parcel 76 is re-submitted herein as Attachment B. Included within this report are new figures that clarify the locations of the soil and groundwater samples that were previously reported. This report now also includes the analytical data packages for additional backup. We believe that this new information supports a determination of No Further Action for this portion of Parcel 76.
- NJDEP has previously approved No Further Action for UST sites 261 and 261B, as indicated in your May 30, 2013 letter, provided as Attachment C.
- Regarding unregulated heating oil tanks (UHOTs) that were previously removed from the residential area along Carty Avenue, we are submitting a summary review of the UST files for each of these sites, as well as corresponding analytical data. We request No Further Action determinations for each of these residential UHOT sites:
    - UST 262: see Attachment D.
    - UST 263: see Attachment E.
    - UST 264: see Attachment F.
    - UST 265: see Attachment G.
    - UST 266: see Attachment H.
    - UST 267: see Attachment I.
    - UST 268: see Attachment J.
    - UST 269: see Attachment K.
- USTs 270 and 271 were not previously identified in your May 20, 2013 letter; however, NJDEP has previously approved No Further Action for UST site 270 (Registration No. 81533-54) and 271 (81533-55), as indicated in letters dated February 24, 2000, and January 10, 2003, respectively; these letters are provided as Attachment L.

Within each UST File Review (Attachments D through K), the term "Case Closed" is consistent with previous FTMM use, and indicates that FTMM and Parsons have determined that no further sampling or remedial actions are warranted. In contrast, "No Further Action" is reserved for NJDEP approval that no further sampling or remedial actions are warranted.

In summary, we request No Further Action for all previously identified UST sites within Parcel 76. Should you have any questions or require additional information, please contact me at (732) 380-7064 or by email at wanda.s.green2.civ@mail.mil.

Sincerely,

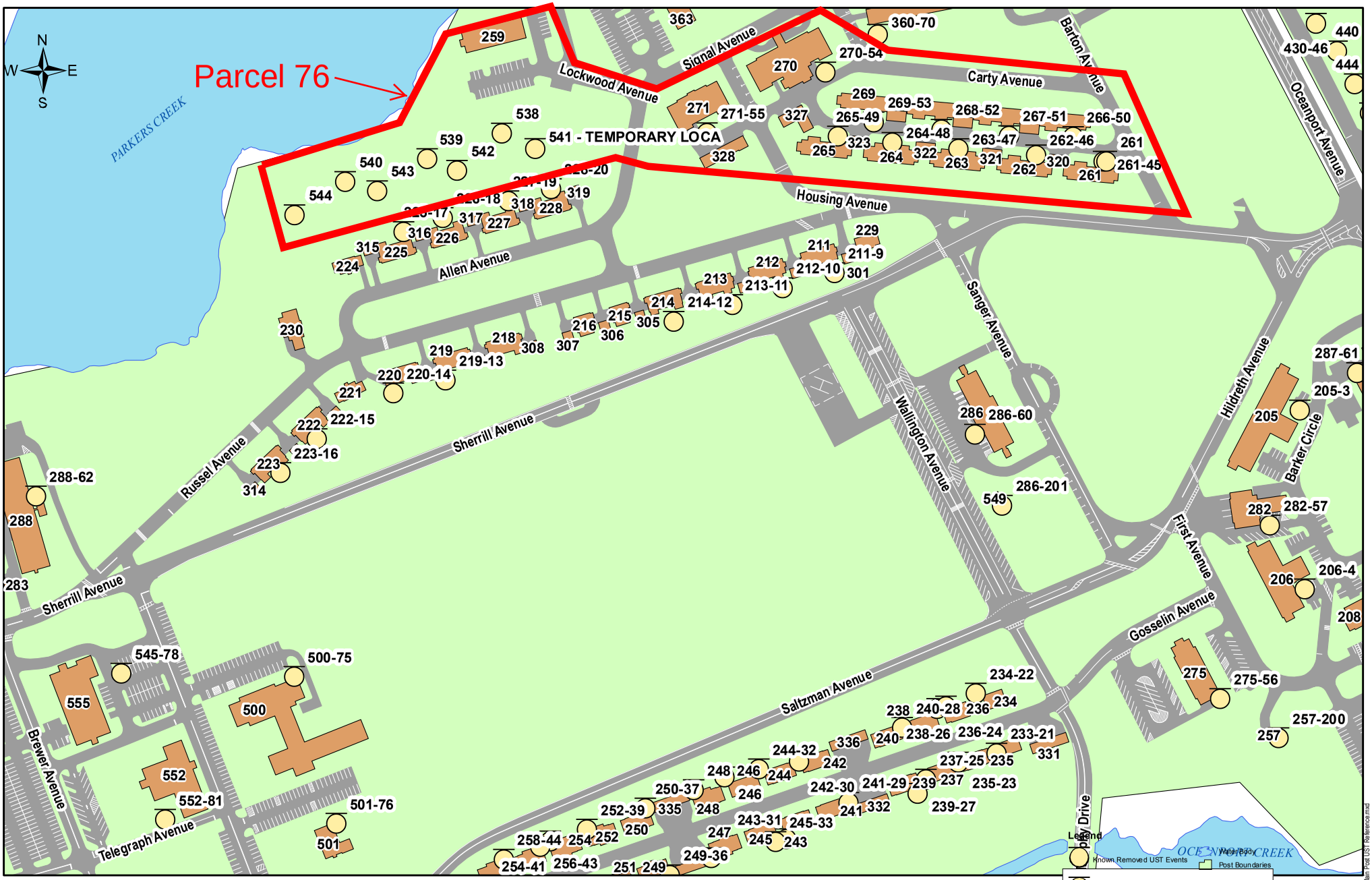
Wanda Green

Wanda Green
BRAC Environmental Coordinator

cc: Delight Balducci, HQDA ACSIM
Joseph Pearson, Calibre
James Moore, USACE
Cris Grill, Parsons

ATTACHMENT A

Site Figure for Parcel 76




# UST Removal Reference Map
# Grid C2; Main Post
# Fort Monmouth, New Jersey
# FOUO

0 150 300 600 Feet

**Map Created by:**
**Fort Monmouth Installation GIO, Environmental Division**
**Fort Monmouth, New Jersey**
**Date: August 10, 2011**
**All drawings must be field verified.**
**New Jersey State Plane Feet, NAD83**

August 10, 2011 H:\GIS\GIS Maps\CHUST Linked Pdf\Main Post UST Reference.mxd

ATTACHMENT B

Resubmission of *Unregulated Heating Oil Tank Remedial Investigation and Closure Report, Main Post – ECP Parcel 76 (200 Area)*

**U.S. Army Garrison**

Fort Monmouth, New Jersey

# Unregulated Heating Oil Tank Remedial Investigation and Closure Report

## *Main Post – ECP Parcel 76*
## *(200 Area)*
## *NJDEP Release #'s:*

09-11-04-1553-32/10- 04-28-1333-57/10-04-13-1710-23/09-11-19-1710-57/10-01-06-1342-44

**NJDEP UST Registration No. 538 - 543**

**June 2011**

# UNREGULATED HEATING OIL TANK CLOSURE AND REMEDIAL INVESTIGATION REPORT

**MAIN POST – ECP PARCEL 76 (200 AREA)**
**NJDEP RELEASE #'S**
**09-11-04-1553-32/10- 04-28-1333-57/10-04-13-1710-23/09-11-19-1710-57/10-01-06-1342-44**

**June 2011**

**PREPARED FOR:**

**U.S. ARMY GARRISON, FORT MONMOUTH, NJ**
**DIRECTORATE OF PUBLIC WORKS**
**BUILDING 173**
**FORT MONMOUTH, NJ 07703**

**PREPARED BY:**

**TECOM-VINNELL SERVICES, INC.**
**P.O. BOX 60**
**FT. MONMOUTH, NJ 07703**

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## EXECUTIVE SUMMARY

During the initial site meeting for the re-evaluation geophysical survey data on August 15, 2008, the current Directorate of Public Works (DPW) director, Joseph Fallon, requested a more in-depth geophysical scan by Enviroscan of the Environmental Condition of Property (ECP) Parcel 76 Area to confirm that only seven unregulated heat oil tanks (UHOTs) are present, out of a possible eight noted in client-supplied historic documents. The geophysical data previously collected by Enviroscan was reprocessed through a new software package, Oasis Montaj© by Geosoft, Inc., in October of 2008. This software package has different processing and contouring routines than those used in the past (Excel by Microsoft Corp. and Surfer by Golden Software, Inc.). The newly processed and contoured data were then reexamined for EM anomalies exhibiting characteristics of a UST that may not have been previously delineated.

The re-evaluation of the ECP Parcel 76 Area (200 - Area) was completed by examining the location of the previously identified USTs and determining from historic aerial photos and documents where the eighth UST, if present, was most likely to be located. Enviroscan then mobilized a Geonics EM- 61 MK2 metal detector to collect background data, including areas known to contain targets previously labeled "Possible USTs" (see 060706 report), and to scan the area most likely to contain the undelineated UST. Please note that the old "Possible UST" label has been modified for this report and equates to "Suspected UST".

The areas where the UHOTs were marked out based up the data from the geophysical report. In the 200 – Area (ECP Parcel 76), eight potential anomalies were identified. The suspected UHOT locations were gridded and flagged out; based upon the GPS locations test trenches were excavated. The UHOTs were found between three and five feet below ground surface, with the typical depth of the excavation to approximately nine feet.

UHOTs 538, 541, 542, 540, 544, 543, and 539 were removed in accordance with established protocol, if any discharges were noted, it was reported to the US Army and in turn they were called into NJDEP, at the tank removal locations; in all cases post excavation samples were collected. If releases were noted they were collected after the removal of visibly petroleum impacted soils.

UHOTs 540 and 544 were removed without any observed releases or discharges. A test trench was excavated at 537 in an attempt to locate a potential UHOT as indicated by the geophysical survey. No UHOT was found to be present at this location. Five of the seven UHOTs were found to be leaking into the surrounding soils.

Following receipt of all post-excavation soil sampling analytical results, each excavation was backfilled to grade with a combination of uncontaminated excavated soil, bank run clean sands, and crushed stone. The excavation site was then restored to its original condition with top soil and grass seed.

Groundwater was encountered in the excavations and upon completion of backfilling four monitoring wells were installed to ascertain any impact to groundwater as a result of the discharges from the UHOTs. Two consecutive rounds of groundwater samples were collected in a 30 day period to demonstrate on adverse impact of the groundwater in the vicinity of the leaking UHOTs.

Prior to the installation of the monitoring wells associated with the UHOT excavations, one upgradient and one downgradient well were installed. The initial round of groundwater sampling indicated that three VOCs were detected in the upgradient well (200MW01). Of the three compounds, one was in excess of GWQS. Bromodichloromethane was found to be in excess of the standard. This compound in excess of the GWQS is a trihalomethane. Trihalomethanes are associated with drinking water disinfection. The analytical results were provided to Ft. Monmouth Directorate of Public Works (DPW). An investigation of drinking water lines in proximity to the upgradient well found one of the drinking water supply lines to be leaking. The DPW ordered the line repaired and in subsequent lab analysis, the trihalomethanes were not-detected (ND) in the monitoring well.

Analytical data from the post excavation samples and groundwater samples demonstrated that there were no compounds in excess of the total organic compound values for soil or the groundwater quality standards.

# 1.0 Unregulated Heating Oil Tank Decommissioning Activities

## 1.1 Overview

On October 21, 2009, Fort Monmouth's Base Operations Contractor, TECOM-Vinnell Services (TVS), using the information developed in the Environmental Condition of Property (ECP) Phase II report (Parcel 76), began to investigate the area just to the north of the residential structures in the "200 Area" for the presence of potential unregulated heating oil tanks (UHOTs) as indicated by the geophysical survey conducted earlier by Enviroscan (The geophysical subcontractor responsible for the Geophysical findings in the EPC Phase II and its subsequent amendments). Due to the presence of multiple USTs/UHOTs in this general area of the Main Post, a regional groundwater investigation has been proposed by DPW to NJDEP. A Remedial Action Report for the 200/400/800 was developed and submitted to NJDEP in order to obtain a letter of no further action (NFA) for each of the parcels. NJDEP responded to the report and required both horizontal and vertical delineation of the groundwater in each of the individual parcels.

The areas where the potential UHOTs had been were marked out and based up the data from the geophysical report as series of test trenches were excavated in an attempt to locate the buried UHOTs. In the 200 - Area, eight (8) potential anomalies were identified by the geophysical survey performed by Enviroscan. The suspected UHOT locations were gridded out and based upon the GPS locations test trenches were excavated.

On, October 20, 2009, Tank - 544, a single wall steel UHOT was located and subsequently closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the U.S. Army Garrison, Fort Monmouth, New Jersey. The UHOTs were located in an open field to the north of the residential structures in the 200 Area.

UHOT 544 was a 1,000-gallon No. 2 heating oil tank. 544 was the first in the series of UHOTs to be found and subsequently removed in this area. The fill port, vent pipe and associated supply/return piping were not present in the excavation. No discharges or releases were noted with this UHOT. UHOT 540 was removed on October 22, 2009; no discharges or releases were noted with this UHOT. Of the seven UHOTs removed these two were the only ones without a corresponding release or discharge.

The site assessment was performed by TECOM-Vinnell Services (TVS) personnel in accordance with the New Jersey Department of Environmental Protection (NJDEP) *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. Soils surrounding the tanks were screened visually and with a calibrated hand held Mini-Rae® Photo-Ionization air monitoring instrument for evidence of contamination. Following removal, the UHOT was inspected for holes. If holes were noted in the UHOT then the remediation of potentially contaminated soils were observed surrounding the tank was performed.

All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP *Field Sampling Procedures Manual* (August 2005 edition- updated 15 February 2008). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation*, 7:26E-3.9 (December 17, 2007 and revisions dated June 2, 2008) which was the applicable regulation at the date of the closure.

UHOTs 544, 543, 542, 541, 540, 539 and 538 were removed in accordance with established protocol, discharges were noted at the following tank removal locations; when a release was observed a US Army employee was notified and subsequently a discharge was reported to NJDEP.

The following discharge numbers are associated with the following UHOTs:

- 544: No discharge/release observed
- 540: No discharge/release observed
- 543: 09-11-04-1553-32
- 542: 10- 04-28-1333-57
- 541: 10-04-13-1710-23
- 539: 09-11-19-1710-57
- 538: 10-01-06-1342-44
- 537: No UHOT found

Groundwater was encountered in the individual UHOT excavations and upon completion of backfilling of the excavations; four (4) monitoring wells were installed to ascertain any impact to groundwater as a result of the discharge from the UHOTs.

Following receipt of all post-excavation soil sampling Total Petroleum Hydrocarbon (TPH) results, the excavations were backfilled to grade with a combination of uncontaminated excavated soil, clean bank run sand, and crushed stone. The crushed stone was placed at depth below the water table; sand was placed on top of the stone and non-contaminated overburden was placed over the sand. The excavation sites were then restored to its original condition top soil and grass seed.

Based on the post-excavation soil sampling results, soils present are below the NJDEP health based criteria for total organic compounds and there are no detected semi-volatile organic compounds (SVOCs) that exceed the NJDEP Residential Direct Contact Soil Cleanup Standards.

Decommissioning activities for the UHOTs complied with all applicable federal, state, and local laws and ordinances in effect at the date of decommissioning. These laws included, but were not limited to: N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. The closure and subsurface evaluation of the UHOTs were conducted by a NJDEP licensed US ARMY employee.

This UHOT Closure and Remedial Investigation Report (RIR) has been prepared by TVS to assist the US Army Garrison DPW in complying with the NJDEP - Underground Storage Tanks (USTs) regulations. The applicable NJDEP regulations at the date of closure were the *Closure of Underground Storage Tank Systems* (N.J.A.C. 7:14B-9 et seq. December, 1987 and revisions dated April 20, 2003).

This report was prepared using information required by the Technical Requirements for Site Remediation (N.J.A.C. 7:26E) (Technical Requirements). Section 1 provides a summary of the UHOT decommissioning activities. Section 2 describes the site investigation activities. Conclusions and recommendations, including the results of the soil sampling investigation, are presented in Section 3 of this report.

## 1.2 SITE DESCRIPTION

The "200 - Area" (ECP Parcel 76) is located in the north-central portion of the Main Post area of Fort Monmouth. The UHOTs were located to the North of the residential structures along Allen Avenue. The area to the immediate north of the structures is an open field beyond which is Parkers Creek. The exact physical location of the buildings and excavations can be found in Figure 1. Due to the presence of an underground network of sanitary sewer and drinking water lines, extensive excavation and replacement of these utilities was required. The area where the UHOTs were excavated, once served as part of the Fort Monmouth housing stock, and as such is still tied into the underground utility network.

The UHOT removals were divided over time to allow for changes in TVS scheduling and to minimize the disruption of the residences during the holiday season. The first four UHOTs were removed prior to the end of the 2009 calendar year; the remaining three were removed in the winter and spring of 2010. The soil remediation was concluded in July 2010.

The fill ports and appurtenant piping were not encountered in the excavations during the tank removal phase. The piping was removed prior to the excavation of the tanks during the demolition of the previous structures. A site map is provided as Figure 2.

### 1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 200 Area. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

Fort Monmouth lies within the Outer Coastal Plain subprovince of the New Jersey section of the Atlantic Coastal Plain physiographic province, which generally consists of a seaward-dipping wedge of unconsolidated sediments including interbedded clay, silt, sand, and gravel.

To the northwest is the boundary between the Outer and Inner Coastal Plains, marked by a line of hills extending southwest, from the Atlantic Highlands overlooking Sandy Hook Bay, to a point southeast of Freehold, New Jersey, and then across the state to the Delaware Bay.

These formations of clay, silt, sand, and gravel formations were deposited on Precambrian and lower Paleozoic rocks and typically strike northeast-southwest, with a dip that ranges from 10 – 60 feet per mile. Coastal Plain sediments date from the Cretaceous through the Quaternary Periods and are predominantly derived from deltaic, shallow marine, and continental shelf environments.

The Fort is located within the outer fringe of the Atlantic Coastal Plain Physiographic Province, of New Jersey, approximately 20 miles south of Raritan Bay. This province is characterized by a wedge-shaped mass of unconsolidated to semi-consolidated marine, marginal marine and non-marine deposits of clay, silt, sand, and gravel. These sediments range in age from Cretaceous to Holocene and lie unconformably on pre-Cretaceous bedrock consisting of metamorphic schists and gneiss, with local occurrences of basalts, sandstone, and shale (Zapecza, 1984). These sediments trend northeast-southwest and dip southeast toward the Atlantic Ocean. These sediments thicken southeastward from the Piedmont-Coastal Plain Province boundary to approximately 4,500 feet near Atlantic City, New Jersey. During the Cretaceous and Tertiary time period, sediments were deposited alternately in flood plains and in marine environments during sea transgression and sea regression periods. The formations record several major transgressive/regressive cycles and contain units that are generally thicker to the southeast and reflect a deeper water environment.

Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (e.g., Englishtown and Kirkwood Formations, and the Cohansey Sand) while the transgressive deposits act as confining units (e.g., the Merchantville, Marshalltown, and Navesink Formations).

Regressive upward coarsening deposits, such as Englishtown and Kirkwood Formations and the Cohansey Sand are usually aquifers, while transgressive deposits, such as the Merchantville, Marshalltown, and Navesink Formations, act as confining units. The thicknesses of these units vary greatly, ranging from several feet to several hundred feet, and thicken to the southeast.

The eastern half of the Main Post is underlain by the Red Bank Formation, ranging in thickness from 20-30 feet, while the western half is underlain by the Homerstown Formation, ranging in thickness from 20-30 feet. Sand and gravel deposited in recent geologic times lie above these formations. Interbedded sequences of clay serve as semi-confining units for groundwater. The mineralogy ranges from quartz to glauconite.

Udorthents-Urban land is the primary classification of soils on Fort Monmouth, which have been modified by excavating or filling. Soils at the Main Post include Freehold sandy loam, Downer sandy loam, and Kresson loam. Freehold and Downer are somewhat well drained, while Kresson is a poorly drained soil. The Charles Wood Area has sandy loams of the Freehold, Shrewsbury, and Holmdel types. Shrewsbury is a hydric soil; Kresson and Holmdel are hydric due to inclusions of Shrewsbury. Downer is not generally hydric, but can be.

Local Geology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region and is underlain by underformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with generally low dissolved solids and high iron concentrations. In areas underlain by glauconitic sediments, the water chemistry is dominated by calcium, magnesium, and iron (*e.g.* Red Bank and Tinton sands). The sediments in the vicinity of Fort Monmouth were deposited in fluvial-deltaic to nearshore environments. The water table is generally shallow (ranging in depth from 3 – 12'bgs.) and in certain areas fluctuates with the tidal action in Parkers and Oceanport creeks at the Main Post. Significant tidal influence is observed in monitoring wells within 25 feet of the mean high tide mark.

Based on the regional geologic map (Jablonski, 1968), the Cretaceous age Red Bank and Tinton Sands outcrop at the Main Post area. The Red Bank sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank sand is a yellowish-gray to reddish brown clayey, medium - to coarse-grained sand that contains abundant rock fragments, minor mica and glauconite. The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

The Tinton sand conformably overlies the Red Bank Sand and ranges from a clayey medium to very coarse-grained feldspathic quartz and glauconite sand to a glauconitic coarse sand. The color varies from dark yellowish orange or light brown to moderate brown and from light olive to grayish olive. Glauconite may constitute 60 to 80 percent of the sand fraction in the upper part of the unit (Minard, 1969). The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Minard).

Hydrogeology

The water table aquifer in the Main Post area is identified as part of the "composite confining units", or minor aquifers. The minor aquifers include the Navesink formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and the basal clay of the Kirkwood Formation.

The Hornerstown Formation acts as an upper boundary of the Red Bank aquifer, but it might yield enough water within its outcrop to supply individual household needs. The Red Bank outcrops along the northern edges of the Installation, and contains two members, an upper sand member and a lower clayey sand member. The upper sand member functions as the aquifer and is probably present on some of the surface of the Main Post. The Hornerstown and Red Bank formations overlay the larger Wenonah-Mount Laurel aquifer.

The 200 - Area and the locations of the tank excavations are approximately 150 feet south of Parkers Creek. Based on the topography and the groundwater flow model, groundwater has been shown to flow towards Parkers Creek

## 1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas which posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionization detector: Thermo Instruments Organic Vapor Monitor (OVM) – Model #580-B The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.

All work areas were properly vented to insure that there were no contaminants present in the breathing zone above applicable permissible exposure limits (PEL's). Due to the proximity of occupied residential structures to the excavations, TVS agreed to have only two excavations open at one time and that each would be fenced off using chain link fence. The extensive soil remediation was performed in multiple phases to minimize the impact to the surrounding residences.

## 1.4 REMOVAL OF UNREGULATED HEATING OIL TANK

### 1.4.1 General Procedures

- All underground utilities were marked out by the respective trade shops or utility contractor prior to excavation activities. Due to the extensive network of underground utilities present in the area of the excavations, the sewer and water supplies needed to be diverted and rerouted.

- All activities were carried out with high regard to safety and health and safeguarding of the environment.

- All excavated soils were visually examined and screened with an OVM for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities. These soils were removed to the Fort Monmouth ID – 27 soil pile upon excavation.

- An NJDEP certified Subsurface Evaluator was present during all closure and remediation activities.

### 1.4.2 Unregulated Heating Oil Tank Excavation

During decommissioning activities, surficial soil was carefully removed to expose the UHOTs. The tanks were emptied of all liquids prior to removal from the ground. Approximately 4,300 gallons of liquid was pumped out of the UHOTs by Lorco Petroleum Services, Inc. of Elizabeth, New Jersey into a tank truck and transported to their NJDEP-approved petroleum recycling and disposal facility.

After the UHOTs were removed from the excavations, they were staged on an impervious surface, labeled and examined for holes. Holes in the tank were observed during the inspection by the Subsurface Evaluator. Soils surrounding the UHOTs were screened both visually and with an OVM for evidence of petroleum contamination. Where soil staining and an odor of petroleum hydrocarbons were observed; it was determined that remedial soil excavation would be conducted prior to post excavation sampling.

## 1.5 UNREGULATED HEATING OIL TANK DECOMMISSIONING AND DISPOSAL

Subsequent to disposal, the UHOTs were purged with air to remove vapors prior to cutting. A 4-foot by 3-foot access hole was made in each UHOT using a pneumatic ripper gun with a non-sparking bit. The USTs were cleaned first with rubber squeegees and then with adsorbent material broomed on the sidewalls and bottom.
The adsorbent material was then drummed and subsequently placed into Ft. Monmouth's 'Oil Spill Debris' roll-off container for proper disposal. The atmosphere in and around the tank was monitored using an OVM and an Oxygen/Lower Explosive Level (LEL) meter to ensure safe working conditions during cutting and cleaning activities.

The tanks were then transported by TVS to Red Bank Recycling, Auto Wreckers, Red Bank, NJ for disposal in compliance with all applicable regulations and laws. Refer to Appendix C for UHOT disposal certificate.

Any liquid content of the individual UHOTs discovered was pumped out and transported to the LORCO Petroleum Services facility in Elizabeth, NJ. Copies of the bills of lading can be found in Appendix B of this document.

The Subsurface Evaluator labeled the UHOT with the following information:

- Site of origin
- NJDEP UST Facility ID number
- Date of removal
- Size of tank
- Previous contents of tank

## 1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVM air monitoring and visual observations, approximately 608 cubic yards of potentially petroleum contaminated soil was excavated from the area surrounding the leaking UHOTs. All soils were loaded into a dump truck and transported to the Main Post ID 27 Soil Staging Area (located behind Bldg.166).

The soil was stockpiled on an impervious concrete pad and covered with heavy duty reinforced polyethylene tarps, prior to recycling at Pure Soil of Jackson, New Jersey. Overburden soils and non-impacted materials were segregated and used as fill materials. Clean bank run sands were also used as fill material when additional soils were required at each of the individual UHOT excavations.

## 2.0 REMEDIAL INVESTIGATION ACTIVITIES

### 2.1 OVERVIEW

The Remedial Investigation was managed by U.S. Army Directorate of Public Works (DPW) personnel. All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory (FTMEL), a NJDEP-certified testing laboratory. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (2005).
Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation, 7:26E-3.9* (December 17, 2007 and revision dated June 2, 2008) which was the applicable regulation at the date of the closure. All records of the Remedial Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Remedial Investigation Activities.

- Ft. Monmouth Directorate of Public Works-Environmental Branch
  Contact Person: Joseph Fallon
  Phone Number: (732) 532-6223

- Subsurface Evaluator, Tank Closure: Frank Accorsi/Robert Youhas
  Employer: TECOM-Vinnell Services, Inc. (TVS)
  Phone Number: (732) 532-5241/ (732) 532-6037
  NJDEP License No.: 0010042/ 265843
  (TVS) NJDEP License No.: US252302

- Analytical Laboratory: Fort Monmouth Environmental Testing Laboratory (FTETL)
  Contact Person: Dean Tardiff
  Phone Number: (732) 532-4359
  NJDEP Laboratory Certification No.: 13461

- Hazardous Waste Hauler: Lorco Petroleum Services, Inc., Elizabeth, NJ
  Contact Person: Dan MacKay
  Phone Number: (908) 820-8800
  Manifest No.: NHZ-33887/33888
  US EPA ID No.: NJR000023036

## 2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP certified Subsurface Evaluator using an OVM and visual observations to identify potentially contaminated material. Soils were removed from the excavation surrounding the individual UHOTs until no visual or olfactory evidence of contamination remained.

## 2.3 SOIL SAMPLING

The post-excavation soil sample results were compared to the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants (December 17, 2007 and revisions dated June 2, 2008). Each excavation was over-excavated to ensure Total Petroleum Hydrocarbon (TPH) concentrations remaining would be below the 1,000 mg/kg contingency analytical threshold.

If the initial sample was in excess of the NJDEP soil clean up criteria; additional soils were removed until both visual and olfactory evidence was minimalized. The OVM or an equivalent air monitoring instrument was used to confirm that a sufficient volume of soils had been removed. All samples with analytical results in excess of 1,000 mg/kg were re-excavated to levels less than the contingency analytical threshold of 1,000 mg/kg. A summary of the analytical results and comparison to the NJDEP soil cleanup standards are provided on Table 1 and Table 2. The soil analytical data packages, including associated quality control data, are provided in Appendix E.

## 2.4 GROUNDWATER SAMPLING

One upgradient and one downgradient monitoring were installed prior to the monitoring wells associated with the UHOT excavations. Four monitoring wells were installed in conjunction with the UHOT removals to confirm groundwater quality. In accordance with Table 2.1 of TRSR, the monitoring wells were sampled for volatile organic compounds plus 15 tentatively identified compounds (VOC+15), base/neutral extractable compounds plus 15 tentatively identified compounds (B/N+15). The results of the last sampling events can be found on Table 3 and 4. The groundwater analytical packages including associated quality control data are provided in Appendix E. See Figure 3 for the locations of the monitoring wells.

# 3.0 CONCLUSIONS AND RECOMMENDATIONS

## 3.1 SOIL SAMPLING RESULTS

Post excavation samples were collected from the individual UIHOT excavations (538 through 545) to evaluate soil conditions following removal of the UHOTs. All samples were analyzed for TPH. The post-remediation soil sample results were compared to the NJDEP health based criterion of 5,100 mg/kg for total organic contaminants (December 17, 2007 and revisions dated June 2, 2008).

A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix D.

Although, a significant number (five of the seven removed) of UHOTs were observed with holes and had corresponding discharges, the effect remained localized and one excavation did not impact any of the other excavations. The tight glauconitic soils with little horizontal and vertical migration retained contaminants close to their source.

## 3.2 GROUNDWATER SAMPLING RESUTLS

The initial sampling round of upgradient and downgradient wells was collected prior to the UHOT remediation. These wells were installed to provide an overview of the general groundwater quality in the region of the UHOT excavations. There were three Volatile Organic Compounds (VOCs) analytical anomalies of which only one was in excess of groundwater quality standards were observed in the upgradient monitoring well. The three anomalies were trihalomethane compounds. These trihalomethanes are typically associated with potable water disinfection. The information was passed along to the Fort Monmouth Directorate of Public Works (DPW) and upon their investigation a leak in a potable water line in close proximity to the upgradient well was discovered. The repair to leak in the potable water line was completed; subsequent analytical results have shown these compounds to be Non-Detect. The analytical report and NJDEP's response to the findings can be found in Appendix E of this document.

Two rounds of groundwater samples were collected from the four (4) monitoring wells installed at Parcel 76 to the north of the buildings in the 200 Area. The monitoring wells were installed in the excavations of the leaking UHOTs.

The well locations provide coverage to demonstrate whether product released from the discovered leaking UHOTs had migrated and/or negatively impacted the surrounding groundwater. The results of the sampling events can be found on Table 4.

The groundwater analytical packages including associated quality control data is provided in Appendix E. The monitoring wells are also used as part of the base-wide groundwater model.

## 3.3 CONCLUSIONS AND RECOMMENDATIONS

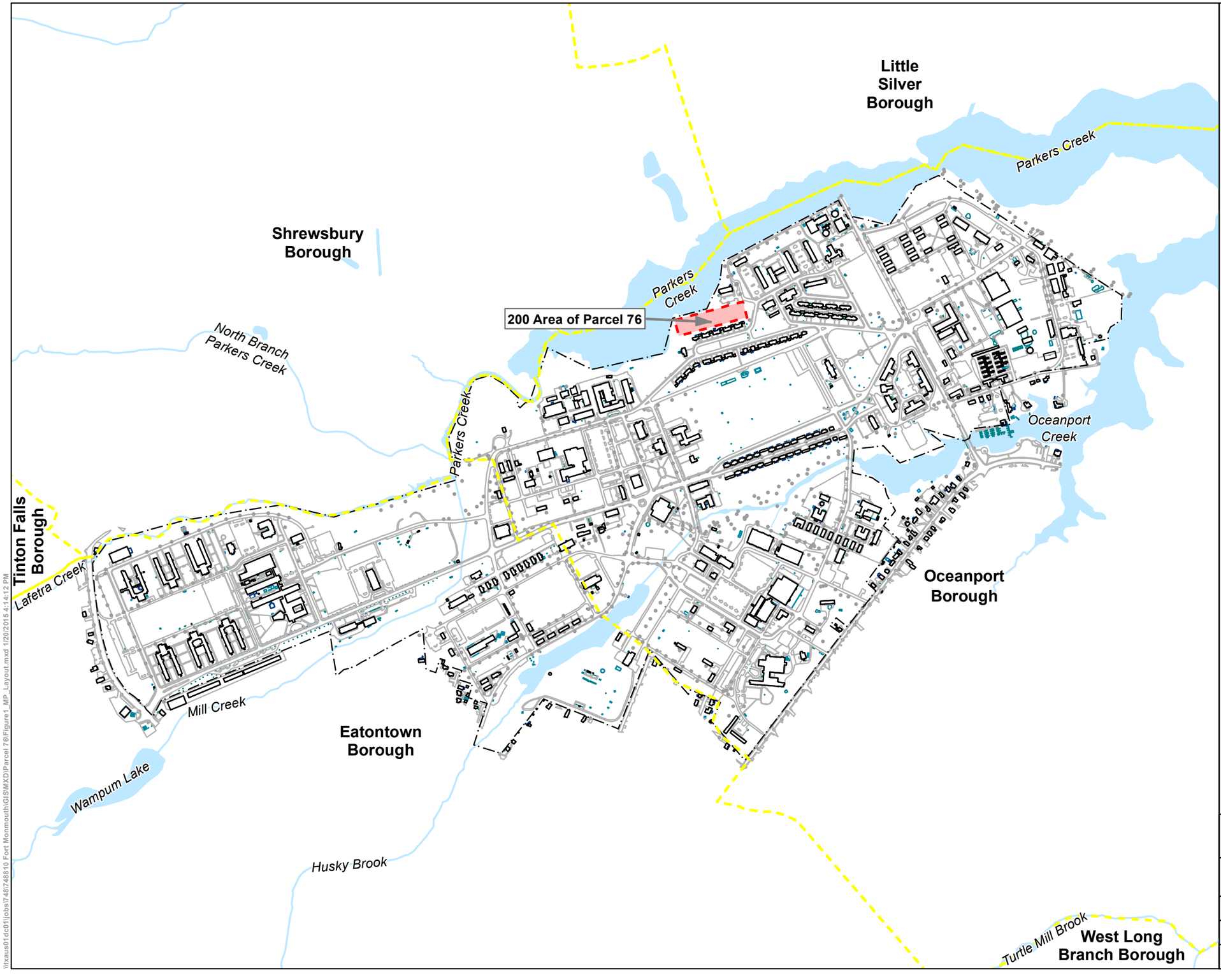
The analytical results for all of post-remediation soil samples collected from the closure excavation at UHOTs No. 538 through 545 were below the NJDEP soil cleanup standards for total organic contaminants and semi-volatile organic compounds. As part of Fort Monmouth's petroleum soil remediation program; impacted soils are to be excavated to below 1,000 mg/kg TPH.

This ensures that the contingency analysis is not performed and thusly eliminates any potential of chasing one of the fuel oil base/neutral surrogate compounds, reducing the volume soils excavated and cost of UHOT removals. No post remedial samples collected from the individual UHOT removals were in excess of the threshold value of 1,000 mg/kg necessary for contingency base/neutral analysis.

The two rounds of groundwater collected from the four monitoring wells installed in conjunction with the UHOT removals indicated that all parameters are below NJDEP Groundwater Quality Standards (GWQS) or not detected.

No Further Action is proposed in regard to the closure and remedial investigation of UHOT No.538 - 545 at ECP Parcel 76 (200 - Area).

# FIGURES




**Legend**

- 200 Area of Parcel 76 Boundary
- Surface Water Feature
- Municipal Boundary
- Installation Boundary

N

1 inch = 1,000 feet

0 500 1,000 1,500 2,000 Feet

Source: FTMM Supplied CAD, 2013; ESRI Data and Maps, 2011; USGS NHD, 2012.

| | |
|---|---|
| **PARSONS**<br>401 Diamond Drive NW,<br>Huntsville AL | **Fort Monmouth**<br>**New Jersey** |

**200 Area of Parcel 76 Location**

| | |
|---|---|
| CREATED BY: TS | REVIEWED BY: KF |
| DATE: January 2015 | FIGURE NUMBER: Figure 1 |
| PROJECT NUMBER: 748810.01000 | FILE: Figure1_MP_Layout.mxd |

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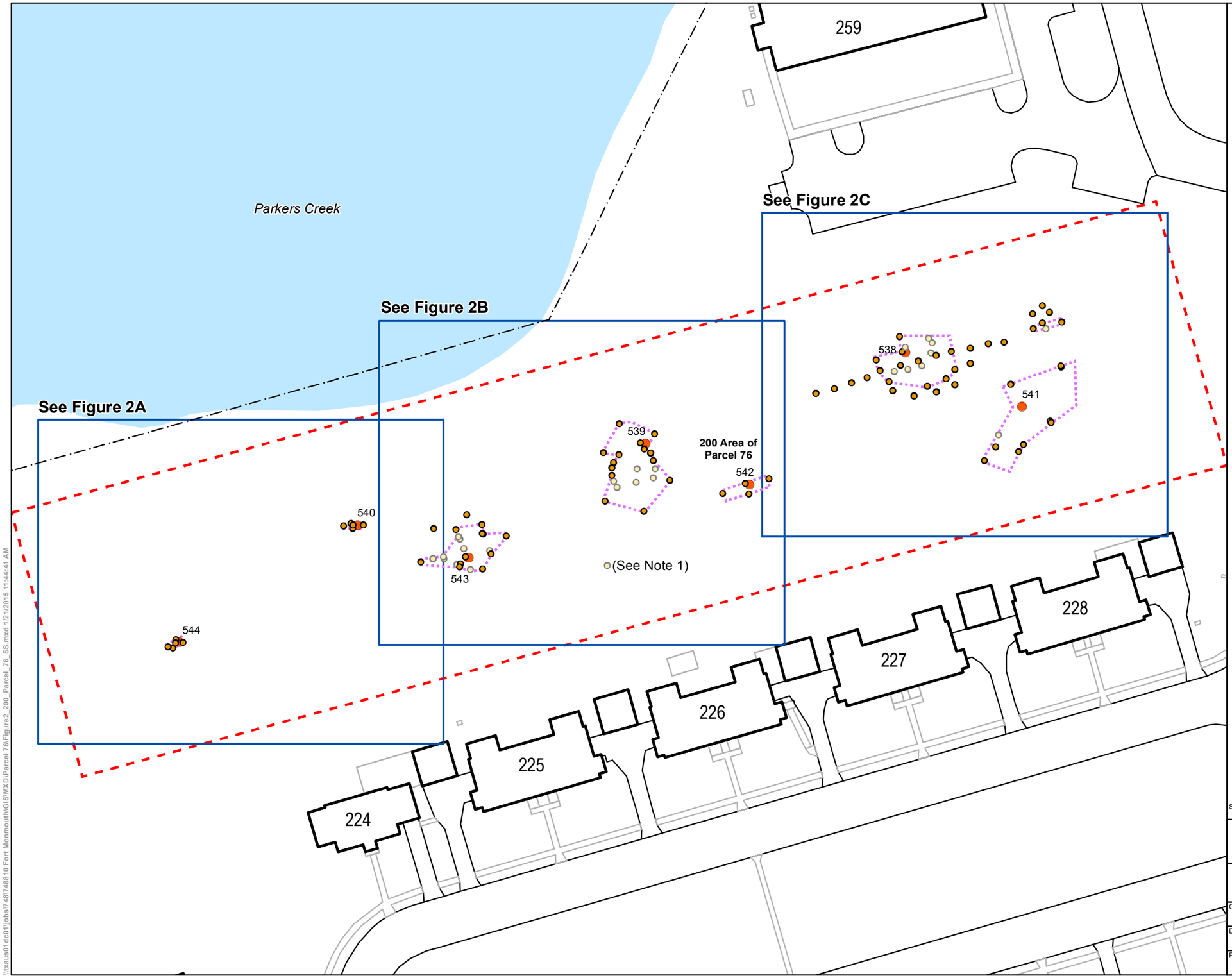


**Legend**

- Soil Sample (Removed)
- Soil Sample (Remaining in place)
- Known Removed UST associated with Parcel 76
- Approximate Limit of Excavation
- 200 Area of Parcel 76 Boundary
- Installation Boundary

Note 1: Location error is suspected due to displacement from tank excavation.

N

1 inch = 60 feet

0 60 120 Feet

Source: FTMM Supplied CAD, 2013.

| | |
|---|---|
| **PARSONS**<br>401 Diamond Drive NW,<br>Huntsville AL | **Fort Monmouth**<br>**New Jersey** |
| **200 Area of Parcel 76**<br>**Soil Sample Locations** | |
| CREATED BY: **TS** | REVIEWED BY: **KF** |
| DATE: **January 2015** | FIGURE NUMBER: **Figure 2** |
| PROJECT NUMBER: **748810.01000** | FILE: **Figure2_200_Parcel_76_SS.mxd** |

\\txaus01dc01\jobs\748\748810 Fort Monmouth\GIS\MXD\Parcel 76\Figure2_200_Parcel_76_SS.mxd 1/21/2015 11:44:41 AM

Parkers Creek

540 A-NRTH WALL
(6.0-6.5)
ND

540 E-BOTTOM
(6.5-7.0)
ND

540 D-WEST WALL
(6.0-6.5)
ND

540

540 C-EAST WALL
(6.0-6.5)
ND

540 B-SOUTH WALL
(6.0-6.5)
ND

543 Sewer Line Trench B
(7-7.5)
215

543 West Wall A
(7-7.5)
ND

543 West Wall A
(9-9.5)
1281

543 West Wall B
(9-9.5)
ND

543 West Wall
(7-7.5)
9835

**200 Area of Parcel 76**

544 76-3A-NRTH WALL
(5.5-6.0)
ND

544 76-3E-BOTTOM
(6.0-6.5)
ND

544

544 76-3C-EAST WALL
(5.5-6.0)
ND

544 76-3D-WEST WALL
(5.5-6.0)
ND

544 76-3B-SOUTH WALL
(5.5-6.0)
ND

## Legend

- Soil Sample (Removed)
- Soil Sample (Remains in place)
- Exceeds NJDEP soil cleanup standard of 5,100 mg/kg
- Known Removed UST associated with Parcel 76
- Approximate Limit of Excavation
- 200 Area of Parcel 76 Boundary
- Installation Boundary

### Sample Posting Definition

544 76-3A-NORTH WALL — Tank No. and Sample ID
(5.5-6.0) — Sample depth (feet below ground surface)
ND — Soil TPH results in mg/kg (ND = not detected)

N

1 inch = 20 feet

0 20 40 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS
401 Diamond Drive NW,
Huntsville AL

**Fort Monmouth
New Jersey**

**200 Area of Parcel 76
Soil Sample Locations**

| | |
|---|---|
| CREATED BY: TS | REVIEWED BY: KF |
| DATE: February 2015 | FIGURE NUMBER: Figure 2A |
| PROJECT NUMBER: 748810.01000 | FILE: Figure2A_200_Parcel_76_SS.mxd |

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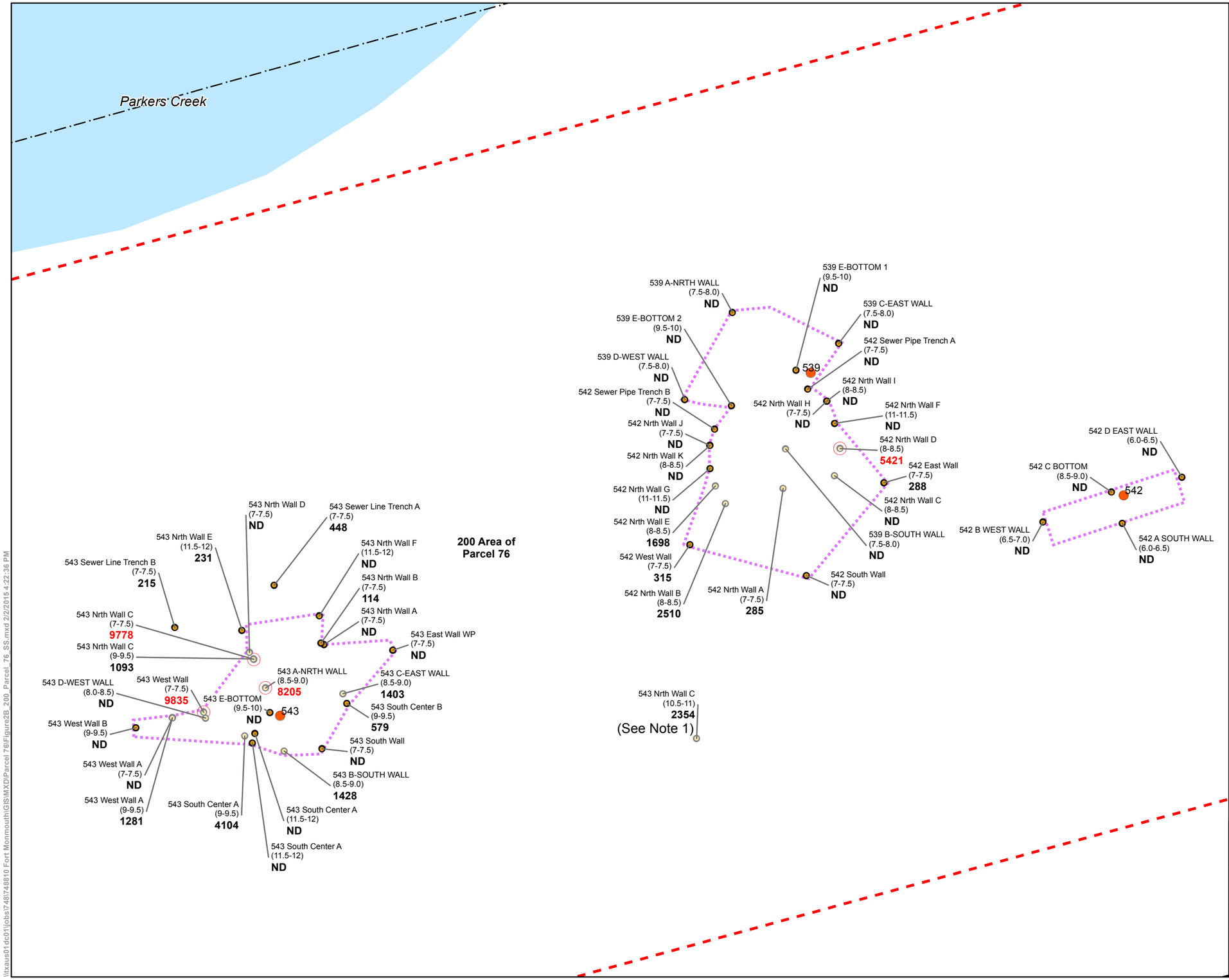


**Legend**

- Soil Sample (Removed)
- Soil Sample (Remains in place)
- Exceeds NJDEP soil cleanup standard of 5,100 mg/kg
- Known Removed UST associated with Parcel 76
- Approximate Limit of Excavation
- 200 Area of Parcel 76 Boundary
- Installation Boundary

**Sample Posting Definition**

544 76-3A-NORTH WALL — Tank No. and Sample ID
(5.5-6.0) — Sample depth (feet below ground surface)
ND — Soil TPH results in mg/kg (ND = not detected)

Note 1: Location error is suspected due to displacement from tank excavation.

N

1 inch = 20 feet

0 20 40 Feet

Source: FTMM Supplied CAD, 2013.

**PARSONS**
401 Diamond Drive NW,
Huntsville AL

**Fort Monmouth**
**New Jersey**

**200 Area of Parcel 76**
**Soil Sample Locations**

| | |
|---|---|
| CREATED BY: TS | REVIEWED BY: KF |
| DATE: February 2015 | FIGURE NUMBER: Figure 2B |
| PROJECT NUMBER: 748810.01000 | FILE: Figure2B_200_Parcel_76_SS.mxd |

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538 B NRTH WALL (7.0-7.5) ND
538 Nrth West Wall (4-4.5) ND
538 E EAST WALL PIPE NRTH (6.0-6.5) 2900
538 C EAST WALL (6.0-6.5) 2533
538 A BOTTOM (7.5-8.0) ND
538 F EAST WALL PIPE SOUTH (6.0-6.5) 4117
538 H SOUTH WALL PIPE MIDDLE (6.0-6.5) 16550
538 I SOUTH WALL PIPE WEST (6.0-6.5) 3359
SPT-1 (7-7.5) 241
538
SPT-7 (7-7.5) ND
SPT-8 (7-7.5) ND
SPT-9 (7-7.5) ND
SPT-10 (7-7.5) ND
SPT-11 (7-7.5) ND
SPT-12 (7-7.5) ND
538 D WEST WALL (6.0-6.5) 625
538 SB-1 (4-4.5) 449
538 SB-1 (7-7.5) ND
SPT-2 (7-7.5) ND
SPT-3 (7-7.5) ND
SPT-4 (7-7.5) ND
SPT-5 (7-7.5) ND
SPT-6 (7-7.5) ND
538 South Wall W (7-7.5) ND
538 East Wall SS (4-4.5) 3116
538 West Wall SS (4-4.5) ND
538 SB-2 (4-4.5) 2067
538 SB-2 (7-7.5) ND
538 SB-5 (4-4.5) 128
538 SB-5 (7-7.5) ND
538 SB-4 (4-4.5) ND
538 SB-4 (7-7.5) ND
538 SB-3 (4-4.5) 679
538 SB-3 (7-7.5) ND
538 South Wall E (7-7.5) 273
538 G SOUTH WALL PIPE EAST (6.0-6.5) 6593
542 D EAST WALL (6.0-6.5) ND

541 Nrth SPT-NW (7-7.5) ND
541 Nrth SPT-WW (7-7.5) 311
541 Nrth SPT-EW (7-7.5) ND
541 SewerTrench B (9-9.5) 163
541 SewerTrench C (7-7.5) ND
541 SewerTrench A (7-7.5) ND
541 SewerTrench B (7-7.5) 2314
541 Nrth Wall C (7-7.5) 337
541 Nrth Wall D (7-7.5) 288
541 Nrth Wall A (7-7.5) ND
541 Nrth Wall B (7-7.5) 462
200 Area of Parcel 76
541
541 SOUTH WALL (7.5-8) 290
541 East Center (11.5-12) ND
541 PE3 (6.5) 2189
541 PE2 (11) ND
541 PE1 (9) ND
541 PE5 (6.5) ND
541 PE4 (7.5) ND

**Legend**

- Soil Sample (Removed)
- Soil Sample (Remains in place)
- Exceeds NJDEP soil cleanup standard of 5,100 mg/kg
- Known Removed UST associated with Parcel 76
- Approximate Limit of Excavation
- 200 Area of Parcel 76 Boundary
- Installation Boundary

**Sample Posting Definition**

544 76-3A-NORTH WALL — Tank No. and Sample ID
(5.5-6.0) — Sample depth (feet below ground surface)
ND — Soil TPH results in mg/kg (ND = not detected)

N

1 inch = 20 feet

0 20 40 Feet

Source: FTMM Supplied CAD, 2013.

PARSONS
401 Diamond Drive NW, Huntsville AL

Fort Monmouth New Jersey

**200 Area of Parcel 76 Soil Sample Locations**

| | |
|---|---|
| CREATED BY: TS | REVIEWED BY: KF |
| DATE: February 2015 | FIGURE NUMBER: Figure 2C |
| PROJECT NUMBER: 748810.01000 | FILE: Figure2C_200_Parcel_76_SS.mxd |

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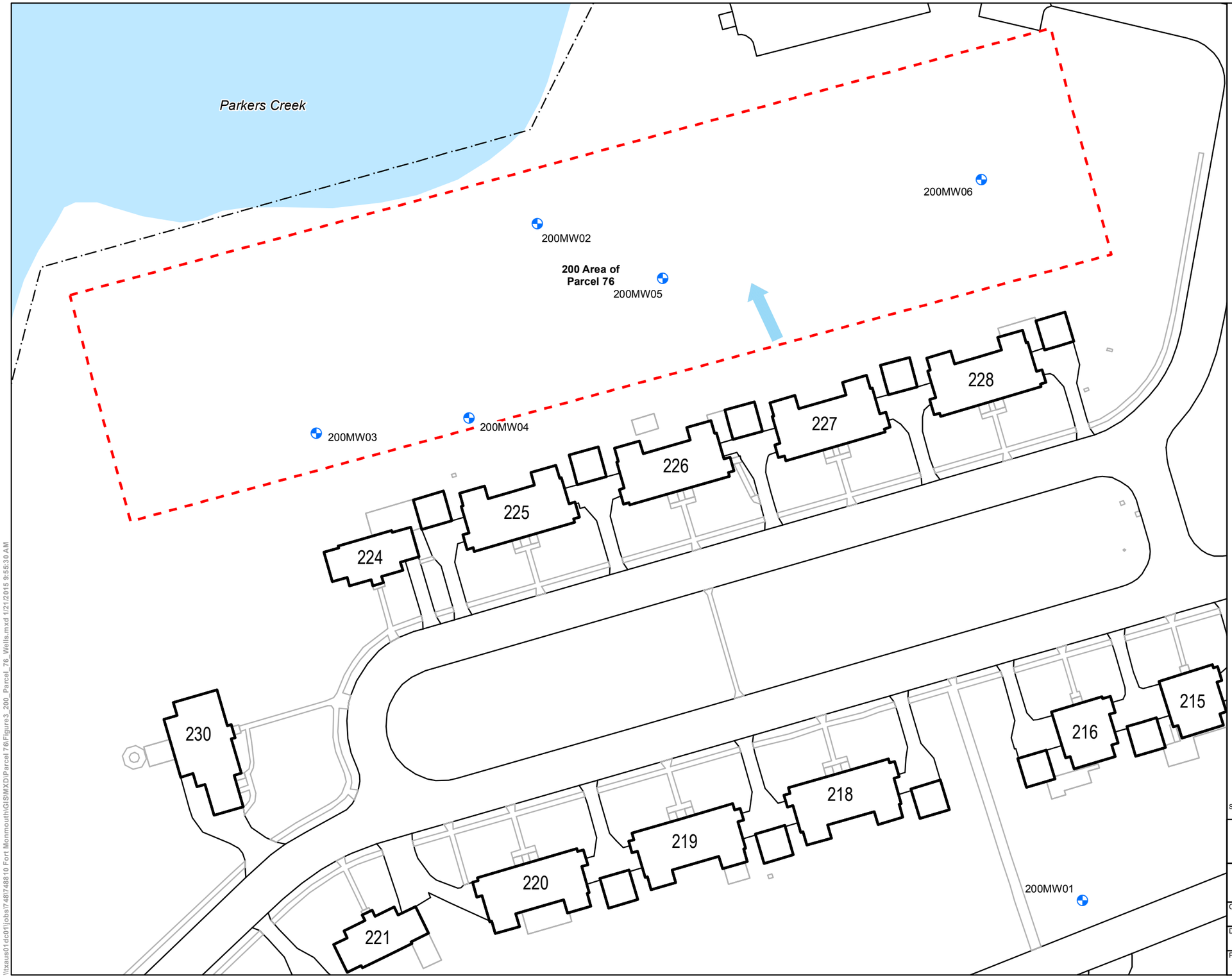


**Legend**

- Shallow Monitoring Well
- 200 Area of Parcel 76 Boundary
- Installation Boundary
- Generalized Groundwater Flow Direction

N

1 inch = 70 feet

0 70 140 Feet

Source: FTMM Supplied CAD, 2013.

| | |
|---|---|
| **PARSONS**<br>401 Diamond Drive NW,<br>Huntsville AL | **Fort Monmouth**<br>**New Jersey** |

**Layout of 200 Area of Parcel 76**

| | |
|---|---|
| CREATED BY: TS | REVIEWED BY: KF |
| DATE: January 2015 | FIGURE NUMBER: Figure 3 |
| PROJECT NUMBER: 748810.01000 | FILE: Figure3_200_Parcel_76_Wells.mxd |

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# TABLES

**TABLE 1**
**SUMMARY OF LABORATORY ANALYSIS**
**FT. MONMOUTH, 200 - AREA**
**October 2009 through July 2010**

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE DATE | SAMPLE MATRIX | ANALYTICAL PARAMETER | ANALYTICAL METHOD |
|---|---|---|---|---|---|
| 76-3-A, North Wall | 9042201 | 10/20/09 | Soil | TPH | OQA-QAM-25 |
| 76-3-B, South Wall | 9042202 | 10/20/09 | Soil | TPH | OQA-QAM-25 |
| 76-3-C, East Wall | 9042203 | 10/20/09 | Soil | TPH | OQA-QAM-25 |
| 76-3-D, West Wall | 9042204 | 10/20/09 | Soil | TPH | OQA-QAM-25 |
| 73-3-E, Bottom | 9042205 | 10/20/09 | Soil | TPH | OQA-QAM-25 |
| 540-A, North Wall | 9042501 | 10/22/09 | Soil | TPH | OQA-QAM-25 |
| 540-B, South Wall | 9042502 | 10/22/09 | Soil | TPH | OQA-QAM-25 |
| 540-C East Wall | 9042503 | 10/22/09 | Soil | TPH | OQA-QAM-25 |
| 540-D West Wall | 9042504 | 10/22/09 | Soil | TPH | OQA-QAM-25 |
| 540-E Bottom | 9042505 | 10/22/09 | Soil | TPH | OQA-QAM-25 |
| 543-A North Wall | 9044801 | 11/17/09 | Soil | TPH | OQA-QAM-25 |
| 543-B South Wall | 90444802 | 11/17/09 | Soil | TPH | OQA-QAM-25 |
| 543-C East Wall | 9044803 | 11/17/09 | Soil | TPH | OQA-QAM-25 |
| 543-D West Wall | 9044804 | 11/17/09 | Soil | TPH | OQA-QAM-25 |
| 543-E Bottom | 9044805 | 11/17/09 | Soil | TPH | OQA-QAM-25 |
| 539-A/Bottom | 9047101 | 12/4/09 | Soil | TPH | OQA-QAM-25 |
| 539-B/East Wall | 9047102 | 12/4/09 | Soil | TPH | OQA-QAM-25 |
| 539-C/South Wall | 9047103 | 12/4/09 | Soil | TPH | OQA-QAM-25 |
| 539-D/North Wall | 9047104 | 12/4/09 | Soil | TPH | OQA-QAM-25 |
| 539 E/West Wall | 9048201 | 12/15/09 | Soil | TPH | OQA-QAM-25 |
| 539-F/Bottom | 9048202 | 12/15/09 | Soil | TPH | OQA-QAM-25 |

ABBREVIATIONS: TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25

**TABLE 1**
**SUMMARY OF LABORATORY ANALYSIS**
**FT. MONMOUTH, 200 - AREA**
**October 2009 through July 2010**

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE DATE | SAMPLE MATRIX | ANALYTICAL PARAMETER | ANALYTICAL METHOD |
|---|---|---|---|---|---|
| 538-A/Bottom | 1000301 | 1/5/10 | Soil | TPH | OQA-QAM-25 |
| 538-B/North Wall | 1000302 | 1/5/10 | Soil | TPH | OQA-QAM-25 |
| 538-C/East Wall- | 1000303 | 1/5/10 | Soil | TPH | OQA-QAM-25 |
| 538-D/West Wall | 1000601 | 1/7/10 | Soil | TPH | OQA-QAM-25 |
| 538-E/East Wall | 1000602 | 1/7/10 | Soil | TPH | OQA-QAM-25 |
| 538-F/East Wall | 1000603 | 1/7/10 | Soil | TPH | OQA-QAM-25 |
| 538-G/South Wall | 1000604 | 1/7/10 | Soil | TPH | OQA-QAM-25 |
| 538-H/South Wall | 1000605 | 1/7/10 | Soil | TPH | OQA-QAM-25 |
| 548-I/South Wall | 1000606 | 1/7/10 | Soil | TPH | OQA-QAM-25 |
| 542-A/South Wall | 1016901 | 4/29/10 | Soil | TPH | OQA-QAM-25 |
| 542-B/West Wall | 1016902 | 4/29/10 | Soil | TPH | OQA-QAM-25 |
| 542-C/Bottom | 1016903 | 4/29/10 | Soil | TPH | OQA-QAM-25 |
| 542-D | 1016904 | 4/29/10 | Soil | TPH | OQA-QAM-25 |
| 541 – PE1 | 1017401 | 5/4/10 | Soil | TPH | OQA-QAM-25 |
| 541 – PE2 | 1017402 | 5/4/10 | Soil | TPH | OQA-QAM-25 |
| 541 – PE3 | 1017403 | 5/4/10 | Soil | TPH | OQA-QAM-25 |
| 541 – PE4 | 1017403 | 5/4/10 | Soil | TPH | OQA-QAM-25 |
| 541 – PE5 | 1017404 | 5/4/10 | Soil | TPH | OQA-QAM-25 |
| 541 East Center (11.5 – 12') | 1021401 | 5/25/10 | Soil | TPH | OQA-QAM-25 |
| 541/South Wall | 1022401 | 6/2/10 | Soil | TPH | OQA-QAM-25 |
| 543/East Wall WP | 1024103 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/North wall C | 1024104 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/north wall C | 1024105 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/North Wall D | 1024106 | 6/7/10 | Soil | TPH | OQA-QAM-25 |

ABBREVIATIONS: TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25

# TABLE 1
## SUMMARY OF LABORATORY ANALYSIS
## FT. MONMOUTH, 200 - AREA
## October 2009 through July 2010

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE DATE | SAMPLE MATRIX | ANALYTICAL PARAMETER | ANALYTICAL METHOD |
|---|---|---|---|---|---|
| 543/North Wall A | 1024101 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/North Wall B | 1024102 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/West Wall | 1024107 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/S. Line trench A | 1024108 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/South Wall | 1024109 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 543/S. Line Trench B | 1024110 | 6/7/10 | Soil | TPH | OQA-QAM-25 |
| 541/N. Wall A | 1024701 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 541/N. Wall B | 1024702 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 541/N. Wall C | 1024703 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 541/N. Wall D | 1024704 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall A | 1024705 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 542/E. Wall | 1024706 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 542/W. Wall | 1024707 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 542/S. Wall | 1024708 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall | 1024709 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall C | 1024710 | 6/8/10 | Soil | TPH | OQA-QAM-25 |
| 543/W. Wall A | 1025301 | 6/9/10 | Soil | TPH | OQA-QAM-25 |
| 543/W. Wall A | 1025302 | 6/9/10 | Soil | TPH | OQA-QAM-25 |
| 542/Sewer Pipe Trench A | 1025303 | 6/9/10 | Soil | TPH | OQA-QAM-25 |
| 542/Sewer Pipe Trench B | 1025304 | 6/9/10 | Soil | TPH | OQA-QAM-25 |
| 543/N. Wall C | 1025305 | 6/9/10 | Soil | TPH | OQA-QAM-25 |

ABBREVIATIONS: TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25

# TABLE 1
## SUMMARY OF LABORATORY ANALYSIS
## FT. MONMOUTH, 200 - AREA
## October 2009 through July 2010

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE DATE | SAMPLE MATRIX | ANALYTICAL PARAMETER | ANALYTICAL METHOD |
|---|---|---|---|---|---|
| 543 – S. Ctr. A | 1025801 | 6/10/10 | Soil | TPH | OQA-QAM-25 |
| 543 – S. Ctr. B | 1025802 | 6/10/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall D | 1026001 | 6/11/10 | Soil | TPH | OQA-QAM-25 |
| 542/ N. Wall E | 1026002 | 6/11/10 | Soil | TPH | OQA-QAM-25 |
| 538/W. Wall SS | 1026003 | 6/11/10 | Soil | TPH | OQA-QAM-25 |
| 538/NW Wall | 1026004 | 6/11/10 | Soil | TPH | OQA-QAM-25 |
| 538/East Wall SS | 1026005 | 6/11/10 | Soil | TPH | OQA-QAM-25 |
| 543/West Wall B | 1026303 | 6/14/10 | Soil | TPH | OQA-QAM-25 |
| 541/Sewer Trench A | 1026301 | 6/14/10 | Soil | TPH | OQA-QAM-25 |
| 541/Sewer Trench B | 1026302 | 6/14/10 | Soil | TPH | OQA-QAM-25 |
| 541/Sewer Trench C | 1026303 | 614//10 | Soil | TPH | OQA-QAM-25 |
| 543/N. Wall F | 1026702 | 6/16/10 | Soil | TPH | OQA-QAM-25 |
| 543/S. Center A | 1026703 | 6/16/10 | Soil | TPH | OQA-QAM-25 |
| 542/North wall F | 1027801 | 6/22/10 | Soil | TPH | OQA-QAM-25 |
| 542/North wall G | 1027802 | 6/22/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall H | 1028401 | 6/24/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall I | 1028403 | 6/24/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall J | 1028405 | 6/24/10 | Soil | TPH | OQA-QAM-25 |
| 542/N. Wall K | 1028406 | 6/24/10 | Soil | TPH | OQA-QAM-25 |
| 541/Sewer Trench B | 1028601 | 6/25/10 | Soil | TPH | OQA-QAM-25 |
| 541/N. SPT NW | 1028602 | 6/25/10 | Soil | TPH | OQA-QAM-25 |
| 541/N. SPT WW | 1028603 | 6/25/10 | Soil | TPH | OQA-QAM-25 |
| 541/N. SPT EW | 1028604 | 6/25/10 | Soil | TPH | OQA-QAM-25 |
| SPT -1 | 1029001 | 6/28/10 | Soil | TPH | OQA-QAM-25 |
| SPT-2 | 1029002 | 6/28/10 | Soil | TPH | OQA-QAM-25 |

ABBREVIATIONS: TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25

# TABLE 1
## SUMMARY OF LABORATORY ANALYSIS
## FT. MONMOUTH, 200 - AREA
## October 2009 through July 2010

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE DATE | SAMPLE MATRIX | ANALYTICAL PARAMETER | ANALYTICAL METHOD |
|---|---|---|---|---|---|
| 538/SB-1 | 1029201 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-1 | 1029202 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-2 | 1029203 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-2 | 1029204 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-3 | 1029205 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-3 | 1029206 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-4 | 1029207 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-4 | 1029208 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-5 | 1029209 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| 538/SB-5 | 1029210 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| SPT-3 | 1029211 | 6/29/10 | Soil | TPH | OQA-QAM-25 |
| SPT | 1029901 | 7/1/10 | Soil | TPH | OQA-QAM-25 |
| SPT-4 | 1029902 | 7/1/10 | Soil | TPH | OQA-QAM-25 |
| SPT-5 | 1029903 | 7/1/10 | Soil | TPH | OQA-QAM-25 |
| SPT-6 | 1029904 | 7/1/10 | Soil | TPH | OQA-QAM-25 |
| SPT-7 | 1030401 | 7/11/10 | Soil | TPH | OQA-QAM-25 |
| SPT-8 | 1030402 | 7/11/10 | Soil | TPH | OQA-QAM-25 |
| SPT-9 | 1030403 | 7/11/10 | Soil | TPH | OQA-QAM-25 |
| 538/S. Wall W | 1030404 | 7/11/110 | Soil | TPH | OQA-QAM-25 |
| 538/S. Wall E | 1031901 | 7/24/10 | Soil | TPH | OQA-QAM-25 |
| 538/E. Wall | 1031902 | 7/24/10 | Soil | TPH | OQA-QAM-25 |
| 538/E. Wall | 1031903 | 7/24/10 | Soil | TPH | OQA-QAM-25 |
| SPT-10 | 1031905 | 7/24/10 | Soil | TPH | OQA-QAM-25 |
| SPT-11 | 1031906 | 7/24/10 | Soil | TPH | OQA-QAM-25 |
| SPT-12 | 1031907 | 7/24/10 | Soil | TPH | OQA-QAM-25 |

ABBREVIATIONS: TPH = Total Petroleum Hydrocarbons, Method NJDEP OQA-QAM-25

**TABLE 2**
**SUMMARY OF LABORATORY ANALYTICAL RESULTS**
**FT. MONMOUTH, BUILDING 200 - AREA, October 2009 – May 2010**
**TOTAL PETROLEUM HYDROCARBONS (results in mg/kg)**

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE LOCATION | SAMPLE DEPTH (in feet) | MATRIX | TPH RESULTS |
|---|---|---|---|---|---|
| 76-3-A | 9042201 | North Wall | 5.5 – 6.0' | Soil | ND |
| 76-3-B | 9042202 | South Wall | 5.5 – 6.0' | Soil | ND |
| 76-3-C | 9042203 | East Wall | 5.5 – 6.0' | Soil | ND |
| 76-3-D | 90422204 | West Wall | 5.5 – 6.0' | Soil | ND |
| 76-3-E | 9042205 | Bottom | 6.0 – 6.5' | Soil | ND |
| 540-A | 9042501 | North Wall | 6.0 – 6.5' | Soil | ND |
| 540-B | 9042502 | South Wall | 6.0 – 6.5' | Soil | ND |
| 540-C | 9042503 | East Wall | 6.0 – 6.5' | Soil | ND |
| 540-D | 9048504 | West Wall | 6.0 – 6.5' | Soil | ND |
| 540-E | 9042505 | Bottom | 6.5 – 7.0' | Soil | ND |
| 539-A | 9047101 | Bottom | 9.0 – 9.5' | Soil | ND |
| 539-B | 9047102 | East Wall | 7.5 – 8.0' | Soil | ND |
| 539-C | 9047103 | South Wall | 7.5 – 8.0' | Soil | ND |
| 539-D | 9047104 | North Wall | 7.5 – 8.0' | Soil | ND |
| 539-E | 9048201 | West Wall | 7.5 – 8.0' | Soil | ND |
| 539 F | 9048202 | Bottom | 9.5 – 10.0' | Soil | ND |
| 543 A | 9044801 | North Wall | 8.5 – 9.0' | Soil | **8205.4** |
| 543 B | 9044802 | South Wall | 8.5 – 9.0' | Soil | 1428.6 |
| 543C | 9044803 | East Wall | 8.5 – 9.0' | Soil | 1403.11 |
| 543 D | 9044804 | West Wall | 8.0 – 8.5' | Soil | ND |
| 543 E | 9044805 | Bottom | 9.5 – 10' | Soil | ND |

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
Grey shading = soils in excess of NJDEP soil clean up standard

**TABLE 2**
**SUMMARY OF LABORATORY ANALYTICAL RESULTS**
**FT. MONMOUTH, BUILDING 200 - AREA, October 2009 – May 2010**
**TOTAL PETROLEUM HYDROCARBONS (results in mg/kg)**

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE LOCATION | SAMPLE DEPTH (in feet) | MATRIX | TPH RESULTS |
|---|---|---|---|---|---|
| 538-A | 1000301 | Bottom | 7.5 - 8.0' | Soil | ND |
| 538-B | 1000302 | North Wall | 7.0 – 7.5' | Soil | ND |
| 538-C | 1000303 | East wall | 6.0 – 6.5' | Soil | 2533.02 |
| 538-D | 1000601 | West Wall | 6.0 – 6.5' | Soil | 625.58 |
| 538-E | 1000602 | East Wall - Pipe North | 6.0 – 6.5' | Soil | 2900.36 |
| 538-F | 1000603 | East Wall – Pipe South | 6.0 – 6.5' | Soil | 4117.53 |
| 538-G | 1000604 | South Wall – Pipe East | 6.0 – 6.5' | Soil | **8786.85** |
| 538-H | 1000605 | South Wall – Pipe Middle | 6.0 – 6.5' | Soil | **16550.24** |
| 538-I | 1000606 | South Wall – Pipe West | 6.0 – 6.5' | Soil | 3359.32 |
| 542-A | 1016901 | South Wall | 6.0 – 6.5' | Soil | ND |
| 542-B | 1016902 | West Wall | 6.5 – 7.0' | Soil | ND |
| 542-C | 1016903 | Bottom | 8.5 – 9.0' | Soil | ND |
| 542-D | 1016904 | East Wall | 6.0 – 6.5' | Soil | ND |
| 541 – PE1 | 1017401 | Pipe Excavation sample | 9.0' | Soil | ND |
| 541 – PE2 | 1017402 | Pipe Excavation sample | 11.0' | Soil | ND |
| 541 – PE3 | 1017403 | Pipe Excavation sample | 6.5' | Soil | 2189 |
| 541 – PE4 | 1017404 | Pipe Excavation sample | 7.5' | Soil | ND |
| 541 – PE5 | 1017405 | Pipe Excavation sample | 6.5' | Soil | ND |
| 541 | 1021401 | East Center (11.5 -12') | 11.5 – 12' | Soil | ND |
| 542 | 1026001 | North Wall D | (8.0 – 8.5') | Soil | **5421.21** |
| 542 | 1026002 | North Wall E | (8.0 – 8.5') | Soil | 1698.45 |
| 538 | 1026003 | West wall SS | (4.0 – 4.5') | Soil | ND |
| 538 | 1026004 | Northwest Wall | (4.0 – 4.5') | Soil | ND |
| 538 | 1026005 | East Wall SS | (4.0 – 4.5') | Soil | 3116..05 |
| 543 | 1025801 | South Ctr. A | 9.0 – 9.5' | Soil | 41.4 |
| 543 | 1025802 | South Ctr. B | 9.0 – 9.5' | Soil | 579.46 |
| 541 | 1022401 | South Wall | 7.5 – 8.0' | Soil | 290.38 |
| 543 | 1024101 | North Wall A | 7.0 – 7.5' | Soil | ND |
| 543 | 1024102 | North Wall B | 7.0 – 7.5' | Soil | 114.54 |
| 543 | 1024103 | East Wall WP | 7.0 – 7.5' | Soil | ND |
| 543 | 1024104 | North wall C | 7.0 – 7.5' | Soil | **9944.55** |
| 543 | 1024105 | North wall C | 9.0 – 9.5' | Soil | 1093.33 |
| 543 | 1024106 | North wall D | 7.0 – 7.5' | Soil | ND |
| 543 | 1024107 | West Wall | 7.0 – 7.5' | Soil | **9835.33** |

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
Grey shading = soils in excess of NJDEP soil clean up standard

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**TABLE 2**
**SUMMARY OF LABORATORY ANALYTICAL RESULTS**
**FT. MONMOUTH, BUILDING 200 - AREA, October 2009 – July 2010**
**TOTAL PETROLEUM HYDROCARBONS (results in mg/kg)**

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE LOCATION | SAMPLE DEPTH (in feet) | MATRIX | TPH RESULTS |
|---|---|---|---|---|---|
| 543 | 1024108 | Line Trench A | 7.0 – 7.5' | Soil | 448.47 |
| 543 | 1024109 | South wall | 7.0 – 7.5' | Soil | ND |
| 543 | 1024110 | S. Line Trench B | 7.0 – 7.5' | Soil | 215.39 |
| 542 | 1027801 | North Wall F | 11.0 – 11.5' | Soil | ND |
| 542 | 1027802 | North wall G | 11.0 – 11.5' | Soil | ND |
| 541 | 1026301 | Sewer Trench A | 7.0 – 7.5' | Soil | ND |
| 541 | 1026302 | Sewer Trench B | 7.0 – 7.5' | Soil | 2314.3 |
| 541 | 1026303 | Sewer Trench C | 7.0 – 7.5' | Soil | ND |
| 543 | 1026304 | West Wall B | 9.0 – 9.5' | Soil | ND |
| 541 | 1024701 | North Wall A | 7.0 – 7.5' | Soil | ND |
| 541 | 1024702 | North Wall B | 7.0 – 7.5' | Soil | 462.41 |
| 541 | 1024703 | North Wall C | 7.0 – 7.5' | Soil | 337.91 |
| 542 | 1024704 | North Wall D | 7.0 – 7.5' | Soil | 228.49 |
| 542 | 1024705 | North Wall A | 9.0 – 9.5' | Soil | 285.16 |
| 542 | 1024706 | East Wall | 7.0 – 7.5' | Soil | 288.47 |
| 542 | 1024707 | West Wall | 7.0 – 7.5' | Soil | 315.95 |
| 542 | 1024708 | South Wall | 7.0 – 7.5' | Soil | ND |
| 542 | 1024709 | North Wall B | 8.0 – 8.5' | Soil | 2510 |
| 542 | 1024710 | North Wall C | 8.0 – 8.5' | Soil | ND |
| 543 | 1025301 | West Wall A | 7.0 – 7.5' | Soil | ND |
| 543 | 1025302 | West Wall A | 9.0 – 9.5' | Soil | 1281.62 |
| 542 | 1025303 | Sewer Pipe Trench A | 7.0 – 7.5' | Soil | ND |
| 542 | 105304 | Sewer Pipe Trench B | 7.0 – 7.5' | Soil | ND |
| 543 | 105305 | North Wall C | 10.5 – 11.0' | Soil | 2345.88 |
| 543 | 1026701 | North Wall E | 11.5 – 12.0' | Soil | 231.06 |
| 543 | 1026702 | North Wall F | 11.5 – 12.0' | Soil | ND |
| 543 | 1026703 | South Center A | 11.5 – 12.0' | Soil | ND |
| 541 | 1028601 | Sewer Trench B | 9.0 – 9.5' | Soil | 163.20 |
| 541 | 1026802 | North SPT-NW | 7.0 – 7.5' | Soil | ND |
| 541 | 1026803 | North SPT-WW | 7.0 – 7.5' | Soil | 311.71 |
| 541 | 1026804 | North SPT EW | 7.0 – 7.5' | Soil | ND |

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
Grey shading = soils in excess of NJDEP soil clean up standard

**TABLE 2**
**SUMMARY OF LABORATORY ANALYTICAL RESULTS**
**FT. MONMOUTH, BUILDING 200 – AREA, October 2009 – July 2010**
**TOTAL PETROLEUM HYDROCARBONS (results in mg/kg)**

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE LOCATION | SAMPLE DEPTH (in feet) | MATRIX | TPH RESULTS |
|---|---|---|---|---|---|
| 542 | 1028401 | North Wall H | 7.0 – 7.5' | Soil | ND |
| 542 | 1028403 | North Wall I | 8.0 – 8.5' | Soil | ND |
| 542 | 1028405 | North Wall J | 7.0 – 7.5' | Soil | ND |
| 542 | 1028406 | North Wall K | 8.0 – 8.5' | Soil | ND |
| SPT-1 | 1029001 | SPT-1 | 7.0 – 7.5' | Soil | 241.66 |
| SPT-2 | 1029002 | SPT-2 | 7.0 – 7.5' | Soil | ND |
| 538 | 1029201 | SB-1 | 4.0 – 4.5' | Soil | 449.14 |
| 538 | 1029202 | SB-1 | 7.0 – 7.5' | Soil | ND |
| 538 | 1029203 | SB-2 | 4.0 - 4.5' | Soil | 2067.2 |
| 538 | 1029204 | SB-2 | 7.0 – 7.5' | Soil | ND |
| 538 | 1029205 | SB-3 | 4.0 – 4.5' | Soil | 697.67 |
| 538 | 1029206 | SB-3 | 7.0 – 7.5' | Soil | ND |
| 538 | 1029207 | SB-4 | 4.0 – 4.5' | Soil | ND |
| 538 | 1029208 | SB-4 | 7.0 – 7.5' | Soil | ND |
| 538 | 1029209 | SB-5 | 4.0 – 4.5' | Soil | 128.22 |
| 538 | 1029210 | SB-5 | 7.0 – 7.5' | Soil | ND |
| SPT-3 | 1029211 | SPT-3 | 7.0 – 7.5' | Soil | ND |
| SPT | 1029901 | SPT | 7.0 – 7.5' | Soil | ND |
| SPT-4 | 1029902 | SPT-4 | 7.0 – 7.5' | Soil | ND |
| SPT-5 | 1029903 | SPT-5 | 7.0 – 7.5' | Soil | ND |
| SPT-6 | 1029904 | SPT-6 | 7.0 – 7.5' | Soil | ND |
| SPT-7 | 1030401 | SPT-7 | 7.0 – 7.5' | Soil | ND |
| SPT-8 | 1030402 | SPT-8 | 7.0 – 7.5' | Soil | ND |
| SPT-9 | 1030403 | SPT-9 | 7.0 – 7.5' | Soil | ND |
| 538 | 1030404 | South Wall W. | 7.0 – 7.5' | Soil | ND |
| 538 | 1031901 | South Wall E | 7.0 – 7.5' | Soil | 273.84 |
| 538 | 1031902 | East Wall | 4.0 – 4.5' | Soil | 562.92 |
| 538 | 1031903 | East Wall | 7.0 – 7.5' | Soil | 331.17 |
| SPT-10 | 1031904 | SPT-10 | 7.0 – 7.5' | Soil | ND |
| SPT-11 | 1031905 | SPT-11 | 7.0 – 7.5' | Soil | ND |
| SPT-12 | 1031906 | SPT-12 | 7.0 – 7.5' | Soil | ND |

ABBREVIATIONS:
mg/kg = milligrams per kilogram = parts per million
ND = Compound Not Detected
SPT = Sewer Pipe Trench
Grey shading = soils in excess of NJDEP soil clean up standard

**TABLE 3**
**SUMMARY OF LABORATORY ANALYSIS**
**FT. MONMOUTH, BUILDING 200 MW01 – MW06**
**August 2010**

| SAMPLE ID | LABORATORY SAMPLE ID | SAMPLE DATE | SAMPLE MATRIX | ANALYTICAL PARAMETER | ANALYTICAL METHOD |
|---|---|---|---|---|---|
| 200MW01 | 1034401 | 8/16/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW02 | 1034402 | 8/16/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW03 | 1034403 | 8/16/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW04 | 1034404 | 8/16/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW05 | 1034405 | 8/16/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW06 | 10334406 | 8/16/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW01 | 1037104 | 8/30/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW02 | 1037105 | 8/30/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW03 | 1037106 | 8/30/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW04 | 1037107 | 8/30/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW05 | 1037108 | 8/30/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |
| 200MW06 | 1037109 | 8/30/10 | Groundwater | VOC+15/B/N+15 | EPA method 624/EPA methods 3510/8270 |

ABBREVIATIONS:

VOC = volatile organic compounds
B/N = base neutral compounds

# TABLE 4
## SUMMARY OF LABORATORY ANALYTICAL RESULTS
### FT. MONMOUTH, 200 AREA MW01 – MW06
### August 2010
### All aqueous results expressed in ug/kg

| SAMPLE ID | LABORATORY SAMPLE ID | MATRIX | VOC RESULTS | B/N RESULTS |
|---|---|---|---|---|
| 200MW01 | 1034401 | Groundwater | All ND | All ND |
| 200MW02 | 1034402 | Groundwater | All <GWQS | All <GWQS |
| 200MW03 | 1034403 | Groundwater | All ND | All ND |
| 200MW04 | 1034404 | Groundwater | All <GWQS | All <GWQS |
| 200MW05 | 1034405 | Groundwater | All ND | All ND |
| 200MW06 | 1034406 | Groundwater | All ND | All <GWQS |
| 200MW01 | 1037104 | Groundwater | All ND | All ND |
| 200MW02 | 1037105 | Groundwater | All <GWQS | All ND |
| 200MW03 | 1037106 | Groundwater | All ND | All ND |
| 200MW04 | 1037107 | Groundwater | All ND | All ND |
| 200MW05 | 1037108 | Groundwater | All ND | All ND |
| 200MW06 | 1037109 | Groundwater | All ND | All <GWQS |

ABBREVIATIONS:
ug/kg = micrograms per kilogram = parts per billion
ND = Compound Not Detected
GWQS = NJDEP Groundwater quality standards

# APPENDIX A

# CERTIFICATIONS

Not Available

# APPENDIX B

# WASTE MANIFEST

Not Available

# APPENDIX C

## UST DISPOSAL CERTIFICATE

Not Available

# APPENDIX D

# PHOTO - DOCUMENTATION



**Test Pit at 537 looking for potential UHOT**



**Top of UHOT at 541, removing product from UHOT before removal**



**Pipe run at 538**



**UHOT ready to be removed, note wet soil around UHOT (in this case it is an oil/water mix)**



**UHOT excavation after removal behind 542**

# APPENDIX E

# SOIL AND GROUNDWATER ANALYTICAL DATA PACKAGES

(QC and raw data not included for brevity)

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-4359 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP CERTIFICATION #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-11823

## Parcel 76/UST #76-3

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 76-3-A, North Wall | 9042201 | Soil | 20-Oct-09 13:20 | 10/20/09 |
| 76-3-B, South Wall | 9042202 | Soil | 20-Oct-09 13:35 | 10/20/09 |
| 76-3-C, East Wall | 9042203 | Soil | 20-Oct-09 13:50 | 10/20/09 |
| 76-3-D, West Wall | 9042204 | Soil | 20-Oct-09 14:15 | 10/20/09 |
| 76-3-E, Bottom | 9042205 | Soil | 20-Oct-09 14:35 | 10/20/09 |
| 76-3-F, Duplicate | 9042206 | Soil | 20-Oct-09 14:35 | 10/20/09 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

12/16/09
Jacqueline Hamer/Date
QA/QC Supervisor

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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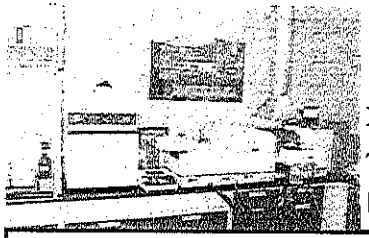
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer:** CHUCK APPLEBY
**Phone #:** X2262
( )DERA ( )OMA (X)Other: BRAC
Project No: 10-11823
Location: PARCEL 76 UST #76-3
**Samplers Name / Company:** FRANK ACCORSI / TVS

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % SOLIDS | | | | | FID (PPM) | DEPTH (FT.) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90422 01 | 76-3-A, NORTH WALL | 10-20-09 | 1320 | SOIL | 1 | X | X | | | | | 0 | 5.5-6 | ICE |
| 02 | 76-3-B, SOUTH WALL | | 1335 | | | X | X | | | | | 0 | 5.5-6 | |
| 03 | 76-3-C, EAST END | | 1350 | | | X | X | | | | | 0 | 5.5-6 | |
| 04 | 76-3-D, WEST END | | 1415 | | | X | X | | | | | 0 | 5.5-6 | |
| 05 | 76-3-E, BOTTOM | | 1435 | | | X | X | | | | | 0 | 6-6.5 | |
| 06 | 76-3-F, DUPLICATE | | 1435 | | | X | X | | | | | 0 | 6-6.5 | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 10-21-09 1600 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush ~~3 WK~~ 7 DAYS., ( )ASAP Verbal ____ Hrs.

Comments:

print legibly



new coc._1.XLS8/18/2009

200002

# SAMPLE RECEIPT FORM

Date Received: 10-20-09 Work Order ID#: 90422

Site/Proj. Name: Parcel 76 Cooler Temp (°C): ICE

Received By: J. Vaughan Sign: J. Vaughan
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

# GPS
# POINTS

**U.S. ARMY - FT. MONMOUTH, NJ**

**(76-3) BUILDING 544 - (1,000 G. UST)**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

**SAMPLE POINTS**

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| (76-3A)544A -NORTH WALL | 541091.502 | 619763.722 |
| (76-3B)544B -SOUTH WALL | 541086.353 | 619761.895 |
| (76-3C)544C- EAST WALL | 541089.606 | 619768.223 |
| (76-3D)544D-WEST WALL | 541087.081 | 619758.919 |
| (76-3E)544E- BOTTOM | 541089.507 | 619763.573 |

# FIELD DUPLICATE IDENTIFICATION

# Field Duplicate Identification

**Lab ID:** 90422

**Site:** Parcel 76
UST # 76-3

The Field Duplicate was performed on 76-3-E, Bottom (Lab ID 9042205).

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-COFORMANCE SUMMARY

## TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits Provided | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range) | Yes |
| 4. | Duplicate Results Summary Meet Criteria | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted | Yes |
| 7. | Analysis holding time met (If not met, list number of days exceeded for each sample) | Yes |

Additional comments: _____

Laboratory Manager: _____ Date: 12/16/09

# RESULTS SUMMARY

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:** 10-11823
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:** Soil
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL
**Blank Conc.:** 0.00

**Date Received:** 20-Oct-09
**Date Extracted:** 21-Oct-09
**Extraction Method:** Shake
**Analysis Complete:** 26-Oct-09
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB10210901 | MB10210901 | 1.00 | 15.00 | 100.00 | 23 | 333 | 0.00 | | |
| LCS10210901 | LCS10210901 | 1.00 | 15.00 | 100.00 | 23 | 333 | 846.04 | | |
| 9042201 | 76-3-A NORTH WALL | 1.00 | 15.38 | 89.5 | 25 | 363 | 0.00 | | |
| 9042202 | 76-3-B SOUTH WALL | 1.00 | 15.29 | 87.3 | 26 | 375 | 0.00 | | |
| 9042203 | 76-3-C EAST END | 1.00 | 15.45 | 83.1 | 27 | 389 | 0.00 | | |
| 9042204 | 76-3-D WEST END | 1.00 | 15.48 | 81.7 | 28 | 395 | 0.00 | | |
| 9042205 | 76-3-E BOTTOM | 1.00 | 15.73 | 80.7 | 28 | 394 | 0.00 | | |
| 9042206 | 76-3-F DUPLICATE | 1.00 | 15.43 | 82.3 | 28 | 394 | 0.00 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Dean Tuttle

Date: 12/16/09

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 12/16/

Dean Tardiff
Laboratory Manager

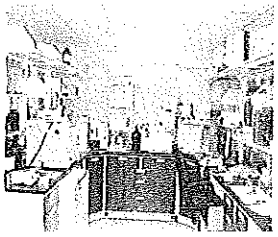
# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**

**PHONE: (732) 532-4359 FAX: (732) 532-6263**

**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**

**NJDEP CERTIFICATION #13461**

ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-11823

## Parcel 76/Bldg. 540, UST 540

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 540-A, North Wall | 9042501 | Soil | 22-Oct-09 13:00 | 10/22/09 |
| 540-B, South Wall | 9042502 | Soil | 22-Oct-09 13:13 | 10/22/09 |
| 540-C, East Wall | 9042503 | Soil | 22-Oct-09 13:30 | 10/22/09 |
| 540-D, West Wall | 9042504 | Soil | 22-Oct-09 13:44 | 10/22/09 |
| 540-E, Center Bottom | 9042505 | Soil | 22-Oct-09 15:05 | 10/22/09 |
| 540-F, Duplicate | 9042506 | Soil | 22-Oct-09 13:44 | 10/22/09 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

Dean Tardiff 12/16/09
Dean Tardiff/Date
Laboratory Manager


The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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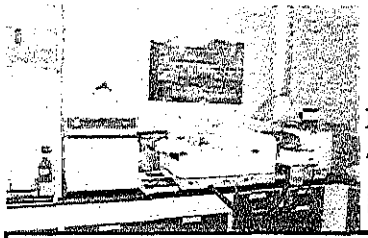
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** CHARLES APPLEBY
**Phone #:** X ~~26292~~ 22692
( )DERA ( )OMA (X)Other: BRAC

Project No: 10-11823
Location: PARCEL 76
BLDG. 540, UST 540

**Samplers Name / Company:** FRANK ACCORSI / TVS

**Analysis Parameters**

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % SOLIDS | | | | | FID (PPM) | DEPTH (FT) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90425.01 | 540-A, NORTH WALL | 10-22-09 | 1300 | SOIL | 1 | X | X | | | | | 0 | 6-6.5 | ICE |
| 90425.02 | 540-B, SOUTH WALL | ↓ | 1313 | ↓ | ↓ | X | X | | | | | 0 | 6-6.5 | ↓ |
| 90425.03 | 540-C, EAST END | ↓ | 1330 | ↓ | ↓ | X | X | | | | | 0 | 6-6.5 | ↓ |
| 90425.04 | 540-D, WEST END | ↓ | 1344 | ↓ | ↓ | X | X | | | | | 0 | 6-6.5 | ↓ |
| 90425.05 | 540-E, CENTER BOTTOM | ↓ | 1505 | ↓ | ↓ | X | X | | | | | 0 | 6.5-7 | ↓ |
| 90425.06 | 540-F, DUPLICATE | ↓ | 1344 | ↓ | ↓ | X | X | | | | | 0 | 6-6.5 | ↓ |
| | | | | | | | | | | | | ~~0~~ | | |

**Comments:**

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 10-22-09 1540 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 3 ~~Wk.~~ DAYS, (X)ASAP Verbal ____Hrs.

Remarks:

000002

print legibly



new coc..XLS12/19/2008

# SAMPLE RECEIPT FORM

Date Received: 10-22-09 Work Order ID#: 90425

Site/Proj. Name: Bldg 540/UST Cooler Temp (°C): 4.0

Received By: [illegible] Sign: [illegible]
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS
# POINTS

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 540 - (1,000 G. UST)

SOIL SAMPLING GPS POSITIONS & COORDINATES

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 540A -NORTH WALL | 541162.577 | 619872.463 |
| 540B -SOUTH WALL | 541159.583 | 619873.383 |
| 540C- EAST WALL | 541161.584 | 619880.073 |
| 540D-WEST WALL | 541161.138 | 619867.848 |
| 540E- BOTTOM | 541161.726 | 619873.503 |

# FIELD DUPLICATE IDENTIFICATION

# Field Duplicate Identification

**Lab ID:** 90425

**Site:** Parcel 76
Bldg. 540
UST # 540

The Field Duplicate was performed on 540-D, West End (Lab ID 9042504).

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-COFORMANCE SUMMARY

## TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits Provided | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range) | Yes |
| 4. | Duplicate Results Summary Meet Criteria | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted | Yes |
| 7. | Analysis holding time met (If not met, list number of days exceeded for each sample) | Yes |

Additional comments: _____

Laboratory Manager: Dean Tudor Date: 12/16/09

# RESULTS SUMMARY

**Report of Analysis**
**U.S. Army, Fort Monmouth Environmental Laboratory**
**NJDEP Certification #13461**

| | | | |
|---|---|---|---|
| **Client:** | U.S. Army<br>DPW. SELFM-PW-EV<br>Bldg. 173<br>Ft. Monmouth, NJ 07703 | **Project #:**<br>**Location:**<br>**ECP:**<br>**Work Order:** | 10-11823<br>PARCEL 76 |
| **Analysis:** | OQA-QAM-025 | **Date Received:** | 22-Oct-09 |
| **Matrix:** | Soil | **Date Extracted:** | 23-Oct-09 |
| **Inst. ID:** | GC TPHC INST. #1 | **Extraction Method:** | Shake |
| **Column Type:** | RTX-5, 0.32mm ID, 30 m | **Analysis Complete:** | 27-Oct-09 |
| **Injection Volume:** | 1 uL | **Analyst:** | Robert Szot |
| **Blank Conc.:** | 0.00 | | |

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB10230901 | MB10230901 | 1.00 | 15.04 | 100.00 | 23 | 332 | 0.00 | | |
| LCS10230901 | LCS10230901 | 1.00 | 15.06 | 100.00 | 23 | 332 | 733.24 | | |
| 9042501 | 540-A NORTH WALL | 1.00 | 15.08 | 89.5 | 26 | 370 | 0.00 | | |
| 9042502 | 540-B SOUTH WALL | 1.00 | 15.05 | 87.3 | 27 | 381 | 0.00 | | |
| 9042503 | 540-C EAST END | 1.00 | 15.29 | 83.1 | 28 | 394 | 0.00 | | |
| 9042504 | 540-D WEST END | 1.00 | 15.08 | 81.7 | 28 | 406 | 0.00 | | |
| 9042505 | 540-E CENTER BOTTOM | 1.00 | 15.03 | 80.7 | 29 | 412 | 0.00 | | |
| 9042506 | 540-F DUPLICATE | 1.00 | 15.03 | 82.3 | 28 | 404 | 0.00 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*

000073

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Dean Tarazi

Date: 12/16/09

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 12/16/

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-4359 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP CERTIFICATION #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-11823

## Bldg. 543

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 543-A, North Wall | 9044801 | Soil | 17-Nov-09 10:30 | 11/17/09 |
| 543-B, South Wall | 9044802 | Soil | 17-Nov-09 11:00 | 11/17/09 |
| 543-C, East Wall | 9044803 | Soil | 17-Nov-09 11:40 | 11/17/09 |
| 5430-D, West Wall | 9044804 | Soil | 17-Nov-09 14:00 | 11/17/09 |
| 543-E, Bottom | 9044805 | Soil | 17-Nov-09 11:20 | 11/17/09 |
| 543-F, Duplicate | 9044806 | Soil | 17-Nov-09 10:30 | 11/17/09 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
BN+15, TPHC, % SOLIDS

Dean Tardiff 1/7/10
Dean Tardiff/Date
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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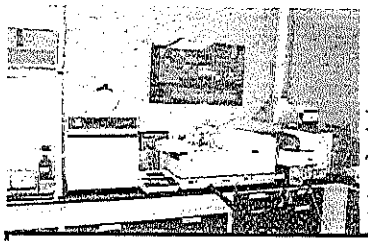
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer:** CHUCK APPLEBY
**Phone #:** X 26292
( )DERA ( )OMA (X)Other: BRAC
Project No: 10-11823
Location: BLDG. 543
**Samplers Name / Company:** FRANK ACCORSI / TVS

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Solids | | | | PID (ppm) | FID (ppm) | DEPTH (ft) | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90448 01 | 543-A, NORTH WALL | 11-17-09 | 1030 | SOIL | 1 | X | X | | | | 11.0 | 2.0 | 8.5-9 | ICE |
| 02 | 543-B, SOUTH WALL | | 1100 | | | X | X | | | | 13.0 | 3.5 | 8.5-9 | |
| 03 | 543-C, EAST WALL | | 1140 | | | X | X | | | | 3.0 | 1.0 | 8.5-9 | |
| 04 | 543-D, WEST WALL | | 1400 | | | X | X | | | | 8.0 | 2.2 | 8-8.5 | |
| 05 | 543-E, BOTTOM | | 1120 | | | X | X | | | | 0 | 0 | 9.5-10 | |
| 06 | 543-F, DUPLICATE | | 1030 | | | X | X | | | | 30. | 9.5 | 8.5-9 | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 11-17-09 1500 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 3 Wk., ( )ASAP Verbal ____ Hrs.
3 DAYS

Remarks:

200000

print legibly



new coc..XLS12/19/2008

# SAMPLE RECEIPT FORM

Date Received: 11-17-09 Work Order ID#: 90448

Site/Proj. Name: Bldg 443/UST Cooler Temp (°C): 4.0°C

Received By: J. Mendiola Sign: J. Mendiola
(Print name)

## Check the appropriate box

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☑ no ☐ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| | | | | | |
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Comments: _____

# Change of Chain of Custody

Lab Project ID#: 90448
Date Received: 11/17/09
Requested by: *(print)* F. Accorsi
Turnaround Time: ASAP

Site/Project Name: Bldg 543
Date of Change: 11/19/09
Sign: _____

1. Were the correct containers and/or preservatives used for the tests indicated? (Yes) No
2. Was sufficient amount of sample sent for the tests indicated? (Yes) No
3. Are samples within holding time for new analysis? (Yes) No
4. Was the change documented in the receipt logbook? (Yes) No

Received by: *(print)* _____ Sign: _____

| Sample ID# | New Analysis | Sample ID# | New Analysis |
|---|---|---|---|
| 9044801 | STBD+IS | | |
| 02 | 1 | | |
| 03 | | | |
| 06 | | | |

Comments: _____

# GPS POINTS

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 543 - (1,000 G. UST)

SOIL SAMPLING GPS POSITIONS & COORDINATES

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 543A -NORTH WALL | 541146.674 | 619941.992 |
| 543B -SOUTH WALL | 541133.711 | 619945.764 |
| 543C- EAST WALL | 541145.415 | 619957.889 |
| 543D-WEST WALL | 541140.591 | 619929.664 |
| 543E- BOTTOM | 541141.634 | 619942.871 |

# FIELD DUPLICATE IDENTIFICATION

# Field Duplicate Identification

**Lab ID:** 90448 **Site:** Bldg. 543

The Field Duplicate was performed on 543-A, North Wall (Lab ID 9044801).

# METHOD SUMMARY

# Method Summary

## EPA SW-846 Method 8270
## Gas Chromatographic Determination of Semi-volatiles in Soil

Surrogates are added to a 10-gram soil sample that has been dried with sodium sulfate. The sample is then extracted using a soxtherm extractor. The extract is concentrated to 1 ml. Internal standards are added and the sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

| | Indicate Yes, No, N/A |
|---|---|
| 1. Chromatograms labeled/Compounds identified (Field samples and method blanks) | Yes |
| 2. Retention times for chromatograms provided | Yes |
| 3. GC/MS Tune Specifications | |
| a. BFB Meet Criteria | NA |
| b. DFTPP Meet Criteria | Yes |
| 4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series | Yes |
| 5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series | Yes |
| 6. GC/MS Calibration requirements | |
| a. Calibration Check Compounds Meet Criteria | Yes |
| b. System Performance Check Compounds Meet Criteria | Yes |
| 7. Blank Contamination – If yes, List compounds and concentrations in each blank: | No |
| a. VOA Fraction NA | |
| b. B/N Fraction | |
| c. Acid Fraction NA | |
| 8. Surrogate Recoveries Meet Criteria | Yes |
| If not met, list those compounds and their recoveries, which fall outside the acceptable range: | |
| a. VOA Fraction NA | |
| b. B/N Fraction | |
| c. Acid Fraction NA | |
| If not met, were the calculations checked and the results qualified as "estimated"? | |
| 9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) | Yes |
| a. VOA Fraction NA | |
| b. B/N Fraction | |
| c. Acid Fraction NA | |

**GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)**

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction NA
b. B/N Fraction _____
c. Acid Fraction NA

11. Extraction Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: Dean Tarry Date: 1/7/10

## TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits Provided | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range) | Yes |
| 4. | Duplicate Results Summary Meet Criteria | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted | Yes |
| 7. | Analysis holding time met (If not met, list number of days exceeded for each sample) | Yes |

Additional comments: _____

Laboratory Manager: Dean Tondre Date: 1/7/10

# BASE NEUTRALS

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1164.D | Misc Info | METHOD 8270 11/20/09 | Sample Weight | 10.00 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 100.0 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.100 | | |
| Sample Name | MB11190901 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.099 | 0.50 | mg/kg | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.168 | 0.50 | mg/kg | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.267 | 0.50 | mg/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.193 | 0.50 | mg/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.167 | 0.50 | mg/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.174 | 0.50 | mg/kg | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 0.258 | 0.50 | mg/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.194 | 0.50 | mg/kg | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.224 | 0.50 | mg/kg | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.253 | 0.50 | mg/kg | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.189 | 0.50 | mg/kg | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 0.226 | 0.50 | mg/kg | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.240 | 0.50 | mg/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 0.198 | 0.50 | mg/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 0.219 | 0.50 | mg/kg | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 0.242 | 0.50 | mg/kg | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.370 | 0.50 | mg/kg | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.216 | 0.50 | mg/kg | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 0.260 | 0.50 | mg/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.146 | 1.00 | mg/kg | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 0.251 | 0.50 | mg/kg | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.307 | 0.50 | mg/kg | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 0.264 | 0.50 | mg/kg | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.272 | 0.50 | mg/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.261 | 0.50 | mg/kg | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.221 | 0.50 | mg/kg | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 0.271 | 0.50 | mg/kg | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 0.319 | 0.50 | mg/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 0.261 | 0.50 | mg/kg | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 0.250 | 0.50 | mg/kg | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.283 | 0.50 | mg/kg | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.278 | 0.50 | mg/kg | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.273 | 1.00 | mg/kg | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 0.271 | 0.50 | mg/kg | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 0.287 | 0.50 | mg/kg | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.288 | 0.50 | mg/kg | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 0.300 | 0.50 | mg/kg | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 0.297 | 0.50 | mg/kg | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.299 | 0.50 | mg/kg | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 0.286 | 0.50 | mg/kg | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.297 | 0.50 | mg/kg | |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1164.D | Misc Info | METHOD 8270 11/20/09 | Sample Weight | 10.00 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 100.0 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.100 | | |
| Sample Name | MB11190901 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 0.269 | 0.50 | mg/kg | |
| 129-00-0 | Pyrene | | | not detected | 200 | 0.317 | 0.50 | mg/kg | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 0.263 | 0.50 | mg/kg | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 0.298 | 0.50 | mg/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.272 | 0.50 | mg/kg | |
| 218-01-9 | Chrysene | | | not detected | 20 | 0.281 | 0.50 | mg/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.316 | 0.50 | mg/kg | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 0.265 | 0.50 | mg/kg | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 0.214 | 0.50 | mg/kg | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 0.257 | 0.50 | mg/kg | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 0.230 | 0.50 | mg/kg | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 0.195 | 0.50 | mg/kg | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 0.182 | 0.50 | mg/kg | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 0.185 | 0.50 | mg/kg | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB11190901**

Lab Name: FMETL Lab Code 13461

Project: _____ Case No.: 90448 Location: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: MB11190901

Sample wt/vol: 10 (g/ml) G Lab File ID: D1164.D

Level: (low/med) LOW Date Received: 11/19/2009

% Moisture: 0 decanted: (Y/N) N Date Extracted: 11/19/2009

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/20/2009

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | extraction by-product | 7.09 | 7300 | J |
| 2. | extraction by-product | 12.90 | 550 | J |
| 3. | extraction by-product | 14.11 | 15000 | J |

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1168.D | Misc Info | 543-A NORTH WALL | Sample Weight | 10.18 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 78.4 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.125 | | |
| Sample Name | 9044801 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.124 | 0.63 | mg/kg | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.210 | 0.63 | mg/kg | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.335 | 0.63 | mg/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.242 | 0.63 | mg/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.209 | 0.63 | mg/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.218 | 0.63 | mg/kg | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 0.323 | 0.63 | mg/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.243 | 0.63 | mg/kg | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.281 | 0.63 | mg/kg | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.317 | 0.63 | mg/kg | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.237 | 0.63 | mg/kg | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 0.283 | 0.63 | mg/kg | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.301 | 0.63 | mg/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 0.248 | 0.63 | mg/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 0.274 | 0.63 | mg/kg | |
| 91-20-3 | Naphthalene | 12.55 | 4646297 | 3.50 mg/kg | NLE | 0.303 | 0.63 | mg/kg | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.464 | 0.63 | mg/kg | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.271 | 0.63 | mg/kg | |
| 91-57-6 | 2-Methylnaphthalene | 14.02 | 22165076 | 23.44 mg/kg | NLE | 0.326 | 0.63 | mg/kg | E |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.183 | 1.25 | mg/kg | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 0.314 | 0.63 | mg/kg | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.385 | 0.63 | mg/kg | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 0.331 | 0.63 | mg/kg | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.341 | 0.63 | mg/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.327 | 0.63 | mg/kg | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.277 | 0.63 | mg/kg | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 0.340 | 0.63 | mg/kg | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 0.400 | 0.63 | mg/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 0.327 | 0.63 | mg/kg | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 0.313 | 0.63 | mg/kg | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.355 | 0.63 | mg/kg | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.348 | 0.63 | mg/kg | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.342 | 1.25 | mg/kg | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 0.340 | 0.63 | mg/kg | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 0.360 | 0.63 | mg/kg | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.361 | 0.63 | mg/kg | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 0.376 | 0.63 | mg/kg | |
| 85-01-8 | Phenanthrene | 19.33 | 12751622 | 8.71 mg/kg | NLE | 0.372 | 0.63 | mg/kg | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.375 | 0.63 | mg/kg | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 0.358 | 0.63 | mg/kg | |
| 206-44-0 | Fluoranthene | 21.75 | 686637 | 0.44 mg/kg | 300 | 0.372 | 0.63 | mg/kg | J |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1168.D | Misc Info | 543-A NORTH WALL | Sample Weight | 10.18 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 78.4 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.125 | | |
| Sample Name | 9044801 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 0.337 | 0.63 | mg/kg | |
| 129-00-0 | Pyrene | 22.21 | 1351912 | 0.89 mg/kg | 200 | 0.397 | 0.63 | mg/kg | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 0.330 | 0.63 | mg/kg | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 0.373 | 0.63 | mg/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.341 | 0.63 | mg/kg | |
| 218-01-9 | Chrysene | | | not detected | 20 | 0.352 | 0.63 | mg/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.396 | 0.63 | mg/kg | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 0.332 | 0.63 | mg/kg | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 0.268 | 0.63 | mg/kg | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 0.322 | 0.63 | mg/kg | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 0.288 | 0.63 | mg/kg | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 0.244 | 0.63 | mg/kg | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 0.228 | 0.63 | mg/kg | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 0.232 | 0.63 | mg/kg | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1173.D | Misc Info | 543-A NORTH WALL | Sample Weight | 10.18 g |
| Operator | ROBERTS | Dilution factor | 5 | Percent Solids | 78.4 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.626 | | |
| Sample Name | 9044801 5x | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.620 | 3.13 | mg/kg | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 1.052 | 3.13 | mg/kg | |
| 62-53-3 | Aniline | | | not detected | NLE | 1.673 | 3.13 | mg/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 1.209 | 3.13 | mg/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 1.046 | 3.13 | mg/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 1.090 | 3.13 | mg/kg | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.616 | 3.13 | mg/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 1.215 | 3.13 | mg/kg | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 1.403 | 3.13 | mg/kg | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 1.585 | 3.13 | mg/kg | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 1.184 | 3.13 | mg/kg | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.416 | 3.13 | mg/kg | |
| 78-59-1 | Isophorone | | | not detected | 100 | 1.504 | 3.13 | mg/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.240 | 3.13 | mg/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.372 | 3.13 | mg/kg | |
| 91-20-3 | Naphthalene | 12.54 | 1030642 | 3.66 mg/kg | NLE | 1.516 | 3.13 | mg/kg | D |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 2.318 | 3.13 | mg/kg | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.353 | 3.13 | mg/kg | |
| 91-57-6 | 2-Methylnaphthalene | 13.96 | 8342013 | 41.66 mg/kg | NLE | 1.629 | 3.13 | mg/kg | D |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.915 | 6.26 | mg/kg | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.572 | 3.13 | mg/kg | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 1.923 | 3.13 | mg/kg | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.654 | 3.13 | mg/kg | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 1.704 | 3.13 | mg/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 1.635 | 3.13 | mg/kg | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 1.385 | 3.13 | mg/kg | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.698 | 3.13 | mg/kg | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.998 | 3.13 | mg/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.635 | 3.13 | mg/kg | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.566 | 3.13 | mg/kg | |
| 86-73-7 | Fluorene | | | not detected | 300 | 1.773 | 3.13 | mg/kg | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 1.742 | 3.13 | mg/kg | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 1.710 | 6.26 | mg/kg | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.698 | 3.13 | mg/kg | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.798 | 3.13 | mg/kg | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 1.804 | 3.13 | mg/kg | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.879 | 3.13 | mg/kg | |
| 85-01-8 | Phenanthrene | 19.23 | 3873800 | 12.42 mg/kg | NLE | 1.861 | 3.13 | mg/kg | D |
| 120-12-7 | Anthracene | | | not detected | 2000 | 1.873 | 3.13 | mg/kg | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.792 | 3.13 | mg/kg | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 1.861 | 3.13 | mg/kg | |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1173.D | Misc Info | 543-A NORTH WALL | Sample Weight | 10.18 g |
| Operator | ROBERTS | Dilution factor | 5 | Percent Solids | 78.4 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.626 | | |
| Sample Name | 9044801 5x | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 1.685 | 3.13 | mg/kg | | |
| 129-00-0 | Pyrene | 22.15 | 274967 | 0.81 mg/kg | 200 | 1.986 | 3.13 | mg/kg | D | J |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.648 | 3.13 | mg/kg | | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.867 | 3.13 | mg/kg | | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 1.704 | 3.13 | mg/kg | | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.760 | 3.13 | mg/kg | | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 1.980 | 3.13 | mg/kg | | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.660 | 3.13 | mg/kg | | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.341 | 3.13 | mg/kg | | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.610 | 3.13 | mg/kg | | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.441 | 3.13 | mg/kg | | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.222 | 3.13 | mg/kg | | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.140 | 3.13 | mg/kg | | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.159 | 3.13 | mg/kg | | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **NORTH WALL**

Lab Name: FMETL Lab Code 13461

Project: _____ Case No.: 90448 Location: _____ SDG No.: _____

Matrix: (soil/water) SOIL Lab Sample ID: 9044801

Sample wt/vol: 10.18 (g/ml) G Lab File ID: D1168.D

Level: (low/med) LOW Date Received: 11/19/2009

% Moisture: 21.6 decanted: (Y/N) N Date Extracted: 11/19/2009

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/20/2009

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | C3 alkyl benzene | 9.68 | 3100 | J |
| 2. | C4 alkyl benzene | 9.92 | 680 | J |
| 3. | C3 alkyl benzene | 10.13 | 1400 | J |
| 4. | Alkane: Cyclic | 10.28 | 1900 | J |
| 5. | C4 alkyl benzene | 10.47 | 1200 | J |
| 6. | C4 alkyl benzene | 10.53 | 4000 | J |
| 7. | C4 alkyl benzene | 10.60 | 6000 | J |
| 8. | unknown hydrocarbon | 10.76 | 3400 | J |
| 9. | C4 alkyl benzene | 10.89 | 810 | J |
| 10. | C5 alkyl benzene | 11.25 | 5400 | J |
| 11. | Alkane: Branched | 11.38 | 3000 | J |
| 12. | C4 alkyl benzene | 11.49 | 1100 | J |
| 13. | C4 alkyl benzene | 11.72 | 1300 | J |
| 14. | C5 alkyl benzene | 11.82 | 1800 | J |
| 15. | Alkane: Straight-Chain | 11.89 | 2000 | J |
| 16. | Alkane: Branched | 11.96 | 2500 | J |
| 17. | C5 alkyl benzene | 12.12 | 2400 | J |
| 18. | C5 alkyl benzene | 12.26 | 1300 | J |
| 19. | unknown hydrocarbon | 12.44 | 3200 | J |
| 20. | unknown hydrocarbon | 12.88 | 2700 | J |
| 21. | Alkane: Branched | 13.44 | 7700 | J |
| 22. 000090-12-0 | Naphthalene, 1-methyl- | 14.20 | 2600 | JN |
| 23. | Alkane: Branched | 15.62 | 5000 | J |
| 24. | unknown PAH | 21.28 | 5000 | J |
| 25. | unknown hydrocarbon | 24.29 | 630 | J |

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1166.D | Misc Info | 543-B SOUTH WALL | Sample Weight | 10.49 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 80.2 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.119 | | |
| Sample Name | 9044802 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.118 | 0.59 | mg/kg | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.200 | 0.59 | mg/kg | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.317 | 0.59 | mg/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.229 | 0.59 | mg/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.199 | 0.59 | mg/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.207 | 0.59 | mg/kg | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 0.307 | 0.59 | mg/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.231 | 0.59 | mg/kg | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.266 | 0.59 | mg/kg | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.301 | 0.59 | mg/kg | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.225 | 0.59 | mg/kg | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 0.269 | 0.59 | mg/kg | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.285 | 0.59 | mg/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 0.235 | 0.59 | mg/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 0.260 | 0.59 | mg/kg | |
| 91-20-3 | Naphthalene | 12.55 | 2828661 | 2.08 mg/kg | NLE | 0.288 | 0.59 | mg/kg | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.440 | 0.59 | mg/kg | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.257 | 0.59 | mg/kg | |
| 91-57-6 | 2-Methylnaphthalene | 13.98 | 12545217 | 12.95 mg/kg | NLE | 0.309 | 0.59 | mg/kg | E |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.174 | 1.19 | mg/kg | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 0.298 | 0.59 | mg/kg | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.365 | 0.59 | mg/kg | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 0.314 | 0.59 | mg/kg | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.323 | 0.59 | mg/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.310 | 0.59 | mg/kg | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.263 | 0.59 | mg/kg | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 0.322 | 0.59 | mg/kg | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 0.379 | 0.59 | mg/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 0.310 | 0.59 | mg/kg | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 0.297 | 0.59 | mg/kg | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.336 | 0.59 | mg/kg | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.330 | 0.59 | mg/kg | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.324 | 1.19 | mg/kg | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 0.322 | 0.59 | mg/kg | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 0.341 | 0.59 | mg/kg | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.342 | 0.59 | mg/kg | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 0.357 | 0.59 | mg/kg | |
| 85-01-8 | Phenanthrene | 19.27 | 7226957 | 4.55 mg/kg | NLE | 0.353 | 0.59 | mg/kg | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.355 | 0.59 | mg/kg | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 0.340 | 0.59 | mg/kg | |
| 206-44-0 | Fluoranthene | 21.72 | 459945 | 0.27 mg/kg | 300 | 0.353 | 0.59 | mg/kg | J |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1166.D | Misc Info | 543-B SOUTH WALL | Sample Weight | 10.49 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 80.2 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.119 | | |
| Sample Name | 9044802 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 0.320 | 0.59 | mg/kg | |
| 129-00-0 | Pyrene | 22.19 | 966691 | 0.61 mg/kg | 200 | 0.377 | 0.59 | mg/kg | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 0.313 | 0.59 | mg/kg | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 0.354 | 0.59 | mg/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.323 | 0.59 | mg/kg | |
| 218-01-9 | Chrysene | | | not detected | 20 | 0.334 | 0.59 | mg/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.376 | 0.59 | mg/kg | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 0.315 | 0.59 | mg/kg | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 0.254 | 0.59 | mg/kg | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 0.305 | 0.59 | mg/kg | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 0.273 | 0.59 | mg/kg | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 0.232 | 0.59 | mg/kg | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 0.216 | 0.59 | mg/kg | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 0.220 | 0.59 | mg/kg | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1172.D | Misc Info | 543-B SOUTH WALL | Sample Weight | 10.48 g |
| Operator | ROBERTS | Dilution factor | 2 | Percent Solids | 80.2 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.238 | | |
| Sample Name | 9044802 2x | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.236 | 1.19 | mg/kg | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.400 | 1.19 | mg/kg | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.635 | 1.19 | mg/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.459 | 1.19 | mg/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.397 | 1.19 | mg/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.414 | 1.19 | mg/kg | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 0.614 | 1.19 | mg/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.462 | 1.19 | mg/kg | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.533 | 1.19 | mg/kg | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.602 | 1.19 | mg/kg | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.450 | 1.19 | mg/kg | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 0.538 | 1.19 | mg/kg | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.571 | 1.19 | mg/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 0.471 | 1.19 | mg/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 0.521 | 1.19 | mg/kg | |
| 91-20-3 | Naphthalene | 12.54 | 1541600 | 2.09 mg/kg | NLE | 0.576 | 1.19 | mg/kg | D |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.880 | 1.19 | mg/kg | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.514 | 1.19 | mg/kg | |
| 91-57-6 | 2-Methylnaphthalene | 13.96 | 7842228 | 14.92 mg/kg | NLE | 0.619 | 1.19 | mg/kg | D |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.347 | 2.38 | mg/kg | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 0.597 | 1.19 | mg/kg | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.731 | 1.19 | mg/kg | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 0.628 | 1.19 | mg/kg | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.647 | 1.19 | mg/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.621 | 1.19 | mg/kg | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.526 | 1.19 | mg/kg | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 0.645 | 1.19 | mg/kg | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 0.759 | 1.19 | mg/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 0.621 | 1.19 | mg/kg | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 0.595 | 1.19 | mg/kg | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.673 | 1.19 | mg/kg | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.662 | 1.19 | mg/kg | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.650 | 2.38 | mg/kg | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 0.645 | 1.19 | mg/kg | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 0.683 | 1.19 | mg/kg | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.685 | 1.19 | mg/kg | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 0.714 | 1.19 | mg/kg | |
| 85-01-8 | Phenanthrene | 19.24 | 4392650 | 5.41 mg/kg | NLE | 0.707 | 1.19 | mg/kg | D |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.711 | 1.19 | mg/kg | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 0.681 | 1.19 | mg/kg | |
| 206-44-0 | Fluoranthene | 21.69 | 222282 | 0.26 mg/kg | 300 | 0.707 | 1.19 | mg/kg | D J |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1172.D | Misc Info | 543-B SOUTH WALL | Sample Weight | 10.48 g |
| Operator | ROBERTS | Dilution factor | 2 | Percent Solids | 80.2 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.238 | | |
| Sample Name | 9044802 2x | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 0.640 | 1.19 | mg/kg | | |
| 129-00-0 | Pyrene | 22.16 | 474823 | 0.55 mg/kg | 200 | 0.754 | 1.19 | mg/kg | D | J |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 0.626 | 1.19 | mg/kg | | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 0.709 | 1.19 | mg/kg | | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.647 | 1.19 | mg/kg | | |
| 218-01-9 | Chrysene | | | not detected | 20 | 0.669 | 1.19 | mg/kg | | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.752 | 1.19 | mg/kg | | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 0.631 | 1.19 | mg/kg | | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 0.509 | 1.19 | mg/kg | | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 0.612 | 1.19 | mg/kg | | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 0.547 | 1.19 | mg/kg | | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 0.464 | 1.19 | mg/kg | | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 0.433 | 1.19 | mg/kg | | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 0.440 | 1.19 | mg/kg | | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **SOUTH WALL**

Lab Name: FMETL Lab Code 13461

Project: Case No.: 90448 Location: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9044802

Sample wt/vol: 10.49 (g/ml) G Lab File ID: D1166.D

Level: (low/med) LOW Date Received: 11/19/2009

% Moisture: 19.8 decanted: (Y/N) N Date Extracted: 11/19/2009

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/20/2009

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 25 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | C3 alkyl benzene | 9.68 | 2700 | J |
| 2. | C4 alkyl benzene | 10.60 | 3300 | J |
| 3. | C4 alkyl benzene | 10.75 | 2500 | J |
| 4. | Alkane: Straight-Chain | 11.15 | 7400 | J |
| 5. | unknown hydrocarbon | 11.25 | 3000 | J |
| 6. | Alkane: Branched | 13.41 | 3200 | J |
| 7. | Alkane: Branched | 13.76 | 3900 | J |
| 8. 000091-57-6 | Naphthalene, 1-methyl- | 14.19 | 3800 | JN |
| 9. | Alkane: Branched | 14.65 | 3200 | J |
| 10. | Alkane: Branched | 14.95 | 7700 | J |
| 11. | Naphthalene, dimethyl- | 15.29 | 7500 | J |
| 12. | Naphthalene, dimethyl- | 15.45 | 6700 | J |
| 13. | Naphthalene, dimethyl- | 15.50 | 3900 | J |
| 14. | Alkane: Branched | 15.60 | 6800 | J |
| 15. | Alkane: Branched | 16.05 | 4800 | J |
| 16. | Alkane: Cyclic | 16.70 | 2600 | J |
| 17. | Naphthalene, trimethyl- | 16.87 | 2100 | J |
| 18. | unknown hydrocarbon | 17.52 | 4400 | J |
| 19. | Alkane: Straight-Chain | 18.05 | 6200 | J |
| 20. | Alkane: Straight-Chain | 18.98 | 3700 | J |
| 21. | Alkane: Branched | 19.05 | 4800 | J |
| 22. | Alkane: Straight-Chain | 19.86 | 2800 | J |
| 23. | unknown PAH | 20.33 | 2400 | J |
| 24. | Alkane: Straight-Chain | 20.69 | 3500 | J |
| 25. | Alkane: Straight-Chain | 21.47 | 3200 | J |

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1167.D | Misc Info | 543-C EAST WALL | Sample Weight | 10.15 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 79.7 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.124 | | |
| Sample Name | 9044803 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.122 | 0.62 | mg/kg | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.208 | 0.62 | mg/kg | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.330 | 0.62 | mg/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.239 | 0.62 | mg/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.206 | 0.62 | mg/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.215 | 0.62 | mg/kg | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 0.319 | 0.62 | mg/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.240 | 0.62 | mg/kg | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.277 | 0.62 | mg/kg | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.313 | 0.62 | mg/kg | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.234 | 0.62 | mg/kg | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 0.279 | 0.62 | mg/kg | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.297 | 0.62 | mg/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 0.245 | 0.62 | mg/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 0.271 | 0.62 | mg/kg | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 0.299 | 0.62 | mg/kg | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.457 | 0.62 | mg/kg | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.267 | 0.62 | mg/kg | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 0.321 | 0.62 | mg/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.180 | 1.24 | mg/kg | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 0.310 | 0.62 | mg/kg | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.380 | 0.62 | mg/kg | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 0.326 | 0.62 | mg/kg | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.336 | 0.62 | mg/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.323 | 0.62 | mg/kg | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.273 | 0.62 | mg/kg | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 0.335 | 0.62 | mg/kg | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 0.394 | 0.62 | mg/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 0.323 | 0.62 | mg/kg | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 0.309 | 0.62 | mg/kg | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.350 | 0.62 | mg/kg | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.344 | 0.62 | mg/kg | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.337 | 1.24 | mg/kg | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 0.335 | 0.62 | mg/kg | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 0.355 | 0.62 | mg/kg | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.356 | 0.62 | mg/kg | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 0.371 | 0.62 | mg/kg | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 0.367 | 0.62 | mg/kg | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.370 | 0.62 | mg/kg | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 0.354 | 0.62 | mg/kg | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.367 | 0.62 | mg/kg | |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1167.D | Misc Info | 543-C EAST WALL | Sample Weight | 10.15 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 79.7 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.124 | | |
| Sample Name | 9044803 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 0.333 | 0.62 | mg/kg | |
| 129-00-0 | Pyrene | | | not detected | 200 | 0.392 | 0.62 | mg/kg | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 0.325 | 0.62 | mg/kg | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 0.368 | 0.62 | mg/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.336 | 0.62 | mg/kg | |
| 218-01-9 | Chrysene | | | not detected | 20 | 0.347 | 0.62 | mg/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.391 | 0.62 | mg/kg | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 0.328 | 0.62 | mg/kg | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 0.265 | 0.62 | mg/kg | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 0.318 | 0.62 | mg/kg | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 0.284 | 0.62 | mg/kg | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 0.241 | 0.62 | mg/kg | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 0.225 | 0.62 | mg/kg | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 0.229 | 0.62 | mg/kg | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **EAST WALL**

Lab Name: FMETL Lab Code 13461

Project: Case No.: 90448 Location: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9044803

Sample wt/vol: 10.15 (g/ml) G Lab File ID: D1167.D

Level: (low/med) LOW Date Received: 11/19/2009

% Moisture: 20.3 decanted: (Y/N) N Date Extracted: 11/19/2009

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/20/2009

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | extraction bi-product | 7.10 | 10000 | J |
| 2. 000102-76-1 | extraction bi-product | 14.06 | 4900 | JN |

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1169.D | Misc Info | 543-F DUPLICATE | Sample Weight | 10.31 g |
| Operator | ROBERTS | Dilution factor | 1 | Percent Solids | 82.3 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.118 | | |
| Sample Name | 9044806 | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.117 | 0.59 | mg/kg | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.198 | 0.59 | mg/kg | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.315 | 0.59 | mg/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.227 | 0.59 | mg/kg | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.197 | 0.59 | mg/kg | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.205 | 0.59 | mg/kg | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 0.304 | 0.59 | mg/kg | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.229 | 0.59 | mg/kg | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.264 | 0.59 | mg/kg | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.298 | 0.59 | mg/kg | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.223 | 0.59 | mg/kg | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 0.266 | 0.59 | mg/kg | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.283 | 0.59 | mg/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 0.233 | 0.59 | mg/kg | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 0.258 | 0.59 | mg/kg | |
| 91-20-3 | Naphthalene | 12.56 | 8020069 | 5.30 mg/kg | NLE | 0.285 | 0.59 | mg/kg | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.436 | 0.59 | mg/kg | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 0.255 | 0.59 | mg/kg | |
| 91-57-6 | 2-Methylnaphthalene | 14.02 | 37322581 | 34.69 mg/kg | NLE | 0.306 | 0.59 | mg/kg | E |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.172 | 1.18 | mg/kg | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 0.296 | 0.59 | mg/kg | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.362 | 0.59 | mg/kg | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 0.311 | 0.59 | mg/kg | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.321 | 0.59 | mg/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.308 | 0.59 | mg/kg | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.260 | 0.59 | mg/kg | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 0.319 | 0.59 | mg/kg | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 0.376 | 0.59 | mg/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 0.308 | 0.59 | mg/kg | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 0.295 | 0.59 | mg/kg | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.334 | 0.59 | mg/kg | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.328 | 0.59 | mg/kg | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.322 | 1.18 | mg/kg | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 0.319 | 0.59 | mg/kg | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 0.338 | 0.59 | mg/kg | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.339 | 0.59 | mg/kg | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 0.354 | 0.59 | mg/kg | |
| 85-01-8 | Phenanthrene | 19.36 | 15701873 | 10.44 mg/kg | NLE | 0.350 | 0.59 | mg/kg | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.352 | 0.59 | mg/kg | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 0.337 | 0.59 | mg/kg | |
| 206-44-0 | Fluoranthene | 21.78 | 910718 | 0.57 mg/kg | 300 | 0.350 | 0.59 | mg/kg | J |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | **D1169.D** | Misc Info | **543-F DUPLICATE** | Sample Weight | **10.31 g** |
| Operator | **ROBERTS** | Dilution factor | **1** | Percent Solids | **82.3 %** |
| Date Acquired | **20-Nov-09** | Sample Multiplier | **0.118** | | |
| Sample Name | **9044806** | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 0.317 | 0.59 | mg/kg | |
| 129-00-0 | Pyrene | 22.24 | 1906581 | 1.15 mg/kg | 200 | 0.374 | 0.59 | mg/kg | . |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 0.310 | 0.59 | mg/kg | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 0.351 | 0.59 | mg/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.321 | 0.59 | mg/kg | |
| 218-01-9 | Chrysene | | | not detected | 20 | 0.331 | 0.59 | mg/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.372 | 0.59 | mg/kg | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 0.312 | 0.59 | mg/kg | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 0.252 | 0.59 | mg/kg | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 0.303 | 0.59 | mg/kg | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 0.271 | 0.59 | mg/kg | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 0.230 | 0.59 | mg/kg | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 0.214 | 0.59 | mg/kg | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 0.218 | 0.59 | mg/kg | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | D1174.D | Misc Info | 543-F DUPLICATE | Sample Weight | 10.31 g |
| Operator | ROBERTS | Dilution factor | 5 | Percent Solids | 82.3 % |
| Date Acquired | 20-Nov-09 | Sample Multiplier | 0.589 | | |
| Sample Name | 9044806 5x | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.583 | 2.95 | mg/kg | | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.990 | 2.95 | mg/kg | | |
| 62-53-3 | Aniline | | | not detected | NLE | 1.573 | 2.95 | mg/kg | | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 1.137 | 2.95 | mg/kg | | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.984 | 2.95 | mg/kg | | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 1.025 | 2.95 | mg/kg | | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.520 | 2.95 | mg/kg | | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 1.143 | 2.95 | mg/kg | | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 1.320 | 2.95 | mg/kg | | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 1.491 | 2.95 | mg/kg | | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 1.114 | 2.95 | mg/kg | | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.332 | 2.95 | mg/kg | | |
| 78-59-1 | Isophorone | | | not detected | 100 | 1.414 | 2.95 | mg/kg | | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.167 | 2.95 | mg/kg | | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.290 | 2.95 | mg/kg | | |
| 91-20-3 | Naphthalene | 12.54 | 1629332 | 5.30 mg/kg | NLE | 1.426 | 2.95 | mg/kg | D | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 2.180 | 2.95 | mg/kg | | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.273 | 2.95 | mg/kg | | |
| 91-57-6 | 2-Methylnaphthalene | 13.96 | 10052081 | 45.92 mg/kg | NLE | 1.532 | 2.95 | mg/kg | D | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 0.860 | 5.89 | mg/kg | | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.479 | 2.95 | mg/kg | | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 1.809 | 2.95 | mg/kg | | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.556 | 2.95 | mg/kg | | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 1.603 | 2.95 | mg/kg | | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 1.538 | 2.95 | mg/kg | | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 1.302 | 2.95 | mg/kg | | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.597 | 2.95 | mg/kg | | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.880 | 2.95 | mg/kg | | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.538 | 2.95 | mg/kg | | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.473 | 2.95 | mg/kg | | |
| 86-73-7 | Fluorene | | | not detected | 300 | 1.668 | 2.95 | mg/kg | | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 1.638 | 2.95 | mg/kg | | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 1.609 | 5.89 | mg/kg | | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.597 | 2.95 | mg/kg | | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.691 | 2.95 | mg/kg | | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 1.697 | 2.95 | mg/kg | | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.768 | 2.95 | mg/kg | | |
| 85-01-8 | Phenanthrene | 19.24 | 4963786 | 14.91 mg/kg | NLE | 1.750 | 2.95 | mg/kg | D | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 1.762 | 2.95 | mg/kg | | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.685 | 2.95 | mg/kg | | |
| 206-44-0 | Fluoranthene | 21.69 | 189791 | 0.53 mg/kg | 300 | 1.750 | 2.95 | mg/kg | D | J |

# Semi-Volatile Analysis Report
## Page 2

| | | | | | |
|---|---|---|---|---|---|
| Data File Name | **D1174.D** | Misc Info | **543-F DUPLICATE** | Sample Weight | **10.31 g** |
| Operator | **ROBERTS** | Dilution factor | **5** | Percent Solids | **82.3 %** |
| Date Acquired | **20-Nov-09** | Sample Multiplier | **0.589** | | |
| Sample Name | **9044806 5x** | *Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100]* | | | |
| | | *Multiplied by 0.001 to convert ug/kg to mg/kg* | | | |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | RL | | Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 1.585 | 2.95 | mg/kg | | |
| 129-00-0 | Pyrene | 22.16 | 340439 | 0.95 mg/kg | 200 | 1.868 | 2.95 | mg/kg | D | J |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.550 | 2.95 | mg/kg | | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.756 | 2.95 | mg/kg | | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 1.603 | 2.95 | mg/kg | | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.656 | 2.95 | mg/kg | | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 1.862 | 2.95 | mg/kg | | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.562 | 2.95 | mg/kg | | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.261 | 2.95 | mg/kg | | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.514 | 2.95 | mg/kg | | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.355 | 2.95 | mg/kg | | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.149 | 2.95 | mg/kg | | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.072 | 2.95 | mg/kg | | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.090 | 2.95 | mg/kg | | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time
RL= Reporting Limit. The values between the MDL and RL are considered estimated.
J = Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **DUPLICATE**

Lab Name: FMETL Lab Code 13461

Project: Case No.: 90448 Location: SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 9044806

Sample wt/vol: 10.31 (g/ml) G Lab File ID: D1169.D

Level: (low/med) LOW Date Received: 11/19/2009

% Moisture: 17.7 decanted: (Y/N) N Date Extracted: 11/19/2009

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/20/2009

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 21 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | xylene | 8.07 | 750 | J |
| 2. | Alkane: Cyclic | 8.35 | 620 | J |
| 3. | C3 alkyl benzene | 8.55 | 580 | J |
| 4. | Alkane: Cyclic | 8.69 | 2000 | J |
| 5. | C3 alkyl benzene | 9.43 | 570 | J |
| 6. | unknown hydrocarbon | 9.57 | 1700 | J |
| 7. | C3 alkyl benzene | 9.68 | 5200 | J |
| 8. | C4 alkyl benzene | 10.13 | 1400 | J |
| 9. | Alkane: Cyclic | 10.29 | 4500 | J |
| 10. | C4 alkyl benzene | 10.47 | 1400 | J |
| 11. | Alkane: Branched | 10.53 | 4900 | J |
| 12. | C4 alkyl benzene | 10.60 | 7600 | J |
| 13. | Alkane: Branched | 10.76 | 5100 | J |
| 14. | C5 alkyl benzene | 11.26 | 10000 | J |
| 15. | Alkane: Branched | 11.38 | 9700 | J |
| 16. | Alkane: Cyclic | 11.77 | 15000 | J |
| 17. | C4 alkyl benzene | 12.01 | 24000 | J |
| 18. | Alkane: Branched | 12.13 | 13000 | J |
| 19. | C5 alkyl benzene | 12.26 | 4700 | J |
| 20. | unknown hydrocarbon | 24.30 | 1000 | J |
| 21. | unknown hydrocarbon | 24.98 | 2800 | J |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

| | | | |
|---|---|---|---|
| **Client:** | U.S. Army<br>DPW. SELFM-PW-EV<br>Bldg. 173<br>Ft. Monmouth, NJ 07703 | **Project #:**<br>**Location:**<br>**ECP:**<br>**Work Order:** | 10-11823<br>BLDG. 523 |
| **Analysis:** | OQA-QAM-025 | **Date Received:** | 17-Nov-09 |
| **Matrix:** | Soil | **Date Extracted:** | 18-Oct-09 |
| **Inst. ID:** | GC TPHC INST. #1 | **Extraction Method:** | Shake |
| **Column Type:** | RTX-5, 0.32mm ID, 30 m | **Analysis Complete:** | 19-Nov-09 |
| **Injection Volume:** | 1 uL | **Analyst:** | Robert Szot |
| **Blank Conc.:** | 0.00 | | |

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB11180901 | MB11180901 | 1.00 | 15.00 | 100.00 | 23 | 333 | 0.00 | | |
| LCS11180901 | LCS11180901 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1019.89 | | |
| 9044801 | 543-A NORTH WALL | 1.00 | 14.19 | 78.4 | 31 | 449 | 8205.40 | | |
| 9044802 | 543-B SOUTH WALL | 1.00 | 15.40 | 80.2 | 28 | 405 | 1428.60 | | |
| 9044803 | 543-C EAST WALL | 1.00 | 15.24 | 79.7 | 29 | 412 | 1403.11 | | |
| 9044804 | 543-D WEST WALL | 1.00 | 15.98 | 81.7 | 27 | 383 | 0.00 | | |
| 9044805 | 543-E BOTTOM | 1.00 | 15.34 | 80.7 | 28 | 404 | 0.00 | | |
| 9044806 | 543-F DUPLICATE | 1.00 | 14.73 | 82.3 | 29 | 412 | 10624.20 | | E |
| 9044806 | 543-F DUPLICATE | 2.00 | 14.73 | 82.3 | 58 | 825 | 9744.64 | | D |

**Qualifiers:**

*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*

000070

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Jean Tardiff
Date: 1/7/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 1/7/12

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-11823

**Bldg. 539/Parcel 76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 539-A/Bottom | 9047101 | Soil | 04-Dec-09 10:00 | 12/04/09 |
| 539-B/East Wall | 9047102 | Soil | 04-Dec-09 10:30 | 12/04/09 |
| 539-C/South Wall | 9047103 | Soil | 04-Dec-09 11:00 | 12/04/09 |
| 539-D/North Wall | 9047104 | Soil | 04-Dec-09 14:30 | 12/04/09 |
| 539-Duplicate | 9047105 | Soil | 04-Dec-09 11:00 | 12/04/09 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 2/3/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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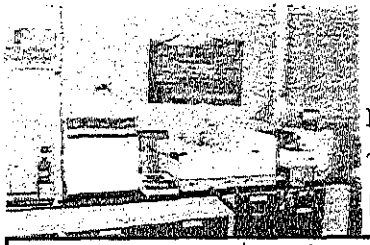
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: X 26292
( )DERA ( )OMA (X)Other: BRAC
Project No: 10-11823
Location: PARCEL 76 BLDG. 539
Samplers Name / Company: FRANK ACCORSI / TVS

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % SOLID | | | | | FID (ppm) | DEPTH (FT) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 09471 01 | 539A-BOTTOM | 12-4-09 | 1000 | SOIL | 1 | X | X | | | | | 0 | 9-9.5 | ICE |
| 02 | 539B-EAST WALL | | 1030 | | | X | X | | | | | 0 | 7.5-8 | |
| 03 | 539C-SOUTH WALL | | 1100 | | | X | X | | | | | 0 | 7.5-8 | |
| 04 | 539D-NORTH WALL | | 1430 | | | X | X | | | | 18 | ~~0.4~~ 18 | 7.5-8 | |
| 05 | 539-DUPLICATE | | 1100 | | | X | X | | | | 0.4 | ~~18~~ 0.4 | 7.5-8 | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 12-4-09 1515 | | | | |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush ~~7 Wk.~~ 7 DAYS, ( )ASAP Verbal ___ Hrs.

Comments:

print legibly



000002

# SAMPLE RECEIPT FORM

Date Received: 12-3-09 Work Order ID#: 90471

Site/Proj. Name: Parcel 16 Cooler Temp (°C): 4.0°C

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS
# POINTS

**U.S. ARMY - FT. MONMOUTH, NJ**

**(former)BUILDING 539 - (1,000 G. UST)**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

**SAMPLE POINTS**

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 539A -NORTH WALL | 541223.244 | 620038.383 |
| 539B -SOUTH WALL | 541195.204 | 620049.158 |
| 539C- EAST WALL | 541216.793 | 620060.172 |
| 539D-WEST WALL | 541205.464 | 620028.486 |
| 539E- BOTTOM 1 | 541211.393 | 620051.387 |
| 539E- BOTTOM 2 | 541204.113 | 620038.068 |

# FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 90471

Site: Bldg. 539

The Field Duplicate was performed on 539-C/South Wall (9047103)

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

# TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits Provided | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range) | Yes |
| 4. | Duplicate Results Summary Meet Criteria | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted | Yes |
| 7. | Analysis holding time met (If not met, list number of days exceeded for each sample) | Yes |

Additional comments: _____

Laboratory Manager: Dean Tudor Date: 2/3/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 90471 **Site:** Bldg. 539

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 12/04/09 | NA |
| **Receipt/Refrigeration** | 12/04/09 | NA |
| **Analyses** | | |
| 1. TPCH | 12/08/09 | 14 Days |

# TPHC
# (SOILS)

**Report of Analysis**
**U.S. Army, Fort Monmouth Environmental Laboratory**
**NJDEP Certification #13461**

| | | | |
|---|---|---|---|
| **Client:** | U.S. Army<br>DPW. SELFM-PW-EV<br>Bldg. 173<br>Ft. Monmouth, NJ 07703 | **Project #:**<br>**Location:**<br>**ECP:**<br>**Work Order:** | 10-11823<br>PARCEL 76 |
| **Analysis:** | OQA-QAM-025 | **Date Received:** | 4-Dec-09 |
| **Matrix:** | Soil | **Date Extracted:** | 7-Dec-09 |
| **Inst. ID:** | GC TPHC INST. #1 | **Extraction Method:** | Shake |
| **Column Type:** | RTX-5, 0.32mm ID, 30 m | **Analysis Complete:** | 8-Dec-09 |
| **Injection Volume:** | 1 uL | **Analyst:** | Robert Szot |
| **Blank Conc.:** | 0.00 | | |

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB12070901 | MB12070901 | 1.00 | 15.02 | 100.00 | 23 | 333 | 0.00 | | |
| LCS12070901 | LCS12070901 | 1.00 | 15.07 | 100.00 | 23 | 332 | 821.96 | | |
| 9047101 | 539A-BOTTOM | 1.00 | 15.06 | 74.6 | 31 | 445 | 0.00 | | |
| 9047102 | 539B-EAST WALL | 1.00 | 15.01 | 77.0 | 30 | 433 | 0.00 | | |
| 9047103 | 539C-SOUTH WALL | 1.00 | 15.17 | 76.1 | 30 | 433 | 0.00 | | |
| 9047104 | 539D-NORTH WALL | 1.00 | 15.04 | 80.0 | 29 | 416 | 291.98 | | J |
| 9047105 | 539 DUPLICATE | 1.00 | 15.14 | 76.7 | 30 | 431 | 0.00 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*

000015

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Sean Tandy

Date: 2/3/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-11823

## Bldg. 539/Parcel 76

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 539-E/West Wall | 9048201 | Soil | 15-Dec-09 13:20 | 12/15/09 |
| 539-F/Bottom | 9048202 | Soil | 15-Dec-09 13:40 | 12/15/09 |
| 539-Duplicate | 9048203 | Soil | 15-Dec-09 13:20 | 12/15/09 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff 2/3/10
Dean Tardiff/Date:
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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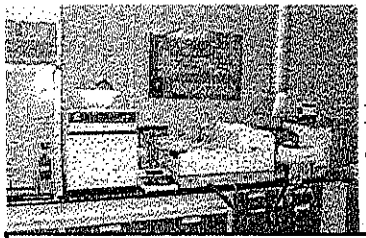
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: X26292
( )DERA ( )OMA (X)Other: BRAC

Project No: 10-11823
Location: PARCEL 76 BLDG. 539

Samplers Name / Company ; FRANK ACCORSI / TVS

Analysis Parameters

Comments:

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPH | % SOLIDS | | | | | FID (PPM) | DEPTH (FT) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 90482 01 | 539-E, WEST WALL | 12-15-09 | 1320 | SOIL | 1 | X | X | | | | | 1 | 7,5-8 | ICE |
| 02 | 539-F, BOTTOM | ↓ | 1340 | | | X | X | | | | | 0 | 9,5-10 | ↓ |
| 03 | 539-DUPLICATE | ↓ | 1320 | | | X | X | | | | | 1 | 7,5-8 | ↓ |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 12-15-09 1445 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 3 Days, ( )ASAP Verbal ____ Hrs.

Remarks:

000002

# SAMPLE RECEIPT FORM

Date Received: 12-15-04 Lab Project ID#: 90482

Site/Project Name: Bldg 534 Cooler Temp (deg. C): 4.0°C

Received By: S. Vergara Sign: J. Vergara
(print name)

**Check the appropriate answer**

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ NA
2. Were the chain of custody papers filled out correctly and legibly? ☑ yes ☐ no
3. Did you sign the chain of custody in the appropriate place? ☑ yes ☐ no
4. Did all the labels agree with the chain of custody and in good condition? ☑ yes ☐ no
5. Were the correct containers and/or preservatives used for the tests indicated? ☑ yes ☐ no
6. Was a sufficient amount of sample sent for the tests indicated? ☑ yes ☐ no
7. Were bubbles absent from aqueous VOC sample containers? ☐ yes ☐ no ☑ NA

**Fill out the following table for each sample bottle**

| Sample ID | pH | Preservative | Sample ID | pH | Preservative |
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Comments:

# GPS POINTS

**U.S. ARMY - FT. MONMOUTH, NJ**

**(former)BUILDING 539 - (1,000 G. UST)**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

**SAMPLE POINTS**

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 539A -NORTH WALL | 541223.244 | 620038.383 |
| 539B -SOUTH WALL | 541195.204 | 620049.158 |
| 539C- EAST WALL | 541216.793 | 620060.172 |
| 539D-WEST WALL | 541205.464 | 620028.486 |
| 539E- BOTTOM 1 | 541211.393 | 620051.387 |
| 539E- BOTTOM 2 | 541204.113 | 620038.068 |

# FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 90482

Site: Bldg. 539

The Field Duplicate was performed on 539-E/West Wall (9048201)

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

9048L TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Dean Tardif 2/3/10

Laboratory Manager Date

12/29/09

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 90471 **Site:** Bldg. 539

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 12/04/09 | NA |
| **Receipt/Refrigeration** | 12/04/09 | NA |
| **Analyses** | | |
| 1. TPHC | 12/08/09 | 14 Days |

# TPHC
# (SOILS)

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

| | | | |
|---|---|---|---|
| **Client:** | U.S. Army<br>DPW. SELFM-PW-EV<br>Bldg. 173<br>Ft. Monmouth, NJ 07703 | **Project #:**<br>**Location:**<br>**ECP:**<br>**Work Order:** | 10-11823<br>PARCEL 76 |
| **Analysis:** | OQA-QAM-025 | **Date Received:** | 4-Dec-09 |
| **Matrix:** | Soil | **Date Extracted:** | 7-Dec-09 |
| **Inst. ID:** | GC TPHC INST. #1 | **Extraction Method:** | Shake |
| **Column Type:** | RTX-5, 0.32mm ID, 30 m | **Analysis Complete:** | 8-Dec-09 |
| **Injection Volume:** | 1 uL | **Analyst:** | Robert Szot |
| **Blank Conc.:** | 0.00 | | |

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB12070901 | MB12070901 | 1.00 | 15.02 | 100.00 | 23 | 333 | 0.00 | | |
| LCS12070901 | LCS12070901 | 1.00 | 15.07 | 100.00 | 23 | 332 | 821.96 | | |
| 9047101 | 539A-BOTTOM | 1.00 | 15.06 | 74.6 | 31 | 445 | 0.00 | | |
| 9047102 | 539B-EAST WALL | 1.00 | 15.01 | 77.0 | 30 | 433 | 0.00 | | |
| 9047103 | 539C-SOUTH WALL | 1.00 | 15.17 | 76.1 | 30 | 433 | 0.00 | | |
| 9047104 | 539D-NORTH WALL | 1.00 | 15.04 | 80.0 | 29 | 416 | 291.98 | | J |
| 9047105 | 539 DUPLICATE | 1.00 | 15.14 | 76.7 | 30 | 431 | 0.00 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*

000045

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Dean Tardiff
Date: 2/3/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

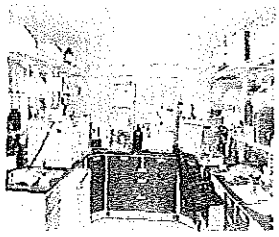
# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-11823

**Parcel 76/Bldg. 538**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 538-A/Bottom | 1000301 | Soil | 05-Jan-10 13:40 | 01/05/10 |
| 538-B/North Wall | 1000302 | Soil | 05-Jan-10 13:15 | 01/05/10 |
| 538-C/East Wall | 1000303 | Soil | 05-Jan-10 15:00 | 01/05/10 |
| 538-Duplicate | 1000304 | Soil | 05-Jan-10 13:15 | 01/05/10 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

ACCUTEST LABORATORIES
BN+15, %SOLIDS

Dean Tardiff 2/1/10
Dean Tardiff/Date:
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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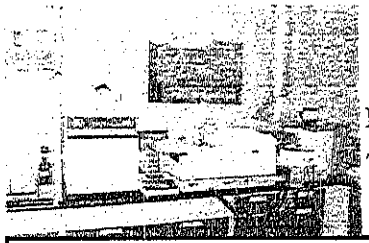
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

Customer: CHUCK APPLEBY | Project No: 10-11823
Phone #: X 26292 | Location: PARCEL 76 BLOC. 538
( )DERA ( )OMA (X)Other: BRAC
Samplers Name / Company: FRANK ACCORSI / IT VS

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | TCLP VOCs | | | | | FID (ppm) | DEPTH (FT) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 003 01 | 538-A, BOTTOM | 1-5-10 | 1340 | SOIL | 1 | X | X | | | | | 1 | 7.5-8 | ICE |
| 02 | 538-B, NORTH WALL | | 1315 | | 1 | X | X | | | | | 2 | 7-7.5 | |
| 03 | 535-C, EAST WALL | | 1500 | | 1 | X | X | | | | | 55 | 6-6.5 | |
| 04 | 538- DUPLICATE | | 1315 | | 1 | X | X | | | | | 1 | 7-7.5 | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 1-5-10 1550 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 3 DAYS ~~Wk.~~, ( )ASAP Verbal ___Hrs.

Comments:

print legibly

Page 1 of 1

new coc. 1.XLS10/9/2009

000003

# SAMPLE RECEIPT FORM

Date Received: 01-05-10 Work Order ID#: 10013

Site/Proj. Name: Bldg 538/UST Cooler Temp (°C): 3.0

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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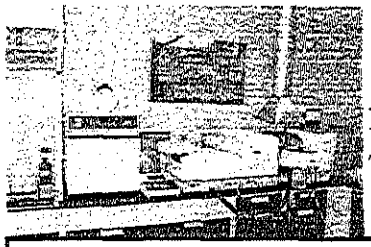

# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:Dean Tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

| Customer: Dean Tardiff | Project No: | Analysis Parameters | | | | | | | | Comments: |
|---|---|---|---|---|---|---|---|---|---|---|
| Phone #: (732)532-4359 | Location: Parcel 76/Bldg. 538 | | | | | | | | | P.O. # C09-20650 |
| ( )DERA ( )OMA ( )Other:_____ | | BN+15 | SIMS | | | | | | | |
| Samplers Name / Company: | | | | | | | | | | |

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | BN+15 | SIMS | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1000303 | 538-C East Wall | 1/5/2010 | 15:00 | Soil | 1 | X | X | | | | | | | |
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| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 1-11-10 915 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush Wk., _( )ASAP Verbal ____Hrs.

Comments: **3 DAY TAT**

No Seal

print legibly

Page ____ of ____

10003. OUT COC_1.xls1/11/2010

000004

# GPS POINTS

U.S. ARMY - FT. MONMOUTH, NJ

(former)BUILDING 538 - (1,000 G. UST)

SOIL SAMPLING GPS POSITIONS & COORDINATES

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 538A BOTTOM | 541266.714 | 620213.306 |
| 538B NORTH WALL | 541276.163 | 620211.728 |
| 538C EAST WALL | 541272.058 | 620231.932 |
| 538D WEST WALL | 541261.611 | 620197.264 |
| 538E EAST WALL PIPE NORTH | 541274.844 | 620229.777 |
| 538F EAST WALL PIPE SOUTH | 541265.898 | 620231.095 |
| 538G SOUTH WALL PIPE EAST | 541257.853 | 620225.483 |
| 538H SOUTH WALL PIPE MIDDLE | 541255.773 | 620216.717 |
| 538I SOUTH WALL PIPE WEST | 541254.562 | 620208.443 |

# FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 10003 Site: Bldg. 538

The Field Duplicate was performed on 538-B/North Wall (1000302)

# METHOD SUMMARY

# Method Summary

## EPA SW-846 Method 8270
## Gas Chromatographic Determination of Semi-volatiles in Soil

Surrogates are added to a 10-gram soil sample that has been dried with sodium sulfate. The sample is then extracted using a soxtherm extractor. The extract is concentrated to 1 ml. Internal standards are added and the sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

ACCUTEST Laboratories

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Fort Monmouth Environmental Testing Lab. | **Job No** | JA37203 |
| **Site:** | Parcel 76/Building 538 | **Report Date** | 1/26/2010 11:58:44 AM |

On 01/11/2010, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.2 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA37203 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Extractables by GCMS By Method SW846 8270C

**Matrix:** SO **Batch ID:** OP41765

- All samples were extracted within the recommended method holding time.
- Sample(s) JA37204-4MS, JA37204-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 2,4-Dinitrotoluene, 2-Chloronaphthalene, 2-Nitroaniline, 4-Bromophenyl phenyl ether, Atrazine, Caprolactam, Fluorene, N-Nitrosodiphenylamine, Naphthalene are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for 2-Chloronaphthalene, 2-Nitroaniline, 4-Bromophenyl phenyl ether, 4-Chloroaniline, Atrazine, Naphthalene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Recovery(s) for 2-Methylnaphthalene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MSD for 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4-Chlorophenyl phenyl ether, Dibenzofuran, Diethyl phthalate, Dimethyl phthalate, Fluorene, N-Nitrosodiphenylamine are outside control limits for sample OP41765-MSD. Probable cause due to sample homogeneity.
- Sample(s) OP41765-MS, OP41765-MSD have surrogates outside control limits. Probable cause due to matrix interference.
- OP41765-MSD for Nitrobenzene-d5: Outside control limits due to matrix interference.
- OP41765-MS for Nitrobenzene-d5: Outside control limits due to matrix interference.
- OP41765-MSD for 4-Chlorophenyl phenyl ether: Outside control limits due to matrix interference.
- OP41765-MSD for Dibenzofuran: Outside control limits due to matrix interference.
- OP41765-MSD for Diethyl phthalate: Outside control limits due to matrix interference.
- OP41765-MSD for Dimethyl phthalate: Outside control limits due to matrix interference.
- OP41765-MSD for Fluorene: Outside control limits due to matrix interference.
- OP41765-MSD for N-Nitrosodiphenylamine: Outside control limits due to matrix interference.

## Extractables by GCMS By Method SW846 8270C BY SIM

| Matrix: SO | Batch ID: OP41765A |
|---|---|

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA37204-4MS, JA37204-4MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene are outside control limits.
- Matrix Spike Recovery(s) for Phenanthrene, Naphthalene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike Duplicate Recovery(s) for Acenaphthene, Naphthalene, Pyrene are outside control limits. Probable cause due to matrix interference.
- OP41765A-BS12 for Indeno(1,2,3-cd)pyrene: Outside of in house control limits.
- OP41765A-BS12 for Dibenzo(a,h)anthracene: Outside of in house control limits.
- OP41765A-MS for Naphthalene: Outside control limits due to matrix interference.

## Wet Chemistry By Method SM18 2540G

| Matrix: SO | Batch ID: GN33875 |
|---|---|

- The data for SM18 2540G meets quality control requirements.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

10 003 TPHc

# TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits Provided | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range) | Yes |
| 4. | Duplicate Results Summary Meet Criteria | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted | Yes |
| 7. | Analysis holding time met (If not met, list number of days exceeded for each sample) | Yes |

Additional comments: _____

Laboratory Manager: _____ Date: _____

1/7/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10003 **Site:** Bldg. 538

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 01/05/10 | NA |
| **Receipt/Refrigeration** | 01/05/10 | NA |

**Analyses**

| | | |
|---|---|---|
| 1. Semi Volatiles | 01/13,14/10 | 14 Days |
| 2. TPHC | 01/07/10 | 14 Days |

# SEMI-VOLATILE ORGANICS

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000303 538-C EAST WALL | | |
| Lab Sample ID: | JA37203-1 | Date Sampled: | 01/05/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 77.7 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16672.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | ND | 37 | 12 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 180 | 6.5 | ug/kg | |
| 120-12-7 | Anthracene | ND | 37 | 13 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 180 | 7.2 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 37 | 12 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 37 | 11 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 37 | 12 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 37 | 14 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 37 | 14 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 74 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 74 | 21 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 74 | 4.3 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 180 | 8.5 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 74 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 180 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 74 | 17 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 74 | 12 | ug/kg | |
| 218-01-9 | Chrysene | ND | 37 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 74 | 15 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 74 | 11 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 74 | 11 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 74 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 74 | 16 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 74 | 14 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 180 | 9.3 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 37 | 13 | ug/kg | |
| 132-64-9 | Dibenzofuran | 118 | 74 | 11 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 74 | 8.2 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 74 | 18 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 74 | 13 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 74 | 13 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 74 | 32 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000303 538-C EAST WALL | | |
| Lab Sample ID: | JA37203-1 | Date Sampled: | 01/05/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 77.7 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 86-73-7 | Fluorene | 487 | 37 | 12 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 74 | 12 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 37 | 10 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 740 | 38 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 180 | 10 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 37 | 13 | ug/kg | |
| 78-59-1 | Isophorone | ND | 74 | 9.9 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 74 | 21 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 180 | 16 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 180 | 15 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 37 | 10 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 74 | 11 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 74 | 9.0 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 180 | 22 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 61% | | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 80% | | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 89% | | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | alkane | 6.19 | 5500 | ug/kg | J |
| | 1H-Indene-dihydro-trimethyl | 6.46 | 2800 | ug/kg | J |
| | unknown | 6.69 | 3200 | ug/kg | J |
| | cycloalkane/alkene | 6.86 | 2300 | ug/kg | J |
| | unknown | 7.64 | 4700 | ug/kg | J |
| | alkane | 7.88 | 8100 | ug/kg | J |
| | unknown | 7.95 | 2300 | ug/kg | J |
| | alkane | 8.02 | 2500 | ug/kg | J |
| | Naphthalene trimethyl | 8.68 | 4600 | ug/kg | J |
| | unknown | 9.08 | 2800 | ug/kg | J |
| | alkane | 9.36 | 8400 | ug/kg | J |
| | alkane | 9.80 | 19000 | ug/kg | J |
| | Dimethylbiphenyl | 9.93 | 4200 | ug/kg | J |
| | alkane | 11.07 | 2600 | ug/kg | J |
| | unknown | 11.98 | 2300 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 75300 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

000018

Raw Data: 4M14660.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000303 538-C EAST WALL | | |
| Lab Sample ID: | JA37203-1 | Date Sampled: | 01/05/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 77.7 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14660.D | 1 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 124 | 3.7 | 0.50 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 3.7 | 1.1 | ug/kg | |
| 120-12-7 | Anthracene | 51.3 | 3.7 | 0.38 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 10.1 | 3.7 | 0.49 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 3.7 | 0.55 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 3.7 | 1.8 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 3.7 | 1.4 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 3.7 | 0.88 | ug/kg | |
| 218-01-9 | Chrysene | 10.0 | 3.7 | 0.50 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 3.7 | 1.1 | ug/kg | |
| 206-44-0 | Fluoranthene | 24.3 | 3.7 | 0.36 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 3.7 | 0.55 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 3.7 | 1.5 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 3.7 | 0.84 | ug/kg | |
| 85-01-8 | Phenanthrene | 167 | 3.7 | 0.57 | ug/kg | |
| 129-00-0 | Pyrene | 117 | 3.7 | 0.42 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 47% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 56% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 57% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

000019

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

| | | | |
|---|---|---|---|
| **Client:** | U.S. Army<br>DPW. SELFM-PW-EV<br>Bldg. 173<br>Ft. Monmouth, NJ 07703 | **Project #:**<br>**Location:**<br>**ECP:**<br>**Work Order:** | 10-11823<br>PARCEL 76 |
| **Analysis:** | OQA-QAM-025 | **Date Received:** | 5-Jan-10 |
| **Matrix:** | Soil | **Date Extracted:** | 6-Jan-10 |
| **Inst. ID:** | GC TPHC INST. #1 | **Extraction Method:** | Shake |
| **Column Type:** | RTX-5, 0.32mm ID, 30 m | **Analysis Complete:** | 7-Jan-10 |
| **Injection Volume:** | 1 uL | **Analyst:** | Robert Szot |
| **Blank Conc.:** | 0.00 | | |

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB01061001 | MB01061001 | 1.00 | 15.08 | 100.00 | 23 | 332 | 0.00 | | |
| LCS01061001 | LCS01061001 | 1.00 | 15.18 | 100.00 | 23 | 329 | 909.93 | | |
| 1000301 | 538-A BOTTOM | 1.00 | 15.07 | 73.6 | 32 | 451 | 0.00 | | |
| 1000302 | 538-B NORTH WALL | 1.00 | 15.10 | 75.1 | 31 | 441 | 0.00 | | |
| 1000303 | 538-C EAST WALL | 1.00 | 15.06 | 79.1 | 29 | 420 | 2533.02 | | |
| 1000304 | 538 DUPLICATE | 1.00 | 15.14 | 73.9 | 31 | 447 | 2696.93 | | D |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*

000109

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Dean Tadiyil

Date: 2/1/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 2/1/10

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-11823

**Parcel 76/Bldg. 538**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 538-D/West Wall | 1000601 | Soil | 07-Jan-10 09:10 | 01/07/10 |
| 538-E/East Wall | 1000602 | Soil | 07-Jan-10 09:30 | 01/07/10 |
| 538-F/East Wall | 1000603 | Soil | 07-Jan-10 09:50 | 01/07/10 |
| 538-G/South Wall | 1000604 | Soil | 07-Jan-10 10:20 | 01/07/10 |
| 538-H/South Wall | 1000605 | Soil | 07-Jan-10 10:45 | 01/07/10 |
| 538-I/South Wall | 1000606 | Soil | 07-Jan-10 11:10 | 01/07/10 |
| 538-Duplicate | 1000607 | Soil | 07-Jan-10 09:50 | 01/07/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

ACCUTEST LABORATORIES
BN+15, %SOLIDS

Dean Tardiff 2/1/10
Dean Tardiff/Date:
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

Customer: CHUCK APPLEBY | Project No: 10-11823
Phone #: X26292 | Location: PARCEL 76 BLDG. 538
( )DERA ( )OMA (X)Other: BRAC
Samplers Name / Company: FRANK ACCORSI / TVS

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % SOLIDS | BTU * | | | | FID (PPM) | DEPTH (FT) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10006 01 | 538-D, WEST WALL | 1-7-10 | 0910 | SOIL | 1 | X | X | X | | | | 0 | 6-6.5 | ICE |
| 02 | 538-E EAST WALL PIPE-NORTH | | 0930 | | | X | X | X | | | | 24 | 6-6.5 | |
| 03 | 538-F, EAST WALL PIPE-SOUTH | | 0950 | | | X | X | X | | | | 24 | 6-6.5 | |
| 04 | 538-G, SOUTH WALL PIPE-EAST | | 1020 | | | X | X | X | | | | 35 | 6-6.5 | |
| 05 | 538-H, SOUTH WALL PIPE-MIDDLE | | 1045 | | | X | X | X | | | | 66 | 6-6.5 | |
| 06 | 538-I, SOUTH WALL PIPE-WEST | | 1110 | | | X | X | X | | | | 43 | 6-6.5 | |
| 07 | 538-DUPLICATE | | 0950 | | | X | X | X | | | | 24 | 6-6.5 | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 1-7-10 1130 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush WK 3 DAYS ( )ASAP Verbal ___Hrs.

Comments: * NAPHTHALENE AND 2-METHYL-NAPHTHALENE

000002

print legibly



new coc._1.XLS10/9/2009

# SAMPLE RECEIPT FORM

Date Received: 1-7-10 Work Order ID#: 100016

Site/Proj. Name: BLM 338/Area 76 Cooler Temp (°C): 3.0°C

Received By: J. Vasquez Sign: J. Vasquez
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| | | | | | |
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| | | | | | |

Comments: _____



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:Dean Tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer: Dean Tardiff**
**Phone #: (732)532-4359**
**( )DERA ( )OMA ( )Other:_____**

Project No:
Location: Bldg. 538/Parcel 76

**Samplers Name / Company:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | Analysis Parameters: BN+15 | Analysis Parameters: SIMS | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|
| 1000601 | 538-D West Wall | 1/7/2010 | 9:10 | Soil | 1 | X | X | |
| 1000602 | 538-E East Wall | 1/7/2010 | 9:30 | Soil | 1 | X | X | |
| 1000603 | 538-F East Wall | 1/7/2010 | 9:50 | Soil | 1 | X | X | |
| 1000604 | 538-G East Wall | 1/7/2010 | 10:20 | Soil | 1 | X | X | |
| 1000605 | 538-H South Wall | 1/7/2010 | 10:45 | Soil | 1 | X | X | |
| 1000606 | 538-I South Wall | 1/7/2010 | 11:10 | Soil | 1 | X | X | |
| 1000607 | 538-Duplicate | 1/7/2010 | 9:50 | Soil | 1 | X | X | |

Comments: P.O. # C03-20650

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 1-11-10 915 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush Wk., _( )ASAP Verbal ____Hrs.

Comments: 3 DAY TAT

print legibly



10006. OUT COC_1.xls1/11/2010

400004

# GPS POINTS

U.S. ARMY - FT. MONMOUTH, NJ

(former)BUILDING 538 - (1,000 G. UST)

SOIL SAMPLING GPS POSITIONS & COORDINATES

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 538A BOTTOM | 541266.714 | 620213.306 |
| 538B NORTH WALL | 541276.163 | 620211.728 |
| 538C EAST WALL | 541272.058 | 620231.932 |
| 538D WEST WALL | 541261.611 | 620197.264 |
| 538E EAST WALL PIPE NORTH | 541274.844 | 620229.777 |
| 538F EAST WALL PIPE SOUTH | 541265.898 | 620231.095 |
| 538G SOUTH WALL PIPE EAST | 541257.853 | 620225.483 |
| 538H SOUTH WALL PIPE MIDDLE | 541255.773 | 620216.717 |
| 538I SOUTH WALL PIPE WEST | 541254.562 | 620208.443 |

# FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 10006 Site: Bldg. 538

The Field Duplicate was performed on 538-F/East Wall (1000603)

# METHOD SUMMARY

# Method Summary

## EPA SW-846 Method 8270
## Gas Chromatographic Determination of Semi-volatiles in Soil

Surrogates are added to a 10-gram soil sample that has been dried with sodium sulfate. The sample is then extracted using a soxtherm extractor. The extract is concentrated to 1 ml. Internal standards are added and the sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

ACCUTEST Laboratories

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| Client: | Fort Monmouth Environmental Testing Lab. | Job No | JA37204 |
| Site: | Parcel 76/Building 538 | Report Date | 1/26/2010 12:09:01 PM |

On 01/11/2010, 7 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.2 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA37204 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Extractables by GCMS By Method SW846 8270C

Matrix: SO Batch ID: OP41765

- All samples were extracted within the recommended method holding time.
- Sample(s) JA37204-4MS, JA37204-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for 2,4-Dinitrotoluene, 2-Chloronaphthalene, 2-Nitroaniline, 4-Bromophenyl phenyl ether, Atrazine, Caprolactam, Fluorene, N-Nitrosodiphenylamine, Naphthalene are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for 2-Chloronaphthalene, 2-Nitroaniline, 4-Bromophenyl phenyl ether, 4-Chloroaniline, Atrazine, Naphthalene, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Recovery(s) for 2-Methylnaphthalene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- RPD(s) for MSD for 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, 4-Chlorophenyl phenyl ether, Acenaphthene, Dibenzofuran, Diethyl phthalate, Dimethyl phthalate, Fluorene, N-Nitrosodiphenylamine are outside control limits for sample OP41765-MSD. Probable cause due to sample homogeneity.
- Sample(s) JA37204-5, OP41765-MS, OP41765-MSD have surrogates outside control limits. Probable cause due to matrix interference.
- OP41765-MSD for Dimethyl phthalate: Outside control limits due to matrix interference.
- OP41765-MSD for 4-Chlorophenyl phenyl ether: Outside control limits due to matrix interference.
- OP41765-MSD for Acenaphthene: Outside control limits due to matrix interference.
- OP41765-MSD for Diethyl phthalate: Outside control limits due to matrix interference.
- OP41765-MS for Nitrobenzene-d5: Outside control limits due to matrix interference.
- OP41765-MSD for Fluorene: Outside control limits due to matrix interference.
- OP41765-MSD for N-Nitrosodiphenylamine: Outside control limits due to matrix interference.
- OP41765-MSD for Nitrobenzene-d5: Outside control limits due to matrix interference.
- JA37204-5 for 2-Fluorobiphenyl: Outside control limits due to dilution.
- JA37204-5 for Nitrobenzene-d5: Outside control limits due to dilution.
- JA37204-5 for Terphenyl-d14: Outside control limits due to dilution.
- OP41765-MSD for Dibenzofuran: Outside control limits due to matrix interference.

## Extractables by GCMS By Method SW846 8270C BY SIM

| Matrix: SO | Batch ID: OP41765A |
|---|---|

- All samples were extracted within the recommended method holding time.
- Sample(s) JA37204-4MS, JA37204-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Blank Spike Recovery(s) for Dibenzo(a,h)anthracene, Indeno(1,2,3-cd)pyrene are outside control limits.
- Matrix Spike Recovery(s) for Phenanthrene, Naphthalene are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike Duplicate Recovery(s) for Acenaphthene, Naphthalene, Pyrene, Fluorene are outside control limits. Outside control limits due to matrix interference.
- RPD(s) for MSD for Fluorene are outside control limits for sample OP41765A-MSD. Probable cause due to sample homogeneity.
- OP41765A-MS for Naphthalene: Outside control limits due to matrix interference.
- OP41765A-BS12 for Dibenzo(a,h)anthracene: Outside of in house control limits.
- OP41765A-BS12 for Indeno(1,2,3-cd)pyrene: Outside of in house control limits.

## Wet Chemistry By Method SM18 2540G

| Matrix: SO | Batch ID: GN33879 |
|---|---|

- The data for SM18 2540G meets quality control requirements.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

10006 TPHC

# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits Provided | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range) | Yes |
| 4. | Duplicate Results Summary Meet Criteria | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples | NO |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted | Yes |
| 7. | Analysis holding time met (If not met, list number of days exceeded for each sample) | Yes |

Additional comments: _____

Laboratory Manager: [signature] Date: 2/1/10

[signature] 1/13/09

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10006 **Site:** Bldg. 538

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 01/07/10 | NA |
| **Receipt/Refrigeration** | 01/07/10 | NA |

**Analyses**

| | | | |
|---|---|---|---|
| 1. | Semi Volatiles | 01/13,14/10 | 14 Days |
| 2. | TPHC | 01/12/10 | 14 Days |

# SEMI-VOLATILE ORGANICS

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000601 538-D WEST WALL | | |
| Lab Sample ID: | JA37204-1 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 82.7 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16668.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 35 | 10 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 35 | 11 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 170 | 6.1 | ug/kg | |
| 120-12-7 | Anthracene | ND | 35 | 12 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 170 | 6.8 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 35 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 35 | 11 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 35 | 12 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 35 | 13 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 35 | 13 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 69 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 69 | 20 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 69 | 4.0 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 170 | 7.9 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 69 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 170 | 11 | ug/kg | |
| 86-74-8 | Carbazole | ND | 69 | 16 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 69 | 11 | ug/kg | |
| 218-01-9 | Chrysene | ND | 35 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 69 | 14 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 69 | 10 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 69 | 10 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 69 | 10 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 69 | 15 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 69 | 13 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 170 | 8.8 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 35 | 12 | ug/kg | |
| 132-64-9 | Dibenzofuran | ND | 69 | 10 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 69 | 7.7 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 69 | 17 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 69 | 12 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 69 | 12 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000601 538-D WEST WALL | | |
| Lab Sample ID: | JA37204-1 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 82.7 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 69 | 31 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 35 | 15 | ug/kg | |
| 86-73-7 | Fluorene | ND | 35 | 11 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 69 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 35 | 9.6 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 690 | 35 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 170 | 9.6 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 35 | 12 | ug/kg | |
| 78-59-1 | Isophorone | ND | 69 | 9.3 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 69 | 19 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 170 | 15 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 170 | 14 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 170 | 13 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 35 | 9.4 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 69 | 10 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 69 | 8.4 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 170 | 21 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 35 | 16 | ug/kg | |
| 129-00-0 | Pyrene | ND | 35 | 13 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 53% | | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 62% | | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 70% | | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 2.26 | 420 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 0 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 4M14657.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000601 538-D WEST WALL | | |
| Lab Sample ID: | JA37204-1 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 82.7 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14657.D | 1 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 3.5 | 0.47 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 3.5 | 1.0 | ug/kg | |
| 120-12-7 | Anthracene | ND | 3.5 | 0.35 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 3.5 | 0.46 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 3.5 | 0.52 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 3.5 | 1.7 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 3.5 | 1.3 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 3.5 | 0.83 | ug/kg | |
| 218-01-9 | Chrysene | ND | 3.5 | 0.47 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 3.5 | 0.99 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 3.5 | 0.34 | ug/kg | |
| 86-73-7 | Fluorene | ND | 3.5 | 0.42 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 3.5 | 0.51 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 3.5 | 1.4 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 3.5 | 0.79 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 3.5 | 0.54 | ug/kg | |
| 129-00-0 | Pyrene | ND | 3.5 | 0.39 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 64% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 63% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 63% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000602 538-E EAST WALL | | |
| Lab Sample ID: | JA37204-2 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 80.2 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16673.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.1 g | 1.0 ml |
| Run #2 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | ND | 36 | 11 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 180 | 6.3 | ug/kg | |
| 120-12-7 | Anthracene | ND | 36 | 12 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 180 | 7.0 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 36 | 12 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 36 | 11 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 36 | 12 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 36 | 13 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 36 | 13 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 71 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 71 | 21 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 71 | 4.1 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 180 | 8.2 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 71 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 180 | 11 | ug/kg | |
| 86-74-8 | Carbazole | ND | 71 | 16 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 71 | 11 | ug/kg | |
| 218-01-9 | Chrysene | ND | 36 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 71 | 14 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 71 | 11 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 71 | 11 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 71 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 71 | 16 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 71 | 14 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 180 | 9.0 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 36 | 12 | ug/kg | |
| 132-64-9 | Dibenzofuran | 157 | 71 | 11 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 71 | 7.9 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 71 | 17 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 71 | 12 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 71 | 13 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 36.7 | 71 | 31 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000602 538-E EAST WALL | | |
| Lab Sample ID: | JA37204-2 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 80.2 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 206-44-0 | Fluoranthene | ND | 36 | 16 | ug/kg | |
| 86-73-7 | Fluorene | 710 | 36 | 12 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 71 | 12 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 36 | 9.9 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 710 | 36 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 180 | 9.9 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 36 | 12 | ug/kg | |
| 78-59-1 | Isophorone | ND | 71 | 9.6 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 71 | 20 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 180 | 16 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 36 | 9.7 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 71 | 10 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 71 | 8.7 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 180 | 21 | ug/kg | |
| 85-01-8 | Phenanthrene | ND | 36 | 16 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 72% | | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 81% | | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 98% | | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | alkane | 6.20 | 6300 | ug/kg | J |
| | 1H-Indene-dihydro-trimethyl | 6.47 | 3400 | ug/kg | J |
| | unknown | 6.54 | 2500 | ug/kg | J |
| | unknown | 6.70 | 4500 | ug/kg | J |
| | Naphthalene tetrahydro-dimethyl | 7.37 | 2500 | ug/kg | J |
| | unknown | 7.64 | 4100 | ug/kg | J |
| | alkane | 7.89 | 7400 | ug/kg | J |
| | alkane | 8.03 | 2600 | ug/kg | J |
| | Naphthalene trimethyl | 8.69 | 4700 | ug/kg | J |
| | unknown | 9.09 | 3100 | ug/kg | J |
| | alkane | 9.38 | 11000 | ug/kg | J |
| | alkane | 9.82 | 23000 | ug/kg | J |
| | unknown | 9.94 | 5400 | ug/kg | J |
| | alkane | 10.54 | 8700 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000602 538-E EAST WALL | | |
| Lab Sample ID: | JA37204-2 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 80.2 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | alkane | 11.08 | 3400 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 92600 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000602 538-E EAST WALL | | |
| Lab Sample ID: | JA37204-2 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 80.2 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14661.D | 1 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.1 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 165 | 3.6 | 0.48 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 3.6 | 1.0 | ug/kg | |
| 120-12-7 | Anthracene | ND | 3.6 | 0.36 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 10.7 | 3.6 | 0.47 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 3.6 | 0.53 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 3.6 | 1.7 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 4.08 | 3.6 | 1.3 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 3.6 | 0.85 | ug/kg | |
| 218-01-9 | Chrysene | 8.01 | 3.6 | 0.48 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 3.6 | 1.0 | ug/kg | |
| 206-44-0 | Fluoranthene | 26.8 | 3.6 | 0.35 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 3.6 | 0.53 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 4.64 | 3.6 | 1.4 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 3.6 | 0.81 | ug/kg | |
| 85-01-8 | Phenanthrene | 62.0 | 3.6 | 0.55 | ug/kg | |
| 129-00-0 | Pyrene | 113 | 3.6 | 0.40 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 62% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 59% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 63% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000603 538-F EAST WALL | | |
| Lab Sample ID: | JA37204-3 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 81.2 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16669.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 476 | 35 | 10 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 35 | 11 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 180 | 6.2 | ug/kg | |
| 120-12-7 | Anthracene | ND | 35 | 12 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 180 | 6.9 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 35 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 35 | 11 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 35 | 12 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 35 | 13 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 35 | 13 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 70 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 70 | 20 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 70 | 4.1 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 180 | 8.1 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 70 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 180 | 11 | ug/kg | |
| 86-74-8 | Carbazole | ND | 70 | 16 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 70 | 11 | ug/kg | |
| 218-01-9 | Chrysene | ND | 35 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 70 | 14 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 70 | 11 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 70 | 10 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 70 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 70 | 15 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 70 | 13 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 180 | 8.9 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 35 | 12 | ug/kg | |
| 132-64-9 | Dibenzofuran | 355 | 70 | 10 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 70 | 7.8 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 70 | 17 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 70 | 12 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 70 | 12 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000603 538-F EAST WALL | | |
| Lab Sample ID: | JA37204-3 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 81.2 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 70 | 31 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 35 | 16 | ug/kg | |
| 86-73-7 | Fluorene | 1240 | 35 | 12 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 70 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 35 | 9.8 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 700 | 36 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 180 | 9.8 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 35 | 12 | ug/kg | |
| 78-59-1 | Isophorone | ND | 70 | 9.5 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 70 | 20 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 180 | 15 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 35 | 9.6 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 70 | 10 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 70 | 8.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 180 | 21 | ug/kg | |
| 85-01-8 | Phenanthrene | 1980 | 35 | 16 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 76% | | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 89% | | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 107% | | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | alkane | 7.91 | 3500 | ug/kg | J |
| | Naphthalene trimethyl | 8.72 | 3000 | ug/kg | J |
| | alkane | 9.39 | 14000 | ug/kg | J |
| | alkane | 9.84 | 30000 | ug/kg | J |
| | Dimethylbiphenyl | 9.96 | 7000 | ug/kg | J |
| | unknown | 10.16 | 3400 | ug/kg | J |
| | alkene | 10.22 | 2900 | ug/kg | J |
| | unknown | 10.32 | 3700 | ug/kg | J |
| | unknown | 10.93 | 3600 | ug/kg | J |
| 30995-64-3 | Methyldibenzothiophene | 11.03 | 3000 | ug/kg | JN |
| | alkane | 11.10 | 4900 | ug/kg | J |
| | unknown | 11.31 | 3500 | ug/kg | J |
| | Phenanthrene methyl | 11.36 | 3900 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000603 538-F EAST WALL | | |
| Lab Sample ID: | JA37204-3 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 81.2 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Phenanthrene dimethyl | 11.97 | 2600 | ug/kg | J |
| | unknown | 12.15 | 3000 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 92000 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000603 538-F EAST WALL | | |
| Lab Sample ID: | JA37204-3 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 81.2 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14658.D | 1 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | ND | 3.5 | 1.0 | ug/kg | |
| 120-12-7 | Anthracene | 144 | 3.5 | 0.36 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 7.23 | 3.5 | 0.46 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 3.5 | 0.53 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 3.5 | 1.7 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 3.5 | 1.3 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 3.5 | 0.84 | ug/kg | |
| 218-01-9 | Chrysene | 7.60 | 3.5 | 0.48 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 3.5 | 1.0 | ug/kg | |
| 206-44-0 | Fluoranthene | 29.8 | 3.5 | 0.35 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 3.5 | 0.52 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 3.5 | 1.4 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 3.5 | 0.81 | ug/kg | |
| 129-00-0 | Pyrene | 134 | 3.5 | 0.40 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 59% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 52% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 59% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000604 538-G EAST WALL | | |
| Lab Sample ID: | JA37204-4 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 81.1 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16676.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | 3M16706.D | 20 | 01/14/10 | KLS | 01/12/10 | OP41765 | E3M732 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | 35.0 g | 1.0 ml |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 2180 | 35 | 10 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 35 | 11 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 180 | 6.2 | ug/kg | |
| 120-12-7 | Anthracene | 935 | 35 | 12 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 180 | 6.9 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 102 | 35 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 51.2 | 35 | 11 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 153 | 35 | 12 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 26.2 | 35 | 13 | ug/kg | J |
| 207-08-9 | Benzo(k)fluoranthene | 34.4 | 35 | 13 | ug/kg | J |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 70 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 70 | 20 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 70 | 4.1 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 180 | 8.1 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 70 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 180 | 11 | ug/kg | |
| 86-74-8 | Carbazole | ND | 70 | 16 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 70 | 11 | ug/kg | |
| 218-01-9 | Chrysene | 162 | 35 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 70 | 14 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 70 | 11 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 70 | 10 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 70 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 70 | 15 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 70 | 13 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 180 | 8.9 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 35 | 12 | ug/kg | |
| 132-64-9 | Dibenzofuran | 1100 | 70 | 10 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 70 | 7.8 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 70 | 17 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 70 | 12 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 70 | 12 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000604 538-G EAST WALL | | |
| Lab Sample ID: | JA37204-4 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 81.1 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 70 | 31 | ug/kg | |
| 206-44-0 | Fluoranthene | 347 | 35 | 16 | ug/kg | |
| 86-73-7 | Fluorene | 2810 | 35 | 12 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 70 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 35 | 9.8 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 700 | 36 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 180 | 9.8 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 19.9 | 35 | 12 | ug/kg | J |
| 78-59-1 | Isophorone | ND | 70 | 9.5 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 50700 [a] | 1400 | 390 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 180 | 16 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 35 | 9.6 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 70 | 10 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 70 | 8.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 180 | 21 | ug/kg | |
| 85-01-8 | Phenanthrene | 8590 [a] | 700 | 320 | ug/kg | |
| 129-00-0 | Pyrene | 1270 | 35 | 14 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 59% | 39% | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 67% | 71% | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 89% | 89% | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | C4 alkyl benzene | 4.43 | 3100 | ug/kg | J |
| | C4 alkyl benzene | 5.11 | 3800 | ug/kg | J |
| | alkane | 5.68 | 2800 | ug/kg | J |
| | Naphthalene tetrahydro-methyl | 5.75 | 2100 | ug/kg | J |
| | alkane | 6.31 | 30000 | ug/kg | J |
| 90-12-0 | Naphthalene, 1-methyl- | 6.79 | 26000 | ug/kg | JN |
| | alkane | 7.27 | 3300 | ug/kg | J |
| | Naphthalene dimethyl | 7.80 | 4500 | ug/kg | J |
| | Naphthalene trimethyl | 8.45 | 1800 | ug/kg | J |
| | Naphthalene trimethyl | 8.80 | 2700 | ug/kg | J |
| | alkane | 9.90 | 1700 | ug/kg | J |
| | unknown | 12.49 | 3500 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000604 538-G EAST WALL | | |
| Lab Sample ID: | JA37204-4 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 81.1 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | unknown | 12.77 | 2800 | ug/kg | J |
| | unknown | 12.82 | 3600 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 91700 | ug/kg | J |

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000604 538-G EAST WALL | | |
| Lab Sample ID: | JA37204-4 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 81.1 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14665.D | 1 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.0 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | ND | 3.5 | 1.0 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 3.5 | 0.52 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 3.5 | 0.81 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 103% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 60% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 59% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000605 538-H SOUTH WALL | | |
| Lab Sample ID: | JA37204-5 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 78.8 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16675.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | 3M16708.D | 20 | 01/14/10 | KLS | 01/12/10 | OP41765 | E3M732 |
| Run #3 | 3M16709.D | 100 | 01/14/10 | KLS | 01/12/10 | OP41765 | E3M732 |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.2 g | 1.0 ml |
| Run #2 | 35.2 g | 1.0 ml |
| Run #3 | 35.2 g | 1.0 ml |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 5070 [a] | 720 | 210 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 36 | 12 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 180 | 6.3 | ug/kg | |
| 120-12-7 | Anthracene | nd | 36 | 13 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 180 | 7.1 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 313 | 36 | 12 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 242 | 36 | 11 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | 263 | 36 | 12 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 104 | 36 | 13 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | 87.9 | 36 | 14 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 72 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 72 | 21 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 180 | 8.3 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 72 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 180 | 12 | ug/kg | |
| 86-74-8 | Carbazole | ND | 72 | 17 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 72 | 11 | ug/kg | |
| 218-01-9 | Chrysene | 370 | 36 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 72 | 15 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 72 | 11 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 72 | 11 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 72 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 72 | 16 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 72 | 14 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 180 | 9.2 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | 22.1 | 36 | 12 | ug/kg | J |
| 132-64-9 | Dibenzofuran | 7700 [a] | 1400 | 210 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 72 | 8.0 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 72 | 18 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 72 | 12 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000605 538-H SOUTH WALL | | |
| Lab Sample ID: | JA37204-5 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 78.8 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 131-11-3 | Dimethyl phthalate | ND | 72 | 13 | ug/kg | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 72 | 32 | ug/kg | |
| 206-44-0 | Fluoranthene | 2420 | 36 | 16 | ug/kg | |
| 86-73-7 | Fluorene | 9060 [a] | 720 | 240 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 72 | 12 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 36 | 10 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 720 | 37 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 180 | 10 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 81.2 | 36 | 13 | ug/kg | |
| 78-59-1 | Isophorone | ND | 72 | 9.7 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 110000 [b] | 7200 | 2000 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 180 | 16 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 91-20-3 | Naphthalene | 29600 [a] | 720 | 200 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 72 | 10 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 72 | 8.8 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 180 | 22 | ug/kg | |
| 85-01-8 | Phenanthrene | 27800 [a] | 720 | 330 | ug/kg | |
| 129-00-0 | Pyrene | 3530 | 36 | 14 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Run# 3 | Limits |
|---|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 43% | 113% | 0% [c] | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 79% | 104% | 0% [c] | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 113% | 111% | 0% [c] | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | C3 alkyl benzene | 3.21 | 3500 | ug/kg | J |
| | C3 alkyl benzene | 3.28 | 5200 | ug/kg | J |
| | alkane | 3.77 | 3600 | ug/kg | J |
| | unknown | 3.82 | 5600 | ug/kg | J |
| | Naphthalene decahydro | 4.13 | 4700 | ug/kg | J |
| | alkane | 4.25 | 7500 | ug/kg | J |
| | C4 alkyl benzene | 4.44 | 10000 | ug/kg | J |
| | alkane | 4.54 | 10000 | ug/kg | J |
| | unknown | 4.61 | 3500 | ug/kg | J |
| | unknown | 5.28 | 14000 | ug/kg | J |
| | unknown | 5.59 | 8500 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000605 538-H SOUTH WALL | | |
| Lab Sample ID: | JA37204-5 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 78.8 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Phenanthrene dimethyl | 12.36 | 5300 | ug/kg | J |
| | unknown | 12.61 | 5200 | ug/kg | J |
| | unknown | 12.90 | 7500 | ug/kg | J |
| | unknown | 13.14 | 4600 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 98700 | ug/kg | J |

(a) Result is from Run# 2
(b) Result is from Run# 3
(c) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000605 538-H SOUTH WALL | | |
| Lab Sample ID: | JA37204-5 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 78.8 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14663.D | 5 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.2 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | ND | 18 | 5.2 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 18 | 2.7 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 47% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 53% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 67% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000606 538-I SOUTH WALL | | |
| Lab Sample ID: | JA37204-6 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 70.4 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16674.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.2 g | 1.0 ml |
| Run #2 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 785 | 40 | 12 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 40 | 13 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 200 | 7.1 | ug/kg | |
| 120-12-7 | Anthracene | ND | 40 | 14 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 200 | 7.9 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 40 | 13 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 40 | 12 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 40 | 13 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 40 | 15 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 40 | 15 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 81 | 15 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 81 | 23 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 81 | 4.7 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 200 | 9.3 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 81 | 13 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 200 | 13 | ug/kg | |
| 86-74-8 | Carbazole | ND | 81 | 19 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 81 | 13 | ug/kg | |
| 218-01-9 | Chrysene | ND | 40 | 14 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 81 | 16 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 81 | 12 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 81 | 12 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 81 | 12 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 81 | 18 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 81 | 15 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 200 | 10 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 40 | 14 | ug/kg | |
| 132-64-9 | Dibenzofuran | 598 | 81 | 12 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 81 | 9.0 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 81 | 20 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 81 | 14 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 81 | 14 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000606 538-I SOUTH WALL | | |
| Lab Sample ID: | JA37204-6 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 70.4 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 81 | 36 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 40 | 18 | ug/kg | |
| 86-73-7 | Fluorene | 1940 | 40 | 13 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 81 | 13 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 40 | 11 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 810 | 41 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 200 | 11 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 40 | 14 | ug/kg | |
| 78-59-1 | Isophorone | ND | 81 | 11 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | 2130 | 81 | 23 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 200 | 18 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 200 | 16 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 200 | 16 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 40 | 11 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 81 | 12 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 81 | 9.8 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 200 | 24 | ug/kg | |
| 85-01-8 | Phenanthrene | 2730 | 40 | 18 | ug/kg | |
| 129-00-0 | Pyrene | 556 | 40 | 15 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 65% | | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 75% | | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 97% | | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | unknown | 5.55 | 2800 | ug/kg | J |
| | alkane | 5.65 | 8300 | ug/kg | J |
| | alkene | 5.79 | 4800 | ug/kg | J |
| | unknown | 5.93 | 4400 | ug/kg | J |
| | alkane | 6.24 | 17000 | ug/kg | J |
| | alkane | 6.64 | 1800 | ug/kg | J |
| | unknown | 6.73 | 9000 | ug/kg | J |
| | unknown | 6.80 | 1800 | ug/kg | J |
| | alkane | 7.94 | 3400 | ug/kg | J |
| | Naphthalene trimethyl | 8.74 | 3300 | ug/kg | J |
| | unknown | 9.13 | 2500 | ug/kg | J |
| | alkane | 9.86 | 2400 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000606 538-I SOUTH WALL | | |
| Lab Sample ID: | JA37204-6 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 70.4 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | unknown | 12.47 | 3200 | ug/kg | J |
| | unknown | 12.74 | 2400 | ug/kg | J |
| | unknown | 12.79 | 2900 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 70000 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000606 538-I SOUTH WALL | | |
| Lab Sample ID: | JA37204-6 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 70.4 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14662.D | 1 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.2 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | ND | 4.0 | 1.2 | ug/kg | |
| 120-12-7 | Anthracene | 178 | 4.0 | 0.41 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 16.5 | 4.0 | 0.53 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | 7.93 | 4.0 | 0.61 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 4.0 | 2.0 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | 5.15 | 4.0 | 1.5 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 4.0 | 0.96 | ug/kg | |
| 218-01-9 | Chrysene | 21.6 | 4.0 | 0.54 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 4.0 | 1.2 | ug/kg | |
| 206-44-0 | Fluoranthene | 84.2 | 4.0 | 0.40 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 4.0 | 0.60 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | 5.10 | 4.0 | 1.6 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 4.0 | 0.92 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 44% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 44% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 47% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000607 538-DUPLICATE | | |
| Lab Sample ID: | JA37204-7 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 80.5 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M16670.D | 1 | 01/13/10 | KLS | 01/12/10 | OP41765 | E3M731 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.4 g | 1.0 ml |
| Run #2 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 431 | 35 | 10 | ug/kg | |
| 208-96-8 | Acenaphthylene | ND | 35 | 11 | ug/kg | |
| 98-86-2 | Acetophenone | ND | 180 | 6.2 | ug/kg | |
| 120-12-7 | Anthracene | ND | 35 | 12 | ug/kg | |
| 1912-24-9 | Atrazine | ND | 180 | 6.9 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | ND | 35 | 11 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 35 | 11 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 35 | 12 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 35 | 13 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 35 | 13 | ug/kg | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 70 | 13 | ug/kg | |
| 85-68-7 | Butyl benzyl phthalate | ND | 70 | 20 | ug/kg | |
| 92-52-4 | 1,1'-Biphenyl | ND | 70 | 4.1 | ug/kg | |
| 100-52-7 | Benzaldehyde | ND | 180 | 8.1 | ug/kg | |
| 91-58-7 | 2-Chloronaphthalene | ND | 70 | 11 | ug/kg | |
| 106-47-8 | 4-Chloroaniline | ND | 180 | 11 | ug/kg | |
| 86-74-8 | Carbazole | ND | 70 | 16 | ug/kg | |
| 105-60-2 | Caprolactam | ND | 70 | 11 | ug/kg | |
| 218-01-9 | Chrysene | ND | 35 | 12 | ug/kg | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 70 | 14 | ug/kg | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 70 | 11 | ug/kg | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 70 | 10 | ug/kg | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 70 | 11 | ug/kg | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 70 | 15 | ug/kg | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 70 | 13 | ug/kg | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 180 | 8.9 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 35 | 12 | ug/kg | |
| 132-64-9 | Dibenzofuran | 333 | 70 | 10 | ug/kg | |
| 84-74-2 | Di-n-butyl phthalate | ND | 70 | 7.8 | ug/kg | |
| 117-84-0 | Di-n-octyl phthalate | ND | 70 | 17 | ug/kg | |
| 84-66-2 | Diethyl phthalate | ND | 70 | 12 | ug/kg | |
| 131-11-3 | Dimethyl phthalate | ND | 70 | 12 | ug/kg | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000607 538-DUPLICATE | | |
| Lab Sample ID: | JA37204-7 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 80.5 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 70 | 31 | ug/kg | |
| 206-44-0 | Fluoranthene | ND | 35 | 15 | ug/kg | |
| 86-73-7 | Fluorene | 1130 | 35 | 12 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 70 | 11 | ug/kg | |
| 87-68-3 | Hexachlorobutadiene | ND | 35 | 9.8 | ug/kg | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 700 | 36 | ug/kg | |
| 67-72-1 | Hexachloroethane | ND | 180 | 9.8 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 35 | 12 | ug/kg | |
| 78-59-1 | Isophorone | ND | 70 | 9.4 | ug/kg | |
| 91-57-6 | 2-Methylnaphthalene | ND | 70 | 20 | ug/kg | |
| 88-74-4 | 2-Nitroaniline | ND | 180 | 15 | ug/kg | |
| 99-09-2 | 3-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 100-01-6 | 4-Nitroaniline | ND | 180 | 14 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 35 | 9.6 | ug/kg | |
| 98-95-3 | Nitrobenzene | ND | 70 | 10 | ug/kg | |
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 70 | 8.6 | ug/kg | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 180 | 21 | ug/kg | |
| 85-01-8 | Phenanthrene | 2080 | 35 | 16 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 77% | | 28-113% |
| 321-60-8 | 2-Fluorobiphenyl | 81% | | 38-107% |
| 1718-51-0 | Terphenyl-d14 | 97% | | 31-116% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Naphthalene tetrahydro-dimethyl | 7.39 | 4000 | ug/kg | J |
| | Naphthalene dimethyl | 7.65 | 7200 | ug/kg | J |
| | alkane | 7.91 | 9700 | ug/kg | J |
| | Naphthalene dimethyl | 7.96 | 3800 | ug/kg | J |
| | unknown | 8.04 | 2900 | ug/kg | J |
| | Naphthalene trimethyl | 8.58 | 3600 | ug/kg | J |
| | Naphthalene trimethyl | 8.71 | 3400 | ug/kg | J |
| | unknown | 9.11 | 5600 | ug/kg | J |
| | alkane | 9.39 | 11000 | ug/kg | J |
| | unknown | 9.42 | 2900 | ug/kg | J |
| | alkane | 9.83 | 24000 | ug/kg | J |
| | unknown | 9.95 | 5700 | ug/kg | J |
| | unknown | 10.32 | 3300 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000607 538-DUPLICATE | | |
| Lab Sample ID: | JA37204-7 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C SW846 3550B | Percent Solids: | 80.5 |
| Project: | Parcel 76/Building 538 | | |

BN TCL List (CLP4.2 list)

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | alkane | 11.10 | 3600 | ug/kg | J |
| | unknown | 11.36 | 3200 | ug/kg | J |
| | Total TIC, Semi-Volatile | | 93900 | ug/kg | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1000607 538-DUPLICATE | | |
| Lab Sample ID: | JA37204-7 | Date Sampled: | 01/07/10 |
| Matrix: | SO - Soil | Date Received: | 01/11/10 |
| Method: | SW846 8270C BY SIM SW846 3550B | Percent Solids: | 80.5 |
| Project: | Parcel 76/Building 538 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M14659.D | 1 | 01/14/10 | KLS | 01/12/10 | OP41765A | E4M662 |
| Run #2 | | | | | | | |

| | Initial Weight | Final Volume |
|---|---|---|
| Run #1 | 35.4 g | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 208-96-8 | Acenaphthylene | ND | 3.5 | 1.0 | ug/kg | |
| 120-12-7 | Anthracene | 75.7 | 3.5 | 0.36 | ug/kg | |
| 56-55-3 | Benzo(a)anthracene | 7.44 | 3.5 | 0.46 | ug/kg | |
| 50-32-8 | Benzo(a)pyrene | ND | 3.5 | 0.53 | ug/kg | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 3.5 | 1.7 | ug/kg | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 3.5 | 1.3 | ug/kg | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 3.5 | 0.84 | ug/kg | |
| 218-01-9 | Chrysene | 7.09 | 3.5 | 0.47 | ug/kg | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 3.5 | 1.0 | ug/kg | |
| 206-44-0 | Fluoranthene | 39.8 | 3.5 | 0.35 | ug/kg | |
| 118-74-1 | Hexachlorobenzene | ND | 3.5 | 0.52 | ug/kg | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 3.5 | 1.4 | ug/kg | |
| 91-20-3 | Naphthalene | ND | 3.5 | 0.80 | ug/kg | |
| 129-00-0 | Pyrene | 162 | 3.5 | 0.40 | ug/kg | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 64% | | 17-113% |
| 321-60-8 | 2-Fluorobiphenyl | 52% | | 21-100% |
| 1718-51-0 | Terphenyl-d14 | 56% | | 15-111% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# TPHC

**Report of Analysis**
**U.S. Army, Fort Monmouth Environmental Laboratory**
**NJDEP Certification #13461**

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:** 10-11823
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:** Soil
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL
**Blank Conc.:** 0.00

**Date Received:** 7-Jan-10
**Date Extracted:** 7-Jan-10
**Extraction Method:** Shake
**Analysis Complete:** 12-Jan-10
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB01071001 | MB01071001 | 1.00 | 15.18 | 100.00 | 23 | 329 | 0.00 | | |
| LCS01071001 | LCS01071001 | 1.00 | 15.11 | 100.00 | 23 | 331 | 992.65 | | |
| 1000601 | 538-D WEST WALL | 1.00 | 15.23 | 82.1 | 28 | 400 | 625.58 | | |
| 1000602 | 538-E EAST WALL PIPE NORTH | 1.00 | 15.29 | 79.3 | 29 | 412 | 2900.36 | | |
| 1000603 | 538-F EAST WALL PIPE SOUTH | 1.00 | 15.20 | 81.0 | 28 | 406 | 4117.53 | | |
| 1000604 | 538-G SOUTH WALL PIPE EAST | 1.00 | 15.09 | 80.8 | 29 | 410 | 8786.85 | E | |
| 1000604 | 538-G SOUTH WALL PIPE EAST | 2.00 | 15.09 | 80.8 | 57 | 820 | 6593.31 | | D |
| 1000605 | 538-H SOUTH WALL PIPE MIDDLE | 1.00 | 15.02 | 80.7 | 29 | 413 | 19087.14 | E | |
| 1000605 | 538-H SOUTH WALL PIPE MIDDLE | 5.00 | 15.02 | 80.7 | 144 | 2063 | 16550.24 | | D |
| 1000606 | 538-I SOUTH WALL PIPE WEST | 1.00 | 15.20 | 71.8 | 32 | 458 | 3359.32 | | |
| 1000607 | 538 DUPLICATE | 1.00 | 15.21 | 82.0 | 28 | 401 | 2303.46 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*

000337

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 2/1/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

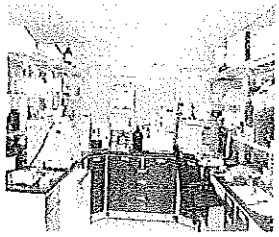
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 2/1/10

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-127102

**PARCEL 76/Bldg.542**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 542-A/South Wall | 1016901 | Soil | 29-Apr-10 14:05 | 04/29/10 |
| 542-B/West Wall | 1016902 | Soil | 29-Apr-10 13:30 | 04/29/10 |
| 542-C/Bottom | 1016903 | Soil | 29-Apr-10 13:10 | 04/29/10 |
| 542-D/East Wall | 1016904 | Soil | 29-Apr-10 13:45 | 04/29/10 |
| 542-Duplicate | 1016905 | Soil | 29-Apr-10 14:05 | 04/29/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 5/11/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamer@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: X 26292
( )DERA ( )OMA (X)Other: BRAC

Project No: 10-127102
Location: PARCEL 76, BLDG. 542

Samplers Name / Company: FRANK ACCORSI / TVS

Analysis Parameters

Comments:

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % SOLIDS | | | | | FID (PPM) | DEPTH (FT) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10109 01 | 542-A, SOUTH WALL | 4-29-10 | 1405 | SOIL | 1 | X | X | | | | | 2.3 | 6-6.5 | ICE |
| 02 | 542-B, WEST WALL | | 1330 | | | X | X | | | | | 0 | ~~7-7.5~~ | 6.5-7 |
| 03 | 542-C, BOTTOM | | 1310 | | | X | X | | | | | 0 | 8.5-9 | |
| 04 | 542-D, EAST WALL | | 1345 | | | X | X | | | | | 5.0 | 6-6.5 | |
| 05 | 542-DUPLICATE | | 1405 | | | X | X | | | | | 1.4 | 6-6.5 | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 4-29-10 1405 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 3 ~~Wk.~~ DAYS, ( )ASAP Verbal ____Hrs.

Comments:

000002

print legibly



new coc._1.XLS8/18/2009

# SAMPLE RECEIPT FORM

Date Received: 4-29-10 Work Order ID#: 10169

Site/Proj. Name: Parcel 76/ Bldg 542 Cooler Temp (°C): 4.5 °C

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? ☑ yes ☐ no ☐ n/a
2. Were samples rec'd in good condition? ☑ yes ☐ no
3. Was the chain of custody filled out correctly and legibly? ☑ yes ☐ no
4. Was the chain of custody signed in the appropriate place? ☑ yes ☐ no
5. Did the labels agree with the chain of custody? ☑ yes ☐ no
6. Were the correct containers/preservatives used? ☑ yes ☐ no
7. Was a sufficient amount of sample supplied? ☑ yes ☐ no
8. Were air bubbles present in VOA vials? ☐ yes ☐ no ☑ n/a
9. Were samples received on ice? ☑ yes ☐ no
10. Were analyze-immediately tests perform within 15 minutes ☐ yes ☐ no ☑ n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS POINTS

**U.S. ARMY - FT. MONMOUTH, NJ**

**BUILDING 542 - (1,000 G. UST)**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

**SAMPLE POINTS**

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 542A SOUTH WALL | 541179.517 | 620118.25 |
| 542B WEST WALL | 541179.843 | 620101.961 |
| 542C BOTTOM | 541185.944 | 620116.053 |
| 542D EAST WALL | 541188.915 | 620130.563 |

# FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 10169

Site: Parcel 76/Bldg. 542

The Field Duplicate was performed on 542-A/South Wall (1016901)

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10169 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. MB043010A1 has 185.37 mg/L of contamination, but none of the samples had any contamination detected. | Yes |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date: 5/11/10

5/3/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10169 **Site:** Parcel 76/Bldg. 542

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 04/29/10 | NA |
| **Receipt/Refrigeration** | 04/29/10 | NA |
| **Analyses** | | |
| 1. TPHC | 04/30/10 | 14 Days |

# TPHC

# Report of Analysis
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:** 10-127102
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:** .
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 29-Apr-10
**Date Extracted:** 30-Apr-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB04301001 | MB04301001 | 1.00 | 15.05 | 100.00 | 23 | 332 | 185.37 | | |
| LCS04301001 | LCS04301001 | 1.00 | 15.05 | 100.00 | 23 | 332 | 1240.26 | | |
| 1016901 | 542-A SOUTH WALL | 1.00 | 15.04 | 83.0 | 28 | 401 | not detected | | |
| 1016902 | 542-B WEST WALL | 1.00 | 15.02 | 77.6 | 30 | 429 | not detected | | |
| 1016903 | 542-C BOTTOM | 1.00 | 15.08 | 74.3 | 31 | 446 | not detected | | |
| 1016904 | 542-D EAST WALL | 1.00 | 15.08 | 78.8 | 29 | 421 | not detected | | |
| 1016905 | 542 DUPLICATE | 1.00 | 15.11 | 84.1 | 28 | 393 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000015

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Dan Tardo

Date: 5/11/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-72654

**PARCEL/76-20**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 541-PE1 | 1017401 | Soil | 04-May-10 13:35 | 05/04/10 |
| 541-PE2 | 1017402 | Soil | 04-May-10 13:45 | 05/04/10 |
| 541-PE3 | 1017403 | Soil | 04-May-10 13:55 | 05/04/10 |
| 541-PE4 | 1017404 | Soil | 04-May-10 14:15 | 05/04/10 |
| 541-PE5 | 1017405 | Soil | 04-May-10 14:45 | 05/04/10 |
| 541-DUP. | 1017406 | Soil | 04-May-10 14:45 | 05/04/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff 6/1/10
Dean Tardiff/Date:
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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| LCS Summary | 25 |
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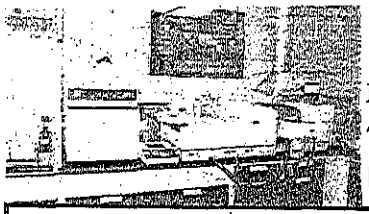
| Laboratory Deliverables Checklist | 46 |
| Laboratory Authentication Statement | 47 |

# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer:** Chuck Appleby
**Phone #:** X26292
( )DERA ( )OMA (X)Other: BRAC

Project No: 10-72654
Location: Parcel 76-20

**Samplers Name / Company:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % SOLIDS | | | | | PID (ppm) | Depth (ft) | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10174 01 | 541 - PE1 | 5-4-10 | 1335 | Solid | 1 | X | X | | | | | 0.0 | 9.0 | ICE |
| 02 | 541 - PE2 | | 1345 | | 1 | X | X | | | | | 0.0 | 11.0 | |
| 03 | 541 - PE3 | | 1355 | | 1 | X | X | | | | | 0.0 | 6.5 | |
| 04 | 541 - PE4 | | 1415 | | 1 | X | X | | | | | 0.0 | 7.5 | |
| 05 | 541 - PE5 | | 1445 | | 1 | X | X | | | | | 0.0 | 6.5 | |
| 06 | 541- Dup | | 1445 | | 1 | X | X | | | | | 0.0 | 6.5 | |

Analysis Parameters: TPH, % SOLIDS

**Comments:**

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 5-4-10 1500 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (X)ASAP Verbal 24 Hrs.

Comments: * Contingent BNT15 if TPH > 1000 ppm
Note PE = Pipe Excavation. Excavated 3.5 5Ton Truck loads of contaminated soil.

000002

print legibly



new coc._1.XLS4/19/2010

# SAMPLE RECEIPT FORM

Date Received: 5-4-10 Work Order ID#: 10174

Site/Proj. Name: Pandel/76-20 Cooler Temp (°C): 4.0°C

Received By: J. Vinquent Sign: [signature]
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS POINTS

U.S. ARMY-FT. MONMOUTH, NJ

BLDG. 541 /Parcel 76-20

SOIL SAMPLING GPS POSITIONS & COORDINATES

US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| POSITION/DESCRIPTION | Y COORDINATE (NORTHING) | X COORDINATE (EASTING) |
|---|---|---|
| 541-PE1 | 541208.844 | 620287.902 |
| 541-PE2 | 541207.577 | 620270.720 |
| 541-PE3 | 541215.109 | 620272.539 |
| 541-PE4 | 541199.366 | 620263.613 |
| 541-PE5 | 541204.470 | 620284.974 |

# FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 10174

Site: Parcel 76-20

The Field Duplicate was performed on 541/PE5 (1017405)

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC 10174

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager _____ Date 6/1/10

5/24/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10174 **Site:** Parcel 76-20

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 05/04/10 | NA |
| **Receipt/Refrigeration** | 05/04/10 | NA |
| **Analyses** | | |
| 1. TPHC | 05/06/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:** 10-172654
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 4-May-10
**Date Extracted:** 6-May-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB05061001 | MB05061001 | 1.00 | 15.05 | 100.00 | 23 | 332 | not detected | | |
| LCS05061001 | LCS05061001 | 1.00 | 15.05 | 100.00 | 23 | 332 | 1167.01 | | |
| 1017401 | 541 PE1 | 1.00 | 15.04 | 83.0 | 28 | 401 | not detected | | |
| 1017402 | 541 PE2 | 1.00 | 15.02 | 77.6 | 30 | 429 | not detected | | |
| 1017403 | 541 PE3 | 1.00 | 15.31 | 79.1 | 29 | 413 | 2189.00 | | |
| 1017404 | 541 PE4 | 1.00 | 15.08 | 78.8 | 29 | 421 | not detected | | |
| 1017405 | 541 PE5 | 1.00 | 15.11 | 84.1 | 28 | 393 | not detected | | |
| 1017406 | 541 DUP | 1.00 | 15.11 | 84.1 | 28 | 393 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000045

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Dean Tardif
Date: 6 / 1 / 10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/1/10
Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 541/East Center (11.5-12.0') | 1021401 | Soil | 25-May-10 08:30 | 05/25/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/11/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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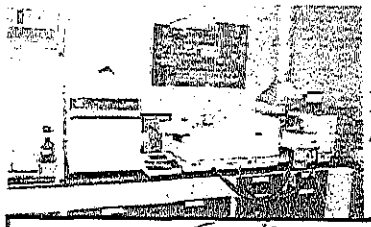
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** X22492
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

**Samplers Name / Company:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | Analysis Parameters | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|
| 10214-01 | S4/East Center (11.5-12') | 05/25/10 | 08:30 | Soil | 1 | ✓ | on ice |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 05/25/10 14:45 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (✓)Rush Wk., ( )ASAP Verbal ___Hrs.

Comments: If TPH concentration is greater than 1,000 mg/kg run Base Neutral analysis.

print legibly

Page 1 of 1

new coc._1.XLS4/19/2010

000002

# SAMPLE RECEIPT FORM

Date Received: 5-25-10 Work Order ID#: 10214

Site/Proj. Name: Panel 76 Cooler Temp (°C): ICE

Received By: Dean Tadda Sign:
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:_____

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
| 541SewerTrenchC(7-7.5) | 541284.384 | 620311.908 |
| 541NorthSPT-NW(7-7.5) | 541294.663 | 620299.965 |
| 541NorthSPT-WW(7-7.5) | 541289.670 | 620293.994 |
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| SPT-12(7-7.5) | 541272.441 | 620276.275 |
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| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10214 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date: 6/11/10

6/11/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10214 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 05/25/10 | NA |
| **Receipt/Refrigeration** | 05/25/10 | NA |
| **Analyses** | | |
| 1. TPHC | 05/27/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:** .
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 25-May-10
**Date Extracted:** 27-May-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB05271001 | MB05271001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS05271001 | LCS05271001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1259.24 | | |
| 1021401 | 541 EAST CENTER (11.5-12') | 1.00 | 15.07 | 72.3 | 32 | 459 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 6/11/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

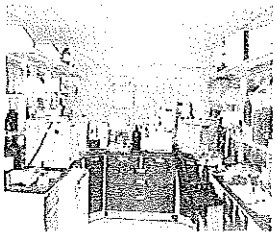
# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/11/10
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 541/South Wall (7.5-8.0') | 1022401 | Soil | 02-Jun-10 13:10 | 06/02/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/11/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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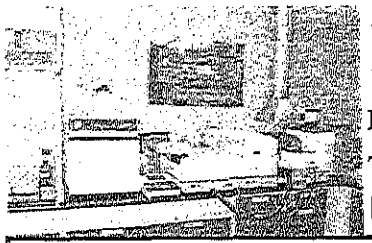
| TPHC | 12 |
| Results Summary | 13 |
| Calibration Summary | 14-17 |
| Surrogate Results Summary | 18 |
| MS/MSD Results Summary | 19 |
| LCS Summary | 20 |
| Raw Sample Data | 21-35 |
| Laboratory Deliverables Checklist | 36 |
| Laboratory Authentication Statement | 37 |

# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

Customer: Fort Monmouth/Applebay
Phone #: X2 21042
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

Samplers Name / Company:

Analysis Parameters

Comments:

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 110224 01 | 541 South Wall (7.5-8') | 06/02/10 | 13:10 | Soil | 1 | ✓ | | | | | | | | |
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| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/02/10 15:15 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (✓)Rush 1 Wk., ( )ASAP Verbal ____Hrs.

Comments: If TPH concentration is greater than 1,000 mg/kg, run Base Neutral analysis.

000002

print legibly

# SAMPLE RECEIPT FORM

Date Received: 10-2-10 Work Order ID#: 10224

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 4.5°C

Received By: J. Vengum Sign: J. Vengum
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
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| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10224 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

[signature] 6/11/10

Laboratory Manager Date

[signature] 6/11/10

# LABORATORY CHRONICLE

000010

# Laboratory Chronicle

**Lab ID:** 10224 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/02/10 | NA |
| **Receipt/Refrigeration** | 06/02/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/04/10 | 14 Days |

# TPHC

**Report of Analysis**
**U.S. Army, Fort Monmouth Environmental Laboratory**
**NJDEP Certification #13461**

| | | | |
|---|---|---|---|
| **Client:** | U.S. Army<br>DPW. SELFM-PW-EV<br>Bldg. 173<br>Ft. Monmouth, NJ 07703 | **Project #:**<br>**Location:**<br>**ECP:**<br>**Work Order:** | <br>PARCEL 76<br><br> |
| **Analysis:** | OQA-QAM-025 | **Date Received:** | 2-Jun-10 |
| **Matrix:** | . | **Date Extracted:** | 4-Jun-10 |
| **Inst. ID:** | GC TPHC INST. #1 | **Extraction Method:** | Shake |
| **Column Type:** | RTX-5, 0.32mm ID, 30 m | **Analyst:** | Robert Szot |
| **Injection Volume:** | 1 uL | | |

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06041001 | MB06041001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06041001 | LCS06041001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1207.36 | | |
| 1022401 | 541 EAST CENTER (11.5-12') | 1.00 | 15.17 | 75.9 | 30 | 434 | 290.38 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000073

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 6/11/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/11/12
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

## PARCEL/76

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 543/North Wall A (7-7.5) | 1024101 | Soil | 07-Jun-10 08:50 | 06/07/10 |
| 543/North Wall B (7-7.5) | 1024102 | Soil | 07-Jun-10 09:45 | 06/07/10 |
| 543/East Wall WP (7-7.5) | 1024103 | Soil | 07-Jun-10 09:50 | 06/07/10 |
| 543/North Wall C (7-7.5) | 1024104 | Soil | 07-Jun-10 10:10 | 06/07/10 |
| 543/North Wall C (9-9.5) | 1024105 | Soil | 07-Jun-10 10:12 | 06/07/10 |
| 543/North Wall D (7-7.5) | 1024106 | Soil | 07-Jun-10 10:20 | 06/07/10 |
| 543/West Wall (7-7.5) | 1024107 | Soil | 07-Jun-10 10:30 | 06/07/10 |
| 543/S.Line Trench A (7-7.5) | 1024108 | Soil | 07-Jun-10 13:10 | 06/07/10 |
| 543/South Wall (7-7.5) | 1024109 | Soil | 07-Jun-10 13:25 | 06/07/10 |
| 543/ S.Line Trench B (7-7.5) | 1024110 | Soil | 07-Jun-10 14:25 | 06/07/10 |

## ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/11/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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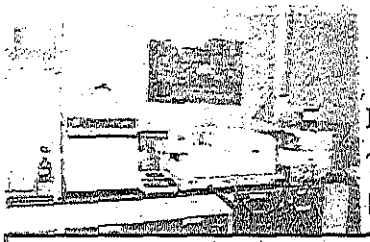
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth / C. Appleby
**Phone #:** 122692
( )DERA ( )OMA ( )Other:_____

**Project No:**
**Location:** Parcel 76

**Samplers Name / Company:**

**Analysis Parameters**

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10 241 01 | 543 North Wall A (7-7.5') | 06/07/10 | 08:50 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 543 North Wall B (7-7.5') | 06/07/10 | 09:45 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | 543 East Wall WP (7-7.5') | 06/07/10 | 09:50 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 543 North Wall C (7-7.5') | 06/07/10 | 10:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | 543 North Wall C (9-9.5') | 06/07/10 | 10:12 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 06 | 543 North Wall D (7-7.5') | 06/07/10 | 10:20 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 07 | 543 West Wall (7-7.5') | 06/07/10 | 10:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 08 | 543 Sewer Line Trench A (7-7.5') | 06/07/10 | 13:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 09 | 543 South Wall (7-7.5') | 06/07/10 | 13:25 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 10 | 543 Sewer Line Trench B (7-7.5') | 06/07/10 | 14:25 | Soil | 1 | ✓ | ✓ | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/07/10 15:00 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH concentration is greater than 1,000 mg/kg; run Base Neutral analysis.

000002

print legibly

Page 1 of 1

new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-7-10 Work Order ID#: 10241

Site/Proj. Name: Parcel 96 Cooler Temp (°C): ICE

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| | | | | | |
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Comments:

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
| 541SewerTrenchC(7-7.5) | 541284.384 | 620311.908 |
| 541NorthSPT-NW(7-7.5) | 541294.663 | 620299.965 |
| 541NorthSPT-WW(7-7.5) | 541289.670 | 620293.994 |
| 541NorthSPT-EW(7-7.5) | 541290.649 | 620304.468 |
| 541SewerTrenchB(9-9.5) | 541283.992 | 620299.965 |
| 542NorthWallA(7-7.5) | 541187.079 | 620048.579 |
| 542EastWall(7-7.5) | 541188.156 | 620069.332 |
| 542WestWall(7-7.5) | 541175.626 | 620029.392 |
| 542SouthWall(7-7.5) | 541169.165 | 620053.277 |
| 542NorthWallB(8-8.5) | 541184.045 | 620036.734 |
| 542NorthWallC(8-8.5) | 541189.625 | 620059.151 |
| 542SewerPipeTrenchA(7-7.5) | 541207.441 | 620053.767 |
| 542SewerPipeTrenchB(7-7.5) | 541199.316 | 620034.580 |
| 542NorthWallD(8-8.5) | 541195.204 | 620060.326 |
| 542NorthWallE(8-8.5) | 541187.667 | 620034.678 |
| 542NorthWallF(11-11.5) | 541200.393 | 620059.249 |
| 542NorthWallG(11-11.5) | 541191.289 | 620033.601 |
| 542NorthWallH(7-7.5) | 541204.994 | 620057.683 |
| 542NorthWallI(8-8.5) | 541204.994 | 620057.683 |
| 542NorthWallJ(7-7.5) | 541195.988 | 620033.601 |
| 542NorthWallK(8-8.5) | 541195.988 | 620033.601 |
| SPT-1(7-7.5) | 541258.443 | 620212.254 |
| SPT-2(7-7.5) | 541255.016 | 620199.626 |
| SPT-3(7-7.5) | 541250.807 | 620191.501 |
| SPT-4(7-7.5) | 541247.674 | 620181.907 |
| SPT-5(7-7.5) | 541244.150 | 620171.335 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| SPT-7(7-7.5) | 541260.890 | 620223.316 |
| SPT-8(7-7.5) | 541264.316 | 620234.182 |
| SPT-9(7-7.5) | 541266.861 | 620243.775 |
| SPT-10(7-7.5) | 541268.819 | 620255.522 |
| SPT-11(7-7.5) | 541271.462 | 620266.584 |
| SPT-12(7-7.5) | 541272.441 | 620276.275 |
| 543WestWallA(7-7.5) | 541140.655 | 619922.819 |
| 543NorthWallC(10.5-11) | 541135.815 | 620030.534 |

| | | |
|---|---|---|
| 543SouthCenterA(9-9.5) | 541136.884 | 619937.670 |
| 543SouthCenterB(9-9.5) | 541143.412 | 619958.695 |
| 543SouthCenterA(11.5-12) | 541137.326 | 619939.773 |
| 543WestWallB(9-9.5) | 541138.654 | 619915.318 |
| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
| 543NorthWallF(11.5-12) | 541161.449 | 619953.162 |
| 543SouthCenterA(11.5-12) | 541135.445 | 619939.220 |
| 538WestWallSS(4-4.5) | 541248.502 | 620205.218 |
| 538NorthWestWall(4-4.5) | 541269.622 | 620215.367 |
| 538EastWallSS(4-4.5) | 541255.542 | 620245.721 |
| 538SB-1(4-4.5) | 541259.382 | 620255.504 |
| 538SB-2(4-4.5) | 541246.124 | 620245.812 |
| 538SB-3(4-4.5) | 541241.827 | 620234.292 |
| 538SB-4(4-4.5) | 541239.267 | 620220.487 |
| 538SB-5(4-4.5) | 541242.742 | 620207.321 |
| 538SouthWallW(7-7.5) | 541245.393 | 620228.715 |
| 543WestWallA(9-9.5) | 541140.655 | 619922.819 |
| 538SB-1(7-7.5) | 541259.382 | 620255.504 |
| 538SB-2(7-7.5) | 541246.124 | 620245.812 |
| 538SB-3(7-7.5) | 541241.827 | 620234.292 |
| 538SB-4(7-7.5) | 541239.267 | 620220.487 |
| 538SB-5(7-7.5) | 541242.742 | 620207.321 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| 541SOUTH WALL 7.5-8 | 541223.415 | 620304.540 |
| 541East Center 11.5-12 | 541222.368 | 620305.052 |
| 541East Center A 8.5-9 | 541235.158 | 620336.639 |
| 541East Wall 7.5-8 | 541259.970 | 620348.496 |
| 541North Wall A 7-7.5 | 541246.303 | 620280.453 |
| 541North Wall B 7-7.5 | 541246.269 | 620280.132 |
| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10241 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager

6/11/10
Date

6/11/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10241 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/07/10 | NA |
| **Receipt/Refrigeration** | 06/07/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/08/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 7-Jun-10
**Date Extracted:** 8-Jun-10 8-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06081001 | MB06081001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06081001 | LCS06081001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1042.93 | | |
| 1024101 | 543 NORTH WALL A (7-7.5') | 1.00 | 15.06 | 82.3 | 28 | 403 | not detected | | |
| 1024102 | 543 NORTH WALL B (7-7.5') | 1.00 | 15.31 | 81.9 | 28 | 399 | 114.54 | | J |
| 1024103 | 543 EAST WALL WP (7-7.5') | 1.00 | 15.18 | 85.1 | 27 | 387 | not detected | | |
| 1024104 | 543 NORTH WALL C (7-7.5') | 1.00 | 15.10 | 80.5 | 29 | 411 | 9944.55 | E | |
| 1024104 | 543 NORTH WALL C (7-7.5') | 2.00 | 15.10 | 80.5 | 58 | 823 | 9778.34 | | D |
| 1024105 | 543 NORTH WALL C (9-9.5') | 1.00 | 15.05 | 66.0 | 35 | 503 | 1093.33 | | |
| 1024106 | 543 NORTH WALL D (7-7.5') | 1.00 | 15.25 | 85.2 | 27 | 385 | not detected | | |
| 1024107 | 543 WEST WALL (7-7.5') | 1.00 | 15.12 | 83.6 | 28 | 396 | 9353.78 | E | |
| 1024107 | 543 WEST WALL (7-7.5') | 2.00 | 15.12 | 83.6 | 55 | 791 | 9835.33 | | D |
| 1024108 | 543 SEWER LINE TRENCH A (7-7.5') | 1.00 | 15.08 | 80.0 | 29 | 414 | 488.47 | | |
| 1024109 | 543 SOUTH WALL (7-7.5') | 1.00 | 15.23 | 82.2 | 28 | 399 | not detected | | |
| 1024110 | 543 SEWER LINE TRENCH B (7-7.5') | 1.00 | 15.18 | 84.5 | 27 | 390 | 255.39 | | J |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 6/11/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

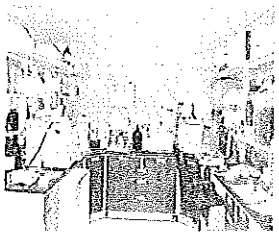
# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 541/North Wall A (7-7.5) | 1024701 | Soil | 08-Jun-10 10:30 | 06/08/10 |
| 541/North Wall B (7-7.5) | 1024702 | Soil | 08-Jun-10 10:32 | 06/08/10 |
| 541/ North Wall C (7-7.5) | 1024703 | Soil | 08-Jun-10 10:40 | 06/08/10 |
| 541/ North Wall D (7-7.5) | 1024704 | Soil | 08-Jun-10 10:42 | 06/08/10 |
| 542/North Wall A (9-9.5) | 1024705 | Soil | 08-Jun-10 13:10 | 06/08/10 |
| 542/East Wall (7-7.5) | 1024706 | Soil | 08-Jun-10 13:15 | 06/08/10 |
| 542/West Wall (7-7.5) | 1024707 | Soil | 08-Jun-10 13:20 | 06/08/10 |
| 542/South Wall (7-7.5) | 1024708 | Soil | 08-Jun-10 13:25 | 06/08/10 |
| 542/North Wall B (8-8.5) | 1024709 | Soil | 08-Jun-10 13:28 | 06/08/10 |
| 542/ North Wall C (8-8.5) | 1024710 | Soil | 08-Jun-10 14:10 | 06/08/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/11/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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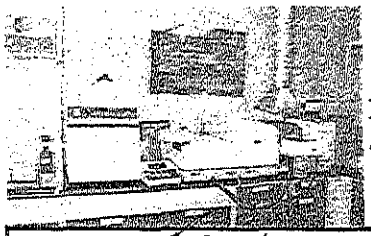
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth / Appleby
**Phone #:** X22642
( )DERA ( )OMA ( )Other:

**Project No:**
**Location:** Parcel 76

**Samplers Name / Company:** Robert Yaughn / TVS

**Analysis Parameters**

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10244 01 | 541 North Wall A (7-7.5') | 06/08/10 | 10:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 541 North Wall B (7-7.5') | 06/08/10 | 10:32 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | 541 North Wall C (7-7.5') | 06/08/10 | 10:40 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 541 North Wall D (7-7.5') | 06/08/10 | 10:42 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | 542 North Wall A (7-7.5') | 06/08/10 | 13:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 06 | 542 East Wall (7-7.5') | 06/08/10 | 13:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 07 | 542 West Wall (7-7.5') | 06/08/10 | 13:20 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 08 | 542 South Wall (7-7.5') | 06/08/10 | 13:25 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 09 | 542 North Wall B (8-8.5') | 06/08/10 | 13:28 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 10 | 542 North Wall C (8-8.5') | 06/08/10 | 14:10 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/08/10 15:10 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments:

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-8-10 Work Order ID#: 102404

Site/Proj. Name: Parcel 16 Cooler Temp (°C): 5.0°C

Received By: J Vaughan Sign: J Vaughan
(Print name)

## Check the appropriate box

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
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| | | | | | |
| | | | | | |

Comments: _____

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
| 541SewerTrenchC(7-7.5) | 541284.384 | 620311.908 |
| 541NorthSPT-NW(7-7.5) | 541294.663 | 620299.965 |
| 541NorthSPT-WW(7-7.5) | 541289.670 | 620293.994 |
| 541NorthSPT-EW(7-7.5) | 541290.649 | 620304.468 |
| 541SewerTrenchB(9-9.5) | 541283.992 | 620299.965 |
| 542NorthWallA(7-7.5) | 541187.079 | 620048.579 |
| 542EastWall(7-7.5) | 541188.156 | 620069.332 |
| 542WestWall(7-7.5) | 541175.626 | 620029.392 |
| 542SouthWall(7-7.5) | 541169.165 | 620053.277 |
| 542NorthWallB(8-8.5) | 541184.045 | 620036.734 |
| 542NorthWallC(8-8.5) | 541189.625 | 620059.151 |
| 542SewerPipeTrenchA(7-7.5) | 541207.441 | 620053.767 |
| 542SewerPipeTrenchB(7-7.5) | 541199.316 | 620034.580 |
| 542NorthWallD(8-8.5) | 541195.204 | 620060.326 |
| 542NorthWallE(8-8.5) | 541187.667 | 620034.678 |
| 542NorthWallF(11-11.5) | 541200.393 | 620059.249 |
| 542NorthWallG(11-11.5) | 541191.289 | 620033.601 |
| 542NorthWallH(7-7.5) | 541204.994 | 620057.683 |
| 542NorthWallI(8-8.5) | 541204.994 | 620057.683 |
| 542NorthWallJ(7-7.5) | 541195.988 | 620033.601 |
| 542NorthWallK(8-8.5) | 541195.988 | 620033.601 |
| SPT-1(7-7.5) | 541258.443 | 620212.254 |
| SPT-2(7-7.5) | 541255.016 | 620199.626 |
| SPT-3(7-7.5) | 541250.807 | 620191.501 |
| SPT-4(7-7.5) | 541247.674 | 620181.907 |
| SPT-5(7-7.5) | 541244.150 | 620171.335 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| SPT-7(7-7.5) | 541260.890 | 620223.316 |
| SPT-8(7-7.5) | 541264.316 | 620234.182 |
| SPT-9(7-7.5) | 541266.861 | 620243.775 |
| SPT-10(7-7.5) | 541268.819 | 620255.522 |
| SPT-11(7-7.5) | 541271.462 | 620266.584 |
| SPT-12(7-7.5) | 541272.441 | 620276.275 |
| 543WestWallA(7-7.5) | 541140.655 | 619922.819 |
| 543NorthWallC(10.5-11) | 541135.815 | 620030.534 |

| | | |
|---|---|---|
| 543SouthCenterA(9-9.5) | 541136.884 | 619937.670 |
| 543SouthCenterB(9-9.5) | 541143.412 | 619958.695 |
| 543SouthCenterA(11.5-12) | 541137.326 | 619939.773 |
| 543WestWallB(9-9.5) | 541138.654 | 619915.318 |
| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
| 543NorthWallF(11.5-12) | 541161.449 | 619953.162 |
| 543SouthCenterA(11.5-12) | 541135.445 | 619939.220 |
| 538WestWallSS(4-4.5) | 541248.502 | 620205.218 |
| 538NorthWestWall(4-4.5) | 541269.622 | 620215.367 |
| 538EastWallSS(4-4.5) | 541255.542 | 620245.721 |
| 538SB-1(4-4.5) | 541259.382 | 620255.504 |
| 538SB-2(4-4.5) | 541246.124 | 620245.812 |
| 538SB-3(4-4.5) | 541241.827 | 620234.292 |
| 538SB-4(4-4.5) | 541239.267 | 620220.487 |
| 538SB-5(4-4.5) | 541242.742 | 620207.321 |
| 538SouthWallW(7-7.5) | 541245.393 | 620228.715 |
| 543WestWallA(9-9.5) | 541140.655 | 619922.819 |
| 538SB-1(7-7.5) | 541259.382 | 620255.504 |
| 538SB-2(7-7.5) | 541246.124 | 620245.812 |
| 538SB-3(7-7.5) | 541241.827 | 620234.292 |
| 538SB-4(7-7.5) | 541239.267 | 620220.487 |
| 538SB-5(7-7.5) | 541242.742 | 620207.321 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| 541SOUTH WALL 7.5-8 | 541223.415 | 620304.540 |
| 541East Center 11.5-12 | 541222.368 | 620305.052 |
| 541East Center A 8.5-9 | 541235.158 | 620336.639 |
| 541East Wall 7.5-8 | 541259.970 | 620348.496 |
| 541North Wall A 7-7.5 | 541246.303 | 620280.453 |
| 541North Wall B 7-7.5 | 541246.269 | 620280.132 |
| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10247 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date: 6/11/10

6/11/10

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10247 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/08/10 | NA |
| **Receipt/Refrigeration** | 06/08/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/09/10 | 14 Days |

# TPHC

**Report of Analysis**
**U.S. Army, Fort Monmouth Environmental Laboratory**
**NJDEP Certification #13461**

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 8-Jun-10
**Date Extracted:** 9-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06091001 | MB06091001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06091001 | LCS06091001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1133.21 | | |
| 1024701 | 541 NORTH WALL A (7-7.5') | 1.00 | 15.14 | 82.7 | 28 | 399 | not detected | | |
| 1024702 | 541 NORTH WALL B (7-7.5') | 1.00 | 15.19 | 81.6 | 28 | 403 | 462.41 | | |
| 1024703 | 541 NORTH WALL C (7-7.5') | 1.00 | 15.09 | 89.0 | 26 | 372 | 337.91 | | J |
| 1024704 | 541 NORTH WALL D (7-7.5') | 1.00 | 15.07 | 75.4 | 31 | 440 | 288.49 | | J |
| 1024705 | 542 NORTH WALL A (7-7.5') | 1.00 | 15.21 | 86.4 | 27 | 380 | 285.16 | | J |
| 1024706 | 542 EAST WALL (7-7.5') | 1.00 | 15.09 | 91.5 | 25 | 362 | 288.47 | | J |
| 1024707 | 542 WEST WALL (7-7.5') | 1.00 | 15.15 | 82.0 | 28 | 402 | 315.98 | | J |
| 1024708 | 542 SOUTH WALL (7-7.5') | 1.00 | 15.20 | 77.9 | 30 | 422 | not detected | | |
| 1024709 | 542 NORTH WALL B (8-8.5') | 1.00 | 15.25 | 76.6 | 30 | 428 | 2510.00 | | |
| 1024710 | 542 NORTH WALL C (8-8.5') | 1.00 | 15.04 | 76.1 | 31 | 437 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000012

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

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**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Jean Tang

Date: 6/10/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

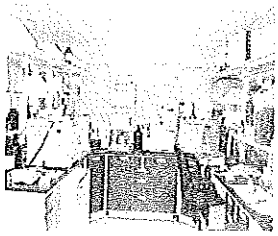
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/10/10

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 543/West Wall A (7.0-7.5') | 1025301 | Soil | 09-Jun-10 10:30 | 06/09/10 |
| 543/West Wall A (9.0-9.5') | 1025302 | Soil | 09-Jun-10 10:32 | 06/09/10 |
| 542/Sewer Pipe Trench A (7-7.5') | 1025303 | Soil | 09-Jun-10 13:50 | 06/09/10 |
| 542/ Sewer Pipe Trench B (7-7.5') | 1025304 | Soil | 09-Jun-10 14:00 | 06/09/10 |
| 543/North Wall C (10.5-11.0') | 1025305 | Soil | 09-Jun-10 15:20 | 06/09/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/30/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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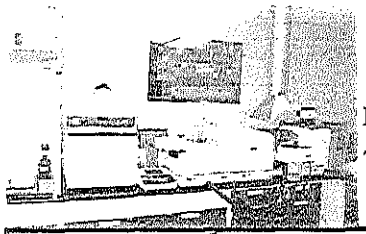
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth / C. [illegible]
**Phone #:** X32642
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 26

**Samplers Name / Company:** Robert Youhas / TVS

Analysis Parameters

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10253 01 | 543 West Wall A (7-7.5') | 06/09/10 | 10:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 543 West Wall A (9-9.5') | 06/09/10 | 10:32 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | 542 Sewer Pipe Trench A (7-7.5') | 06/09/10 | 13:50 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 542 Sewer Pipe Trench B (7-7.5') | 06/09/10 | 14:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | 543 North Wall C (10.5-11') | 06/09/10 | 15:20 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/09/10 15:10 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH exceeds 1,000 mg/kg, run Base Neutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-9-10 Work Order ID#: 10253

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 5.5°C

Received By: J. Vergara Sign: J. Vergara
(Print name)

## Check the appropriate box

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
| 541SewerTrenchC(7-7.5) | 541284.384 | 620311.908 |
| 541NorthSPT-NW(7-7.5) | 541294.663 | 620299.965 |
| 541NorthSPT-WW(7-7.5) | 541289.670 | 620293.994 |
| 541NorthSPT-EW(7-7.5) | 541290.649 | 620304.468 |
| 541SewerTrenchB(9-9.5) | 541283.992 | 620299.965 |
| 542NorthWallA(7-7.5) | 541187.079 | 620048.579 |
| 542EastWall(7-7.5) | 541188.156 | 620069.332 |
| 542WestWall(7-7.5) | 541175.626 | 620029.392 |
| 542SouthWall(7-7.5) | 541169.165 | 620053.277 |
| 542NorthWallB(8-8.5) | 541184.045 | 620036.734 |
| 542NorthWallC(8-8.5) | 541189.625 | 620059.151 |
| 542SewerPipeTrenchA(7-7.5) | 541207.441 | 620053.767 |
| 542SewerPipeTrenchB(7-7.5) | 541199.316 | 620034.580 |
| 542NorthWallD(8-8.5) | 541195.204 | 620060.326 |
| 542NorthWallE(8-8.5) | 541187.667 | 620034.678 |
| 542NorthWallF(11-11.5) | 541200.393 | 620059.249 |
| 542NorthWallG(11-11.5) | 541191.289 | 620033.601 |
| 542NorthWallH(7-7.5) | 541204.994 | 620057.683 |
| 542NorthWallI(8-8.5) | 541204.994 | 620057.683 |
| 542NorthWallJ(7-7.5) | 541195.988 | 620033.601 |
| 542NorthWallK(8-8.5) | 541195.988 | 620033.601 |
| SPT-1(7-7.5) | 541258.443 | 620212.254 |
| SPT-2(7-7.5) | 541255.016 | 620199.626 |
| SPT-3(7-7.5) | 541250.807 | 620191.501 |
| SPT-4(7-7.5) | 541247.674 | 620181.907 |
| SPT-5(7-7.5) | 541244.150 | 620171.335 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| SPT-7(7-7.5) | 541260.890 | 620223.316 |
| SPT-8(7-7.5) | 541264.316 | 620234.182 |
| SPT-9(7-7.5) | 541266.861 | 620243.775 |
| SPT-10(7-7.5) | 541268.819 | 620255.522 |
| SPT-11(7-7.5) | 541271.462 | 620266.584 |
| SPT-12(7-7.5) | 541272.441 | 620276.275 |
| 543WestWallA(7-7.5) | 541140.655 | 619922.819 |
| 543NorthWallC(10.5-11) | 541135.815 | 620030.534 |

| | | |
|---|---|---|
| 543SouthCenterA(9-9.5) | 541136.884 | 619937.670 |
| 543SouthCenterB(9-9.5) | 541143.412 | 619958.695 |
| 543SouthCenterA(11.5-12) | 541137.326 | 619939.773 |
| 543WestWallB(9-9.5) | 541138.654 | 619915.318 |
| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
| 543NorthWallF(11.5-12) | 541161.449 | 619953.162 |
| 543SouthCenterA(11.5-12) | 541135.445 | 619939.220 |
| 538WestWallSS(4-4.5) | 541248.502 | 620205.218 |
| 538NorthWestWall(4-4.5) | 541269.622 | 620215.367 |
| 538EastWallSS(4-4.5) | 541255.542 | 620245.721 |
| 538SB-1(4-4.5) | 541259.382 | 620255.504 |
| 538SB-2(4-4.5) | 541246.124 | 620245.812 |
| 538SB-3(4-4.5) | 541241.827 | 620234.292 |
| 538SB-4(4-4.5) | 541239.267 | 620220.487 |
| 538SB-5(4-4.5) | 541242.742 | 620207.321 |
| 538SouthWallW(7-7.5) | 541245.393 | 620228.715 |
| 543WestWallA(9-9.5) | 541140.655 | 619922.819 |
| 538SB-1(7-7.5) | 541259.382 | 620255.504 |
| 538SB-2(7-7.5) | 541246.124 | 620245.812 |
| 538SB-3(7-7.5) | 541241.827 | 620234.292 |
| 538SB-4(7-7.5) | 541239.267 | 620220.487 |
| 538SB-5(7-7.5) | 541242.742 | 620207.321 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| 541SOUTH WALL 7.5-8 | 541223.415 | 620304.540 |
| 541East Center 11.5-12 | 541222.368 | 620305.052 |
| 541East Center A 8.5-9 | 541235.158 | 620336.639 |
| 541East Wall 7.5-8 | 541259.970 | 620348.496 |
| 541North Wall A 7-7.5 | 541246.303 | 620280.453 |
| 541North Wall B 7-7.5 | 541246.269 | 620280.132 |
| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |
| 538SouthWallE(7-7.5) | 541249.855 | 620240.322 |

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10253 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date 6/30/10

6/29/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10253 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/09/10 | NA |
| **Receipt/Refrigeration** | 06/09/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/10/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:** .
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 9-Jun-10
**Date Extracted:** 10-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06101001 | MB06101001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06101001 | LCS06101001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 890.48 | | |
| 1025301 | 543 WEST WALL A (7-7.5') | 1.00 | 15.02 | 82.9 | 28 | 402 | not detected | | |
| 1025302 | 543 WEST WALL A (9-9.5') | 1.00 | 15.01 | 83.5 | 28 | 399 | 1281.62 | | |
| 1025303 | 542 SEWER PIPE TRENCH A (7-7.5') | 1.00 | 15.02 | 78.2 | 30 | 426 | not detected | | |
| 1025304 | 542 SEWER PIPE TRENCH B (7-7.5') | 1.00 | 15.12 | 78.7 | 29 | 420 | not detected | | |
| 1025305 | 543 NORTH WALL C (10.5-11') | 1.00 | 15.07 | 82.8 | 28 | 401 | 2354.88 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Jean Lee

Date: 6/30/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager

6/30/10

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL 76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 543-South Ctr. A/9-9.5' | 1025801 | Soil | 10-Jun-10 11:10 | 06/10/10 |
| 543- South Ctr. B/9-9.5' | 1025802 | Soil | 10-Jun-10 11:15 | 06/10/10 |
| 543-Overburden A | 1025803 | Soil | 10-Jun-10 13:15 | 06/10/10 |
| 542- Overburden A | 1025804 | Soil | 10-Jun-10 13:20 | 06/10/10 |
| 541- Overburden A | 1025805 | Soil | 10-Jun-10 13:25 | 06/10/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/15/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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| MS/MSD Results Summary | 19 |
| LCS Summary | 20 |
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| Laboratory Authentication Statement | 43 |

# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth Sippleby
**Phone #:** X221042
( )DERA ( )OMA ( )Other:_____

**Project No:**
**Location:** Parcel 76

**Samplers Name / Company:**

**Analysis Parameters**

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | Tomorrow | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10258 01 | 543 South Center A (9-9.5') | 06/10/10 | 11:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 543 South Center B (9-9.5') | 06/10/10 | 11:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | 543 Overburden A | 06/10/10 | 13:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 542 Overburden A | 06/10/10 | 13:20 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | 541 Overburden A | 06/10/10 | 15:25 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/10/10 15:25 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH concentration exceeds 1,000 mg/kg, run Base Neutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-10-10 Work Order ID#: 10258

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 5.0°C

Received By: T. Vergara Sign:
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
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| 542SewerPipeTrenchB(7-7.5) | 541199.316 | 620034.580 |
| 542NorthWallD(8-8.5) | 541195.204 | 620060.326 |
| 542NorthWallE(8-8.5) | 541187.667 | 620034.678 |
| 542NorthWallF(11-11.5) | 541200.393 | 620059.249 |
| 542NorthWallG(11-11.5) | 541191.289 | 620033.601 |
| 542NorthWallH(7-7.5) | 541204.994 | 620057.683 |
| 542NorthWallI(8-8.5) | 541204.994 | 620057.683 |
| 542NorthWallJ(7-7.5) | 541195.988 | 620033.601 |
| 542NorthWallK(8-8.5) | 541195.988 | 620033.601 |
| SPT-1(7-7.5) | 541258.443 | 620212.254 |
| SPT-2(7-7.5) | 541255.016 | 620199.626 |
| SPT-3(7-7.5) | 541250.807 | 620191.501 |
| SPT-4(7-7.5) | 541247.674 | 620181.907 |
| SPT-5(7-7.5) | 541244.150 | 620171.335 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| SPT-7(7-7.5) | 541260.890 | 620223.316 |
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| 543WestWallA(7-7.5) | 541140.655 | 619922.819 |
| 543NorthWallC(10.5-11) | 541135.815 | 620030.534 |

| | | |
|---|---|---|
| 543SouthCenterA(9-9.5) | 541136.884 | 619937.670 |
| 543SouthCenterB(9-9.5) | 541143.412 | 619958.695 |
| 543SouthCenterA(11.5-12) | 541137.326 | 619939.773 |
| 543WestWallB(9-9.5) | 541138.654 | 619915.318 |
| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
| 543NorthWallF(11.5-12) | 541161.449 | 619953.162 |
| 543SouthCenterA(11.5-12) | 541135.445 | 619939.220 |
| 538WestWallSS(4-4.5) | 541248.502 | 620205.218 |
| 538NorthWestWall(4-4.5) | 541269.622 | 620215.367 |
| 538EastWallSS(4-4.5) | 541255.542 | 620245.721 |
| 538SB-1(4-4.5) | 541259.382 | 620255.504 |
| 538SB-2(4-4.5) | 541246.124 | 620245.812 |
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| 538SB-4(4-4.5) | 541239.267 | 620220.487 |
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| 538SouthWallW(7-7.5) | 541245.393 | 620228.715 |
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| 541East Center 11.5-12 | 541222.368 | 620305.052 |
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| 541North Wall B 7-7.5 | 541246.269 | 620280.132 |
| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10258 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Dan Tall
Laboratory Manager

6/14/10
Date

6/14/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10258 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/10/10 | NA |
| **Receipt/Refrigeration** | 06/10/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/11/10 | 14 Days |

# TPHC

**Report of Analysis**
**U.S. Army, Fort Monmouth Environmental Laboratory**
**NJDEP Certification #13461**

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:** .
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 10-Jun-10
**Date Extracted:** 11-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB06111001 | MB06111001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06111001 | LCS06111001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 883.21 | | |
| 1025801 | 543 SOUTH CENTER A (9-9.5') | 1.00 | 15.01 | 63.2 | 37 | 527 | 4104.09 | | |
| 1025802 | 543 SOUTH CENTER B (9-9.5') | 1.00 | 15.00 | 61.7 | 38 | 540 | 579.46 | | |
| 1025803 | 543 OVERBURDEN A | 1.00 | 15.00 | 93.4 | 25 | 357 | 72.56 | | J |
| 1025804 | 542 OVERBURDEN A | 1.00 | 15.00 | 82.9 | 28 | 402 | 186.68 | | J |
| 1025805 | 541 OVERBURDEN A | 1.00 | 15.00 | 89.2 | 26 | 374 | 523.11 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Jeanne Turck

Date: 6/15/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E -- Appendix A, Section IV -- Reduced Data Deliverables -- Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/15/10
Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 542/North Wall D (8.0-8.5') | 1026001 | Soil | 11-Jun-10 10:30 | 06/11/10 |
| 542/North Wall E (8.0-8.5') | 1026002 | Soil | 11-Jun-10 10:55 | 06/11/10 |
| 538/West Wall SS (4.0-4.5') | 1026003 | Soil | 11-Jun-10 14:10 | 06/11/10 |
| 538/NorthWest Wall (4.0-4.5') | 1026004 | Soil | 11-Jun-10 14:15 | 06/11/10 |
| 538/East Wall SS (4.0-4.5') | 1026005 | Soil | 11-Jun-10 14:20 | 06/11/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/18/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

# Table of Contents


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| GPS Points | 4A-4B |
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| Laboratory Chronicle | 9-10 |
| TPHC | 11 |
| Results Summary | 12 |
| Calibration Summary | 13-16 |
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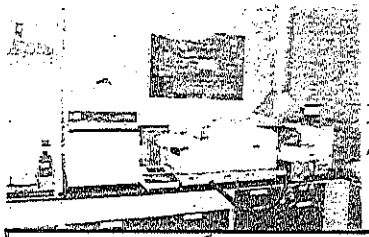
| MS/MSD Results Summary | 18 |
| LCS Summary | 19 |
| Raw Sample Data | 20-40 |
| Laboratory Deliverables Checklist | 41 |
| Laboratory Authentication Statement | 42 |

# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** 122692
( )DERA ( )OMA ( )Other:_____

**Project No:**
**Location:** Parcel 76

**Samplers Name / Company:** Robert Youhas / TUS

**Analysis Parameters**

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10260 01 | 542 North Wall D (8-8.5') | 06/11/10 | 10:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 542 North Wall E (8-8.5') | 06/11/10 | 10:55 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | 538 West Wall SS (4-4.5') | 06/11/10 | 14:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 538 North West Wall (4-4.5') | 06/11/10 | 14:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | 538 East Wall SS (4-4.5') | 06/11/10 | 14:20 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/11/10 15:15 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH exceeds 1,000 mg/kg, run Base Neutral analysis.

print legibly

Page 1 of 1

new coc._1.XLS6/2/2010

000002

# SAMPLE RECEIPT FORM

Date Received: 6-15-10 Work Order ID#: 10260

Site/Proj. Name: Hanoel Mc Cooler Temp (°C): ICE

Received By: J Vergara Sign: J Vergara
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| | | | | | |
| | | | | | |
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| | | | | | |

Comments: _____

_____

_____

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US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
| 541SewerTrenchC(7-7.5) | 541284.384 | 620311.908 |
| 541NorthSPT-NW(7-7.5) | 541294.663 | 620299.965 |
| 541NorthSPT-WW(7-7.5) | 541289.670 | 620293.994 |
| 541NorthSPT-EW(7-7.5) | 541290.649 | 620304.468 |
| 541SewerTrenchB(9-9.5) | 541283.992 | 620299.965 |
| 542NorthWallA(7-7.5) | 541187.079 | 620048.579 |
| 542EastWall(7-7.5) | 541188.156 | 620069.332 |
| 542WestWall(7-7.5) | 541175.626 | 620029.392 |
| 542SouthWall(7-7.5) | 541169.165 | 620053.277 |
| 542NorthWallB(8-8.5) | 541184.045 | 620036.734 |
| 542NorthWallC(8-8.5) | 541189.625 | 620059.151 |
| 542SewerPipeTrenchA(7-7.5) | 541207.441 | 620053.767 |
| 542SewerPipeTrenchB(7-7.5) | 541199.316 | 620034.580 |
| 542NorthWallD(8-8.5) | 541195.204 | 620060.326 |
| 542NorthWallE(8-8.5) | 541187.667 | 620034.678 |
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| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
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| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# GPS POINTS

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10260 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date: 6/15/10

6/15/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10260 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/11/10 | NA |
| **Receipt/Refrigeration** | 06/11/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/14/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 11-Jun-10
**Date Extracted:** 14-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06141001 | MB06141001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06141001 | LCS06141001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 886.03 | | |
| 1026001 | 542 NORTH WALL D (8-8.5') | 1.00 | 15.17 | 78.1 | 30 | 422 | 5421.21 | | |
| 1026002 | 542 NORTH WALL E (8-8.5') | 1.00 | 15.26 | 79.8 | 29 | 411 | 1698.45 | | |
| 1026003 | 538 WEST WALL SS (4-4.5') | 1.00 | 15.21 | 88.5 | 26 | 371 | not detected | | |
| 1026004 | 538 NORTH WEST WALL (4-4.5') | 1.00 | 15.15 | 83.5 | 28 | 395 | not detected | | |
| 1026005 | 538 EAST WALL SS (4-4.5') | 1.00 | 15.10 | 88.5 | 26 | 374 | 3116.05 | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000012

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 6/18/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/18/10
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 541/Sewer Trench A (7.0-7.5') | 1026301 | Soil | 14-Jun-10 09:30 | 06/14/10 |
| 541/ Sewer Trench B (7.0-7.5') | 1026302 | Soil | 14-Jun-10 10:00 | 06/14/10 |
| 541/ Sewer Trench C (7.0-7.5') | 1026303 | Soil | 14-Jun-10 10:30 | 06/14/10 |
| 543/West Wall B (9.0-9.5') | 1026304 | Soil | 14-Jun-10 15:00 | 06/14/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/18/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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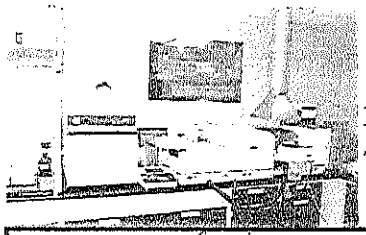
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** X22692
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

**Samplers Name / Company:** Robert Youhas / TVS

Analysis Parameters

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10263-01 | 541 Sewer Trench A (7-7.5') | 06/14/10 | 09:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| -02 | 541 Sewer Trench B (7-7.5') | 06/14/10 | 10:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| -03 | 541 Sewer Trench C (7-7.5') | 06/14/10 | 10:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| -04 | 543 West Wall B (9-9.5') | 06/14/10 | 15:00 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/14/10 15:30 | [signature] 6/15/10 8:00 | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH concentration exceeds 1,000 mg/kg, run Base Neutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-15-10 Work Order ID#: 10263

Site/Proj. Name: Parcel/76 Cooler Temp (°C): ICE

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
| 541SewerTrenchC(7-7.5) | 541284.384 | 620311.908 |
| 541NorthSPT-NW(7-7.5) | 541294.663 | 620299.965 |
| 541NorthSPT-WW(7-7.5) | 541289.670 | 620293.994 |
| 541NorthSPT-EW(7-7.5) | 541290.649 | 620304.468 |
| 541SewerTrenchB(9-9.5) | 541283.992 | 620299.965 |
| 542NorthWallA(7-7.5) | 541187.079 | 620048.579 |
| 542EastWall(7-7.5) | 541188.156 | 620069.332 |
| 542WestWall(7-7.5) | 541175.626 | 620029.392 |
| 542SouthWall(7-7.5) | 541169.165 | 620053.277 |
| 542NorthWallB(8-8.5) | 541184.045 | 620036.734 |
| 542NorthWallC(8-8.5) | 541189.625 | 620059.151 |
| 542SewerPipeTrenchA(7-7.5) | 541207.441 | 620053.767 |
| 542SewerPipeTrenchB(7-7.5) | 541199.316 | 620034.580 |
| 542NorthWallD(8-8.5) | 541195.204 | 620060.326 |
| 542NorthWallE(8-8.5) | 541187.667 | 620034.678 |
| 542NorthWallF(11-11.5) | 541200.393 | 620059.249 |
| 542NorthWallG(11-11.5) | 541191.289 | 620033.601 |
| 542NorthWallH(7-7.5) | 541204.994 | 620057.683 |
| 542NorthWallI(8-8.5) | 541204.994 | 620057.683 |
| 542NorthWallJ(7-7.5) | 541195.988 | 620033.601 |
| 542NorthWallK(8-8.5) | 541195.988 | 620033.601 |
| SPT-1(7-7.5) | 541258.443 | 620212.254 |
| SPT-2(7-7.5) | 541255.016 | 620199.626 |
| SPT-3(7-7.5) | 541250.807 | 620191.501 |
| SPT-4(7-7.5) | 541247.674 | 620181.907 |
| SPT-5(7-7.5) | 541244.150 | 620171.335 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| SPT-7(7-7.5) | 541260.890 | 620223.316 |
| SPT-8(7-7.5) | 541264.316 | 620234.182 |
| SPT-9(7-7.5) | 541266.861 | 620243.775 |
| SPT-10(7-7.5) | 541268.819 | 620255.522 |
| SPT-11(7-7.5) | 541271.462 | 620266.584 |
| SPT-12(7-7.5) | 541272.441 | 620276.275 |
| 543WestWallA(7-7.5) | 541140.655 | 619922.819 |
| 543NorthWallC(10.5-11) | 541135.815 | 620030.534 |

| | | |
|---|---|---|
| 543SouthCenterA(9-9.5) | 541136.884 | 619937.670 |
| 543SouthCenterB(9-9.5) | 541143.412 | 619958.695 |
| 543SouthCenterA(11.5-12) | 541137.326 | 619939.773 |
| 543WestWallB(9-9.5) | 541138.654 | 619915.318 |
| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
| 543NorthWallF(11.5-12) | 541161.449 | 619953.162 |
| 543SouthCenterA(11.5-12) | 541135.445 | 619939.220 |
| 538WestWallSS(4-4.5) | 541248.502 | 620205.218 |
| 538NorthWestWall(4-4.5) | 541269.622 | 620215.367 |
| 538EastWallSS(4-4.5) | 541255.542 | 620245.721 |
| 538SB-1(4-4.5) | 541259.382 | 620255.504 |
| 538SB-2(4-4.5) | 541246.124 | 620245.812 |
| 538SB-3(4-4.5) | 541241.827 | 620234.292 |
| 538SB-4(4-4.5) | 541239.267 | 620220.487 |
| 538SB-5(4-4.5) | 541242.742 | 620207.321 |
| 538SouthWallW(7-7.5) | 541245.393 | 620228.715 |
| 543WestWallA(9-9.5) | 541140.655 | 619922.819 |
| 538SB-1(7-7.5) | 541259.382 | 620255.504 |
| 538SB-2(7-7.5) | 541246.124 | 620245.812 |
| 538SB-3(7-7.5) | 541241.827 | 620234.292 |
| 538SB-4(7-7.5) | 541239.267 | 620220.487 |
| 538SB-5(7-7.5) | 541242.742 | 620207.321 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| 541SOUTH WALL 7.5-8 | 541223.415 | 620304.540 |
| 541East Center 11.5-12 | 541222.368 | 620305.052 |
| 541East Center A 8.5-9 | 541235.158 | 620336.639 |
| 541East Wall 7.5-8 | 541259.970 | 620348.496 |
| 541North Wall A 7-7.5 | 541246.303 | 620280.453 |
| 541North Wall B 7-7.5 | 541246.269 | 620280.132 |
| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10263 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination -- If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date 6/15/10

6/15/10

# METHOD SUMMARY

# Method Summary

## NJDEP Method OQA-QAM-025 02/08
## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10264 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/14/10 | NA |
| **Receipt/Refrigeration** | 06/14/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/15/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 14-Jun-10
**Date Extracted:** 15-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06151001 | MB06151001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06151001 | LCS06151001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 810.53 | | |
| 1026301 | 541 SEWER TRENCH A (7-7.5') | 1.00 | 15.10 | 73.7 | 31 | 449 | not detected | | |
| 1026302 | 541 SEWER TRENCH B (7-7.5') | 1.00 | 15.22 | 82.0 | 28 | 401 | 2314.30 | | |
| 1026303 | 541 SEWER TRENCH C (7-7.5') | 1.00 | 15.16 | 75.3 | 31 | 438 | not detected | | |
| 1026304 | 543 WEST WALL B (9-9.5') | 1.00 | 15.09 | 91.5 | 25 | 362 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000042

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package <u>and</u> in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 6/18/16

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/18/10
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 543/North Wall E (11.5-12.0') | 1026701 | Soil | 16-Jun-10 13:30 | 06/16/10 |
| 543/North Wall F (11.5-12.0') | 1026702 | Soil | 16-Jun-10 14:00 | 06/16/10 |
| 543/South Center A (11.5-12.0') | 1026703 | Soil | 16-Jun-10 14:30 | 06/16/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/30/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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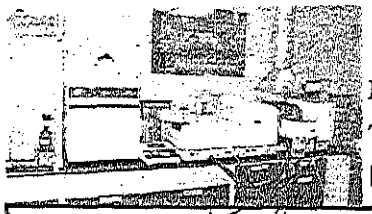
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

Customer: Fort Monmouth
Phone #:
( )DERA ( )OMA ( )Other:_____
Project No:
Location: Parcel 26
Samplers Name / Company: Robert Yunhan / TVS

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | TAL Metals | | | | | | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10207 01 | 543 North Wall E (11.5-12') | 06/16/10 | 15:30 | Soil | 1 | ✓ | ✓ | | | | | | |
| 02 | 543 North Wall F (11.5-12') | 06/16/10 | 14:00 | Soil | 1 | ✓ | ✓ | | | | | | |
| 03 | 543 South Center A (11.5-12') | 06/16/10 | 14:30 | Soil | 1 | ✓ | ✓ | | | | | | |

Analysis Parameters

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 06/16/10 15:00 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., ( )ASAP Verbal 24 Hrs.

Comments: If TPH exceeds 5,000 mg/kg, run Base Neutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-16-10 Work Order ID#: 10267

Site/Proj. Name: Parce / 76 Cooler Temp (°C): 5.0a

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
| 541SewerTrenchA(7-7.5) | 541280.566 | 620294.287 |
| 541SewerTrenchB(7-7.5) | 541280.468 | 620302.119 |
| 541SewerTrenchC(7-7.5) | 541284.384 | 620311.908 |
| 541NorthSPT-NW(7-7.5) | 541294.663 | 620299.965 |
| 541NorthSPT-WW(7-7.5) | 541289.670 | 620293.994 |
| 541NorthSPT-EW(7-7.5) | 541290.649 | 620304.468 |
| 541SewerTrenchB(9-9.5) | 541283.992 | 620299.965 |
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| 542EastWall(7-7.5) | 541188.156 | 620069.332 |
| 542WestWall(7-7.5) | 541175.626 | 620029.392 |
| 542SouthWall(7-7.5) | 541169.165 | 620053.277 |
| 542NorthWallB(8-8.5) | 541184.045 | 620036.734 |
| 542NorthWallC(8-8.5) | 541189.625 | 620059.151 |
| 542SewerPipeTrenchA(7-7.5) | 541207.441 | 620053.767 |
| 542SewerPipeTrenchB(7-7.5) | 541199.316 | 620034.580 |
| 542NorthWallD(8-8.5) | 541195.204 | 620060.326 |
| 542NorthWallE(8-8.5) | 541187.667 | 620034.678 |
| 542NorthWallF(11-11.5) | 541200.393 | 620059.249 |
| 542NorthWallG(11-11.5) | 541191.289 | 620033.601 |
| 542NorthWallH(7-7.5) | 541204.994 | 620057.683 |
| 542NorthWallI(8-8.5) | 541204.994 | 620057.683 |
| 542NorthWallJ(7-7.5) | 541195.988 | 620033.601 |
| 542NorthWallK(8-8.5) | 541195.988 | 620033.601 |
| SPT-1(7-7.5) | 541258.443 | 620212.254 |
| SPT-2(7-7.5) | 541255.016 | 620199.626 |
| SPT-3(7-7.5) | 541250.807 | 620191.501 |
| SPT-4(7-7.5) | 541247.674 | 620181.907 |
| SPT-5(7-7.5) | 541244.150 | 620171.335 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| SPT-7(7-7.5) | 541260.890 | 620223.316 |
| SPT-8(7-7.5) | 541264.316 | 620234.182 |
| SPT-9(7-7.5) | 541266.861 | 620243.775 |
| SPT-10(7-7.5) | 541268.819 | 620255.522 |
| SPT-11(7-7.5) | 541271.462 | 620266.584 |
| SPT-12(7-7.5) | 541272.441 | 620276.275 |
| 543WestWallA(7-7.5) | 541140.655 | 619922.819 |
| 543NorthWallC(10.5-11) | 541135.815 | 620030.534 |

| | | |
|---|---|---|
| 543SouthCenterA(9-9.5) | 541136.884 | 619937.670 |
| 543SouthCenterB(9-9.5) | 541143.412 | 619958.695 |
| 543SouthCenterA(11.5-12) | 541137.326 | 619939.773 |
| 543WestWallB(9-9.5) | 541138.654 | 619915.318 |
| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
| 543NorthWallF(11.5-12) | 541161.449 | 619953.162 |
| 543SouthCenterA(11.5-12) | 541135.445 | 619939.220 |
| 538WestWallSS(4-4.5) | 541248.502 | 620205.218 |
| 538NorthWestWall(4-4.5) | 541269.622 | 620215.367 |
| 538EastWallSS(4-4.5) | 541255.542 | 620245.721 |
| 538SB-1(4-4.5) | 541259.382 | 620255.504 |
| 538SB-2(4-4.5) | 541246.124 | 620245.812 |
| 538SB-3(4-4.5) | 541241.827 | 620234.292 |
| 538SB-4(4-4.5) | 541239.267 | 620220.487 |
| 538SB-5(4-4.5) | 541242.742 | 620207.321 |
| 538SouthWallW(7-7.5) | 541245.393 | 620228.715 |
| 543WestWallA(9-9.5) | 541140.655 | 619922.819 |
| 538SB-1(7-7.5) | 541259.382 | 620255.504 |
| 538SB-2(7-7.5) | 541246.124 | 620245.812 |
| 538SB-3(7-7.5) | 541241.827 | 620234.292 |
| 538SB-4(7-7.5) | 541239.267 | 620220.487 |
| 538SB-5(7-7.5) | 541242.742 | 620207.321 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| 541SOUTH WALL 7.5-8 | 541223.415 | 620304.540 |
| 541East Center 11.5-12 | 541222.368 | 620305.052 |
| 541East Center A 8.5-9 | 541235.158 | 620336.639 |
| 541East Wall 7.5-8 | 541259.970 | 620348.496 |
| 541North Wall A 7-7.5 | 541246.303 | 620280.453 |
| 541North Wall B 7-7.5 | 541246.269 | 620280.132 |
| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |
| 538SouthWallE(7-7.5) | 541249.855 | 620240.322 |

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10267 TPHc

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | no |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date 6/30/10

6/29/10

# LABORATORY CHRONICLE

000010

# Laboratory Chronicle

**Lab ID:** 10267 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/16/10 | NA |
| **Receipt/Refrigeration** | 06/16/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/17/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 16-Jun-10
**Date Extracted:** 17-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06171001 | MB06171001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06171001 | LCS06171001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1027.43 | | |
| 1026701 | 543 NORTH WALL E (11.5-12') | 1.00 | 15.12 | 81.4 | 28 | 406 | 231.06 | | J |
| 1026702 | 543 NORTH WALL F (11-.5-12') | 1.00 | 15.18 | 67.3 | 34 | 489 | not detected | | |
| 1026703 | 543 SOUTH CENTER A (11.5-12') | 1.00 | 15.11 | 69.8 | 33 | 474 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000013

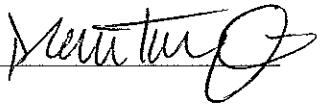
## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature 

Date: 6/20/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E-- Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/30/10

Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

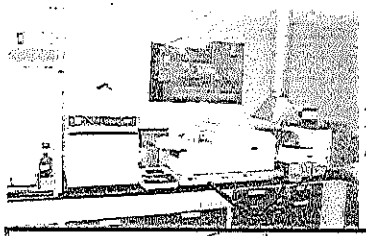
| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 542/North Wall F (11.0-11.5') | 1027801 | Soil | 22-Jun-10 11:20 | 06/22/10 |
| 542/North Wall G (11.0-11.5') | 1027802 | Soil | 22-Jun-10 13:30 | 06/22/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/29/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

Customer: Fort Monmouth Charles
Phone #: X221092 Applebaf
( )DERA ( )OMA ( )Other:

Project No:
Location: Parcel 76

Samplers Name / Company: Robert Youhas / TUS

Analysis Parameters

Comments:

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | Pyrrolidine | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10278 01 | 542 North Wall F (11-11.5) | 06/22/10 | 11:20 | Soil | 1 | ✓ | ✓ | ✓ | | | | | | |
| 02 | 542 North Wall G (11-11.5) | 06/22/10 | 13:30 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/22/10 14:30 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH concentration exceeds 1,000 mg/kg, run Base Neutral analysis.

print legibly

Page 1 of 1

new coc._1.XLS6/2/2010

000002

# SAMPLE RECEIPT FORM

Date Received: 6-22-10 Work Order ID#: 10276

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 5.0°C

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS POINTS

US ARMY-FT. MONMOUTH, NJ
PARCEL 76 SOIL SAMPLES
SOIL SAMPLING GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

| Position/Description | Y Coordinate Northing | X Coordinate (Easting) |
|---|---|---|
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| 542NorthWallC(8-8.5) | 541189.625 | 620059.151 |
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| 542NorthWallI(8-8.5) | 541204.994 | 620057.683 |
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| 542NorthWallK(8-8.5) | 541195.988 | 620033.601 |
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| SPT-2(7-7.5) | 541255.016 | 620199.626 |
| SPT-3(7-7.5) | 541250.807 | 620191.501 |
| SPT-4(7-7.5) | 541247.674 | 620181.907 |
| SPT-5(7-7.5) | 541244.150 | 620171.335 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| SPT-7(7-7.5) | 541260.890 | 620223.316 |
| SPT-8(7-7.5) | 541264.316 | 620234.182 |
| SPT-9(7-7.5) | 541266.861 | 620243.775 |
| SPT-10(7-7.5) | 541268.819 | 620255.522 |
| SPT-11(7-7.5) | 541271.462 | 620266.584 |
| SPT-12(7-7.5) | 541272.441 | 620276.275 |
| 543WestWallA(7-7.5) | 541140.655 | 619922.819 |
| 543NorthWallC(10.5-11) | 541135.815 | 620030.534 |

| | | |
|---|---|---|
| 543SouthCenterA(9-9.5) | 541136.884 | 619937.670 |
| 543SouthCenterB(9-9.5) | 541143.412 | 619958.695 |
| 543SouthCenterA(11.5-12) | 541137.326 | 619939.773 |
| 543WestWallB(9-9.5) | 541138.654 | 619915.318 |
| 543NorthWallE(11.5-12) | 541158.572 | 619937.228 |
| 543NorthWallF(11.5-12) | 541161.449 | 619953.162 |
| 543SouthCenterA(11.5-12) | 541135.445 | 619939.220 |
| 538WestWallSS(4-4.5) | 541248.502 | 620205.218 |
| 538NorthWestWall(4-4.5) | 541269.622 | 620215.367 |
| 538EastWallSS(4-4.5) | 541255.542 | 620245.721 |
| 538SB-1(4-4.5) | 541259.382 | 620255.504 |
| 538SB-2(4-4.5) | 541246.124 | 620245.812 |
| 538SB-3(4-4.5) | 541241.827 | 620234.292 |
| 538SB-4(4-4.5) | 541239.267 | 620220.487 |
| 538SB-5(4-4.5) | 541242.742 | 620207.321 |
| 538SouthWallW(7-7.5) | 541245.393 | 620228.715 |
| 543WestWallA(9-9.5) | 541140.655 | 619922.819 |
| 538SB-1(7-7.5) | 541259.382 | 620255.504 |
| 538SB-2(7-7.5) | 541246.124 | 620245.812 |
| 538SB-3(7-7.5) | 541241.827 | 620234.292 |
| 538SB-4(7-7.5) | 541239.267 | 620220.487 |
| 538SB-5(7-7.5) | 541242.742 | 620207.321 |
| SPT-6(7-7.5) | 541241.214 | 620159.980 |
| 541SOUTH WALL 7.5-8 | 541223.415 | 620304.540 |
| 541East Center 11.5-12 | 541222.368 | 620305.052 |
| 541East Center A 8.5-9 | 541235.158 | 620336.639 |
| 541East Wall 7.5-8 | 541259.970 | 620348.496 |
| 541North Wall A 7-7.5 | 541246.303 | 620280.453 |
| 541North Wall B 7-7.5 | 541246.269 | 620280.132 |
| 541North Wall C 7-7.5 | 541256.757 | 620311.461 |
| 541North Wall D 7-7.5 | 541257.339 | 620311.169 |
| 543North Wall A 7-7.5 | 541155.554 | 619954.073 |
| 543North Wall B 7-7.5 | 541155.842 | 619953.440 |
| 543East Wall WP 7-7.5 | 541154.297 | 619968.221 |
| 543North Wall C 7-7.5 | 541152.589 | 619939.641 |
| 543North Wall C 9-9.5 | 541152.675 | 619939.569 |
| 543North Wall D 7-7.5 | 541154.018 | 619938.735 |
| 543West Wall 7-7.5 | 541141.742 | 619929.256 |
| 543South Wall 7-7.5 | 541134.155 | 619953.524 |
| 543Sewer Line Trench A 7-7.5 | 541167.767 | 619943.888 |
| 543Sewer Line Trench B 7-7.5 | 541159.199 | 619923.441 |

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10178 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date 6/29/10

6/29/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10278 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/22/10 | NA |
| **Receipt/Refrigeration** | 06/22/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/23/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 22-Jun-10
**Date Extracted:** 23-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06231001 | MB06231001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06231001 | LCS06231001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1221.26 | | |
| 1027801 | 542 NORTH WALL F (11-11.5') | 1.00 | 15.20 | 74.8 | 31 | 440 | not detected | | |
| 1027802 | 542 NORTH WALL G (11-11.5') | 1.00 | 15.21 | 73.2 | 31 | 449 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Sean Tardy
Date: 6/29/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager 6/29/10

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 542/North Wall H (7.0-7.5') | 1028401 | Soil | 24-Jun-10 13:10 | 06/24/10 |
| 542/Overburden C | 1028402 | Soil | 24-Jun-10 13:15 | 06/24/10 |
| 542/North Wall I (8.0-8.5') | 1028403 | Soil | 24-Jun-10 13:45 | 06/24/10 |
| 542/ Overburden D | 1028404 | Soil | 24-Jun-10 14:00 | 06/24/10 |
| 542/North Wall J (7.0-7.5') | 1028405 | Soil | 24-Jun-10 14:30 | 06/24/10 |
| 542/North Wall K (8.0-8.5') | 1028406 | Soil | 24-Jun-10 14:45 | 06/24/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/30/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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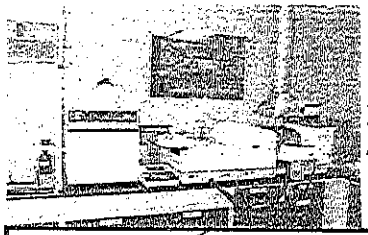
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** X22643
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

**Samplers Name / Company:** Robert Yonhas / TVS

Analysis Parameters

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10284 01 | 542 North Wall H (7-7.5') | 06/24/10 | 13:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 542 Overburden C | 06/24/10 | 13:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | 542 North Wall I (8-8.5') | 06/24/10 | 13:45 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 542 Overburden D | 06/24/10 | 14:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | 542 North Wall J (7-7.5') | 06/24/10 | 14:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 06 | 542 North Wall K (8-8.5') | 06/24/10 | 14:45 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/24/10 15:00 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH exceeds 1,000 mg/kg, Run Base Neutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-24-10 Work Order ID#: 10484

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 3.3°

Received By: Judith Wegman Sign: J. Wegman
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

_____

_____

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# GPS
# POINTS

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10284 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Dean Tuttle — Laboratory Manager — 6/30/10 — Date

6/29/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10284 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/24/10 | NA |
| **Receipt/Refrigeration** | 06/24/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/28/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 24-Jun-10
**Date Extracted:** 28-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data Qualifiers | |
|---|---|---|---|---|---|---|---|---|---|
| MB06281001 | MB06281001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06281001 | LCS06281001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1221.26 | | |
| 1028401 | 542 NORTH WALL H (11-11.5') | 1.00 | 15.16 | 80.3 | 29 | 411 | not detected | | |
| 1028402 | 542 OVERBURDEN C | 1.00 | 15.11 | 93.9 | 25 | 352 | not detected | | |
| 1028403 | 542 NORTH WALL I (8-8.5') | 1.00 | 15.20 | 78.9 | 29 | 417 | not detected | | |
| 1028404 | 542 OVERBURDEN D | 1.00 | 15.10 | 88.1 | 26 | 376 | not detected | | |
| 1028405 | 542 NORTH WALL J (7-7.5') | 1.00 | 15.20 | 78.8 | 29 | 417 | not detected | | |
| 1028406 | 542 NORTH WALL K (8-8.5') | 1.00 | 15.18 | 78.6 | 29 | 419 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000042

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Jean Tarca

Date: 6/30/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/30/10
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 541/Sewer Trench B (9.0-9.5') | 1028601 | Soil | 25-Jun-10 10:00 | 06/25/10 |
| 541/North SPT-NW (7.0-7.5) | 1028602 | Soil | 25-Jun-10 10:20 | 06/25/10 |
| 541/ North SPT-WW (7.0-7.5') | 1028603 | Soil | 25-Jun-10 10:25 | 06/25/10 |
| 541/ North SPT-EW (7.0-7.5) | 1028604 | Soil | 25-Jun-10 10:30 | 06/25/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/30/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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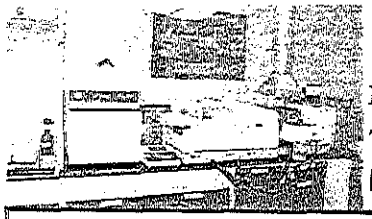
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:**
**Phone #:**
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

**Samplers Name / Company:** Robert Youhas / TVS

Analysis Parameters: TPH, All Parameters

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | Remarks / Preservation Method |
|---|---|---|---|---|---|---|
| 102810 01 | 541SewerTrenchB(9-9.5') | 06/25/10 | 10:00 | Soil | 1 | |
| 02 | 541NorthSPT-NW(7-7.5') | 06/25/10 | 10:20 | Soil | 1 | |
| 03 | 541NorthSPT-WW(7-7.5') | 06/25/10 | 10:25 | Soil | 1 | |
| 04 | 541NorthSPT-EW(7-7.5') | 06/25/10 | 10:30 | Soil | 1 | |

Comments:

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 06/25/10 15:10 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH exceeds 1,000 mg/kg, run Baseneutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 10-25-10 Work Order ID#: 10286

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 3.0°C

Received By: J. Thurman Sign: J. Thurman
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

# GPS
# POINTS

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10286 VOA

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date 6/30/10

6/29/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10286 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/25/10 | NA |
| **Receipt/Refrigeration** | 06/25/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/28/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Volume:** 1 uL

**Date Received:** 25-Jun-10
**Date Extracted:** 28-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| MB06281001 | MB06281001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | |
| LCS06281001 | LCS06281001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1198.46 | | |
| 1028601 | 541 SEWER TRENCH B (9-9.5') | 1.00 | 15.08 | 75.4 | 31 | 440 | 163.60 | | J |
| 1028602 | 541 NORTH SPT-NW (7-7.5') | 1.00 | 15.24 | 75.3 | 30 | 436 | not detected | | |
| 1028603 | 541 NORTH SPT-WW (7-7.5') | 1.00 | 15.28 | 75.1 | 31 | 436 | 311.71 | | J |
| 1028604 | 541 NORTH SPT-EW (7-7.5') | 1.00 | 15.25 | 76.8 | 30 | 427 | not detected | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000012

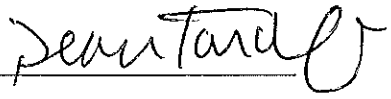
## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package <u>and</u> in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature 

Date: 6/30/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager 6/30/10

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| SPT-1 (7.0-7.5) | 1029001 | Soil | 28-Jun-10 10:10 | 06/28/10 |
| SPT-2 (7.0-7.5) | 1029002 | Soil | 28-Jun-10 10:15 | 06/28/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 6/30/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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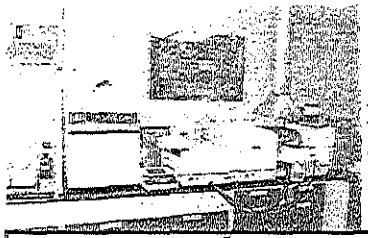
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** X221042
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

**Samplers Name / Company:** Robert Youbas / TVS

Analysis Parameters

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | Pyrene | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 102[illegible] 01 | SPT-1 (7-7.5') | 06/28/10 | 10:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| [illegible] 02 | SPT-2 (7-7.5') | 06/28/10 | 10:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
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| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/28/10 15:00 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH concentration exceeds 1,000 mg/kg, run Base Neutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 6-28-10 Work Order ID#: 10290

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 3.0

Received By: J. Vergara Sign: J. Vergara
(Print name)

## Check the appropriate box

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

# GPS
# POINTS

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC 10290

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

_____

_____

_____ _____

Laboratory Manager Date

6/30/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10290 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/28/10 | NA |
| **Receipt/Refrigeration** | 06/28/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/29/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Vol.:** 1 uL

**Date Received:** 28-Jun-10
**Date Extracted:** 29-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| MB06291001 | MB06291001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | | |
| LCS06291001 | LCS06291001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1125.43 | | | |
| 1029001 | SPT-1 (7-7.5') | 1.00 | 15.13 | 81.5 | 28 | 405 | 241.66 | | | J |
| 1029002 | SPT-2 (7-7.5') | 1.00 | 15.09 | 80.4 | 29 | 412 | not detected | | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Dean Tarczynski

Date: 6/30/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 6/30/10
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 538/SB-1 (4.0-4.5') | 1029201 | Soil | 29-Jun-10 09:00 | 06/29/10 |
| 538/SB-1 (7.0-7.5') | 1029202 | Soil | 29-Jun-10 09:10 | 06/29/10 |
| 538/SB-2 (4.0-4.5') | 1029203 | Soil | 29-Jun-10 09:30 | 06/29/10 |
| 538/SB-2 (7.0-7.5') | 1029204 | Soil | 29-Jun-10 09:35 | 06/29/10 |
| 538/SB-3 (4.0-4.5') | 1029205 | Soil | 29-Jun-10 10:00 | 06/29/10 |
| 538/SB-3 (7.0-7.5') | 1029206 | Soil | 29-Jun-10 10:05 | 06/29/10 |
| 538/SB-4 (4.0-4.5') | 1029207 | Soil | 29-Jun-10 11:00 | 06/29/10 |
| 538/SB-4 (7.0-7.5') | 1029208 | Soil | 29-Jun-10 11:05 | 06/29/10 |
| 538/SB-5 (4.0-4.5') | 1029209 | Soil | 29-Jun-1011:15 | 06/29/10 |
| 538/SB-5 (7.0-7.5') | 1029210 | Soil | 29-Jun-10 11:20 | 06/29/10 |
| SPT-3 (7.0-7.5') | 1029211 | Soil | 29-Jun-10 13:45 | 06/29/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 7/6/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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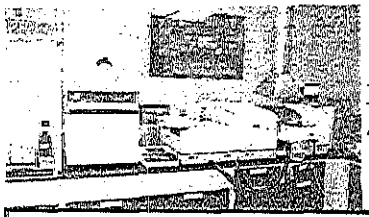
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** X2221612
( )DERA ( )OMA ( )Other:

Project No:
Location: Parcel 76

**Samplers Name / Company:** Robert Youhas / TVS

Analysis Parameters

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10212 01 | 538SB-1(4-4.5') | 06/29/10 | 09:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 538SB-1(7-7.5') | 06/29/10 | 09:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | 538SB-2(4-4.5') | 06/29/10 | 09:50 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 538SB-2(7-7.5') | 06/29/10 | 09:35 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | 538SB-3(4-4.5') | 06/29/10 | 10:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 06 | 538SB-3(7-7.5') | 06/29/10 | 10:05 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 07 | 538SB-4(4-4.5') | 06/29/10 | 11:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 08 | 538SB-4(7-7.5') | 06/29/10 | 11:05 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 09 | 538SB-5(4-4.5') | 06/29/10 | 11:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 10 | 538SB-5(7-7.5') | 06/29/10 | 11:20 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 11 | SPT-3(7-7.5') | 06/29/10 | 13:45 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 06/29/10 15:00 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH exceeds 1,000 mg/kg, run Base Neutral analysis.

print legibly



new coc._1.XLS6/2/2010

000002

# SAMPLE RECEIPT FORM

Date Received: 6-29-10 Work Order ID#: 10292

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 5.5°C

Received By: Judith Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| | | | | | |
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Comments:

# GPS POINTS

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC 10292

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager

7/6/10
Date

7/1/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10292 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 06/29/10 | NA |
| **Receipt/Refrigeration** | 06/29/10 | NA |
| **Analyses** | | |
| 1. TPHC | 06/30/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Vol.:** 1 uL

**Date Received:** 29-Jun-10
**Date Extracted:** 30-Jun-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| MB06301001 | MB06301001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | | |
| LCS06301001 | LCS06301001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1199.24 | | | |
| 1029201 | 538 SB-1 (4-4.5') | 1.00 | 15.21 | 84.0 | 27 | 391 | 449.14 | | | |
| 1029202 | 538 SB-1 (7-7.5') | 1.00 | 15.10 | 75.9 | 31 | 436 | not detected | | | |
| 1029203 | 538 SB-2 (4-4.5') | 1.00 | 15.09 | 83.3 | 28 | 398 | 2067.20 | | | |
| 1029204 | 538 SB-2 (7-7.5') | 1.00 | 15.19 | 79.5 | 29 | 414 | not detected | | | |
| 1029205 | 538 SB-3 (4-4.5') | 1.00 | 15.16 | 83.7 | 28 | 394 | 679.67 | | | |
| 1029206 | 538 SB-3 (7-7.5') | 1.00 | 15.28 | 78.0 | 29 | 420 | not detected | | | |
| 1029207 | 538 SB-4 (4-4.5') | 1.00 | 15.07 | 82.7 | 28 | 401 | not detected | | | |
| 1029208 | 538 SB-4 (7-7.5') | 1.00 | 15.21 | 76.6 | 30 | 429 | not detected | | | |
| 1029209 | 538 SB-5 (4-4.5') | 1.00 | 15.17 | 88.0 | 26 | 375 | 128.22 | | | J |
| 1029210 | 538 SB-5 (7-7.5') | 1.00 | 15.39 | 78.4 | 29 | 414 | not detected | | | |
| 1029211 | SPT-3 (7-7.5') | 1.00 | 15.36 | 80.1 | 28 | 406 | not detected | | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package <u>and</u> in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 7/6/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager 7/6/10

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| SPT (7.0-7.5') | 1029901 | Soil | 01-Jul-10 14:00 | 07/01/10 |
| SPT -4(7.0-7.5') | 1029902 | Soil | 01-Jul-10 14:00 | 07/01/10 |
| SPT-5 (7.0-7.5') | 1029903 | Soil | 01-Jul-10 14:10 | 07/01/10 |
| SPT-6 (7.0-7.5') | 1029904 | Soil | 01-Jul-10 14:15 | 07/01/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 7/7/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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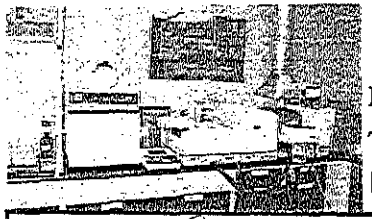
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** X22692
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

**Samplers Name / Company:** Robert Yonhas / TVS

Analysis Parameters

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10299 01 | SPT(7-7.5') DUP | 07/01/10 | — | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | SPT-4(7-7.5')* | 07/01/10 | 14:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | SPT-5(7-7.5') | 07/01/10 | 14:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | SPT-6(7-7.5') | 07/01/10 | 14:15 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 07/01/10 15:00 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: * = Dup.
If TPH exceeds 1,000 mg/kg from Base Neutral analysis.

000002

print legibly



new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 7-1-10 Work Order ID#: 10299

Site/Proj. Name: Parcel 76 Cooler Temp (°C): 5.0°C

Received By: Judith Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

# GPS
# POINTS

# FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 10299

Site: Parcel 76

The Field Duplicate was performed on SPT-4 (7.0-7.5') (1029902)

# METHOD SUMMARY

## Method Summary

**NJDEP Method OQA-QAM-025 10/97**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Water**

Surrogate standard spiking solution is added to a measured volume of sample, usually 1 liter. The sample is serially extracted with Methylene Chloride using a separatory funnel. The extract is concentrated and then injected directly into a GC-FID for analysis. The sample is analyzed for Total Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Integrating between peak C8 and peak C42 determines the Total Petroleum Hydrocarbon concentration. The final concentration of Total Petroleum Hydrocarbons is calculated by using the initial and final volume values.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10299 TPHc

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | AS 7/6/10 ~~AA~~ Yes |

Additional comments: _____

_____

_____

_____ _____

Laboratory Manager Date

7/6/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10299 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 07/01/10 | NA |
| **Receipt/Refrigeration** | 07/01/10 | NA |
| **Analyses** | | |
| 1. TPHC | 07/02/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Vol.:** 1 uL

**Date Received:** 1-Jul-10
**Date Extracted:** 2-Jul-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| MB07021001 | MB07021001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | | |
| LCS07021001 | LCS07021001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1131.57 | | | |
| 1029901 | 538 SB-1 (4-4.5') | 1.00 | 15.11 | 79.7 | 29 | 415 | not detected | | | |
| 1029902 | 538 SB-1 (7-7.5') | 1.00 | 15.15 | 78.9 | 29 | 418 | not detected | | | |
| 1029903 | 538 SB-2 (4-4.5') | 1.00 | 15.20 | 82.9 | 28 | 397 | not detected | | | |
| 1029904 | 538 SB-2 (7-7.5') | 1.00 | 15.18 | 80.2 | 29 | 411 | not detected | | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000014

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date: 7/7/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

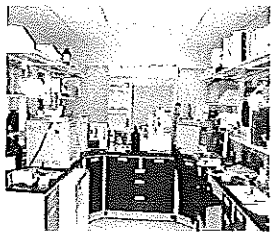
# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 7/7/10
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| SPT-7 (7.0-7.5') | 1030401 | Soil | 11-Jul-10 10:45 | 07/12/10 |
| SPT-8 (7.0-7.5') | 1030402 | Soil | 11-Jul-10 10:50 | 07/12/10 |
| SPT-9 (7.0-7.5') | 1030403 | Soil | 11-Jul-10 10:55 | 07/12/10 |
| 538/South Wall W (7.0-7.5') | 1030404 | Soil | 11-Jul-10 11:15 | 07/12/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff
Dean Tardiff/Date: 7/13/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

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# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth | Project No: | Analysis Parameters | Comments:

**Phone #:** X22692 | Location: Parcel 76

( )DERA ( )OMA ( )Other:_____

**Samplers Name / Company:** Robert Kuhas / TVS

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10984 01 | SPT-7 (7-7.5') | 07/11/10 | 10:45 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | SPT-8 (7-7.5') | 07/11/10 | 10:50 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03 | SPT-9 (7-7.5') | 07/11/10 | 10:55 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | 538 South Wall W (7-7.5) | 07/11/10 | 11:15 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 07/10/10 12:00 | 7/12/10 | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD

Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: If TPH Exceeds 1,000 mg/kg, run Base Neutral analysis.

print legibly



new coc._1.XLS6/2/2010

2000002

# SAMPLE RECEIPT FORM

Date Received: 7-12-10 Work Order ID#: 10304

Site/Proj. Name: Parcel 76 Cooler Temp (°C): ICE

Received By: J. Venegas Sign: J. Venegas
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments: _____

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# GPS POINTS

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10304 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | N/A |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Laboratory Manager — Date 7/13/10

7/13/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10304 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 07/11/10 | NA |
| **Receipt/Refrigeration** | 07/11/10 | NA |
| **Analyses** | | |
| 1. TPHC | 07/12/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** PARCEL 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Vol.:** 1 uL

**Date Received:** 12-Jul-10
**Date Extracted:** 12-Jul-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| MB07121001 | MB07121001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | | |
| LCS07121001 | LCS07121001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1245.44 | | | |
| 1030401 | SPT-7 (7-7.5') | 1.00 | 15.03 | 77.4 | 30 | 430 | not detected | | | |
| 1030402 | SPT-8 (7-7.5') | 1.00 | 15.18 | 76.6 | 30 | 430 | not detected | | | |
| 1030403 | SPT-9 (7-7.5') | 1.00 | 15.20 | 74.6 | 31 | 441 | not detected | | | |
| 1030404 | 538 SOUTH WALL W (7-7.5') | 1.00 | 15.12 | 90.6 | 26 | 365 | not detected | | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000042

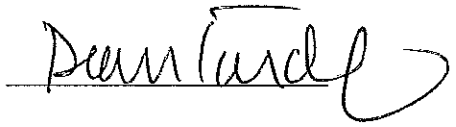
## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature 

Date: 7/13/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

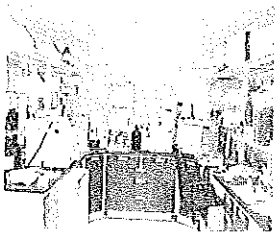
# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager 7/13/10

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Parcel 76

**PARCEL/76**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 538/South Wall E(7.0-7.5') | 1031901 | Soil | 24-Jul-10 08:00 | 07/26/10 |
| 538/East Wall (4.0-4.5') | 1031902 | Soil | 24-Jul-10 08:10 | 07/26/10 |
| 538/East Wall (7.0-7.5') | 1031903 | Soil | 24-Jul-10 08:15 | 07/26/10 |
| Duplicate | 1031904 | Soil | 24-Jul-10 08:15 | 07/26/10 |
| SPT-10 (7.0-7.5') | 1031905 | Soil | 24-Jul-10 10:30 | 07/26/10 |
| SPT-11 (7.0-7.5') | 1031906 | Soil | 24-Jul-10 10:35 | 07/26/10 |
| SPT-12 (7.0-7.5') | 1031907 | Soil | 24-Jul-10 10:40 | 07/26/10 |

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

Dean Tardiff/Date: 7/27/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

# Table of Contents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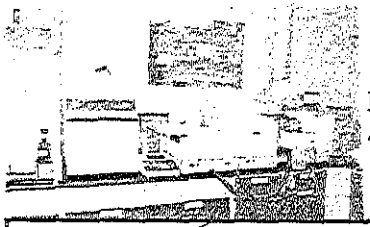
| Laboratory Chronicle | 8-9 |
| TPHC | 10 |
| Results Summary | 11 |
| Calibration Summary | 12-18 |
| Surrogate Results Summary | 19 |
| MS/MSD Results Summary | 20 |
| LCS Summary | 21 |
| Raw Sample Data | 22-46 |
| Laboratory Deliverables Checklist | 47 |
| Laboratory Authentication Statement | 48 |

# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail: dean.tardiff@us.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Fort Monmouth
**Phone #:** 822692
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Parcel 76

**Samplers Name / Company:** Robert Youhas / TVS

Analysis Parameters

**Comments:**

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | TPH | % Moisture | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10319 01 | 538 South Wall E (7-7.5') | 07/24/10 | 08:00 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 02 | 538 East Wall (4-4.5') | 07/24/10 | 08:10 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 03* | 538 East Wall (7-7.5') | 07/24/10 | 08:15 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 04 | DUPLICATE | 07/24/10 | | Soil | 1 | ✓ | ✓ | | | | | | | |
| 05 | SPT-10 (7-7.5') | 07/24/10 | 10:30 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 06 | SPT-11 (7-7.5') | 07/24/10 | 10:35 | Soil | 1 | ✓ | ✓ | | | | | | | |
| 07 | SPT-12 (7-7.5') | 07/24/10 | 10:40 | Soil | 1 | ✓ | ✓ | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 07/24/10 11:10 | [signature] 7/26/10 730 | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (✓)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush Wk., (✓)ASAP Verbal 24 Hrs.

Comments: * DUPLICATE
If TPH exceeds 1,000 mg/kg, run Base Neutral analysis.

000002

print legibly

Page 1 of 1

new coc._1.XLS6/2/2010

# SAMPLE RECEIPT FORM

Date Received: 7-26-10 Work Order ID#: 10319

Site/Proj. Name: Parcel 76 Cooler Temp (°C): ICE

Received By: J. Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
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Comments:

# GPS POINTS

000003A

# METHOD SUMMARY

# Method Summary

**NJDEP Method OQA-QAM-025 02/08**
**Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil**

Fifteen grams (15g) of soil is added to a 125-ml acid cleaned and solvent rinsed capped Erlenmeyer flask. 15g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

Twenty-five ml of Methylene Chloride is added to the flask and it is secured on an orbital shaker table. The agitation rate is set to 400 rpm and the sample is shaken for 30 minutes. The flask is removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25-ml of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1-ml auto-sampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for Petroleum Hydrocarbons covering a range of C8-C42, including Pristane and Phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak. The final concentration of Total Petroleum Hydrocarbons is calculated using percent moisture, sample weight and concentration.

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10319 TPHC

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | N/A |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

Dean Tarvel — 7/27/10

Laboratory Manager — Date

7/27/10

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10319 **Site:** Parcel 76

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 07/24/10 | NA |
| **Receipt/Refrigeration** | 07/24/10 | NA |
| **Analyses** | | |
| 1. TPHC | 07/26/10 | 14 Days |

# TPHC

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification #13461

**Client:** U.S. Army
DPW. SELFM-PW-EV
Bldg. 173
Ft. Monmouth, NJ 07703

**Project #:**
**Location:** Parcel 76
**ECP:**
**Work Order:**

**Analysis:** OQA-QAM-025
**Matrix:**
**Inst. ID:** GC TPHC INST. #1
**Column Type:** RTX-5, 0.32mm ID, 30 m
**Injection Vol.:** 1 uL

**Date Received:** 26-Jul-10
**Date Extracted:** 26-Jul-10
**Extraction Method:** Shake
**Analyst:** Robert Szot

| Lab ID | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | RL (mg/kg) | TPHC Result (mg/kg) | Data | | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| MB07261001 | MB07261001 | 1.00 | 15.00 | 100.00 | 23 | 333 | not detected | | | |
| LCS07261001 | LCS07261001 | 1.00 | 15.00 | 100.00 | 23 | 333 | 1089.12 | | | |
| 1031901 | 538 SOUTH WALL E (7-7.5') | 1.00 | 15.65 | 76.2 | 29 | 419 | 273.84 | | | J |
| 1031902 | 538 EAST WALL (4-4.5') | 1.00 | 15.27 | 84.7 | 27 | 387 | 562.92 | | | |
| 1031903 | 538 EAST WALL (7-7.5') | 1.00 | 15.39 | 77.2 | 29 | 421 | 331.17 | | | J |
| 1031904 | DUPLICATE | 1.00 | 15.46 | 78.0 | 29 | 415 | 268.94 | | | J |
| 1031905 | SPT-10 (7-7.5) | 1.00 | 15.59 | 77.1 | 29 | 416 | not detected | | | |
| 1031906 | SPT-11 (7-7.5) | 1.00 | 15.62 | 80.0 | 28 | 400 | not detected | | | |
| 1031907 | SPT-12 (7-7.5') | 1.00 | 15.66 | 82.4 | 27 | 387 | not detected | | | |

**Qualifiers:**
*MDL = Method Detection Limit*
*RL = Reporting Limit*
*E = Result exceeds calibration limit*
*J = Estimated value, concentration is between MDL and RL*
*D = Result from dilution*
*ND = not detected*

000011

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature [signature]
Date: 7/27/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

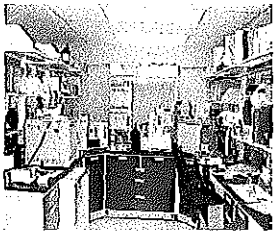
# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff
Laboratory Manager 7/27/10

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Site 200

**New Wells RDI**

**Bldg. 200**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| Trip Blank | 1034401 | Aqueous | 16-Aug-10 10:50 | 08/16/10 |
| Field Blank | 1034402 | Aqueous | 16-Aug-10 11:00 | 08/16/10 |
| Duplicate | 1034403 | Aqueous | 16-Aug-10 11:20 | 08/16/10 |
| 200MW01* | 1034404 | Aqueous | 16-Aug-10 11:20 | 08/16/10 |
| 200MW02 | 1034405 | Aqueous | 16-Aug-10 11:30 | 08/16/10 |
| 200MW03 | 1034406 | Aqueous | 16-Aug-10 11:50 | 08/16/10 |
| 200MW04 | 1034407 | Aqueous | 16-Aug-10 12:10 | 08/16/10 |
| 200MW05 | 1034408 | Aqueous | 16-Aug-10 15:00 | 08/16/10 |
| 200MW06 | 1034409 | Aqueous | 16-Aug-10 15:20 | 08/16/10 |

DUP. sample is 1034404.

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB.
VOA+15

ACCUTEST LABORATORIES
BN+15

Dean Tardiff/Date: 9/7/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

# METHODOLOGY SUMMARY

| PARAMETER | REFERENCE |
|---|---|
| TARGET ANALYTE LIST METALS | Standard Methods, 18th ed. |
| | |
| Aluminum | 3120B |
| Antimony | 3120B |
| Arsenic | 3113B |
| Barium | 3120B |
| Beryllium | 3120B |
| Cadmium | 3120B |
| Calcium | 3120B |
| Chromium | 3120B |
| Cobalt | 3120B |
| Copper | 3120B |
| Iron | 3120B |
| Lead | 3120B |
| Magnesium | 3120B |
| Manganese | 3120B |
| Mercury | 3112B |
| Nickel | 3120B |
| Potassium | 3120B |
| Selenium | 3120B |
| Silver | 3120B |
| Sodium | 3120B |
| Thallium | 279.3 |
| Vanadium | 3120B |
| Zinc | 3120B |

| PARAMETER | REFERENCE |
|---|---|
| TARGET COMPOUND LIST ORGANICS | Federal Register 40 CFR Part 136 Appendix A |
| | |
| Base/Neutral and Acid Extractables by GC/MS | 625 |
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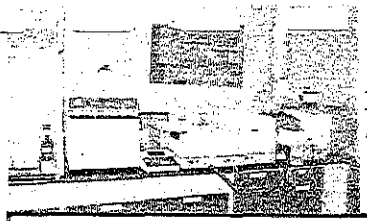
# SAMPLING



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-6352 Fax (732)532-6263 EMail:dean.tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

Customer: JOE FALLON
Phone #: 732-532-6223
( )DERA ( )OMA ( )Other:_____
Project No:
Location: NEW MONITOR WELL SAMPLING
Samplers Name / Company: WALTER FUNK / TVS

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | VOA+15 | BN | | | | | | | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 10944.01 | 200 TRIPBLANK | 08-16-10 | 10:50 | AQ | 2 | X | | | | | | | | |
| .02 | 200 FIELDBLANK | 08-16-10 | 11:00 | AQ | 3 | X | X | | | | | | | |
| .03 | 200 DUP. | 08-16-10 | — | AQ | 3 | X | X | | | | | | | |
| .04 | 200*MW#01 | 08-16-10 | 11:20 | AQ | 3 | X | X | | | | | | | |
| .05 | 200 MW#02 | 08-16-10 | 11:30 | AQ | 3 | X | X | | | | | | | |
| .06 | 200 MW#03 | 08-16-10 | 11:50 | AQ | 3 | X | X | | | | | | | |
| .07 | 200 MW#04 | 08-16-10 | 12:10 | AQ | 3 | X | X | | | | | | | |
| .08 | 200 MW#05 | 08-16-10 | 15:00 | AQ | 3 | X | X | | | | | | | |
| .09 | 200 MW#06 | 08-16-10 | 15:20 | AQ | 3 | X | X | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 08/16/10 15:45 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | [signature] | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: (X)Standard 3 wks, ( )Rush ____Wk., ( )ASAP Verbal ____Hrs.

Remarks:

200002

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COC Copy.xls7/2/2010

# SAMPLE RECEIPT FORM

Date Received: 8-10-10 Work Order ID#: 10344

Site/Proj. Name: 200 / New Wells Cooler Temp (°C): ICE

Received By: J. Delgado Sign: J. Delgado
(Print name)

**Check the appropriate box**

| | | | |
|---|---|---|---|
| 1. Did the samples come in a cooler? | yes | no | n/a |
| 2. Were samples rec'd in good condition? | yes | no | |
| 3. Was the chain of custody filled out correctly and legibly? | yes | no | |
| 4. Was the chain of custody signed in the appropriate place? | yes | no | |
| 5. Did the labels agree with the chain of custody? | yes | no | |
| 6. Were the correct containers/preservatives used? | yes | no | |
| 7. Was a sufficient amount of sample supplied? | yes | no | |
| 8. Were air bubbles present in VOA vials? | yes | no | n/a |
| 9. Were samples received on ice? | yes | no | |
| 10. Were analyze-immediately tests perform within 15 minutes | yes | no | n/a |

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| 10344/1-A | N/A | HCl | | | |
| | | | | | |
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Comments: _____

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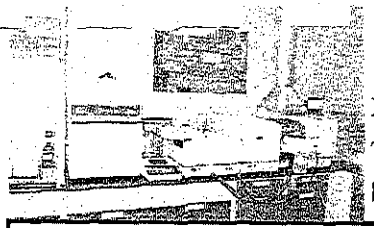

# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:Dean Tardiff@us.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer: Dean Tardiff**
**Phone #: (732)532-4359**
**( )DERA ( )OMA ( )Other:_____**

Project No:
Location: 200 Area

**Samplers Name / Company:**

Analysis Parameters: BN+15, SIMS

**Comments:** P.O. # C09-20650

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | BN+15 | SIMS | | | | | | | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1034402 | Field Blank | 8/16/2010 | 11:00 | Aq | 1 | X | X | | | | | | | |
| 1034403 | Duplicate | 8/16/2010 | 11:20 | Aq | 1 | X | X | | | | | | | |
| 1034404 | 200MW01 | 8/16/2010 | 11:20 | Aq | 1 | X | X | | | | | | | |
| 1034405 | 200MW02 | 8/16/2010 | 11:30 | Aq | 1 | X | X | | | | | | | |
| 1034406 | 200MW03 | 8/16/2010 | 11:50 | Aq | 1 | X | X | | | | | | | |
| 1034407 | 200MW04 | 8/16/2010 | 12:10 | Aq | 1 | X | X | | | | | | | |
| 1034408 | 200MW05 | 8/16/2010 | 15:00 | Aq | 1 | X | X | | | | | | | |
| 1034409 | 200MW06 | 8/16/2010 | 15:20 | Aq | 1 | X | X | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 3-15-10 1045 | [signature] | | | |
| [signature] | | [signature] | | | |

Report Type: (_)Full, (X)Reduced, (_)Standard, (_)Screen / non-certified, (_)EDD
Turnaround time: (X)Standard 3 wks, (_)Rush Wk., _(_)ASAP Verbal ____Hrs.

Comments: P.O. # C09-20650

000004

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No Seal

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #:01
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 08/16/10
WEATHER: Cloudy and warm.
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

| | TD-22.16 |
|---|---|
| **Initial Readings:** | |
| Elevation of Casing Survey Mark: | 7.27 ft |
| Depth of Well: | 22.16 ft |
| Height of Water in Well: | 14.89 ft |
| PID/FID Reading: | 78.86/4.13 ppm |
| Gallons of Water to be Purged: | 29 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 29 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | 29/126 Gal/Min. |

**Purge Data:**
Start Time of Purging: 9:11
End Time of Purging: 11:17

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 5.15 su | 5.45 su | 4.55 su |
| Temperature: | 15.74 (°C) | 15.14 ( °C) | 14.56 ( °C) |
| Specific Conductivity: | 3262 us/cm | 3238 us/cm | 3220 us/cm |
| ORP: | 142 mv | 166 mv | 173 mv |
| DO: | 2.66 mg/L | 1.79 mg/L | 2.65 mg/L |

Depth to Water Post Purge: 9.26
Depth to Water Post Sampling: 9.58
Sampling Start Time: 11:20
Sampling End Time: 11:28

Comments: DUP HERE

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #:02
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 08/16/10
WEATHER: Cloudy and warm.
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

| | TD-22.32 |
|---|---|
| **Initial Readings:** | |
| Elevation of Casing Survey Mark: | 9.98 ft |
| Depth of Well: | 22.32 ft |
| Height of Water in Well: | 12.34 ft |
| PID/FID Reading: | 5.89 ppm |
| Gallons of Water to be Purged: | 24 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 24.06 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | 24/104 Gal/Min. |

**Purge Data:**
Start Time of Purging: 9:35
End Time of Purging: 11:19

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 5.02 su | 4.95 su | 4.87 su |
| Temperature: | 16.95 (°C) | 13.44 ( °C) | 13.18 ( °C) |
| Specific Conductivity: | 2721 us/cm | 2796 us/cm | 2769 us/cm |
| ORP: | 110 mv | 110 mv | 131 mv |
| DO: | 1.48 mg/L | 1.60 mg/L | 1.26 mg/L |

Depth to Water Post Purge: 11.11
Depth to Water Post Sampling:
Sampling Start Time: 11:30
Sampling End Time: 11:35

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #:03
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 08/16/10
WEATHER: Cloudy and warm.
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

| | TD-21.68 |
|---|---|
| **Initial Readings:** | |
| Elevation of Casing Survey Mark: | 8.65 ft |
| Depth of Well: | 21.68 ft |
| Height of Water in Well: | 13.03 ft |
| PID/FID Reading: | 8.91/0.00 ppm |
| Gallons of Water to be Purged: | 26 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 25.4 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | 26/113 Gal/Min. |

**Purge Data:**
Start Time of Purging: 9:52
End Time of Purging: 11:45

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 4.52 su | 4.02 su | 3.99 su |
| Temperature: | 12.46 (°C) | 11.95 ( °C) | 12.08 ( °C) |
| Specific Conductivity: | 3927 us/cm | 3895 us/cm | 3625 us/cm |
| ORP: | 154 mv | 145 mv | 178 mv |
| DO: | 1.47 mg/L | 1.63 mg/L | 1.24 mg/L |

Depth to Water Post Purge: 9.11
Depth to Water Post Sampling: 9.29
Sampling Start Time: 11:50
Sampling End Time: 11:55

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #:04
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 08/16/10
WEATHER: Cloudy and warm.
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

TD-21.88

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 9.25 ft |
| Depth of Well: | 21.88 ft |
| Height of Water in Well: | 12.63 ft |
| PID/FID Reading: | 4.11/39.16 ppm |
| Gallons of Water to be Purged: | 25 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 24.62 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | 25/109 Gal/Min. |

**Purge Data:**

Start Time of Purging: 10:11
End Time of Purging: 12:00

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 4.84 su | 4.95 su | 4.67 su |
| Temperature: | 15.51 (°C) | 12.97 ( °C) | 13.04 ( °C) |
| Specific Conductivity: | 2651 us/cm | 3106 us/cm | 3056 us/cm |
| ORP: | 112 mv | 98 mv | 116 mv |
| DO: | 1.15 mg/L | 1.70 mg/L | 1.58 mg/L |

Depth to Water Post Purge: 9.82
Depth to Water Post Sampling: 9.94
Sampling Start Time: 12:10
Sampling End Time: 12:16

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #:05
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 08/16/10
WEATHER: Cloudy and hot.
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

| | TD-21.87 |
|---|---|
| **Initial Readings:** | |
| Elevation of Casing Survey Mark: | 8.97 ft |
| Depth of Well: | 21.87 ft |
| Height of Water in Well: | 12.90 ft |
| PID/FID Reading: | 398/179 ppm |
| Gallons of Water to be Purged: | 25 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 25.15 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | 25/109 Gal/Min. |

**Purge Data:**
Start Time of Purging: 13:06
End Time of Purging: 14:55

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 5.02 su | 4.72 su | 4.24 su |
| Temperature: | 16.33 (°C) | 13.51 ( °C) | 13.56 ( °C) |
| Specific Conductivity: | 2379 us/cm | 2295 us/cm | 2292 us/cm |
| ORP: | 76 mv | 147 mv | 154 mv |
| DO: | 1.13 mg/L | 1.83 mg/L | 1.76 mg/L |

Depth to Water Post Purge: 10.88
Depth to Water Post Sampling:
Sampling Start Time: 15:00
Sampling End Time:

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #:06
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 08/16/10
WEATHER: Cloudy and hot.
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

TD-21.78

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 9.00 ft |
| Depth of Well: | 21.78 ft |
| Height of Water in Well: | 2 ft |
| PID/FID Reading: | 18.17/135 ppm |
| Gallons of Water to be Purged: | Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 24.92 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | 25/109 Gal/Min. |

**Purge Data:**

Start Time of Purging: 13:25
End Time of Purging: 15:14

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 4.14 su | 4.41 su | 4.12 su |
| Temperature: | 18.66 (°C) | 15.51 ( °C) | 15.36 ( °C) |
| Specific Conductivity: | 2929 us/cm | 3322 us/cm | 3377 us/cm |
| ORP: | 128 mv | 111 mv | 146 mv |
| DO: | 1.79 mg/L | 1.64 mg/L | 1.62 mg/L |

Depth to Water Post Purge: 10.20
Depth to Water Post Sampling: 10.39
Sampling Start Time: 15:20
Sampling End Time:

Comments:

000010

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10344 VOA

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

| | Indicate Yes, No, N/A |
|---|---|
| 1. Chromatograms labeled/Compounds identified (Field samples and method blanks) | Yes |
| 2. Retention times for chromatograms provided | Yes |
| 3. GC/MS Tune Specifications | |
| a. BFB Meet Criteria | Yes |
| b. DFTPP Meet Criteria | N/A |
| 4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series | Yes |
| 5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series | Yes |
| 6. GC/MS Calibration requirements | |
| a. Calibration Check Compounds Meet Criteria | Yes |
| b. System Performance Check Compounds Meet Criteria | Yes |
| 7. Blank Contamination – If yes, List compounds and concentrations in each blank: | No |
| a. VOA Fraction_____ | |
| b. B/N Fraction_____ | |
| c. Acid Fraction_____ | |
| 8. Surrogate Recoveries Meet Criteria | Yes |
| If not met, list those compounds and their recoveries, which fall outside the acceptable range: | |
| a. VOA Fraction_____ | |
| b. B/N Fraction_____ | |
| c. Acid Fraction_____ | |
| If not met, were the calculations checked and the results qualified as "estimated"? | |
| 9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) | No |
| a. VOA Fraction See MS/MSD report footnotes | |
| b. B/N Fraction_____ | |
| c. Acid Fraction_____ | |

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

11. Extraction Holding Time Met — N/A

If not met, list the number of days exceeded for each sample:_____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample:_____

Additional Comments:

Laboratory Manager: [signature] Date: 9/7/10

[signature] 8/20/10

ACCUTEST Laboratories

2

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Fort Monmouth Environmental Testing Lab. | **Job No** | JA54212 |
| **Site:** | New Wells Area 200 | **Report Date** | 9/2/2010 4:09:58 PM |

On 08/18/2010, 7 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 2.4 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA54212 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Extractables by GCMS By Method SW846 8270C

**Matrix** AQ **Batch ID:** OP45229

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA54125-1MS, JA54125-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Dimethyl phthalate are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Dimethyl phthalate are outside control limits. Probable cause due to matrix interference.
- OP45229-MS for Dimethyl phthalate: Outside of in house control limits.

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix** AQ **Batch ID:** OP45229A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA54125-1MS, JA54125-1MSD were used as the QC samples indicated.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10344 **Site:** Site 200

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 08/16/10 | NA |
| **Receipt/Refrigeration** | 08/16/10 | NA |

**Analyses**

| | | |
|---|---|---|
| 1. Volatiles | 08/20/10 | 14 Days |
| 2. Semi-Volatiles | 08/25,31-09/01/10 | 7 Days |

# VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

## Definition of Qualifiers

**U:** The compound was analyzed for but not detected.

**B:** Indicates that the compound was found in the associated method blank as well as in the sample.

**J:** Indicates an estimated value. This flag is used:

(1) When the mass spec and retention time data indicate the presence of a compound however the result is less than the reporting limit but greater than the MDL.

(2) When estimating the concentration of a tentatively identified compound (TIC), where a 1:1 response is assumed.

**D:** This flag is used to identify all compounds (target or TIC) that required a dilution.

**E:** Indicates the compound's concentration exceeds the calibration range of the instrument for that specific analysis.

**N:** This flag is only used for TICs. It indicates the presumptive evidence of a compound. For a generic characterization of a TIC, such as unknown hydrocarbon, the flag is not used.

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7208.D | Sample Name | MB08191002 |
| Operator | ROBERTS | Field ID | METHOD 624 8/19/10 |
| Date Acquired | 20 Aug 2010 1:46 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not | detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not | detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not | detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not | detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not | detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not | detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not | detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not | detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not | detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not | detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not | detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not | detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not | detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not | detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not | detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not | detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not | detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not | detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not | detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not | detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not | detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not | detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not | detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not | detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not | detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not | detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not | detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not | detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not | detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not | detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not | detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not | detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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8/26/2010 2:55 PM

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB08191002**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: MB08191002

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7208.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7213.D | Sample Name | 1034401 |
| Operator | ROBERTS | Field ID | 200 TRIP BLANK |
| Date Acquired | 20 Aug 2010 4:20 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 TRIP BLANK**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034401

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7213.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7214.D | Sample Name | 1034402 |
| Operator | ROBERTS | Field ID | 200 FIELD BLANK |
| Date Acquired | 20 Aug 2010 4:51 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 FIELD BLANK**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034402

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7214.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7215.D | Sample Name | 1034403 |
| Operator | ROBERTS | Field ID | 200 DUP |
| Date Acquired | 20 Aug 2010 5:21 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 DUP**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034403

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7215.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7210.D | Sample Name | 1034404 |
| Operator | ROBERTS | Field ID | 200 MW#01 |
| Date Acquired | 20 Aug 2010 2:47 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 MW#01**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034404

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7210.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7216.D | Sample Name | 1034405 |
| Operator | ROBERTS | Field ID | 200 MW#02 |
| Date Acquired | 20 Aug 2010 5:52 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not | detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not | detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not | detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | 8.01 | 23405 | 0.38 | ug/L | 70 | 0.11 ug/L | 0.50 ug/L | J |
| 108203 | Di-isopropyl ether | | | not | detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not | detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not | detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not | detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not | detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not | detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not | detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not | detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not | detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not | detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not | detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not | detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not | detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not | detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not | detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not | detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not | detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not | detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not | detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not | detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not | detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not | detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not | detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not | detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not | detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not | detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not | detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not | detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 MW#02**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034405

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7216.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7217.D | Sample Name | 1034406 |
| Operator | ROBERTS | Field ID | 200 MW#03 |
| Date Acquired | 20 Aug 2010 6:23 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.
MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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8/2[illegible]

000031

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 MW#03**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034406

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7217.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|



000032

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7218.D | Sample Name | 1034407 |
| Operator | ROBERTS | Field ID | 200 MW#04 |
| Date Acquired | 20 Aug 2010 6:54 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not | detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not | detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not | detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not | detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not | detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not | detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not | detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not | detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not | detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not | detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not | detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not | detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not | detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not | detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not | detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not | detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not | detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not | detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not | detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not | detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not | detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not | detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not | detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not | detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not | detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not | detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not | detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not | detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not | detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not | detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not | detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not | detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 MW#04**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034407

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7218.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 2

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | 1H-Indene-dihydro-dimethyl- | 24.17 | 3 | J |
| 2. | 1H-Indene-dihydro-dimethyl- | 24.80 | 3 | J |

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7219.D | Sample Name | 1034408 |
| Operator | ROBERTS | Field ID | 200 MW#05 |
| Date Acquired | 20 Aug 2010 7:25 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 MW#05**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034408

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7219.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7220.D | Sample Name | 1034409 |
| Operator | ROBERTS | Field ID | 200 MW#06 |
| Date Acquired | 20 Aug 2010 7:56 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.
MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**200 MW#06**

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10344

Matrix: (soil/water) WATER Lab Sample ID: 1034409

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7220.D

Level: (low/med) LOW Date Received: 8/16/2010

% Moisture: not dec. Date Analyzed: 8/20/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# SEMI-VOLATILE ORGANICS

Raw Data: P51855.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034402 FIELD BLANK | | |
| Lab Sample ID: | JA54212-1 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Field Blank Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51855.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034402 FIELD BLANK | | |
| Lab Sample ID: | JA54212-1 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Field Blank Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 74% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 73% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 41% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 3.00 | 21 | ug/l | J |
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034402 FIELD BLANK | | |
| Lab Sample ID: | JA54212-1 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Field Blank Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20917.D | 1 | 08/31/10 | NAP | 08/19/10 | OP45229A | E4M905 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 78% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 76% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 48% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis





| | | | |
|---|---|---|---|
| Client Sample ID: | 1034403 DUPLICATE | | |
| Lab Sample ID: | JA54212-2 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51856.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034403 DUPLICATE | | |
| Lab Sample ID: | JA54212-2 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 71% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 70% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 31% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact/aldol-condensation | 3.00 | 22 | ug/l | J |
| 68048-01-1 | Cyclohexaneamine, N-but-2-enylidene-N-o | 15.45 | 27 | ug/l | JN |
| | Total TIC, Semi-Volatile | | 27 | ug/l | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis





| | | | |
|---|---|---|---|
| Client Sample ID: | 1034403 DUPLICATE | | |
| Lab Sample ID: | JA54212-2 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20932.D | 1 | 09/01/10 | LP | 08/19/10 | OP45229A | E4M906 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 77% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 73% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 37% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034404 200MW01 | | |
| Lab Sample ID: | JA54212-3 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51857.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034404 200MW01 | | |
| Lab Sample ID: | JA54212-3 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 84% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 84% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 38% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 3.00 | 25 | ug/l | J |
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 4M20933.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034404 200MW01 | | |
| Lab Sample ID: | JA54212-3 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20933.D | 1 | 09/01/10 | LP | 08/19/10 | OP45229A | E4M906 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 90% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 86% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 44% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034405 200MW02 | | |
| Lab Sample ID: | JA54212-4 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51858.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034405 200MW02 | | |
| Lab Sample ID: | JA54212-4 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 79% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 76% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 35% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 3.00 | 24 | ug/l | J |
| 541-05-9 | Cyclotrisiloxane, hexamethyl- | 16.18 | 14 | ug/l | JN |
| | Total TIC, Semi-Volatile | | 14 | ug/l | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034405 200MW02 | | |
| Lab Sample ID: | JA54212-4 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20934.D | 1 | 09/01/10 | LP | 08/19/10 | OP45229A | E4M906 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 87% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 81% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 41% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034406 200MW03 | | |
| Lab Sample ID: | JA54212-5 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51859.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034406 200MW03 | | |
| Lab Sample ID: | JA54212-5 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 83% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 29% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 3.00 | 27 | ug/l | J |
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034406 200MW03 | | |
| Lab Sample ID: | JA54212-5 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20925.D | 1 | 08/31/10 | LP | 08/19/10 | OP45229A | E4M906 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 91% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 86% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 36% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034407 200MW04 | | |
| Lab Sample ID: | JA54212-6 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51860.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034407 200MW04 | | |
| Lab Sample ID: | JA54212-6 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 76% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 49% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact | 3.00 | 24 | ug/l | J |
| | unknown | 14.94 | 11 | ug/l | J |
| | unknown | 15.69 | 4.5 | ug/l | J |
| | Total TIC, Semi-Volatile | | 15.5 | ug/l | J |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034407 200MW04 | | |
| Lab Sample ID: | JA54212-6 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20926.D | 1 | 08/31/10 | LP | 08/19/10 | OP45229A | E4M906 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.209 | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | 0.158 | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 80% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 78% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 57% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034408 200MW05 | | |
| Lab Sample ID: | JA54212-7 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51861.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034408 200MW05 | | |
| Lab Sample ID: | JA54212-7 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 82% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 79% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 36% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact/aldol-condensation | 3.00 | 25 | ug/l | J |
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034408 200MW05 | | |
| Lab Sample ID: | JA54212-7 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20927.D | 1 | 08/31/10 | LP | 08/19/10 | OP45229A | E4M906 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 90% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 83% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 42% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034409 200MW06 | | |
| Lab Sample ID: | JA54212-8 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | P51862.D | 1 | 08/25/10 | NAP | 08/19/10 | OP45229 | EP2232 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | 2.6 | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | 1.8 | 5.0 | 0.30 | ug/l | J |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034409 200MW06 | | |
| Lab Sample ID: | JA54212-8 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 85% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 82% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 32% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | system artifact/aldol-condensation | 3.00 | 28 | ug/l | J |
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 4M20928.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1034409 200MW06 | | |
| Lab Sample ID: | JA54212-8 | Date Sampled: | 08/16/10 |
| Matrix: | AQ - Water | Date Received: | 08/18/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 4M20928.D | 1 | 08/31/10 | LP | 08/19/10 | OP45229A | E4M906 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | 0.268 | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | 0.221 | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | 3.28 | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 90% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 84% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 37% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature [signature]
Date: 9/7/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 9/7/10
Dean Tardiff
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: Site 200

**New Wells RDII**

**Bldg. 200**

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| Trip Blank | 1037101 | Aqueous | 30-Aug-10 14:00 | 08/30/10 |
| Field Blank | 1037102 | Aqueous | 30-Aug-10 14:30 | 08/30/10 |
| Duplicate | 1037103 | Aqueous | 30-Aug-10 14:40 | 08/30/10 |
| 200MW01* | 1037104 | Aqueous | 30-Aug-10 14:40 | 08/30/10 |
| 200MW02 | 1037105 | Aqueous | 30-Aug-10 14:50 | 08/30/10 |
| 200MW03 | 1037106 | Aqueous | 30-Aug-10 15:20 | 08/30/10 |
| 200MW04 | 1037107 | Aqueous | 30-Aug-10 17:00 | 08/30/10 |
| 200MW05 | 1037108 | Aqueous | 30-Aug-10 17:30 | 08/30/10 |
| 200MW06 | 1037109 | Aqueous | 30-Aug-10 18:00 | 08/30/10 |

DUP. sample is 1037104.

**ANALYSIS:**
FORT MONMOUTH ENVIRONMENTAL LAB.
VOA+15

ACCUTEST LABORATORIES
BN+15

Dean Tardiff/Date: 10/6/10
Laboratory Manager

The enclosed report relates only to the items tested. The report may not be reproduced, except in full, without written approval of the U.S. Army Fort Monmouth Directorate of Public Works.

10371

# METHODOLOGY SUMMARY

| PARAMETER | REFERENCE |
|---|---|
| TARGET ANALYTE LIST METALS | Standard Methods, 18th ed. |
| | |
| Aluminum | 3120B |
| Antimony | 3120B |
| Arsenic | 3113B |
| Barium | 3120B |
| Beryllium | 3120B |
| Cadmium | 3120B |
| Calcium | 3120B |
| Chromium | 3120B |
| Cobalt | 3120B |
| Copper | 3120B |
| Iron | 3120B |
| Lead | 3120B |
| Magnesium | 3120B |
| Manganese | 3120B |
| Mercury | 3112B |
| Nickel | 3120B |
| Potassium | 3120B |
| Selenium | 3120B |
| Silver | 3120B |
| Sodium | 3120B |
| Thallium | 279.3 |
| Vanadium | 3120B |
| Zinc | 3120B |

| PARAMETER | REFERENCE |
|---|---|
| TARGET COMPOUND LIST ORGANICS | Federal Register 40 CFR Part 136 Appendix A |
| | |
| Base/Neutral and Acid Extractables by GC/MS | 625 |
| Purgeable Organics by GC/MS | 624 |
| Pesticide and PCB by GC | 608 |

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# SAMPLING



# Fort Monmouth Environmental Testing Laboratory

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**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** JOE FALLON
**Phone #:** 732-532-6223
( )DERA ( )OMA ( )Other:_____

Project No:
Location: NEW MONITOR WELL SAMPLING

**Samplers Name / Company:** WALTER FUNIC / TVS

| Work Order # | Sample Location | Date | Time | Sample Type | # bottles | Analysis Parameters: VOA+15 | Analysis Parameters: BN | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|
| 10371 .01 | 200 TRIP BLANK | 08-30-10 | 14:00 | AQ | 2 | X | | |
| .02 | 200 FIELD BLANK | 08-30-10 | 14:30 | AQ | 3 | X | X | |
| .03 | 200 DUP | 08-30-10 | ——— | AQ | 3 | X | X | |
| .04 | 200 MW#01* | 08-30-10 | 14:40 | AQ | 3 | X | X | |
| .05 | 200 MW#02 | 08-30-10 | 14:50 | AQ | 3 | X | X | |
| .06 | 200 MW#03 | 08-30-10 | 15:20 | AQ | 3 | X | X | |
| .07 | 200 MW#04 | 08-30-10 | 17:00 | AQ | 3 | X | X | |
| .08 | 200 MW#05 | 08-30-10 | 17:30 | AQ | 3 | X | X | |
| .09 | 200 MW#06 | 08-30-10 | 18:00 | AQ | 3 | X | X | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 8/30/10 500 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: (_)Full, (X)Reduced, (_)Standard, (_)Screen / non-certified, (_)EDD
Turnaround time: (X)Standard 3 wks, (_)Rush ____Wk., (_)ASAP Verbal ____Hrs.

Remarks:

print legibly



COC Copy.xls7/2/2010

# SAMPLE RECEIPT FORM

Date Received: 8-31-10 Work Order ID#: 10371

Site/Proj. Name: 200 Area / Wells Cooler Temp (°C): ICE

Received By: J Vergara Sign: J. Vergara
(Print name)

**Check the appropriate box**

1. Did the samples come in a cooler? yes no n/a
2. Were samples rec'd in good condition? yes no
3. Was the chain of custody filled out correctly and legibly? yes no
4. Was the chain of custody signed in the appropriate place? yes no
5. Did the labels agree with the chain of custody? yes no
6. Were the correct containers/preservatives used? yes no
7. Was a sufficient amount of sample supplied? yes no
8. Were air bubbles present in VOA vials? yes no n/a
9. Were samples received on ice? yes no
10. Were analyze-immediately tests perform within 15 minutes yes no n/a

**Fill out the following table for each sample bottle**

| Lims ID | pH | Preservative | Sample ID | pH | Preservative |
|---|---|---|---|---|---|
| 10371/1-9 | N/A | HCL | | | |
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Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #: 01
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 8/30/10
WEATHER: Sunny and Hot
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 8.22 ft |
| Depth of Well: | 22.25 ft |
| Height of water in well: | 14.03 ft |
| PID/FID Reading: | 2571/0.00 ppm |
| Gallons of Water to be Purged: | Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 27.35 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | Gal/Min. 27/117 |

**Purge Data:**

Start Time of Purging: 12:39
End Time of Purging: 14:36

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 4.91 su | 5.33 su | 5.09 su |
| Temperature: | 16.45 ( °C) | 16.61 ( °C) | 15.56 ( °C) |
| Specific Conductivity: | 3966 us/cm | 3777 us/cm | 3644 us/cm |
| ORP: | 161 mv | 143 mv | 179 mv |
| DO: | 5.05 mg/L | 2.89 mg/L | 2.95 mg/L |
| Depth to Water Post Purge: | 9.35 ft | | |
| Depth to Water Post Sampling: | 9.63 ft | | |
| Sampling Start Time: | 14:40 | | |
| Sampling End Time: | 14:50 | | |

Comments: DUP HERE

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #: 02
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 8/30/10
WEATHER: Sunny and Hot
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 10.00 ft |
| Depth of Well: | 22.46 ft |
| Height of water in well: | 12.46 ft |
| PID/FID Reading: | 3876/3.12 ppm |
| Gallons of Water to be Purged: | 24 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 24.29 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | Gal/Min. 24/104 |

**Purge Data:**

Start Time of Purging: 13:03
End Time of Purging: 14:47

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 5.18 su | 4.91 su | 4.74 su |
| Temperature: | 16.67 ( °C) | 13.79 ( °C) | 13.46 ( °C) |
| Specific Conductivity: | 3234 us/cm | 3168 us/cm | 3186 us/cm |
| ORP: | 67 mv | 60 mv | 72 mv |
| DO: | 2.15 mg/L | 1.72 mg/L | 1.86 mg/L |
| Depth to Water Post Purge: | 11.17 ft | | |
| Depth to Water Post Sampling: | 11.44 ft | | |
| Sampling Start Time: | 14:50 | | |
| Sampling End Time: | 14:58 | | |

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #: 03
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 8/30/10
WEATHER: Sunny and Hot
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 8.80 ft |
| Depth of Well: | 21.95 ft |
| Height of water in well: | 13.15 ft |
| PID/FID Reading: | 66.78/4.71 ppm |
| Gallons of Water to be Purged: | 26 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 25.64 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | Gal/Min. 26/113 |

**Purge Data:**

Start Time of Purging: 13:20
End Time of Purging: 15:13

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 4.22 su | 4.18 su | 4.02 su |
| Temperature: | 13:02 ( °C) | 12.61 ( °C) | 12.62 ( °C) |
| Specific Conductivity: | 4591 us/cm | 4275 us/cm | 4234 us/cm |
| ORP: | 132 mv | 117 mv | 124 mv |
| DO: | 2.42 mg/L | 2.61 mg/L | 2.19 mg/L |
| Depth to Water Post Purge: | 9.21 ft | | |
| Depth to Water Post Sampling: | 9.53 ft | | |
| Sampling Start Time: | 15:20 | | |
| Sampling End Time: | 15:25 | | |

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #: 04
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 8/30/10
WEATHER: Sunny and Hot
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 9.33 ft |
| Depth of Well: | 22.25 ft |
| Height of water in well: | 12.92 ft |
| PID/FID Reading: | 88.12/39.16 ppm |
| Gallons of Water to be Purged: | 25 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 25.19 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | Gal/Min. 25/109 |

**Purge Data:**

Start Time of Purging: 15:08
End Time of Purging: 16:57

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 5.03 su | 5.56 su | 4.86 su |
| Temperature: | 16.14 ( °C) | 14.83 ( °C) | 13.28 ( °C) |
| Specific Conductivity: | 2949 us/cm | 3649 us/cm | 3446 us/cm |
| ORP: | 84 mv | 60 mv | 128 mv |
| DO: | 2.23 mg/L | 2.19 mg/L | 1.58 mg/L |
| Depth to Water Post Purge: | 9.89 ft | | |
| Depth to Water Post Sampling: | 10.17 ft | | |
| Sampling Start Time: | 17:00 | | |
| Sampling End Time: | 17:08 | | |

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #: 05
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 8/30/10
WEATHER: Sunny and Hot
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 8.96 ft |
| Depth of Well: | 22.07 ft |
| Height of water in well: | 13.11 ft |
| PID/FID Reading: | 298/248 ppm |
| Gallons of Water to be Purged: | 26 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 25.56 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | Gal/Min. 26/113 |

**Purge Data:**

Start Time of Purging: 15:34
End Time of Purging: 17:27

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 5.13 su | 4.57 su | 4.41 su |
| Temperature: | 18.26 ( °C) | 14.01 ( °C) | 14.13 ( °C) |
| Specific Conductivity: | 2726 us/cm | 2717 us/cm | 2713 us/cm |
| ORP: | 50 mv | 73 mv | 94 mv |
| DO: | 2.06 mg/L | 1.54 mg/L | 1.69 mg/L |
| Depth to Water Post Purge: | 10.82 ft | | |
| Depth to Water Post Sampling: | 11.08 ft | | |
| Sampling Start Time: | 17:30 | | |
| Sampling End Time: | 17:36 | | |

Comments:

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 200
MW #: 06
NJDEP ID # NA
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: WALTER FUNK
DATE: 8/30/10
WEATHER: Sunny and Hot
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

**Initial Readings:**

| | |
|---|---|
| Elevation of Casing Survey Mark: | 9.05 ft |
| Depth of Well: | 21.93 ft |
| Height of water in well: | 12.88 ft |
| PID/FID Reading: | 93.52/52.68 ppm |
| Gallons of Water to be Purged: | 25 Gal. |
| Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = | 25.11 |
| Purge Method: Peristaltic Pump/Other (Specify) | |
| Purge Rate: Not to Exceed Well Draw Down of 0.5' | Gal/Min. 25/109 |

**Purge Data:**

Start Time of Purging: 16:03
End Time of Purging: 17:52

| | Initial Value | Pre-Sample | Post-Sample |
|---|---|---|---|
| pH: | 3.95 su | 4.68 su | 3.73 su |
| Temperature: | 20.11 ( °C) | 16.02 ( °C) | 16.41 ( °C) |
| Specific Conductivity: | 3493 us/cm | 3751 us/cm | 3716 us/cm |
| ORP: | 89 mv | 99 mv | 135 mv |
| DO: | 2.64 mg/L | 1.93 mg/L | 1.59 mg/L |
| Depth to Water Post Purge: | 10.15 ft | | |
| Depth to Water Post Sampling: | 10.31 ft | | |
| Sampling Start Time: | 18:00 | | |
| Sampling End Time: | 18:06 | | |

Comments:

# CONFORMANCE/ NON-CONFORMANCE SUMMARY

10371 VOA

# GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

| | Indicate Yes, No, N/A |
|---|---|
| 1. Chromatograms labeled/Compounds identified (Field samples and method blanks) | Yes |
| 2. Retention times for chromatograms provided | Yes |
| 3. GC/MS Tune Specifications | |
| a. BFB Meet Criteria | Yes |
| b. DFTPP Meet Criteria | N/A |
| 4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series | Yes |
| 5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series | Yes |
| 6. GC/MS Calibration requirements | |
| a. Calibration Check Compounds Meet Criteria | Yes |
| b. System Performance Check Compounds Meet Criteria | Yes |
| 7. Blank Contamination – If yes, List compounds and concentrations in each blank: | No |
| a. VOA Fraction_____ | |
| b. B/N Fraction_____ | |
| c. Acid Fraction_____ | |
| 8. Surrogate Recoveries Meet Criteria | Yes |
| If not met, list those compounds and their recoveries, which fall outside the acceptable range: | |
| a. VOA Fraction_____ | |
| b. B/N Fraction_____ | |
| c. Acid Fraction_____ | |
| If not met, were the calculations checked and the results qualified as "estimated"? | |
| 9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) | No |
| a. VOA Fraction See ms/msd report footnotes | |
| b. B/N Fraction_____ | |
| c. Acid Fraction_____ | |

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction _____
b. B/N Fraction _____
c. Acid Fraction _____

11. Extraction Holding Time Met — N/A

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: Dean Tarca Date: 10/6/10

9/9/10

# CASE NARRATIVE / CONFORMANCE SUMMARY

| | | | |
|---|---|---|---|
| **Client:** | Fort Monmouth Environmental Testing Lab. | **Job No** | JA55189 |
| **Site:** | New Wells Area 200 | **Report Date** | 9/15/2010 5:08:57 PM |

On 08/31/2010, 7 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 4.2 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA55189 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

## Extractables by GCMS By Method SW846 8270C

**Matrix:** AQ **Batch ID:** OP45444

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA55172-1MS, JA55172-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Di-n-octyl phthalate are outside control limits. Outside of in house control limits.
- Matrix Spike Duplicate Recovery(s) for 4-Chloroaniline, Di-n-octyl phthalate are outside control limits. Outside of in house control limits. .

## Extractables by GCMS By Method SW846 8270C BY SIM

**Matrix:** AQ **Batch ID:** OP45444A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA55172-1MS, JA55172-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for Benzo(b)fluoranthene are outside control limits. Outside of in house control limits.
- Matrix Spike Duplicate Recovery(s) for Benzo(b)fluoranthene are outside control limits. Outside of in house control limits.

Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting Accutest's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

Accutest Laboratories is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by Accutest Laboratories indicated via signature on the report cover

# LABORATORY CHRONICLE

# Laboratory Chronicle

**Lab ID:** 10371 **Site:** Site 200

| | Date | Hold Time |
|---|---|---|
| **Date Sampled** | 08/30/10 | NA |
| **Receipt/Refrigeration** | 08/30/10 | NA |

**Analyses**

| | | |
|---|---|---|
| 1. Volatiles | 09/03/10 | 14 Days |
| 2. Semi-Volatiles | 09/11,13/10 | 7 Days |

# VOLATILE ORGANICS

**US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY**
**NJDEP CERTIFICATION # 13461**

## Definition of Qualifiers

**U:** The compound was analyzed for but not detected.

**B:** Indicates that the compound was found in the associated method blank as well as in the sample.

**J:** Indicates an estimated value. This flag is used:
(1) When the mass spec and retention time data indicate the presence of a compound however the result is less than the reporting limit but greater than the MDL.
(2) When estimating the concentration of a tentatively identified compound (TIC), where a 1:1 response is assumed.

**D:** This flag is used to identify all compounds (target or TIC) that required a dilution.

**E:** Indicates the compound's concentration exceeds the calibration range of the instrument for that specific analysis.

**N:** This flag is only used for TICs. It indicates the presumptive evidence of a compound. For a generic characterization of a TIC, such as unknown hydrocarbon, the flag is not used.

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7368.D | Sample Name | MB09031001 |
| Operator | ROBERTS | Field ID | METHOD 624 9/3/10 |
| Date Acquired | 3 Sep 2010 11:49 am | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**MB09031001**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: MB09031001

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7368.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7381.D | Sample Name | 1037101 |
| Operator | ROBERTS | Field ID | 200 TRIP BLANK |
| Date Acquired | 3 Sep 2010 7:36 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | | Regulatory Level (ug/l)* | MDL | | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not | detected | 5 | 3.21 | ug/L | 5.00 | ug/L |
| 107131 | Acrylonitrile | | | not | detected | 2 | 0.98 | ug/L | 5.00 | ug/L |
| 75650 | tert-Butyl alcohol | | | not | detected | 100 | 1.64 | ug/L | 5.00 | ug/L |
| 1634044 | Methyl-tert-Butyl ether | | | not | detected | 70 | 0.11 | ug/L | 0.50 | ug/L |
| 108203 | Di-isopropyl ether | | | not | detected | 20000 | 0.17 | ug/L | 0.50 | ug/L |
| 75718 | Dichlorodifluoromethane | | | not | detected | 1000 | 0.17 | ug/L | 0.50 | ug/L |
| 74-87-3 | Chloromethane | | | not | detected | nle | 0.27 | ug/L | 0.50 | ug/L |
| 75-01-4 | Vinyl Chloride | | | not | detected | 1 | 0.22 | ug/L | 0.50 | ug/L |
| 74-83-9 | Bromomethane | | | not | detected | 10 | 0.37 | ug/L | 0.50 | ug/L |
| 75-00-3 | Chloroethane | | | not | detected | nle | 0.32 | ug/L | 0.50 | ug/L |
| 75-69-4 | Trichlorofluoromethane | | | not | detected | 2000 | 0.15 | ug/L | 0.50 | ug/L |
| 75-35-4 | 1,1-Dichloroethene | | | not | detected | 1 | 0.15 | ug/L | 0.50 | ug/L |
| 67-64-1 | Acetone | | | not | detected | 6000 | 0.32 | ug/L | 0.50 | ug/L |
| 75-15-0 | Carbon Disulfide | | | not | detected | 700 | 0.12 | ug/L | 0.50 | ug/L |
| 75-09-2 | Methylene Chloride | | | not | detected | 3 | 0.26 | ug/L | 0.50 | ug/L |
| 156-60-5 | trans-1,2-Dichloroethene | | | not | detected | 100 | 0.14 | ug/L | 0.50 | ug/L |
| 75-35-3 | 1,1-Dichloroethane | | | not | detected | 50 | 0.12 | ug/L | 0.50 | ug/L |
| 108-05-4 | Vinyl Acetate | | | not | detected | 7000 | 0.20 | ug/L | 1.00 | ug/L |
| 78-93-3 | 2-Butanone | | | not | detected | 300 | 0.22 | ug/L | 0.50 | ug/L |
| 156-59-2 | cis-1,2-Dichloroethene | | | not | detected | 70 | 0.12 | ug/L | 0.50 | ug/L |
| 67-66-3 | Chloroform | | | not | detected | 70 | 0.35 | ug/L | 0.50 | ug/L |
| 75-55-6 | 1,1,1-Trichloroethane | | | not | detected | 30 | 0.12 | ug/L | 0.50 | ug/L |
| 56-23-5 | Carbon Tetrachloride | | | not | detected | 1 | 0.12 | ug/L | 0.50 | ug/L |
| 71-43-2 | Benzene | | | not | detected | 1 | 0.12 | ug/L | 0.50 | ug/L |
| 107-06-2 | 1,2-Dichloroethane | | | not | detected | 2 | 0.11 | ug/L | 0.50 | ug/L |
| 79-01-6 | Trichloroethene | | | not | detected | 1 | 0.11 | ug/L | 0.50 | ug/L |
| 78-87-5 | 1,2-Dichloropropane | | | not | detected | 1 | 0.12 | ug/L | 0.50 | ug/L |
| 75-27-4 | Bromodichloromethane | | | not | detected | 1 | 0.12 | ug/L | 0.50 | ug/L |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not | detected | nle | 0.24 | ug/L | 1.00 | ug/L |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not | detected | 1 | 0.13 | ug/L | 0.50 | ug/L |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not | detected | nle | 0.15 | ug/L | 0.50 | ug/L |
| 108-88-3 | Toluene | | | not | detected | 1000 | 0.12 | ug/L | 0.50 | ug/L |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not | detected | 1 | 0.13 | ug/L | 0.50 | ug/L |
| 79-00-5 | 1,1,2-Trichloroethane | | | not | detected | 3 | 0.14 | ug/L | 0.50 | ug/L |
| 127-18-4 | Tetrachloroethene | | | not | detected | 1 | 0.14 | ug/L | 0.50 | ug/L |
| 591-78-6 | 2-Hexanone | | | not | detected | nle | 0.17 | ug/L | 1.00 | ug/L |
| 126-48-1 | Dibromochloromethane | | | not | detected | 1 | 0.12 | ug/L | 0.50 | ug/L |
| 108-90-7 | Chlorobenzene | | | not | detected | 50 | 0.12 | ug/L | 0.50 | ug/L |
| 100-41-4 | Ethylbenzene | | | not | detected | 700 | 0.12 | ug/L | 0.50 | ug/L |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not | detected | 1 | 0.13 | ug/L | 0.50 | ug/L |
| 1330-20-7 | m+p-Xylenes | | | not | detected | nle | 0.30 | ug/L | 1.00 | ug/L |
| 1330-20-7 | o-Xylene | | | not | detected | nle | 0.14 | ug/L | 0.50 | ug/L |
| 100-42-5 | Styrene | | | not | detected | 100 | 0.14 | ug/L | 0.50 | ug/L |
| 75-25-2 | Bromoform | | | not | detected | 4 | 0.14 | ug/L | 0.50 | ug/L |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not | detected | 1 | 0.14 | ug/L | 0.50 | ug/L |
| 541-73-1 | 1,3-Dichlorobenzene | | | not | detected | 600 | 0.16 | ug/L | 0.50 | ug/L |
| 106-46-7 | 1,4-Dichlorobenzene | | | not | detected | 75 | 0.15 | ug/L | 0.50 | ug/L |
| 95-50-1 | 1,2-Dichlorobenzene | | | not | detected | 600 | 0.13 | ug/L | 0.50 | ug/L |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 TRIP BLANK**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037101

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7381.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7382.D | Sample Name | 1037102 |
| Operator | ROBERTS | Field ID | 200 FIELD BLANK |
| Date Acquired | 3 Sep 2010 8:08 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 FIELD BLANK**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037102

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7382.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7383.D | Sample Name | 1037103 |
| Operator | ROBERTS | Field ID | 200 DUP |
| Date Acquired | 3 Sep 2010 8:38 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 DUP**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037103

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7383.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7384.D | Sample Name | 1037104 |
| Operator | ROBERTS | Field ID | 200 MW#01 |
| Date Acquired | 3 Sep 2010 9:09 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not | detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not | detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not | detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not | detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not | detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not | detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not | detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not | detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not | detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not | detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not | detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not | detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not | detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not | detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not | detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not | detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not | detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not | detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not | detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not | detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not | detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not | detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not | detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not | detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not | detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not | detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not | detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not | detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not | detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not | detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not | detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not | detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not | detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not | detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not | detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not | detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not | detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not | detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 MW#01**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037104

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7384.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
# U.S. Army, Fort Monmouth Environmental Laboratory
# NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7385.D | Sample Name | 1037105 |
| Operator | ROBERTS | Field ID | 200 MW#02 |
| Date Acquired | 3 Sep 2010 9:40 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | 8.00 | 13199 | 0.31 ug/L | 70 | 0.11 ug/L | 0.50 ug/L | J |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

## Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 MW#02**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037105

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7385.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7386.D | Sample Name | 1037106 |
| Operator | ROBERTS | Field ID | 200 MW#03 |
| Date Acquired | 3 Sep 2010 10:11 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 MW#03**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037106

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7386.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7387.D | Sample Name | 1037107 |
| Operator | ROBERTS | Field ID | 200 MW#04 |
| Date Acquired | 3 Sep 2010 10:42 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 MW#04**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037107

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7387.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7388.D | Sample Name | 1037108 |
| Operator | ROBERTS | Field ID | 200 MW#05 |
| Date Acquired | 3 Sep 2010 11:13 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 MW#05**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037108

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7388.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | VA7389.D | Sample Name | 1037109 |
| Operator | ROBERTS | Field ID | 200 MW#06 |
| Date Acquired | 3 Sep 2010 11:44 pm | Sample Multiplier | 1 |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | RL | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 5 | 3.21 ug/L | 5.00 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 2 | 0.98 ug/L | 5.00 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | 100 | 1.64 ug/L | 5.00 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.11 ug/L | 0.50 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | 20000 | 0.17 ug/L | 0.50 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | 1000 | 0.17 ug/L | 0.50 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | nle | 0.27 ug/L | 0.50 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 1 | 0.22 ug/L | 0.50 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.37 ug/L | 0.50 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.32 ug/L | 0.50 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | 2000 | 0.15 ug/L | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 1 | 0.15 ug/L | 0.50 ug/L | |
| 67-64-1 | Acetone | | | not detected | 6000 | 0.32 ug/L | 0.50 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 3 | 0.26 ug/L | 0.50 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | 7000 | 0.20 ug/L | 1.00 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.22 ug/L | 0.50 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 70 | 0.12 ug/L | 0.50 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 70 | 0.35 ug/L | 0.50 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.12 ug/L | 0.50 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.11 ug/L | 0.50 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.11 ug/L | 0.50 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.24 ug/L | 1.00 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | nle | 0.15 ug/L | 0.50 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.12 ug/L | 0.50 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.14 ug/L | 0.50 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.17 ug/L | 1.00 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 1 | 0.12 ug/L | 0.50 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 50 | 0.12 ug/L | 0.50 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.12 ug/L | 0.50 ug/L | |
| 630-20-6 | 1,1,1,2-tetrachloroethane | | | not detected | 1 | 0.13 ug/L | 0.50 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.30 ug/L | 1.00 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.14 ug/L | 0.50 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.14 ug/L | 0.50 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.14 ug/L | 0.50 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 1 | 0.14 ug/L | 0.50 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.16 ug/L | 0.50 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.15 ug/L | 0.50 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.13 ug/L | 0.50 ug/L | |

*Results between MDL and RL are estimated values

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9C 07Nov2005

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit



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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

**200 MW#06**

Lab Name: FMETL NJDEP # 13461

Project: Case No.: MW Location: SDG No.: 10371

Matrix: (soil/water) WATER Lab Sample ID: 1037109

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA7389.D

Level: (low/med) LOW Date Received: 8/30/2010

% Moisture: not dec. Date Analyzed: 9/3/2010

GC Column: Rtx-VMS ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# SEMI-VOLATILE ORGANICS

Raw Data: Z58200.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037102 FIELD BLANK | | |
| Lab Sample ID: | JA55189-1 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Field Blank Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58200.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037102 FIELD BLANK | | |
| Lab Sample ID: | JA55189-1 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Field Blank Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 91% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 97% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 68% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037102 FIELD BLANK | | |
| Lab Sample ID: | JA55189-1 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Field Blank Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21732.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 107% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 87% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 79% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: Z58201.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037103 DUPLICATE | | |
| Lab Sample ID: | JA55189-2 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58201.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037103 DUPLICATE | | |
| Lab Sample ID: | JA55189-2 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 91% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 95% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 88% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 3M21736.D

Accutest Laboratories

# Report of Analysis



3.2

3

| | | | |
|---|---|---|---|
| Client Sample ID: | 1037103 DUPLICATE | | |
| Lab Sample ID: | JA55189-2 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21736.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 107% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 87% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 106% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: Z58202.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037104 200MW01 | | |
| Lab Sample ID: | JA55189-3 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58202.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037104 200MW01 | | |
| Lab Sample ID: | JA55189-3 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 86% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 92% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 83% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 3M21737.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037104 200MW01 | | |
| Lab Sample ID: | JA55189-3 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21737.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 105% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 81% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 97% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: Z58203.D

Accutest Laboratories

# Report of Analysis





| | | | |
|---|---|---|---|
| Client Sample ID: | 1037105 200MW02 | | |
| Lab Sample ID: | JA55189-4 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58203.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037105 200MW02 | | |
| Lab Sample ID: | JA55189-4 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 89% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 92% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 84% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 3M21738.D

Accutest Laboratories

# Report of Analysis



3.4
35

| | | | |
|---|---|---|---|
| Client Sample ID: | 1037105 200MW02 | | |
| Lab Sample ID: | JA55189-4 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21738.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 106% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 83% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 101% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

000064

Raw Data: Z58204.D

Accutest Laboratories

# Report of Analysis





| | | | |
|---|---|---|---|
| Client Sample ID: | 1037106 200MW03 | | |
| Lab Sample ID: | JA55189-5 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58204.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037106 200MW03 | | |
| Lab Sample ID: | JA55189-5 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 88% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 89% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 92% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis





| | | | |
|---|---|---|---|
| Client Sample ID: | 1037106 200MW03 | | |
| Lab Sample ID: | JA55189-5 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21739.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 103% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 77% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 105% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: Z58205.D

Accutest Laboratories

# Report of Analysis



3.6

| | | | |
|---|---|---|---|
| Client Sample ID: | 1037107 200MW04 | | |
| Lab Sample ID: | JA55189-6 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58205.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

000068

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037107 200MW04 | | |
| Lab Sample ID: | JA55189-6 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 89% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 94% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 87% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037107 200MW04 | | |
| Lab Sample ID: | JA55189-6 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21740.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | 0.178 | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | 0.160 | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 99% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 76% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 93% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

000070

Raw Data: Z58206.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037108 200MW05 | | |
| Lab Sample ID: | JA55189-7 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58206.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | ND | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | ND | 5.0 | 0.30 | ug/l | |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037108 200MW05 | | |
| Lab Sample ID: | JA55189-7 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 92% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 95% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 85% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 3M21741.D

Accutest Laboratories

# Report of Analysis



3.1.3

| | | | |
|---|---|---|---|
| Client Sample ID: | 1037108 200MW05 | | |
| Lab Sample ID: | JA55189-7 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21741.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | ND | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | ND | 0.10 | 0.019 | ug/l | |
| 85-01-8 | Phenanthrene | ND | 0.10 | 0.036 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 108% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 84% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 96% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: Z58207.D

Accutest Laboratories

# Report of Analysis





| | | | |
|---|---|---|---|
| Client Sample ID: | 1037109 200MW06 | | |
| Lab Sample ID: | JA55189-8 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | Z58207.D | 1 | 09/11/10 | LP | 09/02/10 | OP45444 | EZ3096 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 98-86-2 | Acetophenone | ND | 2.0 | 0.40 | ug/l | |
| 1912-24-9 | Atrazine | ND | 5.0 | 0.39 | ug/l | |
| 100-52-7 | Benzaldehyde | ND | 5.0 | 0.40 | ug/l | |
| 101-55-3 | 4-Bromophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 85-68-7 | Butyl benzyl phthalate | ND | 2.0 | 0.25 | ug/l | |
| 92-52-4 | 1,1'-Biphenyl | 3.3 | 1.0 | 0.42 | ug/l | |
| 91-58-7 | 2-Chloronaphthalene | ND | 2.0 | 0.42 | ug/l | |
| 106-47-8 | 4-Chloroaniline | ND | 5.0 | 0.25 | ug/l | |
| 86-74-8 | Carbazole | ND | 1.0 | 0.17 | ug/l | |
| 105-60-2 | Caprolactam | ND | 2.0 | 0.20 | ug/l | |
| 111-91-1 | bis(2-Chloroethoxy)methane | ND | 2.0 | 0.25 | ug/l | |
| 111-44-4 | bis(2-Chloroethyl)ether | ND | 2.0 | 0.31 | ug/l | |
| 108-60-1 | bis(2-Chloroisopropyl)ether | ND | 2.0 | 0.39 | ug/l | |
| 7005-72-3 | 4-Chlorophenyl phenyl ether | ND | 2.0 | 0.35 | ug/l | |
| 121-14-2 | 2,4-Dinitrotoluene | ND | 2.0 | 0.22 | ug/l | |
| 606-20-2 | 2,6-Dinitrotoluene | ND | 2.0 | 0.33 | ug/l | |
| 91-94-1 | 3,3'-Dichlorobenzidine | ND | 5.0 | 0.30 | ug/l | |
| 132-64-9 | Dibenzofuran | 2.3 | 5.0 | 0.30 | ug/l | J |
| 84-74-2 | Di-n-butyl phthalate | ND | 2.0 | 0.19 | ug/l | |
| 117-84-0 | Di-n-octyl phthalate | ND | 2.0 | 0.40 | ug/l | |
| 84-66-2 | Diethyl phthalate | ND | 2.0 | 0.17 | ug/l | |
| 131-11-3 | Dimethyl phthalate | ND | 2.0 | 0.23 | ug/l | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | ND | 2.0 | 0.33 | ug/l | |
| 87-68-3 | Hexachlorobutadiene | ND | 1.0 | 0.13 | ug/l | |
| 77-47-4 | Hexachlorocyclopentadiene | ND | 20 | 0.24 | ug/l | |
| 67-72-1 | Hexachloroethane | ND | 2.0 | 0.21 | ug/l | |
| 78-59-1 | Isophorone | ND | 2.0 | 0.25 | ug/l | |
| 91-57-6 | 2-Methylnaphthalene | ND | 1.0 | 0.66 | ug/l | |
| 88-74-4 | 2-Nitroaniline | ND | 5.0 | 0.24 | ug/l | |
| 99-09-2 | 3-Nitroaniline | ND | 5.0 | 0.29 | ug/l | |
| 100-01-6 | 4-Nitroaniline | ND | 5.0 | 0.18 | ug/l | |
| 98-95-3 | Nitrobenzene | ND | 2.0 | 0.25 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037109 200MW06 | | |
| Lab Sample ID: | JA55189-8 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

BN TCL42 List

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 621-64-7 | N-Nitroso-di-n-propylamine | ND | 2.0 | 0.44 | ug/l | |
| 86-30-6 | N-Nitrosodiphenylamine | ND | 5.0 | 0.22 | ug/l | |
| 85-01-8 | Phenanthrene | 5.6 | 1.0 | 0.21 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 88% | | 25-112% |
| 321-60-8 | 2-Fluorobiphenyl | 90% | | 31-106% |
| 1718-51-0 | Terphenyl-d14 | 86% | | 14-122% |

| CAS No. | Tentatively Identified Compounds | R.T. | Est. Conc. | Units | Q |
|---|---|---|---|---|---|
| | Total TIC, Semi-Volatile | | 0 | ug/l | |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Raw Data: 3M21742.D

Accutest Laboratories

# Report of Analysis



| | | | |
|---|---|---|---|
| Client Sample ID: | 1037109 200MW06 | | |
| Lab Sample ID: | JA55189-8 | Date Sampled: | 08/30/10 |
| Matrix: | AQ - Water | Date Received: | 08/31/10 |
| Method: | SW846 8270C BY SIM SW846 3510C | Percent Solids: | n/a |
| Project: | New Wells Area 200 | | |

| | File ID | DF | Analyzed | By | Prep Date | Prep Batch | Analytical Batch |
|---|---|---|---|---|---|---|---|
| Run #1 | 3M21742.D | 1 | 09/13/10 | KLS | 09/02/10 | OP45444A | E3M932 |
| Run #2 | | | | | | | |

| | Initial Volume | Final Volume |
|---|---|---|
| Run #1 | 1000 ml | 1.0 ml |
| Run #2 | | |

| CAS No. | Compound | Result | RL | MDL | Units | Q |
|---|---|---|---|---|---|---|
| 83-32-9 | Acenaphthene | ND | 0.10 | 0.029 | ug/l | |
| 208-96-8 | Acenaphthylene | ND | 0.10 | 0.039 | ug/l | |
| 120-12-7 | Anthracene | ND | 0.10 | 0.026 | ug/l | |
| 56-55-3 | Benzo(a)anthracene | ND | 0.10 | 0.024 | ug/l | |
| 50-32-8 | Benzo(a)pyrene | ND | 0.10 | 0.031 | ug/l | |
| 205-99-2 | Benzo(b)fluoranthene | ND | 0.10 | 0.036 | ug/l | |
| 191-24-2 | Benzo(g,h,i)perylene | ND | 0.10 | 0.029 | ug/l | |
| 207-08-9 | Benzo(k)fluoranthene | ND | 0.10 | 0.028 | ug/l | |
| 218-01-9 | Chrysene | ND | 0.10 | 0.022 | ug/l | |
| 53-70-3 | Dibenzo(a,h)anthracene | ND | 0.10 | 0.023 | ug/l | |
| 206-44-0 | Fluoranthene | ND | 0.10 | 0.024 | ug/l | |
| 86-73-7 | Fluorene | 0.316 | 0.10 | 0.027 | ug/l | |
| 118-74-1 | Hexachlorobenzene | ND | 0.020 | 0.0099 | ug/l | |
| 193-39-5 | Indeno(1,2,3-cd)pyrene | ND | 0.10 | 0.029 | ug/l | |
| 91-20-3 | Naphthalene | 0.193 | 0.10 | 0.019 | ug/l | |
| 129-00-0 | Pyrene | ND | 0.10 | 0.022 | ug/l | |

| CAS No. | Surrogate Recoveries | Run# 1 | Run# 2 | Limits |
|---|---|---|---|---|
| 4165-60-0 | Nitrobenzene-d5 | 104% | | 18-119% |
| 321-60-8 | 2-Fluorobiphenyl | 75% | | 18-104% |
| 1718-51-0 | Terphenyl-d14 | 97% | | 13-109% |

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete data packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package <u>and</u> in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover Page, Title Page listing Lab Certification #, facility name and address, & date of report submitted. | ✓ |
| 2. | Table of Contents submitted. | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted. | ✓ |
| 4. | Document paginated and legible. | ✓ |
| 5. | Chain of Custody submitted. | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection. | ✓ |
| 7. | Methodology Summary submitted. | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted. | ✓ |
| 9. | Results submitted on a dry weight basis. | ✓ |
| 10. | Method Detection Limits submitted. | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP. | ✓ |

Laboratory Manager or Environmental Consultant's Signature Jean Tarchalski

Date: 10/6/10

Laboratory Certification # 13461

*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Dean Tardiff 10/6/16
Dean Tardiff
Laboratory Manager

000148

# Bibliography

Geophysical Survey – Final Report Reevaluation of Previous Survey Data for 200, 400, 700, and 800 Areas, Fort Monmouth, NJ, Enviroscan Project Number 100814

ATTACHMENT C

USTs 261 and 261B Previous Approval by NJDEP

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Bureau of Case Management
401 East State Street
P.O. Box 420/Mail Code 401-05F
Trenton, NJ 08625-0028
Phone #: 609-633-1455
Fax #: 609-633-1439

BOB MARTIN
Commissioner

May 30, 2013

Wanda Green
BRAC Environmental Coordinator
OACSIM – U.S. Army Fort Monmouth
PO Box 148
Oceanport, NJ 07757

Re: Army's January 31, 2013 Correspondence – Miscellaneous USTs
Main Post & Charles Wood Area
Fort Monmouth, New Jersey
PI G000000032

Dear Ms. Green:

The New Jersey Department of Environmental Protection (Department) has completed review of the referenced correspondence (and associated Attachments A through T), submitted to address several of the unresolved underground storage tank (UST) issues noted in this office's letter of July 10, 2012. As indicated in the referenced submittal, additional information regarding the various USTs will be forthcoming. The following comments are offered.

**Parcel 28 – Former Eatontown Laboratory**
As has been discussed, it is agreed no additional action is necessary for UST 2539-28, UST 2539-64, UST 2531-21, and two of the three USTs previously located between Building 2525 and Heliport Drive. Documentation as to the adequate evaluation of tanks UST 2542-29, UST 2564-32 and the UST at Building 2544 (T-7) has not yet been submitted.

**Parcel 49 – Former Squier Laboratory Complex**
Upon review of the documentation included in the submittal, it is agreed no further action is necessary for the UST at Building 293-67, or UST 283B-59.

**Parcel 51 – 750 Area, 500 Area, 600 Area, 1100 Area – Former Buildings**
Upon review of the documentation included in the submittal, it is agreed no further action is necessary for UST 695-111, UST 635, UST 642, UST 643 and 501-76.

As no sampling was apparently performed at UST 637, this office cannot concur there has been no discharge associated with the UST. As regarding Appendix K, and USTs at Buildings 644 through 654, evidently no sampling was performed; again, without same, this office cannot concur there has been no discharge.

**Parcel 76 – 200 Area, 300 Area – Former Barracks**
Review of the documentation included in the submittal indicates no additional action is necessary for UST 261 and UST 261B.

**Parcel 79 – 400 Area Former Barracks**
Review of the documentation included in the submittal, as well as that included in the files, indicates no further action is necessary for UST 411-28, UST 421-37, UST 423-39

As no sampling was evidently performed at UST 401-26 or UST 416-32, this office cannot concur there has been no discharge associated with the USTs.

If you have any questions regarding this matter, please contact this office at (609) 984-6606.

Sincerely,

Linda S. Range
Bureau of Case Management

C: Joe Pearson, Calibre Systems
Rich Harrison, FMERA
Julie Carver, Matrix

ATTACHMENT D

UST 262 File Review

Attachment D

PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 262*** Registration ID: *81533-46*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ ] Steel [ X ] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 8/11/1999

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 262 sample results ranged from non-detected (ND) to 252 mg/kg for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, etc.) may not be available. Although the fiberglass tank was removed, an earlier steel UST could still be present.

This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

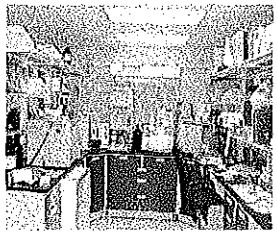
Recommendations (if any): None

Signed: Kent A. Friesen

Kent A. Friesen, Parsons

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO#99-0008

## Bldg. 262/Russel Ave.

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 262A-West Wall 7.5-8.0' | 4713.01 | Soil | 11-Aug-99 13:30 | 08/11/99 |
| 262B-Center 7.5-8.0' | 4713.02 | Soil | 11-Aug-99 13:45 | 08/11/99 |
| 262C-East Wall 7.5-8.0' | 4713.03 | Soil | 11-Aug-99 14:10 | 08/11/99 |
| 262C-DUP. | 4713.04 | Soil | 11-Aug-99 14:10 | 08/11/99 |
| Trip Blank | 4713.05 | Soil | 11-Aug-99 | 08/11/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

8-24-99
Daniel Wright/Date
Laboratory Director

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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

_____

_____

_____ 8-24-99

Laboratory Manager Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA ( X )OMA UST Assessment**

Project No: 99-0008
Location: BLDG. 262 RUSSEL AVE
UST# 81533-21

**Samplers Name / Company : Frank Accorsi/TVS**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4713.01 | 262A - WEST WALL 7.5-8.0 FT | 8-11-99 | 1330 | SOIL | 2 | X | X | X | 656 | 0 | ICE |
| 02 | 262B - CENTER 7.5-8.0 FT | | 1345 | | | X | X | X | 657 | 0 | |
| 03 | 262C - EAST WALL 7.5-8.0 FT | | 1410 | | | X | X | X | 658 | 0 | |
| 04 | 262C - DUPLICATE | | 1410 | | | X | | | - | 0 | |
| 05 | TRIP BLANK | | - | AQ | | | | X | 659 | - | |

**Comments:**
* = Samples Kept <4 Celsius

OVA sn# 64455.343 was calibrated with zero air & at ___ ppm _____ read _____ ppm. _____ (time/date & initial)

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 8/11/99 1550 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 24 HRS Days, ( )ASAP Verbal ___ Hrs.

Remarks: * CONTINGENT VOHO ANALYSIS ON 25% OF SAMPLES > 1000 PPM TPH, MIN. ONE, ON HIGHEST.

Dedicated Sampling Tools Used

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4713 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 11-Aug-99 |
| | Bldg. 173 | **Analysis Start:** | 12-Aug-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 12-Aug-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-21 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | P.Skelton | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg262 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4713.01** | 262A | **1.00** | 15.11 | 77.01 | 202 | **ND** |
| **4713.02** | 262B | **1.00** | 15.05 | 76.40 | 204 | **ND** |
| **4713.03** | 262C | **1.00** | 15.30 | 78.44 | 196 | **ND** |
| **4713.04** | 262D-Duplicate | **1.00** | 15.32 | 76.26 | 201 | **ND** |
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| **METHOD BLANK** | TBLK262 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected
MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
10. Method Detection Limits submitted ✓
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature _____

Date 8/24/99

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

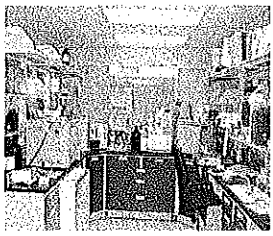
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

8-24-99

Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO#99-0008

## Bldg. 262/Russel

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 262-E Prod. Pipeline 1.0-1.5' | 4729.01 | Soil | 17-Aug-99 13:25 | 08/17/99 |
| 262-F Prod. Pipeline 1.0-1.5' | 4729.02 | Soil | 17-Aug-99 13:45 | 08/17/99 |
| 262-F Dup. | 4729.03 | Soil | 17-Aug-99 13:45 | 08/17/99 |
| Trip Blank | 4729.04 | Methanol | 17-Aug-99 | 08/17/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

8/30/99
Daniel Wright/Date
Laboratory Director

# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

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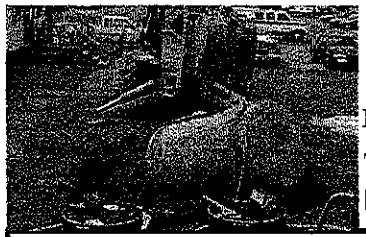
# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. _____ _____ | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). _____ _____ | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). _____ _____ | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). _____ _____ | Yes |

Additional comments: _____
_____
_____

_____ 8/30/99
Laboratory Manager Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA ( X )OMA UST Assessment**

Project No: 99-0008
Location: BLDG, 262 RUSSEL
UST# 81533-21

**Samplers Name : Company : Frank Accorsi/TVS**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS* | VOA+15* | VOA ID Number | PID HNu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4729 01 | 262-E PROD. PIPING 1.0-1.5 FT | 8-17-99 | 1325 | SOIL | 2 | X | X | X | 660 | 0 | |
| 02 | 262-F PROD. PIPING 1.0-1.5 FT | | 1345 | | 2 | X | X | X | 661 | 0 | |
| 03 | 262-F DUPLICATE | | 1345 | | 2 | X | X | X | 662 | 0 | |
| 04 | TRIP BLANK | | — | AQ. | 1 | | | X | 663 | — | |

**Comments:**
* = Samples Kept <4 Celsius

OVA sn# 64455.345 was calibrated with zero air & at 60 ppm isobutylene read 66.1 ppm. 1315 8-17-99 (time/date & initial)

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 8-17-99 1445 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: (X)Standard 4 wks, ( )Rush 3-5 Days, ( )ASAP Verbal ___ Hrs.

Remarks: * CONTINGENT VO ANALYSIS ON 25% OF SAMPLES W/ TPH GREATER THAN 1,000 ppm, MIN. ONE, ON HIGHEST.

Dedicated Sampling Tools Used

print legibly

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4729 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 17-Aug-99 |
| | Bldg. 173 | **Analysis Start:** | 19-Aug-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 24-Aug-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-21 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg. 262 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4729.01** | 262-E | **1.00** | 15.15 | 92.56 | 168 | **245.16** |
| **4729.02** | 262-F | **1.00** | 15.27 | 85.52 | 180 | **246.09** |
| **4729.03** | 262-F Duplicate | **1.00** | 15.13 | 86.92 | 179 | **252.01** |
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| **METHOD BLANK** | TBLK264 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected
MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

**Laboratory Manager or Environmental Consultant's Signature** _____

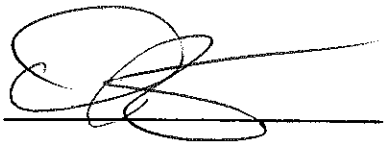
**Date** 4/30/99

**Laboratory Certification #13461**

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

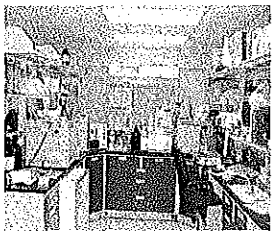
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO#99-0008

## Bldg. 262/Russel Ave.

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 262X-G West End | 4735.01 | Soil | 18-Aug-99 13:00 | 08/18/99 |
| 262X-H Center | 4735.02 | Soil | 18-Aug-99 13:15 | 08/18/99 |
| 262X-I East End | 4735.03 | Soil | 18-Aug-99 13:30 | 08/18/99 |
| 262X-I East Dup. | 4735.04 | Soil | 18-Aug-99 13:30 | 08/18/99 |
| 262X-J Prod. Piping | 4735.05 | Soil | 18-Aug-99 14:10 | 08/18/99 |
| 262X-K Prod. Piping | 4735.06 | Soil | 18-Aug-99 14:30 | 08/18/99 |
| Trip Blank | 4735.07 | Methanol | 18-Aug-99 | 08/18/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

8/30/99
Daniel Wright/Date
Laboratory Director

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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

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Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | yes |

Additional comments: _____

Laboratory Manager

6/30/99
Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA ( X )OMA UST Assessment**

Project No: 99-0008
Location: BLDG. 262 (RUSSEL AVE)
UST# NA

**Samplers Name / Company : Frank Accorsi/TVS**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS * | VOA+10 * | VOA ID Number | PID Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4735. 01 | 262X-G WEST END | 8-18-99 | 1300 | SOIL | 2 | X | X | X | 664 | 0 | ICE |
| 02 | 262X-H ~~EAST END~~ CENTER | | 1315 | | | X | X | X | 665 | 0 | |
| 03 | 262X-I EAST END | | 1330 | | | X | X | X | 666 | 0 | |
| 04 | 262X-I EAST (DUPLICATE) | | 1330 | | | X | X | X | 667 | 0 | |
| 05 | 262X-J PROD. PIPING | | 1410 | | | X | X | X | 668 | 0 | |
| 06 | 262X-K PROD. PIPING | | 1430 | | | X | X | X | 669 | 0 | |
| 07 | TRIP BLANK | | | | | | | X | 670 | - | |

**Comments:**
* = Samples Kept <4 Celsius

OVM sn#580U-64455.343 was calibrated with zero air & w/ 100 ppm Isobutylene read 98.7 ppm. 1130, 8-18-99 FA (time/date & initial)

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 8-18-99 1445 | | | | |
| | | | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 1-2 Days, ( )ASAP Verbal ___ Hrs.

Remarks: * CONTINGENT VO ANALYSIS ON 25% > 6000 ppm TPH, ON HIGHEST
All sample points have been GPS? ( )YES (X) NO ( )NA
WILL BE GPS LOCATED BY 1400 8-18-99

Dedicated Sampling Tools Used

print legibly



USTcoc.xls8/18/99

0000093

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4735 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 18-Aug-99 |
| | Bldg. 173 | **Analysis Start:** | 19-Aug-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 24-Aug-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg. 262 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4735.01** | 262X-G | **1.00** | 14.96 | 88.49 | 178 | **228.78** |
| **4735.02** | 262X-H | **1.00** | 14.99 | 89.01 | 176 | **ND** |
| **4735.03** | 262X-I | **1.00** | 15.06 | 89.25 | 175 | **ND** |
| **4735.04** | 262X-I Duplicate | **1.00** | 15.33 | 90.25 | 170 | **ND** |
| **4735.05** | 262X-J | **1.00** | 15.12 | 86.79 | 179 | **ND** |
| **4735.06** | 262X-K | **1.00** | 15.02 | 88.98 | 176 | **ND** |
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| | | | | | | |
| **METHOD BLANK** | TBLK265 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected
MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

**Laboratory Manager or Environmental Consultant's Signature** _____

**Date** 4/30/96

**Laboratory Certification #13461**

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

8/30/99

Daniel K. Wright
Laboratory Manager

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ATTACHMENT E

UST 263 File Review

Attachment E

PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 263*** Registration ID: *81533-47*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ X ] Steel [ ] Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 2/15/2000

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 2000 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 263 soil sample results were all non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

Monthly groundwater samples were collected from 10/5/2001 through 12/5/2001. One of these three samples detected 2.29 ug/L chloroform, and identified 1-methyl-naphthalene and 2-methyl-naphthalene as TICs. These results were not confirmed in the other two analyses.

In conclusion, the analytical results support the UST Case Status of "Case Closed," although certain supporting documentation (such as a map with sample locations, field notes, groundwater sample procedure, etc.) may not be available. "High probability" of an additional tank could be overrated because a steel tank was removed during closure.

This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

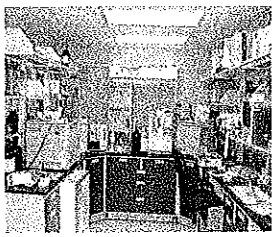
Recommendations (if any): None

Signed: Kent A. Friesen

Kent A. Friesen, Parsons

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 263

| Field Location No. & Location | Laboratory Sample ID# | Matrix | Date and Time Of Collection | Date Received |
|---|---|---|---|---|
| 263-N | 4336.01 | Soil | 10-Mar-99 15:05 | 0310/99 |
| 263-S | 4336.02 | Soil | 10-Mar-99 15:00 | 0310/99 |
| 263-E | 4336.03 | Soil | 10-Mar-99 15:10 | 0310/99 |
| 263-W | 4336.04 | Soil | 10-Mar-99 14:50 | 0310/99 |
| 263-WD | 4336.05 | Soil | 10-Mar-99 14:55 | 0310/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

3-22-99
Daniel Wright/Date
Laboratory Director

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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | YES |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | YES |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | YES |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | YES |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | YES |

Additional comments: _____

Laboratory Manager

3-22-99
Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer: Charles Appleby** | Project No: 99-0008
**Phone #: X26224** | Location: B263
**( )DERA ( X )OMA UST Assessment** | UST# 81533 -47
**Samplers Name / Company : TVS/**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 43860-01 | 263-N | 3/10/99 | 1505 | S:1 | 1 | X | X | | | ND | 8.5 Pt 06 |
| 02 | 263-S | | 1500 | | 1 | X | X | | | ND | |
| 03 | 263-E | | 1510 | | 1 | X | X | | | ND | |
| 04 | 263-W | | 1450 | | 1 | X | X | | | ND | |
| 05 | 263-WD | | 1455 | | 1 | X | X | | | ND | Duplicate |
| | | | | | 1 | X | X | | | | |

Analysis Parameters

**Comments:** * = Samples Kept <4 Celsius

Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 3/10/99 # AS19103

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 3/10/99 1545 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, ( )Rush 3 Days, ( )ASAP Verbal ___ Hrs.

Remarks: Dedicated Sampling Tools Used

000003

print legibly



USTcoc3/9/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4336 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 11-Mar-99 |
| | Bldg. 173 | **Analysis Start:** | 11-Mar-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 15-Mar-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-47 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg. 263 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4336.01** | 263-N | **1.00** | 15.03 | 82.50 | 190 | **ND** |
| **4336.02** | 263-S | **1.00** | 15.61 | 81.01 | 186 | **ND** |
| **4336.03** | 263-E | **1.00** | 14.98 | 81.43 | 193 | **ND** |
| **4336.04** | 263-W | **1.00** | 15.98 | 81.72 | 180 | **ND** |
| **4336.05** | 263-WD | **1.00** | 15.62 | 81.08 | 186 | **ND** |
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| **METHOD BLANK** | TBLK 223 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

Laboratory Manager or Environmental Consultant's Signature _____

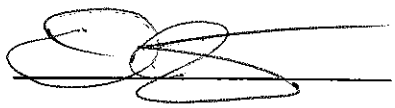
Date 3/22/99

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: IJO# 100004

## Bldg. 263

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 263X-A West End 7-7.5' | 5173.01 | Soil | 15-Feb-00 11:00 | 02/15/00 |
| 263X-B Center 7-7.5' | 5173.02 | Soil | 15-Feb-00 11:15 | 02/15/00 |
| 263X-C East End 7-7.5' | 5173.03 | Soil | 15-Feb-00 11:30 | 02/15/00 |
| 263X-D Duplicate | 5173.04 | Soil | 15-Feb-00 11:00 | 02/15/00 |
| Trip Blank | 5173.05 | Methanol | 15-Feb-00 | 02/15/00 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

7-24-00
Daniel Wright/Date
Laboratory Director

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| Continuing Calibration Summary | 6-9 |
| Surrogate Results Summary | 10 |
| MS/MSD Results Summary | 11 |
| Blank Spike Summary | 12 |
| Raw Sample Data | 13-22 |
| Laboratory Deliverable Checklist | 23 |
| Laboratory Authentication Statement | 24 |

# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a orbital shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# TPHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Y |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | N |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Y |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Y |
| 5. | IR Spectra submitted for standards, blanks and samples. | N/A |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Y |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Y |

Additional comments: _____

Laboratory Manager

2-24-00
Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer: Dinker Desai**
**Phone #: X21475**
**( )DERA ( X )OMA UST Assessment**

Project No: 100004
Location: BLDG. 263
UST# 81533 - 47

**Samplers Name / Company : Frank Accorsi/TVS**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS* | VOA+10* | VOA ID Number | PID Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 5173.01 | 263X-A, WEST END 7-7.5FT | 2-15-00 | 1100 | SOIL | 2 | X | X | X | 584 | 2 | ICE |
| 02 | 263X-B, ~~EAST END~~ 7-7.5 FT | CENTER | 1115 | | 2 | X | X | X | 593 | 1 | |
| 03 | 263X-C, EAST END 7-7.5FT | | 1130 | | 2 | X | X | X | 594 | 3 | |
| 04 | 263X-D, DUPLICATE | | 1100 | | 2 | X | X | X | 595 | 2 | |
| 05 | TRIP BLANK | | — | AQ. | 1 | | | X | 596 | — | |

**Comments:**
* = Samples Kept <4 Celsius

OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm. 0750 2-15-00 FA (time/date & initial)

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| Frank Accorsi | 2-15-00 1145 | J. Clayton | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 2 wks, (X)Rush 1 Days, (X)ASAP Verbal ___ Hrs.

Remarks: * VOA+10 ON 25% > 1,000 PPM TPH, ON HIGHEST, MION. ONE
All sample points have been GPS? (X)YES ( )NO ( )NA

Dedicated Sampling Tools Used

print legibly



USTcoc.xls10/29/99

# Report of Analysis
## U.S.Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Project # :** | 5173 |
| | DPW. SELFM-PW-EV | **Location :** | Bldg.263 |
| | Bldg. 173 | **UST Reg. # :** | 81533-47 |
| | Ft. Monmouth, NJ 07703 | | |
| **Analysis :** | OQA-QAM-025 | **Date Received :** | 15-Feb-00 |
| **Matrix :** | Soil | **Date Extracted :** | 15-Feb-00 |
| **Inst. ID. :** | GC TPHC INST. #1 | **Extraction Method :** | Shake |
| **Column Type :** | RTX-5, 0.32mm ID, 30M | **Analysis Complete :** | 16-Feb-00 |
| **Injection Volume :** | 1uL | **Analyst :** | D. Costagliola |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **5173.01** | 263X-A | **1.00** | 15.11 | 84.18 | 185 | **ND** |
| **5173.02** | 263X-B | **1.00** | 15.06 | 83.53 | 187 | **ND** |
| **5173.03** | 263X-C | **1.00** | 15.16 | 82.43 | 188 | **ND** |
| **5173.04** | 263X-D | **1.00** | 15.46 | 80.36 | 189 | **ND** |
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| **METHOD BLANK** | TBLK328 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package <u>and</u> in the main body of the report.**

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
10. Method Detection Limits submitted —
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature _____

Date 2 / 24 / 04

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 263

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 263-1A | 4393.01 | Soil | 05-Apr-99 09:30 | 04/05/99 |
| 263-1B | 4393.02 | Soil | 05-Apr-99 09:35 | 04/05/99 |
| 263-1A-1B DUP | 4393.03 | Soil | 05-Apr-99 | 04/05/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLID

4-13-99
Daniel Wright/Date
Laboratory Director

# Table of Contents


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| Results Summary | 5 |
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| Continuing Calibration Summary | 12-14 |
| Surrogate Results Summary | 15 |
| MS/MSD Results Summary | 16 |
| Blank Spike Summary | 17 |
| Raw Sample Data | 18A,18-24 |
| Laboratory Deliverable Checklist | 25 |
| Laboratory Authentication Statement | 26 |

# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | no |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | yes |

Additional comments: _____

Laboratory Manager

4-13-99
Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA ( X )OMA UST Assessment**

Project No: 99-0008
Location: B263
UST#

**Samplers Name / Company : Gary Iamello**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 15931 01 | 263 - 1A | 4/5/99 | 0930 | SOIL | 1 | ✓ | ✓ | | | 0 | PIPING RUN |
| 02 | 263 - 1B | 4/5/99 | 0935 | SOIL | 1 | ✓ | ✓ | | | 0 | SAMPLES |
| 03 | 263 - 1A-1B DUP | 4/5/99 | — | SOIL | 1 | ✓ | ✓ | | | 0 | 5' FROM BLDG. & |
| | | | | | | | | | | | 17' FROM BLDG. |

**Comments:**
* = Samples Kept <4 Celsius

Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @_____

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 4-5-99 1330 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: (X)Standard 4 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

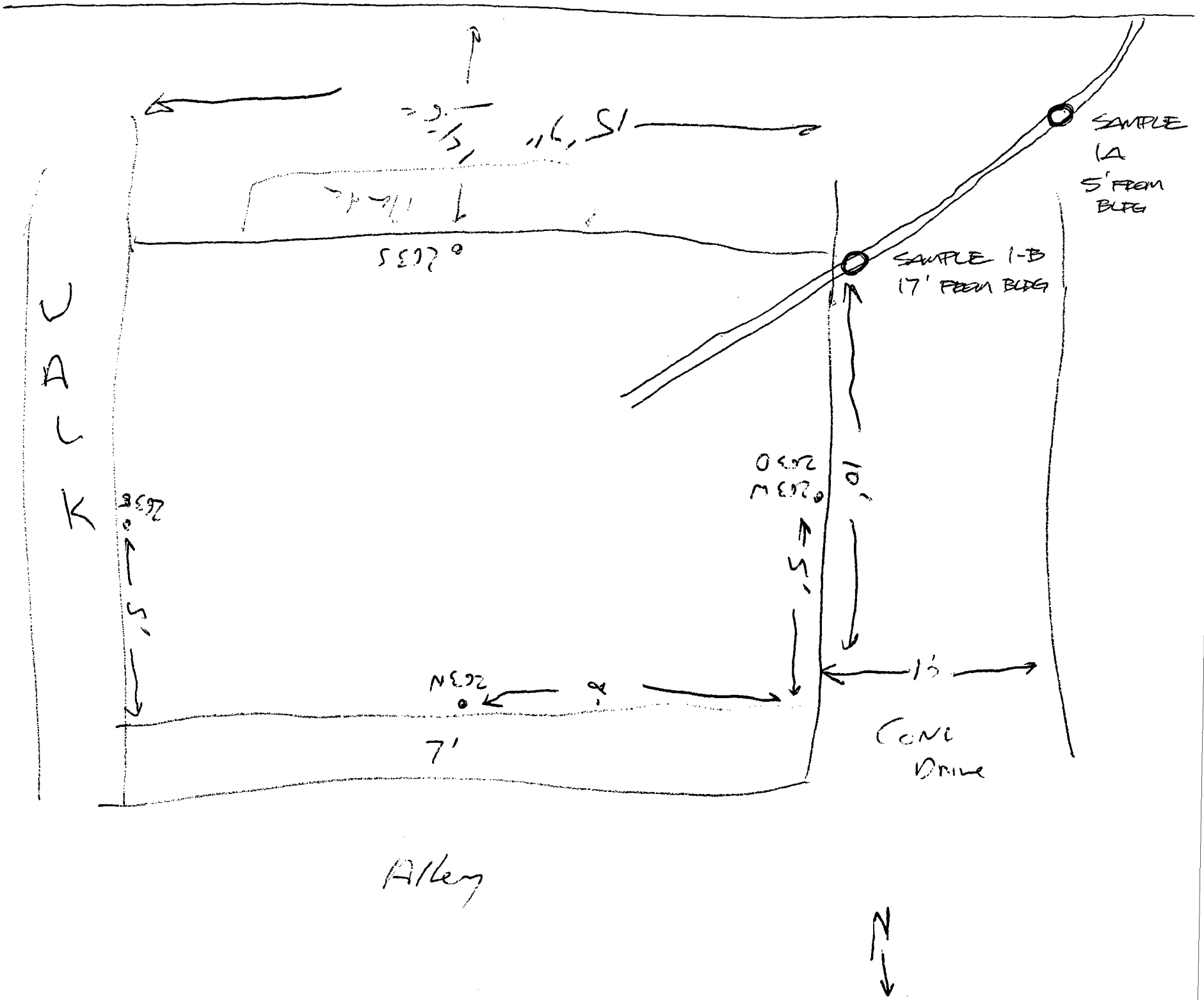
Remarks: Dedicated Sampling Tools Used

000003

print legibly



USTcoc4/5/99


SAMPLE 1A
5' FROM BLDG
SAMPLE 1-B
17' FROM BLDG
WALK
7'
Conc Drive
Alley
N

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4393 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 05-Apr-99 |
| | Bldg. 173 | **Analysis Start:** | 06-Apr-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 07-Apr-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | B263 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4393.01** | 263-1A | **1.00** | 15.35 | 82.18 | 186 | **ND** |
| **4393.02** | 263-1B | **1.00** | 15.44 | 80.83 | 188 | **ND** |
| **4393.03** | 263-1A/1B DUP | **1.00** | 15.07 | 82.98 | 188 | **ND** |
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| **METHOD BLANK** | TBLK 229 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

**Laboratory Manager or Environmental Consultant's Signature** _____

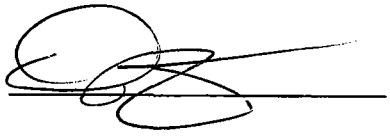
**Date** 4/13/94

**Laboratory Certification #13461**

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

## Bldg. 263

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time Of Collection | Date Received |
|---|---|---|---|---|
| 263GW/7.6' | 1655301 | Aqueous | 05-Nov-01 14:10 | 11/05/01 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

11-20-01

Daniel Wright/Date
Laboratory Director

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# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

## Chain of Custody Record

Customer: D. DESAI
Phone #: X2475
( )DERA (✓)OMA ( )Other:_____
Project No:
Location: BLDG. 263
Samplers Name / Company: MARK LOWRY - TVS - PWS 07

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | VOA + 15 | BN + 15 | | | | | | | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 16553 01 | 263 GW - 7.6' | 11-05-01 | 1410 | AQ. | 3 | X | X | | | | | | | HCl, 4°C |
| | | | | | | | | | | | | | | |
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| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 11-5-01 1530 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: (_)Full, (X)Reduced, (_)Standard, (_)Screen / non-certified, (_)EDD
Turnaround time: (X)Standard 3 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

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print legibly



Coc.xls9/27/01

# METHOD SUMMARY

# Method Summary

**EPA Method 624**
Gas Chromatographic Determination of Volatiles in Water

Surrogates and internal standards are added to a 5-ml aliquot of sample. The sample is then purged and desorbed into a GC/MS system. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Volatiles are identified and quantitated.

**EPA Method 3510/625**
Gas Chromatographic Determination of Semi-volatiles in Water

Surrogates are added to measured volume of sample, usually 1 liter, at a specified pH. The sample is serially extracted with Methylene chloride using a separatory funnel. The extract concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

# CONFORMANCE-
# NON-
# CONFORMANCE

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — yes
2. Retention times for chromatograms provided — yes
3. GC/MS Tune Specifications
   a. BFB Meet Criteria — yes
   b. DFTPP Meet Criteria — yes
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series — yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series — yes
6. GC/MS Calibration requirements
   a. Calibration Check Compounds Meet Criteria — yes
   b. System Performance Check Compounds Meet Criteria — yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank: — yes
   a. VOA Fraction ____
   b. B/N Fraction bis(2Ethylhexyl)phthalate 16.41 ug/L
   c. Acid Fraction NA
8. Surrogate Recoveries Meet Criteria — no

   If not met, list those compounds and their recoveries, which fall outside the acceptable range:
   a. VOA Fraction ____
   b. B/N Fraction Terphenyl Low at 39
   c. Acid Fraction NA

   If not met, were the calculations checked and the results qualified as "estimated"? — yes
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — yes
   a. VOA Fraction ____
   b. B/N Fraction ____
   c. Acid Fraction NA

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction _____
b. B/N Fraction _____
c. Acid Fraction NA

11. Extraction Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: _____ Date: 11-20-01

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 16553

Site: Bldg. 263

| | Date | Hold Time |
|---|---|---|
| Date Sampled | 11/05/01 | NA |
| Receipt/Refrigeration | 11/05/01 | NA |
| Extractions | | |
| 1. BN | 11/06/01 | 7 days |
| Analyses | | |
| 1. Volatile Organics | 11/06/01 | 14 days |
| 2. BN | 11/06/01 | 40 days |

# VOLATILE ORGANICS

# US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
# NJDEP CERTIFICATION # 13461

## Definition of Qualifiers

| | | |
|---|---|---|
| **MDL** | **:** | **Method Detection Limit** |
| **J** | **:** | **Compound identified below detection limit** |
| **B** | **:** | **Compound found in blank** |
| **D** | **:** | **Results are from a dilution of the sample** |
| **U** | **:** | **Compound searched for but not detected** |
| **E** | **:** | **Compound exceeds calibration limit** |
| **PQL** | **:** | **Practical Quantitation Limit** |
| **NLE** | **:** | **No limit established** |
| **RT** | **:** | **Retention time** |

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | **VB010362.D** | Sample Name | **MB** |
| Operator | **Skelton** | Field ID | **MB** |
| Date Acquired | **6 Nov 2001 2:10 pm** | Sample Multiplier | **1** |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | Qualifier |
|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 50 | 8.41 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 3.40 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 6.61 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.39 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.43 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | nle | 0.34 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | 0.37 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 5 | 0.33 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.56 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.44 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | nle | 0.48 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 2 | 0.40 ug/L | |
| 67-64-1 | Acetone | | | not detected | 700 | 0.91 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | nle | 0.37 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 2 | 0.22 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.72 ug/L | |
| 75-34-3 | 1,1-Dichloroethane | | | not detected | 70 | 0.46 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | nle | 0.89 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.68 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 10 | 0.45 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 6 | 0.36 ug/L | |
| 71-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.54 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.39 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.49 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.54 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.43 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.65 ug/L | |
| 124-48-1 | Bromodichloromethane | | | not detected | 1 | 0.71 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.29 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | nle | 0.32 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.72 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.36 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | nle | 0.47 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.69 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.73 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.66 ug/L | |
| 124-48-1 | Dibromochloromethane | | | not detected | 10 | 1.13 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.45 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.40 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.99 ug/L | |
| 95-47-6 | o-Xylene | | | not detected | nle | 0.26 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.39 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.85 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 2 | 0.87 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.25 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.43 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.52 ug/L | |

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9-6 2-Sept-9

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID.

**MB**

Lab Name: FMETL Project: 010001

NJDEP#: 13461 Case No.: 16553 Location: 263 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB010362.D

Level: (low/med) LOW Date Received: 11/5/01

% Moisture: not dec. _____ Date Analyzed: 11/6/01

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File | **VB010367.D** | Sample Name | **1655301** |
| Operator | **Skelton** | Field ID | **263GW** |
| Date Acquired | **6 Nov 2001 6:24 pm** | Sample Multiplier | **1** |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/l)* | MDL | Qualifier |
|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 50 | 8.41 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 3.40 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 6.61 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.39 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.43 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | nle | 0.34 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | 0.37 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 5 | 0.33 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 0.56 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 0.44 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | nle | 0.48 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 2 | 0.40 ug/L | |
| 67-64-1 | Acetone | | | not detected | 700 | 0.91 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | nle | 0.37 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 2 | 0.22 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.72 ug/L | |
| 75-34-3 | 1,1-Dichloroethane | | | not detected | 70 | 0.46 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | nle | 0.89 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.68 ug/L | |
| 156-59-2 | cis-1,2-Dichloroethene | | | not detected | 10 | 0.45 ug/L | |
| 67-66-3 | Chloroform | 16.30 | 98735 | 2.29 ug/L | 6 | 0.36 ug/L | |
| 71-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.54 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.39 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.49 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.54 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.43 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.65 ug/L | |
| 124-48-1 | Bromodichloromethane | | | not detected | 1 | 0.71 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.29 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | nle | 0.32 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.72 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.36 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | nle | 0.47 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.69 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.73 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.66 ug/L | |
| 124-48-1 | Dibromochloromethane | | | not detected | 10 | 1.13 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.45 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.40 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 0.99 ug/L | |
| 95-47-6 | o-Xylene | | | not detected | nle | 0.26 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.39 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.85 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 2 | 0.87 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.25 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.43 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.52 ug/L | |

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C. 7:9-6 2-Sept-9

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time



C:\HPCHEM\CUSTRPT\VOLATILE\624FY01.CRT

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Lab ID. **263GW**

Lab Name: FMETL Project: 010001

NJDEP#: 13461 Case No.: 16553 Location: 263 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1655301

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VB010367.D

Level: (low/med) LOW Date Received: 11/5/01

% Moisture: not dec. Date Analyzed: 11/6/01

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 2

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. 000090-12-0 | Naphthalene, 1-methyl- | 31.51 | 15 | JN |
| 2. 000091-57-6 | Naphthalene, 2-methyl- | 33.30 | 9 | JN |

# BASE NEUTRAL

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File Name | **BNA06266.D** | Sample Name | **MB-011106** |
| Operator | **B.Patel** | Misc Info | **MB-011106** |
| Date Acquired | **6-Nov-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.61 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.78 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.80 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.90 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.95 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.17 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.96 | ug/L | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.81 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.84 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.96 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.27 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.88 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.00 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.11 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 1.06 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.77 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.16 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 1.11 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.26 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.10 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.95 | ug/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.09 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.93 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.98 | ug/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.85 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.02 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.06 | ug/L | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.16 | ug/L | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.10 | ug/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.84 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.92 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.92 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.10 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.06 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.87 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.08 | ug/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.08 | ug/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.93 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.23 | ug/L | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.90 | ug/L | |

# Semi-Volatile Analysis Report
## Page 2

| | | | |
|---|---|---|---|
| Data File Name | **BNA06266.D** | Sample Name | **MB-011106** |
| Operator | **B.Patel** | Misc Info | **MB-011106** |
| Date Acquired | **6-Nov-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 1.81 | ug/L | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.01 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.13 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.00 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.87 | ug/L | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.05 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 26.90 | 1310149 | 16.41 ug/L | 30 | 0.99 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.20 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.07 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.24 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.04 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.32 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.00 | ug/L | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB-011106**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16553 Location: Bl.263 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: MB-011106

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA06266.D

Level: (low/med) LOW Date Received: 11/5/01

% Moisture: decanted: (Y/N) N Date Extracted: 11/6/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/6/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File Name | **BNA06271.D** | Sample Name | **1655301** |
| Operator | **B.Patel** | Misc Info | **263GW** |
| Date Acquired | **6-Nov-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.61 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.78 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.80 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.90 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.95 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.17 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.96 | ug/L | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.81 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.84 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.96 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.27 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.88 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.00 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.11 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 1.06 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.77 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.16 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 1.11 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.26 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.10 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.95 | ug/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.09 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.93 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.98 | ug/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.85 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.02 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.06 | ug/L | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.16 | ug/L | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.10 | ug/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.84 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.92 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.92 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.10 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.06 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.87 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.08 | ug/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.08 | ug/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.93 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.23 | ug/L | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.90 | ug/L | |

# Semi-Volatile Analysis Report
## Page 2

| | | | |
|---|---|---|---|
| Data File Name | **BNA06271.D** | Sample Name | **1655301** |
| Operator | **B.Patel** | Misc Info | **263GW** |
| Date Acquired | **6-Nov-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 1.81 | ug/L | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.01 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.13 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.00 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.87 | ug/L | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.05 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | 26.90 | 810220 | 10.38 ug/L | 30 | 0.99 | ug/L | B |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.20 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.07 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.24 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.04 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.32 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.00 | ug/L | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

### Qualifiers

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**263GW**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16553 Location: Bl.263 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1655301

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA06271.D

Level: (low/med) LOW Date Received: 11/5/01

% Moisture: decanted: (Y/N) N Date Extracted: 11/6/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 11/6/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ✓ |
| 2. | Table of Contents submitted | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ✓ |
| 4. | Document paginated and legible | ✓ |
| 5. | Chain of Custody submitted | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection | ✓ |
| 7. | Methodology Summary submitted | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted | ✓ |
| 9. | Results submitted on a dry weight basis | NA |
| 10. | Method Detection Limits submitted | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date 11 / 20 / 01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY


**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-4359 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**




ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

## Bldg. 263

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time Of Collection | Date Received |
|---|---|---|---|---|
| 263 GW 6.5' | 1649401 | Aqueous | 05-Oct-01 13:38 | 10/05/01 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
BN+15

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

11-13-01

Daniel Wright/Date
Laboratory Director

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# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

## Chain of Custody Record

Customer: D. DESAI
Phone #: X2175
( )DERA (✓)OMA ( )Other:_____

Project No: 01-0001
Location: BLDG. 263

Samplers Name / Company: MARK LAURA-TVS-PWS07

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | Analysis Parameters: VOA+15 | Analysis Parameters: BN+15 | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|
| 16494 01 | 263 GW-6.5' | 10-5-01 | 1338 | AQ. | 3 | X* | X | HCL, C4A |

* VOA Missed Holding Time Resampled on 11-6-01

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 10-5-01 1430 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: (X)Standard 3 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks: SHARE T.B. + F.B. w/ BLDG. 1102 SAME DAY

200002

print legibly



Coc.xls9/27/01

# METHOD SUMMARY

# Method Summary

**EPA Method 3510/625**
Gas Chromatographic Determination of Semi-volatiles in Water

Surrogates are added to measured volume of sample, usually 1 liter, at a specified pH. The sample is serially extracted with Methylene chloride using a separatory funnel. The extract concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

# CONFORMANCE-
# NON-
# CONFORMANCE

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — Yes

2. Retention times for chromatograms provided — Yes

3. GC/MS Tune Specifications

   a. BFB Meet Criteria — NA
   b. DFTPP Meet Criteria — Yes

4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series — Yes

5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series — Yes

6. GC/MS Calibration requirements

   a. Calibration Check Compounds Meet Criteria — Yes
   b. System Performance Check Compounds Meet Criteria — Yes

7. Blank Contamination – If yes, List compounds and concentrations in each blank: — NO

   a. VOA Fraction NA
   b. B/N Fraction
   c. Acid Fraction NA

8. Surrogate Recoveries Meet Criteria — NO

   If not met, list those compounds and their recoveries, which fall outside the acceptable range:

   a. VOA Fraction NA
   b. B/N Fraction Terphenyl-d14 39%
   c. Acid Fraction NA

   If not met, were the calculations checked and the results qualified as "estimated"? — Yes

9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — Yes

   a. VOA Fraction NA
   b. B/N Fraction
   c. Acid Fraction NA

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction NA
b. B/N Fraction _____
c. Acid Fraction NA

11. Extraction Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: _____ Date: 11-13-01

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 16494 Site: Bldg. 263

| | Date | Hold Time |
|---|---|---|
| Date Sampled | 10/05/01 | NA |
| Receipt/Refrigeration | 10/05/01 | NA |
| Extractions | | |
| 1. BN | 10/12/01 | 7 days |
| Analyses | | |
| 1. BN | 10/17/01 | 40 days |

# BASE NEUTRAL

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File Name | **BNA06204.D** | Sample Name | **MB-011012** |
| Operator | **B.Patel** | Misc Info | **MB-011012** |
| Date Acquired | **17-Oct-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.61 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.78 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.80 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.90 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.95 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.17 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.96 | ug/L | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.81 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.84 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.96 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.27 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.88 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.00 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.11 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 1.06 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.77 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.16 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 1.11 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.26 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.10 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.95 | ug/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.09 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.93 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.98 | ug/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.85 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.02 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.06 | ug/L | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.16 | ug/L | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.10 | ug/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.84 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.92 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.92 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.10 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.06 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.87 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.08 | ug/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.08 | ug/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.93 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.23 | ug/L | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.90 | ug/L | |

# Semi-Volatile Analysis Report
## Page 2

| | | | |
|---|---|---|---|
| Data File Name | **BNA06204.D** | Sample Name | **MB-011012** |
| Operator | **B.Patel** | Misc Info | **MB-011012** |
| Date Acquired | **17-Oct-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 1.81 | ug/L | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.01 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.13 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.00 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.87 | ug/L | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.05 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.99 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.20 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.07 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.24 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.04 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.32 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.00 | ug/L | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB-011012**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16494 Location: Bl.263 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: MB-011012

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA06204.D

Level: (low/med) LOW Date Received: 10/5/01

% Moisture: decanted: (Y/N) N Date Extracted: 10/12/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/17/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File Name | **BNA06206.D** | Sample Name | **1649401** |
| Operator | **B.Patel** | Misc Info | **263GW** |
| Date Acquired | **17-Oct-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.61 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.78 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.80 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.90 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.95 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.17 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.96 | ug/L | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.81 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.84 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.96 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.27 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.88 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.00 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.11 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 1.06 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.77 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.16 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 1.11 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.26 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.10 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.95 | ug/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.09 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.93 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.98 | ug/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.85 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.02 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.06 | ug/L | |
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.16 | ug/L | |
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| 86-73-7 | Fluorene | | | not detected | 300 | 0.84 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.92 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.92 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.10 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.06 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.87 | ug/L | |
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| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.08 | ug/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.93 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.23 | ug/L | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.90 | ug/L | |

# Semi-Volatile Analysis Report
## Page 2

| | | | |
|---|---|---|---|
| Data File Name | **BNA06206.D** | Sample Name | **1649401** |
| Operator | **B.Patel** | Misc Info | **263GW** |
| Date Acquired | **17-Oct-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 92-87-5 | Benzidine | | | not detected | 50 | 1.81 | ug/L | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.01 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.13 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.00 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.87 | ug/L | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.05 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.99 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.20 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.07 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.24 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.04 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.32 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.00 | ug/L | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
**263GW**

Lab Name: FMETL Lab Code 13461

Project: UST Case No.: 16494 Location: Bl.263 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1649401

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA06206.D

Level: (low/med) LOW Date Received: 10/5/01

% Moisture: _____ decanted: (Y/N) N Date Extracted: 10/12/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 10/17/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|
| 1. | unknown | 17.83 | 6 | J |

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis N/A
10. Method Detection Limits submitted ✓
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature _____

Date 11/13/01

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY


**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732) 532-6224 FAX: (732) 532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**CERTIFICATIONS: NJDEP #13461, NYSDOH #11699**




ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

## Bldg. 263

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time Of Collection | Date Received |
|---|---|---|---|---|
| T. B. | 1662501 | Aqueous | 05-Dec-01 | 12/05/01 |
| F.B. | 1662502 | Aqueous | 05-Dec-01 10:05 | 12/05/01 |
| 263/7.6' | 1662503 | Aqueous | 05-Dec-01 10:27 | 12/05/01 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, BN+15

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

1-8-02
Daniel Wright/Date
Laboratory Director

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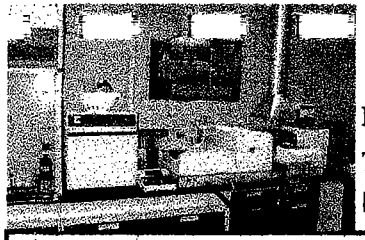
# CHAIN OF CUSTODY



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** D. DESAI
**Phone #:** 12145
( )DERA (✓)OMA ( )Other:_____

Project No: 02-12539
Location: BLDG. 263

**Samplers Name / Company:** MARK LAUNA - TVS-PWS07

**Comments:** 2ND ROUND COMPLETE

| LIMS/Work Order # | Sample Location | Date | Time | Sample Type | # bottles | Analysis Parameters: VOA + 15 | Analysis Parameters: BN + 15 | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|
| 10025 1 | T.B. | 12-5-01 | — | AQ. | 2 | X | | HCL |
| 2 | F.B. | " | 1005 | " | 3 | X | X | HCL, <4°C |
| 3 | 263 7-6' | " | 1027 | " | 3 | X | X | " " |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 12-5-01 1345 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks:

000002

print legibly



Coc.xls11/14/01

# METHOD SUMMARY

# Method Summary

**EPA Method 624**
Gas Chromatographic Determination of Volatiles in Water

Surrogates and internal standards are added to a 5-ml aliquot of sample. The sample is then purged and desorbed into a GC/MS system. The organic compounds are separated by the gas chromatograph and detected using the mass spectrometer. Volatiles are identified and quantitated.

**EPA Method 3510/625**
Gas Chromatographic Determination of Semi-volatiles in Water

Surrogates are added to measured volume of sample, usually 1 liter, at a specified pH. The sample is serially extracted with Methylene chloride using a separatory funnel. The extract concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

# CONFORMANCE-
# NON-
# CONFORMANCE

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

Indicate Yes, No, N/A

1. Chromatograms labeled/Compounds identified (Field samples and method blanks) — yes
2. Retention times for chromatograms provided — yes
3. GC/MS Tune Specifications
   a. BFB Meet Criteria — yes
   b. DFTPP Meet Criteria — yes
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series — yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series — yes
6. GC/MS Calibration requirements
   a. Calibration Check Compounds Meet Criteria — yes
   b. System Performance Check Compounds Meet Criteria — yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank: — No
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction NA
8. Surrogate Recoveries Meet Criteria — yes

   If not met, list those compounds and their recoveries, which fall outside the acceptable range:

   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction NA

   If not met, were the calculations checked and the results qualified as "estimated"? _____
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range) — yes
   a. VOA Fraction _____
   b. B/N Fraction _____
   c. Acid Fraction NA

## GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT (cont.)

Indicate
Yes, No, N/A

10. Internal Standard Area/Retention Time Shift Meet Criteria — Yes
(If not met, list those compounds, which fall outside the acceptable range)

    a. VOA Fraction _____
    b. B/N Fraction _____
    c. Acid Fraction NA

11. Extraction Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

12. Analysis Holding Time Met — Yes

If not met, list the number of days exceeded for each sample: _____

Additional Comments:

Laboratory Manager: _____ Date: 1-8-02

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 16625 Site: Bldg. 263

| | Date | Hold Time |
|---|---|---|
| Date Sampled | 12/05/01 | NA |
| Receipt/Refrigeration | 12/05/01 | NA |
| Extractions | | |
| 1. BN | 12/10/01 | 7 days |
| Analyses | | |
| 1. Volatile Organics | 12/10/01 | 14 days |
| 2. BN | 12/10,11/01 | 40 days |

# VOLATILE ORGANICS

# US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
# NJDEP CERTIFICATION # 13461

## Definition of Qualifiers

| | | |
|---|---|---|
| **MDL** | **:** | **Method Detection Limit** |
| **J** | **:** | **Compound identified below detection limit** |
| **B** | **:** | **Compound found in blank** |
| **D** | **:** | **Results are from a dilution of the sample** |
| **U** | **:** | **Compound searched for but not detected** |
| **E** | **:** | **Compound exceeds calibration limit** |
| **PQL** | **:** | **Practical Quantitation Limit** |
| **NLE** | **:** | **No limit established** |
| **RT** | **:** | **Retention time** |

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification Number #13461

| | | | |
|---|---|---|---|
| Data File | **VC007616.D** | Sample Name | **MB 10Dec01** |
| Operator | **Skelton** | Field ID | **MB 10Dec01** |
| Date Aquired | **10-Dec-01** | Multiplier | **1** |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | Qualifier |
|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 50 | 1.85 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 8.52 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.16 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.25 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | nle | 1.68 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | 1.16 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 5 | 1.06 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 1.10 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 1.01 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | nle | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 2 | 0.24 ug/L | |
| 67-64-1 | Acetone | | | not detected | 700 | 1.36 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | nle | 0.46 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 2 | 0.24 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.16 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 70 | 0.12 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | nle | 0.78 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.62 ug/L | |
| | cis-1,2-Dichloroethene | | | not detected | 10 | 0.17 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 6 | 0.30 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.23 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.47 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.23 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.18 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.23 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.40 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.55 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.65 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | nle | 0.69 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.59 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.37 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | nle | 0.87 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.48 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.32 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.71 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 10 | 0.86 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.39 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.65 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 1.14 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.62 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.56 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.70 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 2 | 0.47 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.55 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.57 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.64 ug/L | |

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

### Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time



12/11/01 2:44 PM

D:\HPCHEM\CUSTRPT\VOLATILE\624FY00.CRT

000012

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 10Dec01**

Lab Name: FMETL NJDEP#: 13461

Project: 0212539 Case No.: 16625 Location: Bldg.26 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: MB 10Dec01

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC007616.D

Level: (low/med) LOW Date Received: 12/5/01

% Moisture: not dec. Date Analyzed: 12/10/01

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification Number #13461

| | | | |
|---|---|---|---|
| Data File | **VC007624.D** | Sample Name | **1662501** |
| Operator | **Skelton** | Field ID | **Trip Blank** |
| Date Aquired | **10-Dec-01** | Multiplier | **1** |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | Qualifier |
|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 50 | 1.85 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 8.52 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.16 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.25 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | nle | 1.68 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | 1.16 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 5 | 1.06 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 1.10 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 1.01 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | nle | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 2 | 0.24 ug/L | |
| 67-64-1 | Acetone | | | not detected | 700 | 1.36 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | nle | 0.46 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 2 | 0.24 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.16 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 70 | 0.12 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | nle | 0.78 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.62 ug/L | |
| | cis-1,2-Dichloroethene | | | not detected | 10 | 0.17 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 6 | 0.30 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.23 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.47 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.23 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.18 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.23 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.40 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.55 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.65 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | nle | 0.69 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.59 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.37 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | nle | 0.87 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.48 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.32 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.71 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 10 | 0.86 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.39 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.65 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 1.14 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.62 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.56 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.70 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 2 | 0.47 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.55 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.57 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.64 ug/L | |

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

**Qualifiers**

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time



12/11/01 2:44 PM

D:\HPCHEM\CUSTRPT\VOLATILE\624FY00.CRT

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **TB**

Lab Name: FMETL NJDEP#: 13461

Project: 0212539 Case No.: 16625 Location: Bldg.26 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1662501

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC007624.D

Level: (low/med) LOW Date Received: 12/5/01

% Moisture: not dec. _____ Date Analyzed: 12/10/01

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification Number #13461

| | | | |
|---|---|---|---|
| Data File | **VC007625.D** | Sample Name | **1662502** |
| Operator | **Skelton** | Field ID | **Field Blank** |
| Date Aquired | **10-Dec-01** | Multiplier | **1** |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | Qualifier |
|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 50 | 1.85 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 8.52 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.16 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.25 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | nle | 1.68 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | 1.16 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 5 | 1.06 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 1.10 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 1.01 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | nle | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 2 | 0.24 ug/L | |
| 67-64-1 | Acetone | | | not detected | 700 | 1.36 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | nle | 0.46 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 2 | 0.24 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.16 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 70 | 0.12 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | nle | 0.78 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.62 ug/L | |
| | cis-1,2-Dichloroethene | | | not detected | 10 | 0.17 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 6 | 0.30 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.23 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.47 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.23 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.18 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.23 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.40 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.55 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.65 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | nle | 0.69 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.59 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.37 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | nle | 0.87 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.48 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.32 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.71 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 10 | 0.86 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.39 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.65 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 1.14 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.62 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.56 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.70 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 2 | 0.47 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.55 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.57 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.64 ug/L | |

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

**Qualifiers**

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **FB**

Lab Name: FMETL NJDEP#: 13461

Project: 0212539 Case No.: 16625 Location: Bldg.26 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 1662502

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC007625.D

Level: (low/med) LOW Date Received: 12/5/01

% Moisture: not dec. _____ Date Analyzed: 12/10/01

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Volatile Analysis Report
## U.S. Army, Fort Monmouth Environmental Laboratory
## NJDEP Certification Number #13461

| | | | |
|---|---|---|---|
| Data File | **VC007626.D** | Sample Name | **1662503** |
| Operator | **Skelton** | Field ID | **263** |
| Date Aquired | **10-Dec-01** | Multiplier | **1** |

| CAS# | Compound Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | Qualifier |
|---|---|---|---|---|---|---|---|
| 107028 | Acrolein | | | not detected | 50 | 1.85 ug/L | |
| 107131 | Acrylonitrile | | | not detected | 50 | 2.78 ug/L | |
| 75650 | tert-Butyl alcohol | | | not detected | nle | 8.52 ug/L | |
| 1634044 | Methyl-tert-Butyl ether | | | not detected | 70 | 0.16 ug/L | |
| 108203 | Di-isopropyl ether | | | not detected | nle | 0.25 ug/L | |
| 75718 | Dichlorodifluoromethane | | | not detected | nle | 1.68 ug/L | |
| 74-87-3 | Chloromethane | | | not detected | 30 | 1.16 ug/L | |
| 75-01-4 | Vinyl Chloride | | | not detected | 5 | 1.06 ug/L | |
| 74-83-9 | Bromomethane | | | not detected | 10 | 1.10 ug/L | |
| 75-00-3 | Chloroethane | | | not detected | nle | 1.01 ug/L | |
| 75-69-4 | Trichlorofluoromethane | | | not detected | nle | 0.50 ug/L | |
| 75-35-4 | 1,1-Dichloroethene | | | not detected | 2 | 0.24 ug/L | |
| 67-64-1 | Acetone | | | not detected | 700 | 1.36 ug/L | |
| 75-15-0 | Carbon Disulfide | | | not detected | nle | 0.46 ug/L | |
| 75-09-2 | Methylene Chloride | | | not detected | 2 | 0.24 ug/L | |
| 156-60-5 | trans-1,2-Dichloroethene | | | not detected | 100 | 0.16 ug/L | |
| 75-35-3 | 1,1-Dichloroethane | | | not detected | 70 | 0.12 ug/L | |
| 108-05-4 | Vinyl Acetate | | | not detected | nle | 0.78 ug/L | |
| 78-93-3 | 2-Butanone | | | not detected | 300 | 0.62 ug/L | |
| | cis-1,2-Dichloroethene | | | not detected | 10 | 0.17 ug/L | |
| 67-66-3 | Chloroform | | | not detected | 6 | 0.30 ug/L | |
| 75-55-6 | 1,1,1-Trichloroethane | | | not detected | 30 | 0.23 ug/L | |
| 56-23-5 | Carbon Tetrachloride | | | not detected | 2 | 0.47 ug/L | |
| 71-43-2 | Benzene | | | not detected | 1 | 0.23 ug/L | |
| 107-06-2 | 1,2-Dichloroethane | | | not detected | 2 | 0.18 ug/L | |
| 79-01-6 | Trichloroethene | | | not detected | 1 | 0.23 ug/L | |
| 78-87-5 | 1,2-Dichloropropane | | | not detected | 1 | 0.40 ug/L | |
| 75-27-4 | Bromodichloromethane | | | not detected | 1 | 0.55 ug/L | |
| 110-75-8 | 2-Chloroethyl vinyl ether | | | not detected | nle | 0.65 ug/L | |
| 10061-01-5 | cis-1,3-Dichloropropene | | | not detected | nle | 0.69 ug/L | |
| 108-10-1 | 4-Methyl-2-Pentanone | | | not detected | 400 | 0.59 ug/L | |
| 108-88-3 | Toluene | | | not detected | 1000 | 0.37 ug/L | |
| 10061-02-6 | trans-1,3-Dichloropropene | | | not detected | nle | 0.87 ug/L | |
| 79-00-5 | 1,1,2-Trichloroethane | | | not detected | 3 | 0.48 ug/L | |
| 127-18-4 | Tetrachloroethene | | | not detected | 1 | 0.32 ug/L | |
| 591-78-6 | 2-Hexanone | | | not detected | nle | 0.71 ug/L | |
| 126-48-1 | Dibromochloromethane | | | not detected | 10 | 0.86 ug/L | |
| 108-90-7 | Chlorobenzene | | | not detected | 4 | 0.39 ug/L | |
| 100-41-4 | Ethylbenzene | | | not detected | 700 | 0.65 ug/L | |
| 1330-20-7 | m+p-Xylenes | | | not detected | nle | 1.14 ug/L | |
| 1330-20-7 | o-Xylene | | | not detected | nle | 0.62 ug/L | |
| 100-42-5 | Styrene | | | not detected | 100 | 0.56 ug/L | |
| 75-25-2 | Bromoform | | | not detected | 4 | 0.70 ug/L | |
| 79-34-5 | 1,1,2,2-Tetrachloroethane | | | not detected | 2 | 0.47 ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.55 ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.57 ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.64 ug/L | |

*Higher of PQL's and Ground Water Quality Criteria as per N.J.A.C., 7:9-6 2-Sept 97

**Qualifiers**

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit

MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 263

Lab Name: FMETL NJDEP#: 13461

Project: 0212539 Case No.: 16625 Location: Bldg.26 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1662503

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC007626.D

Level: (low/med) LOW Date Received: 12/5/01

% Moisture: not dec. Date Analyzed: 12/10/01

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

| CAS NO. | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# BASE NEUTRAL

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File Name | **BNA06425.D** | Sample Name | **MB-2719** |
| Operator | **BPatel** | Misc Info | **MB-011210** |
| Date Acquired | **10-Dec-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.61 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.78 | ug/L | |
| 108-95-2 | Phenol | | | not detected | 4000 | 0.65 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.80 | ug/L | |
| 95-57-8 | 2-Chlorophenol | | | not detected | 40 | 0.76 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.90 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.95 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.17 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.96 | ug/L | |
| 95-48-7 | 2-Methylphenol | | | not detected | NLE | 1.09 | ug/L | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.81 | ug/L | |
| 106-44-5 | 4-Methylphenol | | | not detected | NLE | 1.00 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.84 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.96 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.27 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.88 | ug/L | |
| 88-75-5 | 2-Nitrophenol | | | not detected | NLE | 1.16 | ug/L | |
| 105-67-9 | 2,4-Dimethylphenol | | | not detected | 100 | 0.93 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.00 | ug/L | |
| 120-83-2 | 2,4-Dichlorophenol | | | not detected | 20 | 1.04 | ug/L | |
| 65-85-0 | Benzoic Acid | | | not detected | NLE | 1.05 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.11 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 1.06 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.77 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.16 | ug/L | |
| 59-50-7 | 4-Chloro-3-methylphenol | | | not detected | NLE | 0.92 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 1.11 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.26 | ug/L | |
| 88-06-2 | 2,4,6-Trichlorophenol | | | not detected | 20 | 0.99 | ug/L | |
| 95-95-4 | 2,4,5-Trichlorophenol | | | not detected | 700 | 1.01 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.10 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.95 | ug/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.09 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.93 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.98 | ug/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.85 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.02 | ug/L | |
| 51-28-5 | 2,4-Dinitrophenol | | | not detected | 40 | 0.97 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.06 | ug/L | |
| 100-02-7 | 4-Nitrophenol | | | not detected | NLE | 0.88 | ug/L | |

# Semi-Volatile Analysis Report
## Page 2

| | | | |
|---|---|---|---|
| Data File Name | **BNA06425.D** | Sample Name | **MB-2719** |
| Operator | **BPatel** | Misc Info | **MB-011210** |
| Date Acquired | **10-Dec-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.16 | ug/L | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.10 | ug/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.84 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.92 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.92 | ug/L | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | | | not detected | NLE | 1.06 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.10 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.06 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.87 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.08 | ug/L | |
| 87-86-5 | Pentachlorophenol | | | not detected | 1 | 1.41 | ug/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.08 | ug/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.93 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.23 | ug/L | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.90 | ug/L | |
| 92-87-5 | Benzidine | | | not detected | 50 | 1.81 | ug/L | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.01 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.13 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.00 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.87 | ug/L | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.05 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.99 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.20 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.07 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.24 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.04 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.32 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.00 | ug/L | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB-2719**

Lab Name: FMETL Lab Code 13461

Project: 02-12539 Case No.: 16625 Location: Bl.263 SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: MB-2719

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA06425.D

Level: (low/med) LOW Date Received: 12/5/01

% Moisture: _____ decanted: (Y/N) N Date Extracted: 12/10/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/10/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: _____

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File Name | **BNA06451.D** | Sample Name | **1662502** |
| Operator | **BPatel** | Misc Info | **Field Blank** |
| Date Acquired | **11-Dec-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.61 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.78 | ug/L | |
| 108-95-2 | Phenol | | | not detected | 4000 | 0.65 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.80 | ug/L | |
| 95-57-8 | 2-Chlorophenol | | | not detected | 40 | 0.76 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.90 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.95 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.17 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.96 | ug/L | |
| 95-48-7 | 2-Methylphenol | | | not detected | NLE | 1.09 | ug/L | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.81 | ug/L | |
| 106-44-5 | 4-Methylphenol | | | not detected | NLE | 1.00 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.84 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.96 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.27 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.88 | ug/L | |
| 88-75-5 | 2-Nitrophenol | | | not detected | NLE | 1.16 | ug/L | |
| 105-67-9 | 2,4-Dimethylphenol | | | not detected | 100 | 0.93 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.00 | ug/L | |
| 120-83-2 | 2,4-Dichlorophenol | | | not detected | 20 | 1.04 | ug/L | |
| 65-85-0 | Benzoic Acid | | | not detected | NLE | 1.05 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.11 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 1.06 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.77 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.16 | ug/L | |
| 59-50-7 | 4-Chloro-3-methylphenol | | | not detected | NLE | 0.92 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 1.11 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.26 | ug/L | |
| 88-06-2 | 2,4,6-Trichlorophenol | | | not detected | 20 | 0.99 | ug/L | |
| 95-95-4 | 2,4,5-Trichlorophenol | | | not detected | 700 | 1.01 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.10 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.95 | ug/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.09 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.93 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.98 | ug/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.85 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.02 | ug/L | |
| 51-28-5 | 2,4-Dinitrophenol | | | not detected | 40 | 0.97 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.06 | ug/L | |
| 100-02-7 | 4-Nitrophenol | | | not detected | NLE | 0.88 | ug/L | |

# Semi-Volatile Analysis Report
## Page 2

| | | | |
|---|---|---|---|
| Data File Name | **BNA06451.D** | Sample Name | **1662502** |
| Operator | **BPatel** | Misc Info | **Field Blank** |
| Date Acquired | **11-Dec-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.16 | ug/L | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.10 | ug/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.84 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.92 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.92 | ug/L | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | | | not detected | NLE | 1.06 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.10 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.06 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.87 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.08 | ug/L | |
| 87-86-5 | Pentachlorophenol | | | not detected | 1 | 1.41 | ug/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.08 | ug/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.93 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.23 | ug/L | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.90 | ug/L | |
| 92-87-5 | Benzidine | | | not detected | 50 | 1.81 | ug/L | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.01 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.13 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.00 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.87 | ug/L | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.05 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.99 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.20 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.07 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.24 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.04 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.32 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.00 | ug/L | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**Field Blank**

Lab Name: FMETL Lab Code 13461

Project: 02-12539 Case No.: 16625 Location: Bl.263 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1662502

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA06451.D

Level: (low/med) LOW Date Received: 12/5/01

% Moisture: decanted: (Y/N) N Date Extracted: 12/10/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/11/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# Semi-Volatile Analysis Report

## U.S. Army, Fort Monmouth Environmental Laboratory

## NJDEP Certification #13461

| | | | |
|---|---|---|---|
| Data File Name | **BNA06452.D** | Sample Name | **1662503** |
| Operator | **BPatel** | Misc Info | **263** |
| Date Acquired | **11-Dec-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 110-86-1 | Pyridine | | | not detected | NLE | 0.61 | ug/L | |
| 62-75-9 | N-nitroso-dimethylamine | | | not detected | 20 | 0.64 | ug/L | |
| 62-53-3 | Aniline | | | not detected | NLE | 0.78 | ug/L | |
| 108-95-2 | Phenol | | | not detected | 4000 | 0.65 | ug/L | |
| 111-44-4 | bis(2-Chloroethyl)ether | | | not detected | 10 | 0.80 | ug/L | |
| 95-57-8 | 2-Chlorophenol | | | not detected | 40 | 0.76 | ug/L | |
| 541-73-1 | 1,3-Dichlorobenzene | | | not detected | 600 | 0.90 | ug/L | |
| 106-46-7 | 1,4-Dichlorobenzene | | | not detected | 75 | 0.95 | ug/L | |
| 100-51-6 | Benzyl alcohol | | | not detected | NLE | 1.17 | ug/L | |
| 95-50-1 | 1,2-Dichlorobenzene | | | not detected | 600 | 0.96 | ug/L | |
| 95-48-7 | 2-Methylphenol | | | not detected | NLE | 1.09 | ug/L | |
| 39638-32-9 | bis(2-chloroisopropyl)ether | | | not detected | 300 | 0.81 | ug/L | |
| 106-44-5 | 4-Methylphenol | | | not detected | NLE | 1.00 | ug/L | |
| 621-64-7 | n-Nitroso-di-n-propylamine | | | not detected | 20 | 0.84 | ug/L | |
| 67-72-1 | Hexachloroethane | | | not detected | 10 | 0.96 | ug/L | |
| 98-95-3 | Nitrobenzene | | | not detected | 10 | 1.27 | ug/L | |
| 78-59-1 | Isophorone | | | not detected | 100 | 0.88 | ug/L | |
| 88-75-5 | 2-Nitrophenol | | | not detected | NLE | 1.16 | ug/L | |
| 105-67-9 | 2,4-Dimethylphenol | | | not detected | 100 | 0.93 | ug/L | |
| 111-91-1 | bis(2-Chloroethoxy)methane | | | not detected | NLE | 1.00 | ug/L | |
| 120-83-2 | 2,4-Dichlorophenol | | | not detected | 20 | 1.04 | ug/L | |
| 65-85-0 | Benzoic Acid | | | not detected | NLE | 1.05 | ug/L | |
| 120-82-1 | 1,2,4-Trichlorobenzene | | | not detected | 9 | 1.11 | ug/L | |
| 91-20-3 | Naphthalene | | | not detected | NLE | 1.06 | ug/L | |
| 106-47-8 | 4-Chloroaniline | | | not detected | NLE | 0.77 | ug/L | |
| 87-68-3 | Hexachlorobutadiene | | | not detected | 1 | 1.16 | ug/L | |
| 59-50-7 | 4-Chloro-3-methylphenol | | | not detected | NLE | 0.92 | ug/L | |
| 91-57-6 | 2-Methylnaphthalene | | | not detected | NLE | 1.11 | ug/L | |
| 77-47-4 | Hexachlorocyclopentadiene | | | not detected | 50 | 1.26 | ug/L | |
| 88-06-2 | 2,4,6-Trichlorophenol | | | not detected | 20 | 0.99 | ug/L | |
| 95-95-4 | 2,4,5-Trichlorophenol | | | not detected | 700 | 1.01 | ug/L | |
| 91-58-7 | 2-Chloronaphthalene | | | not detected | NLE | 1.10 | ug/L | |
| 88-74-4 | 2-Nitroaniline | | | not detected | NLE | 0.95 | ug/L | |
| 131-11-3 | Dimethylphthalate | | | not detected | 7000 | 1.09 | ug/L | |
| 208-96-8 | Acenaphthylene | | | not detected | NLE | 0.93 | ug/L | |
| 606-20-2 | 2,6-Dinitrotoluene | | | not detected | NLE | 0.98 | ug/L | |
| 99-09-2 | 3-Nitroaniline | | | not detected | NLE | 0.85 | ug/L | |
| 83-32-9 | Acenaphthene | | | not detected | 400 | 1.02 | ug/L | |
| 51-28-5 | 2,4-Dinitrophenol | | | not detected | 40 | 0.97 | ug/L | |
| 132-64-9 | Dibenzofuran | | | not detected | NLE | 1.06 | ug/L | |
| 100-02-7 | 4-Nitrophenol | | | not detected | NLE | 0.88 | ug/L | |

# Semi-Volatile Analysis Report
## Page 2

| | | | |
|---|---|---|---|
| Data File Name | **BNA06452.D** | Sample Name | **1662503** |
| Operator | **BPatel** | Misc Info | **263** |
| Date Acquired | **11-Dec-01** | Sample Multiplier | **1** |

| CAS# | Name | R.T. | Response | Result | Regulatory Level (ug/L)* | MDL | | Qualifiers |
|---|---|---|---|---|---|---|---|---|
| 121-14-2 | 2,4-Dinitrotoluene | | | not detected | 10 | 1.16 | ug/L | |
| 84-66-2 | Diethylphthalate | | | not detected | 5000 | 1.10 | ug/L | |
| 86-73-7 | Fluorene | | | not detected | 300 | 0.84 | ug/L | |
| 7005-72-3 | 4-Chlorophenyl-phenylether | | | not detected | NLE | 0.92 | ug/L | |
| 100-01-6 | 4-Nitroaniline | | | not detected | NLE | 0.92 | ug/L | |
| 534-52-1 | 4,6-Dinitro-2-methylphenol | | | not detected | NLE | 1.06 | ug/L | |
| 86-30-6 | n-Nitrosodiphenylamine | | | not detected | 20 | 1.10 | ug/L | |
| 103-33-3 | Azobenzene | | | not detected | NLE | 1.06 | ug/L | |
| 101-55-3 | 4-Bromophenyl-phenylether | | | not detected | NLE | 0.87 | ug/L | |
| 118-74-1 | Hexachlorobenzene | | | not detected | 10 | 1.08 | ug/L | |
| 87-86-5 | Pentachlorophenol | | | not detected | 1 | 1.41 | ug/L | |
| 85-01-8 | Phenanthrene | | | not detected | NLE | 1.08 | ug/L | |
| 120-12-7 | Anthracene | | | not detected | 2000 | 0.93 | ug/L | |
| 84-74-2 | Di-n-butylphthalate | | | not detected | 900 | 1.23 | ug/L | |
| 206-44-0 | Fluoranthene | | | not detected | 300 | 0.90 | ug/L | |
| 92-87-5 | Benzidine | | | not detected | 50 | 1.81 | ug/L | |
| 129-00-0 | Pyrene | | | not detected | 200 | 1.01 | ug/L | |
| 85-68-7 | Butylbenzylphthalate | | | not detected | 100 | 1.13 | ug/L | |
| 56-55-3 | Benzo[a]anthracene | | | not detected | 10 | 1.00 | ug/L | |
| 91-94-1 | 3,3'-Dichlorobenzidine | | | not detected | 60 | 0.87 | ug/L | |
| 218-01-9 | Chrysene | | | not detected | 20 | 1.05 | ug/L | |
| 117-81-7 | bis(2-Ethylhexyl)phthalate | | | not detected | 30 | 0.99 | ug/L | |
| 117-84-0 | Di-n-octylphthalate | | | not detected | 100 | 1.20 | ug/L | |
| 205-99-2 | Benzo[b]fluoranthene | | | not detected | 10 | 1.07 | ug/L | |
| 207-08-9 | Benzo[k]fluoranthene | | | not detected | 2 | 1.24 | ug/L | |
| 50-32-8 | Benzo[a]pyrene | | | not detected | 20 | 1.04 | ug/L | |
| 193-39-5 | Indeno[1,2,3-cd]pyrene | | | not detected | 20 | 1.32 | ug/L | |
| 53-70-3 | Dibenz[a,h]anthracene | | | not detected | 20 | 1.12 | ug/L | |
| 191-24-2 | Benzo[g,h,i]perylene | | | not detected | NLE | 1.00 | ug/L | |

* Higher of PQL's and Ground Water Criteria as per NJAC 7:9-6 2-Sept-97

**Qualifiers**

E= Value Exceeds Linear Range
D= Value from dilution
B= Compound in Related Blank
PQL= Practical Quantitation Limit

MDL= Method Detection Limit
NLE= No Limit Established
R.T.=Retention Time

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

263

Lab Name: FMETL Lab Code 13461

Project: 02-12539 Case No.: 16625 Location: BI.263 SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 1662503

Sample wt/vol: 1000 (g/ml) ML Lab File ID: BNA06452.D

Level: (low/med) LOW Date Received: 12/5/01

% Moisture: decanted: (Y/N) N Date Extracted: 12/10/01

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 12/11/01

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

| CAS NUMBER | COMPOUND NAME | RT | EST. CONC. | Q |
|---|---|---|---|---|

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

| | | |
|---|---|---|
| 1. | Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted | ✓ |
| 2. | Table of Contents submitted | ✓ |
| 3. | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted | ✓ |
| 4. | Document paginated and legible | ✓ |
| 5. | Chain of Custody submitted | ✓ |
| 6. | Samples submitted to lab within 48 hours of sample collection | ✓ |
| 7. | Methodology Summary submitted | ✓ |
| 8. | Laboratory Chronicle and Holding Time Check submitted | ✓ |
| 9. | Results submitted on a dry weight basis | NA |
| 10. | Method Detection Limits submitted | ✓ |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | ✓ |

Laboratory Manager or Environmental Consultant's Signature _____

Date 1/8/02

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

Daniel K. Wright
Laboratory Manager

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ATTACHMENT F

UST 264 File Review

Attachment F
PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 264*** Registration ID: *81533-48*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ ] Steel [ X ] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 3/30/1999

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 264 sample results were all non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

Recommendations (if any): None

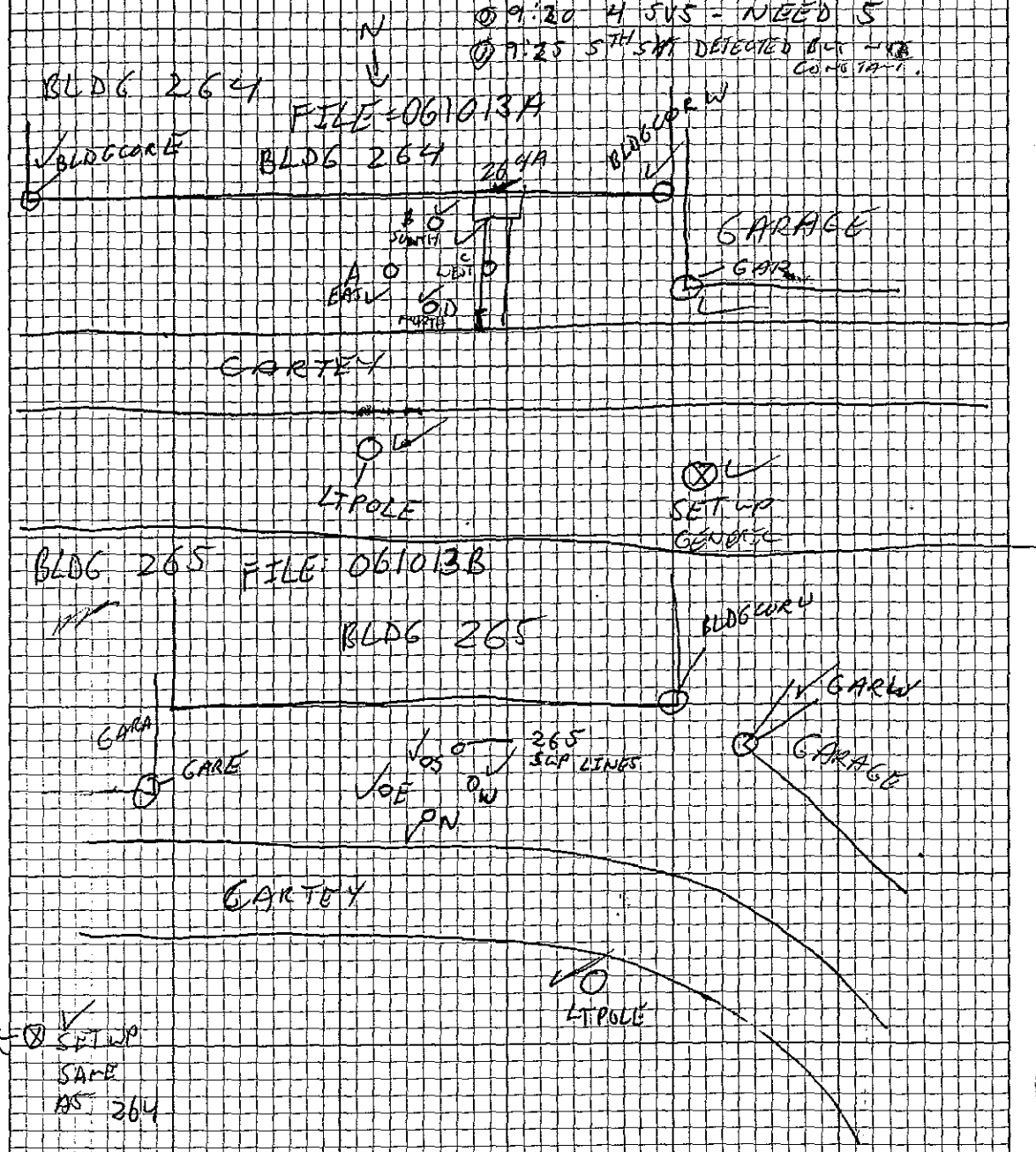
Signed: Kent A. Friesen

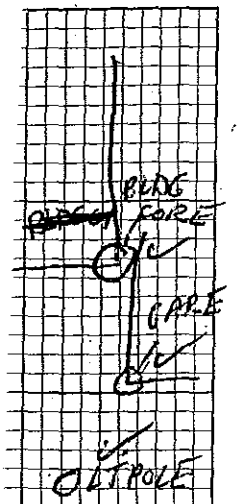
Kent A. Friesen, Parsons

~~BLDG 264~~ 6/10/99

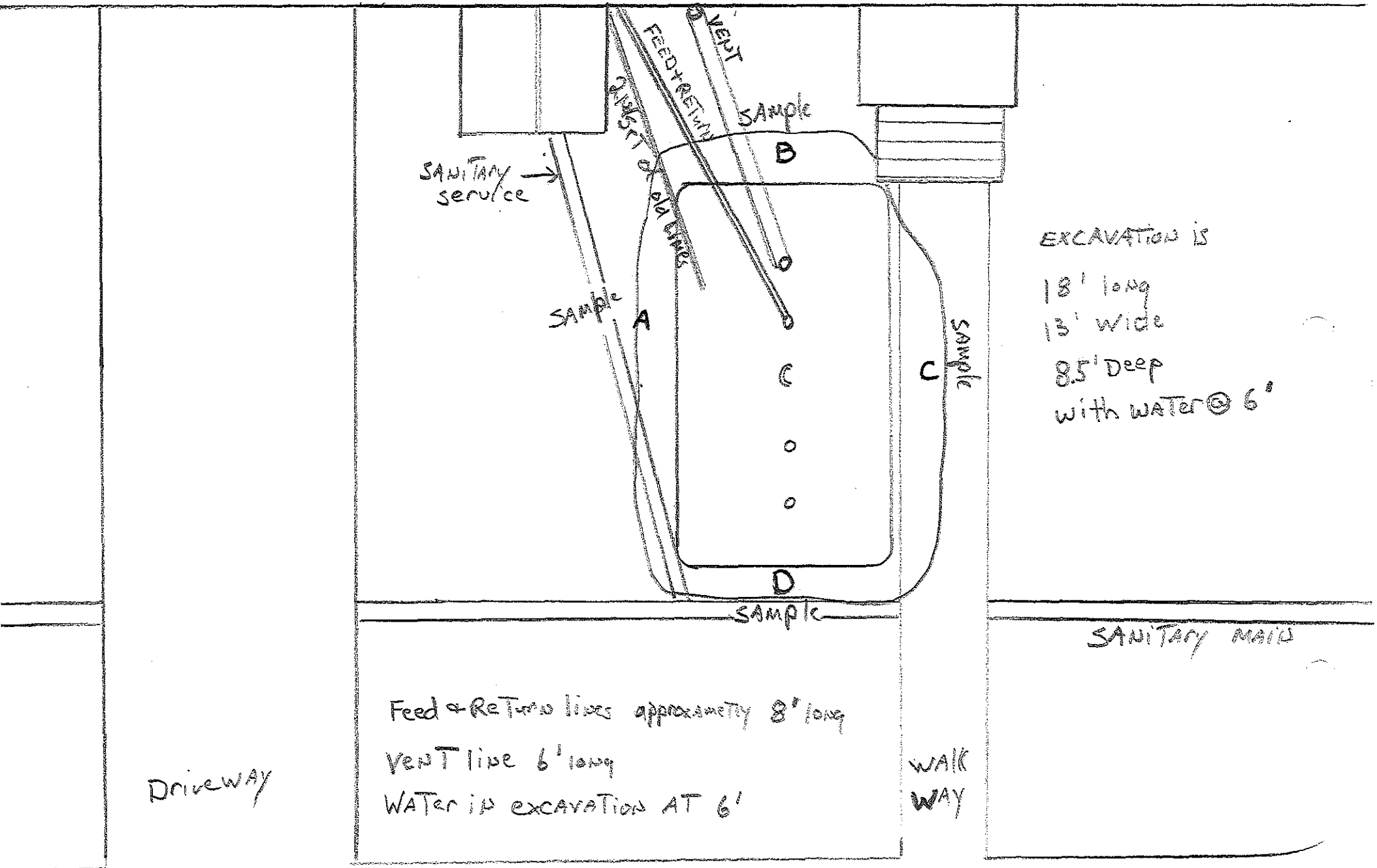
ONSITE TO GPS POST-EX SOIL SAMPLE LOCATIONS
@ 263, 264, 265

@ 9:20 4 SVS - NEED 5
@ 9:25 5TH SAT DETECTED BUT NOT CONSTANT.




NEW AT



Back of Bldg 267 B+D
VENT
FEED+RETURN
2 Sq Ft of old Lines
SAMPLE
B
SANITARY service
SAMPLE
A
C
SAMPLE
D
SAMPLE
EXCAVATION IS
18' long
13' wide
8.5' Deep
with WATER @ 6'
SANITARY MAIN
Feed + Return lines approxametly 8' long
VENT line 6' long
WATER in excavation AT 6'
WALK WAY
Driveway

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 264

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 264 A (East) | 4378.01 | Soil | 30-Mar-99 11:00 | 03/30/99 |
| 264 B (South) | 4378.02 | Soil | 30-Mar-99 11:05 | 03/30/99 |
| 264 C (West) | 4378.03 | Soil | 30-Mar-99 11:10 | 03/30/99 |
| 264 D (North) | 4378.04 | Soil | 30-Mar-99 11:15 | 03/30/99 |
| 264 Dup. (C) | 4378.05 | Soil | 30-Mar-99 11:10 | 03/30/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLID

4-13-99
Daniel Wright/Date
Laboratory Director

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| Conformance/Non-Conformance | 2 |
| Chain of Custody | 3 |
| Results Summary | 4 |
| Initial Calibration Summary | 5-10 |
| Continuing Calibration Summary | 11-12 |
| Surrogate Results Summary | 13 |
| MS/MSD Results Summary | 14 |
| Blank Spike Summary | 15 |
| Raw Sample Data | 16-27 |
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| Laboratory Authentication Statement | 29 |

# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | yes |

Additional comments: _____

Laboratory Manager

4-17-09
Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA ( X )OMA UST Assessment**

Project No: 99-0008
Location: B264
UST# 81533-48

**Samplers Name / Company : TVS/** BRIAN FINCH

**Analysis Parameters**

**Comments:**
* = Samples Kept <4 Celsius

GW 6' BG

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4378. 01 | 264 A (EAST) | 7/30/99 | 1100 | Soil | 1 | X | X | | | 0 | Sample 5.5'-6.0' |
| 02 | 264 B (SOUTH) | | 1105 | | 1 | X | X | | | 0 | |
| 03 | 264 C (WEST) | | 1110 | | 1 | X | X | | | 0 | |
| 04 | 264 D (NORTH) | | 1115 | | 1 | X | X | | | 0 | |
| 05 | 264 DUP (C) | | 1110 | | 1 | X | X | | | 0 | |

Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 10.50 am

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 7/30/99 13:30 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | [signature] | | | |

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (_)Standard 4 wks, (_)Rush 1 Days, (_)ASAP Verbal ___ Hrs,

Remarks: Dedicated Sampling Tools Used

print legibly



USTcoc3/9/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4378 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 30-Mar-99 |
| | Bldg. 173 | **Analysis Start:** | 30-Mar-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 31-Mar-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-48 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | B264 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4378.01** | 264A (EAST) | **1.00** | 15.02 | 79.68 | 196 | **ND** |
| **4378.02** | 264B (SOUTH) | **1.00** | 15.22 | 80.02 | 193 | **ND** |
| **4378.03** | 264C (WEST) | **1.00** | 15.20 | 79.08 | 196 | **ND** |
| **4378.04** | 264D (NORTH) | **1.00** | 15.13 | 85.66 | 181 | **ND** |
| **4378.05** | 264DUP (C) | **1.00** | 15.30 | 79.77 | 193 | **ND** |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| **METHOD BLANK** | TBLK 227 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

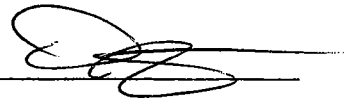
# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

Laboratory Manager or Environmental Consultant's Signature 

Date 4/13/94

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

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ATTACHMENT G

UST 265 File Review

Attachment G

PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 265*** Registration ID: *81533-49*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ ] Steel [ X ] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 3/2/1999

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 265 sample results were all non-detected (ND) for TPH in the tank excavation, and 211 mg/kg along the fuel supply lines. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

Recommendations (if any): None

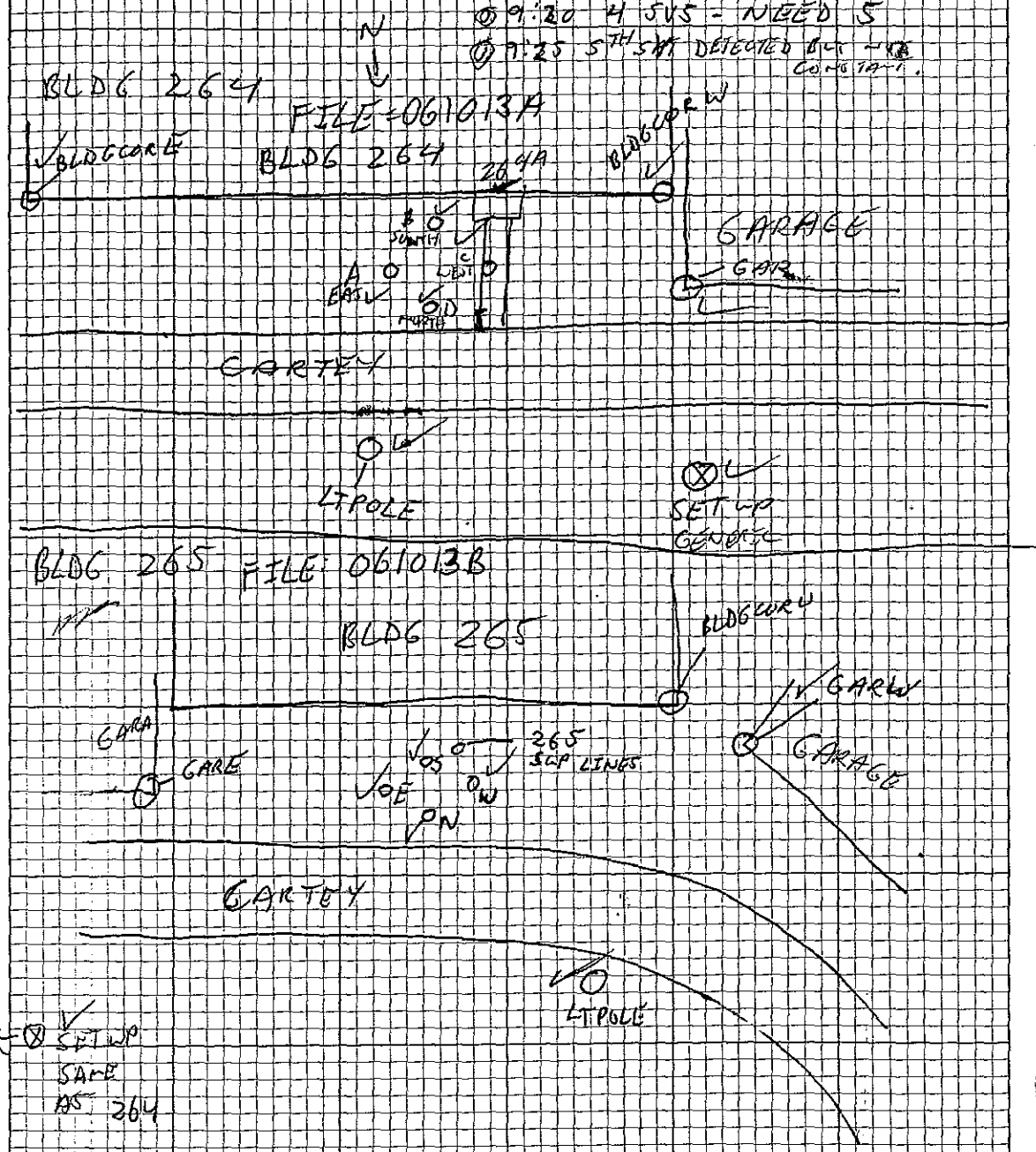
Signed: Kent A. Friesen

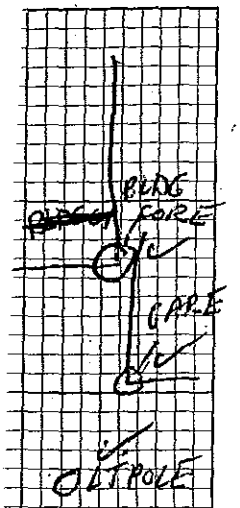
Kent A. Friesen, Parsons

~~BLDG 264~~ 6/10/99

ONSITE TO GPS POST-EX SOIL SAMPLE LOCATIONS
@ 263, 264, 265

@ 9:20 4 SVS - NEED 5
@ 9:25 5TH SAT DETECTED BUT NOT CONSTANT.




NEW AV

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-3484**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 265

| Field Location No. & Location | Laboratory Sample ID# | Matrix | Date and Time Of Collection | Date Received |
|---|---|---|---|---|
| 265-N | 4311.01 | Soil | 02-Mar-99 13:15 | 03/02/99 |
| 265-S | 4311.02 | Soil | 02-Mar-99 13:05 | 03/02/99 |
| 265-E | 4311.03 | Soil | 02-Mar-99 13:20 | 03/02/99 |
| 265-W | 4311.04 | Soil | 02-Mar-99 13:30 | 03/02/99 |
| 265-WD | 4311.05 | Soil | 02-Mar-99 13:35 | 03/02/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

3-12-99
Daniel Wright/Date
Laboratory Director

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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | yes |

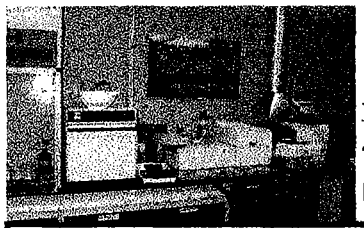
Additional comments: _____

_____

_____

_____ 3-12-97

Laboratory Manager Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** CHUCK APPLEBY
**Phone #:** 26224
( )DERA (X)OMA ( )Other:_____

Project No: 990008
Location: B265
81533 -49

**Samplers Name / Company:** Brian Finch TVS

**Comments:** Piping Sample will be on separate chain

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | | | | | | | OVA | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4311. 01 | 265 - N | 3/2/99 | 13:15 | SOIL | 1 | X | | | | | | | ND | |
| 02 | 265 - S | | 13:05 | | 1 | X | | | | | | | ND | |
| 03 | 265 - E | | 13:20 | | 1 | X | | | | | | | ND | |
| 04 | 265 - W | | 13:30 | | 1 | X | | | | | | | ND | |
| 05 | 265 - WD | | 13:35 | | 1 | X | | | | | | | ND | DUP |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 3/2/99 1355 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks: OVA CALIBRATION ZERO GAS = 0.0 ppm
100 ppm ISOBUTYLENE @ 1300 hrs BY BFinch
OVA # A52119

000003

print legibly



coc3/1/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4311 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 02-Mar-99 |
| | Bldg. 173 | **Analysis Start:** | 03-Mar-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 05-Mar-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | B265 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4311.01** | 265 - N | **1.00** | 14.96 | 82.03 | 191 | **ND** |
| **4311.02** | 265 - S | **1.00** | 15.14 | 81.85 | 190 | **ND** |
| **4311.03** | 265 - E | **1.00** | 15..03 | 82.63 | 189 | **ND** |
| **4311.04** | 265 - W | **1.00** | 15.22 | 83.66 | 185 | **ND** |
| **4311.05** | 265 - WD | **1.00** | 15.14 | 82.33 | 189 | **ND** |
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| **METHOD BLANK** | TBLK 221 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

**Laboratory Manager or Environmental Consultant's Signature** _____

**Date** 3/12/99

**Laboratory Certification #13461**

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 265

| Field Location No. & Location | Laboratory Sample ID# | Matrix | Date and Time Of Collection | Date Received |
|---|---|---|---|---|
| 265 Supply Lines | 4315.01 | Soil | 03-Mar-99 13:00 | 03/03/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

3-22-99
Daniel Wright/Date
Laboratory Director

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| Raw Sample Data | 14-17 |
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| Laboratory Authentication Statement | 19 |

# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | YES |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | YES |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | YES |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | YES |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | YES |

Additional comments: _____

Laboratory Manager _____ Date 3-22-99



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
**NJDEP Certification #13461**

## Chain of Custody Record

**Customer:** Chuck Appleby
**Phone #:** 26224
( )DERA (X)OMA ( )Other:_____
Project No: 990008
Location: B. 265
**Samplers Name / Company :** ED Crawley / TVS

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | Analysis Parameters: TPH-C | | | | | | | OVA | Comments: Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 4315.01 | 265 supply lines | 3/3/99 | 1300 | Soil | 1 | X | | | | | | | OVA | |

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| E.J. Crawley | 3/3/99 1505 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: (_)Full, (_)Reduced, (X)Standard, (_)Screen / non-certified
Turnaround time: (X)Standard 4 wks, (_)Rush ____ Days, (_)ASAP Verbal ____ Hrs.

Remarks:

print legibly



coc3/1/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4315 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 03-Mar-99 |
| | Bldg. 173 | **Analysis Start:** | 09-Mar-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 11-Mar-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-205 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | 9806121329-17 |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | B 265 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4315.01** | 265 supply lines | **1.00** | 15.04 | 83.12 | 188 | **211.59** |
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| **METHOD BLANK** | TBLK 222 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
10. Method Detection Limits submitted ✓
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature _____

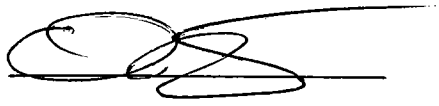
Date 3/22/99

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

ATTACHMENT H

UST 266 File Review

Attachment H
PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 266*** Registration ID: *81533-50*

Recommended Status of Site: ***Case Closed***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High (see below)***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ ] Steel [ X ] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 4/21/1999

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 266 sample results were all non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present; however, the field notes indicate that test trenching was performed in an attempt to uncover any unknown USTs.

This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

Recommendations (if any): Change status to "Case closed."

Signed: Kent A. Friesen

Kent A. Friesen, Parsons

# US ARMY, SELFM-PW-EV

## DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 266 REG.#: 0881533 -50

DATE: 4/21/99 TOA: _____ TOD: _____

SSE: STEVEN SCHNEIDER NJDEP CERT.#: 0017924

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: _____ NJDEP CERT.#: _____

WEATHER: _____

| ACTIVITY | YES / NO |
|---|---|
| THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES | YES |
| THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES | YES |
| ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR) | YES |
| A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR | YES |
| THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED | YES |
| A DISCHARGE WAS REPORTED BT THE DPW TO THE NJDEP (609-292-7172), CASE# _____ | NA |
| PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK | YES |
| GROUNDWATER WAS ENCOUNTERED AT 6½ FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW | YES |
| IF OVA WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC) | YES |
| IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN) | YES |
| ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992 | YES |
| ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq. | YES |
| ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY | NA |
| THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) AND A BACKFILL AUTH. LTR. IS ATTACHED | YES |
| ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED | |
| ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM | NA |
| THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) | |
| SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS³), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS) | |

CHECK ALL BOXES, LEAVE NO BLANKS

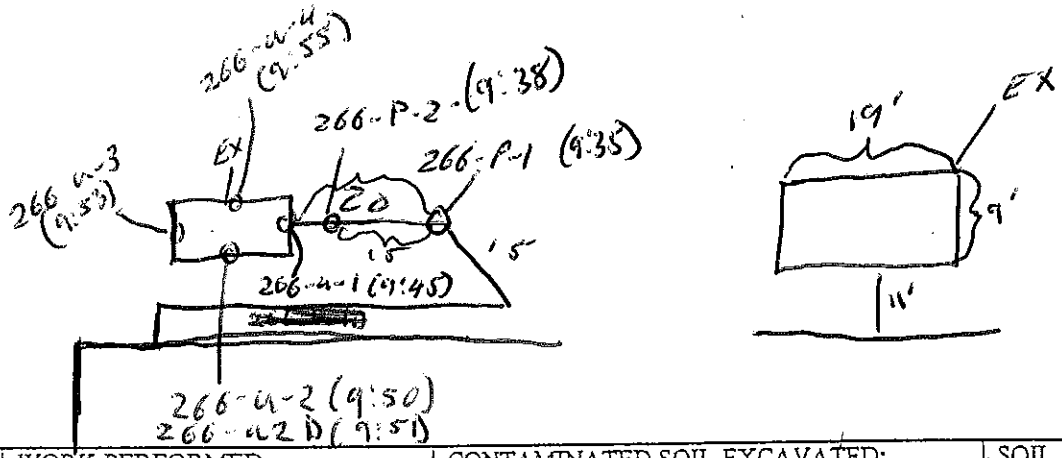
I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Closure Tech (print Name): GARRY LAMELLO Date: 4/21/99

SIGNATURE: _____

| DATE: | WORK PERFORMED: | CONTAMINATED SOIL EXCAVATED: | SOIL SAMPLES COLLECTED: (yes) no |
|---|---|---|---|
| 5/3/99 | SAMPLING OF SOIL FROM UST EX. 266 | 0 CUBIC YARDS | |

SKETCH OF WORK PERFORMED:

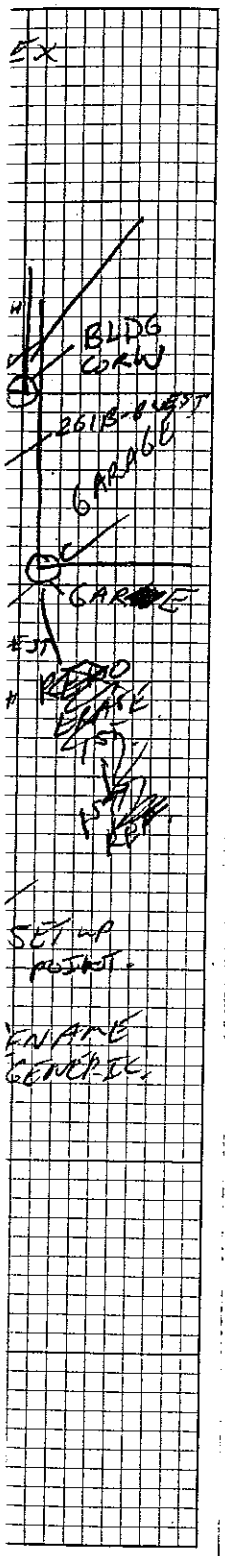


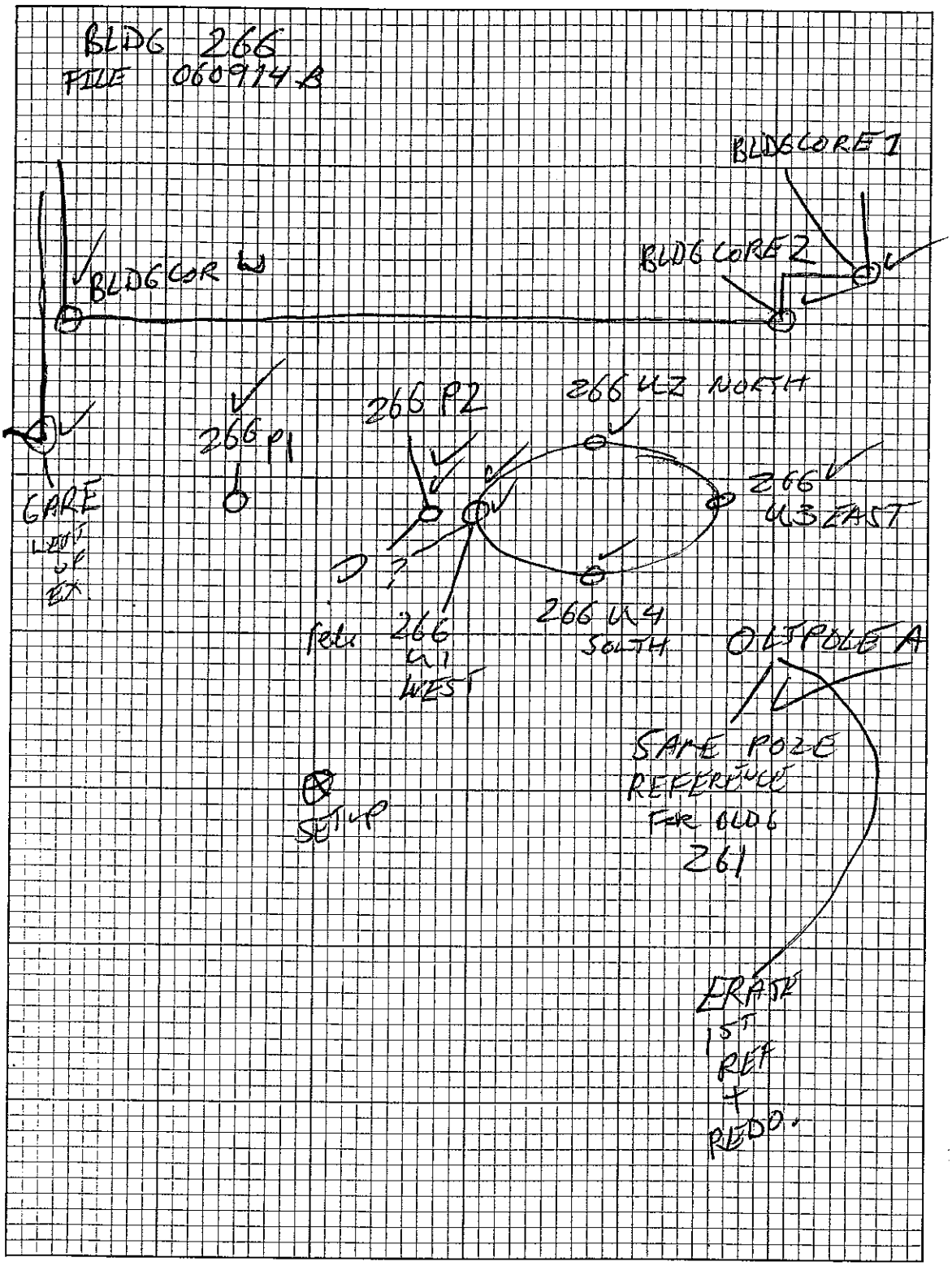

| DATE: | WORK PERFORMED: | CONTAMINATED SOIL EXCAVATED: | SOIL SAMPLES COLLECTED: yes no |
|---|---|---|---|
| | | CUBIC YARDS | |

SKETCH OF WORK PERFORMED:

| DATE: | WORK PERFORMED: | CONTAMINATED SOIL EXCAVATED: | SOIL SAMPLES COLLECTED: yes no |
|---|---|---|---|
| | | CUBIC YARDS | |

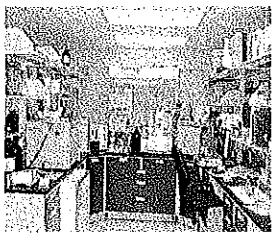
SKETCH OF WORK PERFORMED:


EX
BLDG CORW
261B-BLEST
GARAGE
GARAGE
SETUP POINT.
FNAME GENERIC.


BLDG 266
FILE 060914 B
BLDG CORE 1
BLDG CORE 2
BLDG COR W
266 P1
266 P2
266 U2 NORTH
266 U3 EAST
266 U4 SOUTH
266 U1 WEST
GARE
LEFT OF EX
SETUP
OLTPOLE A
SAME POLE REFERENCE FOR BLDG 261
ERASE 1ST REF + REDO.

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 266

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 266-P-1 | 4457.01 | Soil | 03-May-99 09:35 | 05/03/99 |
| 266-P-2 | 4457.02 | Soil | 03-May-99 09:38 | 05/03/99 |
| 266-U-1 | 4457.03 | Soil | 03-May-99 09:45 | 05/03/99 |
| 266-U-2 | 4457.04 | Soil | 03-May-99 09:50 | 05/03/99 |
| 266-U2D | 4457.05 | Soil | 03-May-99 09:51 | 05/03/99 |
| 266-U3 | 4457.06 | Soil | 03-May-99 09:53 | 05/03/99 |
| 266-U4 | 4457.07 | Soil | 03-May-99 09:55 | 05/03/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

5-19-99
Daniel Wright/Date
Laboratory Director

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| Blank Spike Summary | 15B |
| Raw Sample Data | 16-33 |
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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

_____

_____

_____ 5-19-99

Laboratory Manager Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: 26224**
**( )DERA ( )OMA UST Assessment**

Project No: 99-0008
Location: BLDG- 266
UST# 81533 - 50

**Samplers Name / Company: STEVE SCHIPPER / ENVIRO-TECH**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4457. 01 | 266-P-1 | 5/3/99 | 9:35 | S | 1 | 1 | | | | | |
| 02 | 266-P-2 | | 9:38 | | | | | | | | |
| 03 | 266-M-1 | | 9:45 | | | | | | | | |
| 04 | 266-M-2 | | 9:50 | | | | | | | | |
| 05 | 266-M2D | | 9:51 | | | | | | | | |
| 06 | 266-M3 | | 9:53 | | | | | | | | |
| 07 | 266-M4 | | 9:55 | | | | | | | | |

**Analysis Parameters**

**Comments:**
* = Samples Kept <4 Celsius

Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 9:30 / 5/3/99

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 5-3-99 1020 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: (X)Standard 4 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks: Dedicated Sampling Tools Used

000 03

print legibly



USTcoc.xls5/3/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4457 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 03-May-99 |
| | Bldg. 173 | **Analysis Start:** | 04-May-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 05-May-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-50 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg-266 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4457.01** | 266-P-1 | **1.00** | 15.22 | 88.91 | 174 | **ND** |
| **4457.02** | 266-P-2 | **1.00** | 15.17 | 89.62 | 173 | **ND** |
| **4457.03** | 266-U-1 | **1.00** | 15.11 | 83.37 | 187 | **ND** |
| **4457.04** | 266-U-2 | **1.00** | 15.12 | 82.67 | 188 | **ND** |
| **4457.05** | 266-U-2D | **1.00** | 15.18 | 81.50 | 190 | **ND** |
| **4457.06** | 266-U-3 | **1.00** | 15.26 | 81.04 | 190 | **ND** |
| **4457.07** | 266-U-4 | **1.00** | 15.05 | 81.42 | 192 | **ND** |
| | | | | | | |
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| | | | | | | |
| **METHOD BLANK** | TBLK 233 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted ✓
2. Table of Contents submitted ✓
3. Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted ✓
4. Document paginated and legible ✓
5. Chain of Custody submitted ✓
6. Samples submitted to lab within 48 hours of sample collection ✓
7. Methodology Summary submitted ✓
8. Laboratory Chronicle and Holding Time Check submitted ✓
9. Results submitted on a dry weight basis ✓
10. Method Detection Limits submitted ✓
11. Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP ✓

Laboratory Manager or Environmental Consultant's Signature _____

Date 5/19/99

Laboratory Certification #13461

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

ATTACHMENT I

UST 267 File Review

Attachment I
PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 267*** Registration ID: *81533-51*

Recommended Status of Site: ***Case Closed***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High (see below)***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ ] Steel [ X ] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 5/13/1999

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 267 sample results ranged from non-detected (ND) to 267 mg/kg for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

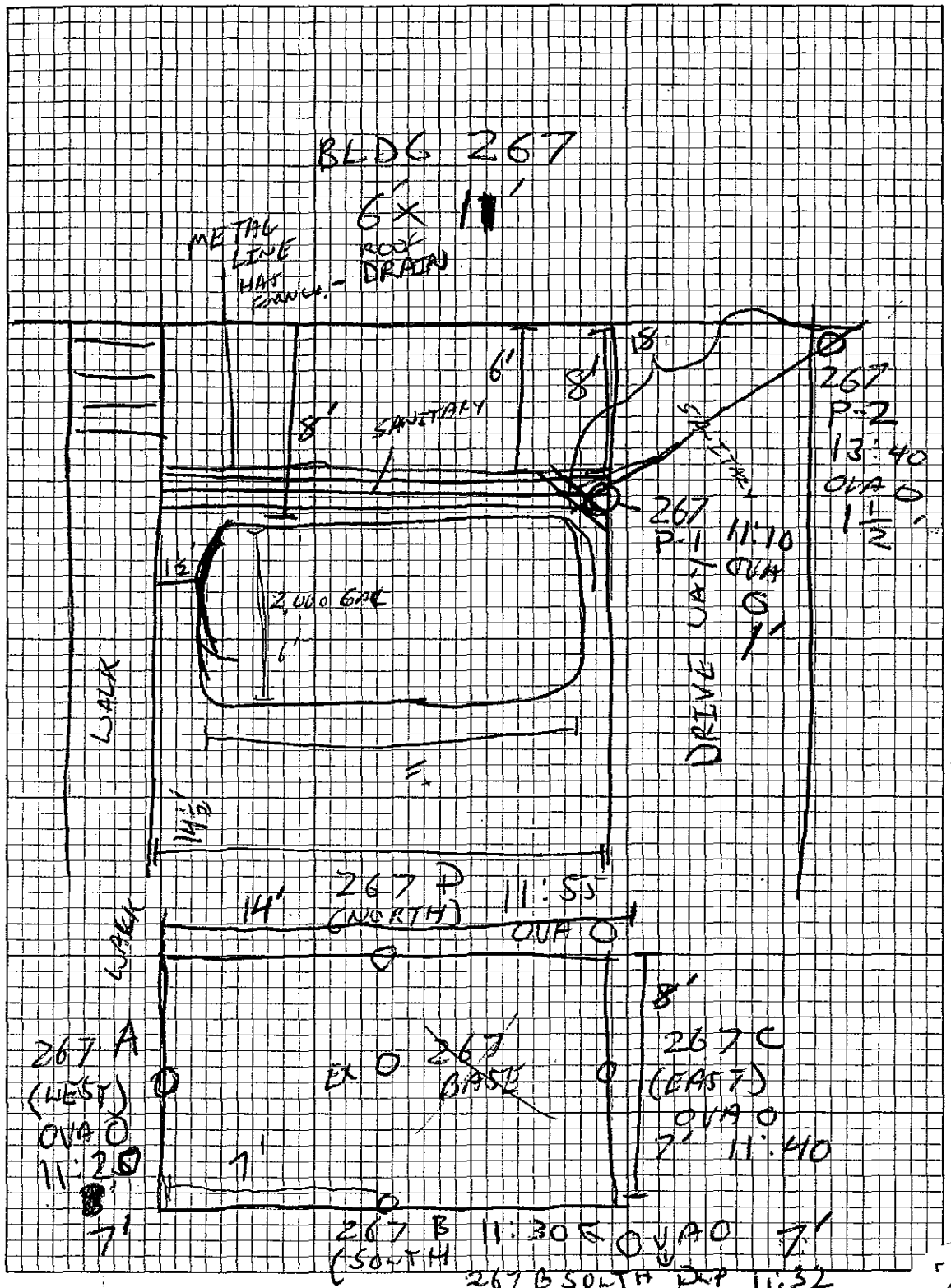
In conclusion, the analytical results support changing the UST Case Status to "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present; however, the field notes indicate that test trenching was performed in an attempt to uncover any unknown USTs.

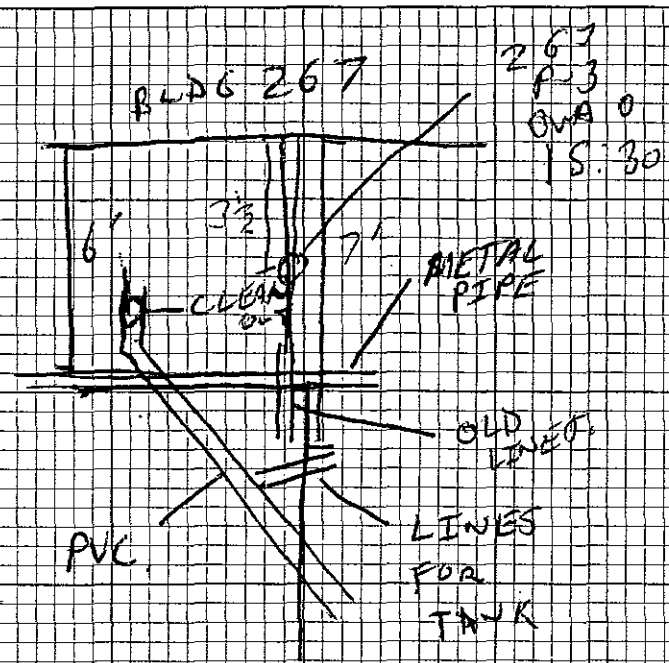
This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

Recommendations (if any): Change status to "Case closed."

Signed: Kent A. Friesen

Kent A. Friesen, Parsons


BLDG 267
6' x 11'
METAL LINE HAS BRANCH
ROOF DRAIN
6'
8'
8'
SANITARY
18"
267 P-2
13:40
OVA 0
1 1/2'
267 P-1
11:10
OVA 0
1'
1½'
2,000 GAL
6'
DRIVE WAY
WALK
11½'
14'
267 P (NORTH)
11:55
OVA 0
WALK
8'
267 A (WEST)
OVA 0
11:20
7'
EX 0 267 BASE
267 C (EAST)
OVA 0
11:40
7'
1'
267 B (SOUTH
11:30
OVA 0
7'
267 B SOUTH DUP 11:32




5/17

BLDG

ONSITE

BLD

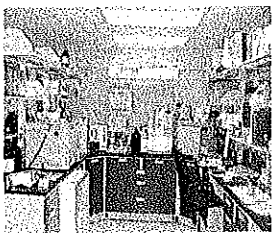
9

8:30 CA
95
0

ALL S
OVA O P
FOUND
EXHIBIT
MAYBE
ASPHALT
SAMPLE
BACK H J

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 267

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 267-P-1 | 4482.01 | Soil | 13-May-99 11:10 | 05/13/99 |
| 267-A (West) | 4482.02 | Soil | 13-May-99 11:20 | 05/13/99 |
| 267-B (South) | 4482.03 | Soil | 13-May-99 11:30 | 05/13/99 |
| 267-B (South) Dup | 4482.04 | Soil | 13-May-99 11:32 | 05/13/99 |
| 267-C (East) | 4482.05 | Soil | 13-May-99 11:40 | 05/13/99 |
| 267-D (North) | 4482.06 | Soil | 13-May-99 11:55 | 05/13/99 |
| 267-P-2 | 4482.07 | Soil | 13-May-99 13:40 | 05/13/99 |
| 267-P-3 | 4482.08 | Soil | 13-May-99 15:30 | 05/13/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

6-2-99
Daniel Wright/Date
Laboratory Director

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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

_____

_____

_____ 6-2-99

Laboratory Manager Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil

**NJDEP Certification #13461**

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA ( X )OMA UST Assessment**

Project No: 99-0008
Location: BLDG 267
UST# 81533-51

**Samplers Name / Company : Steve Schipper/TVS**

**Comments:**
* = Samples Kept <4 Celsius

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4482. 01 | 267-P-1 | 5/13/99 | 11:10 | S | 1 | X | X | | | 0 | |
| 02 | 267-A (WEST) | | 11:20 | | 1 | X | | | | 0 | |
| 03 | 267-B (SOUTH) | | 11:30 | | 1 | X | | | | 0 | |
| 04 | 267-B (SOUTH) DUP | | 11:32 | | 1 | X | | | | 0 | |
| 05 | 267-C (EAST) | | 11:40 | | 1 | X | | | | 0 | |
| 06 | 267-D (NORTH) | | 11:55 | | 1 | X | | | | 0 | |
| 07 | 267-P-2 | | 13:40 | | 1 | X | | | | 0 | |
| 08 | 267-P-3 | | 15:30 | | 1 | X | | | | 0 | |

OVA sn# 2 was calibrated with zero air & at 95 ppm METHANE read 120 ppm. 5/13/99-0800 SRS (time/date & initial)

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 5/13/99 16:00 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, ( )Rush 1 Days, ( )ASAP Verbal ___ Hrs.

Remarks: Dedicated Sampling Tools Used

000003

print legibly



USTcoc.xls5/13/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4482 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 13-May-99 |
| | Bldg. 173 | **Analysis Start:** | 14-May-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 18-May-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-51 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg-267 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4482.01** | 267-P-1 | **1.00** | 15.49 | 89.20 | 170 | **ND** |
| **4482.02** | 267-A(WEST) | **1.00** | 15.83 | 83.49 | 178 | **ND** |
| **4482.03** | 267-B(SOUTH) | **1.00** | 15.09 | 80.31 | 194 | **ND** |
| **4482.04** | 267-B(SOUTH)DUP | **1.00** | 15.15 | 80.95 | 192 | **ND** |
| **4482.05** | 267-C(EAST) | **1.00** | 15.53 | 83.14 | 182 | **ND** |
| **4482.06** | 267-D(NORTH) | **1.00** | 15.22 | 85.75 | 180 | **ND** |
| **4482.07** | 267-P-2 | **1.00** | 15.24 | 89.91 | 172 | **266.68** |
| **4482.08** | 267-P-3 | **1.00** | 15.20 | 81.76 | 189 | **ND** |
| | | | | | | |
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| | | | | | | |
| **METHOD BLANK** | TBLK 236 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

**Laboratory Manager or Environmental Consultant's Signature** _____

**Date** 6/2/99

**Laboratory Certification #13461**

[1]Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.

6-2-99

Daniel K. Wright
Laboratory Manager

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ATTACHMENT J

UST 268 File Review

Attachment J
PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 268*** Registration ID: *81533-52*

Recommended Status of Site: ***Case Closed***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ ] Steel [ X ] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 4/29/1999

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 268 sample results ranged from non-detected (ND) to 264 mg/kg for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present.

This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

Recommendations (if any): Change status to "Case closed."

Signed: Kent A. Friesen

Kent A. Friesen, Parsons

# US ARMY, SELFM-PW-EV

## DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 268 REG.#: 0881533 - 52 CLOSURE#: _____

DATE: 5/3/99 TOA: _____ TOD: _____

GOV. SSE: STEVEN SCHIFFER NJDEP CERT.#: 0017924

REMOVAL CONTRACTOR: SAI Inc.

CLOSURE SUPERVISOR: GARY LAMELLO NJDEP CERT.#: 0016204

WEATHER: RAINY

| ACTIVITY | YES / NO |
|---|---|
| THE SUPERVISOR (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES | YES |
| THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES | YES |
| ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR) | YES |
| A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR | ~~YES~~ NA |
| THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED | YES |
| A DISCHARGE WAS REPORTED TO THE NJDEP (609-292-7172), CASE# _____ | NA |
| PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK | YES |
| GROUNDWATER WAS ENCOUNTERED AT 9½ FEET BG, A SHEEN (WAS/(WAS NOT)) OBSERVED ON GW | YES |
| IF OVA/Hnu WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC) | YES |
| IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN) | YES |
| ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992 | YES |
| ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq. | YES |
| ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY | NA |
| THE SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) | YES |
| ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM | NA |
| THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, (DAILY UST CLOSURE LOG,) (SCALED SITE MAP (SAMPLING)), SRF-CLOSURE, (CHAIN OF CUSTODY,) (SOIL ANALYTICAL RESULTS) CLEAN FILL TICKETS (IN YDS$^3$), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS) | |

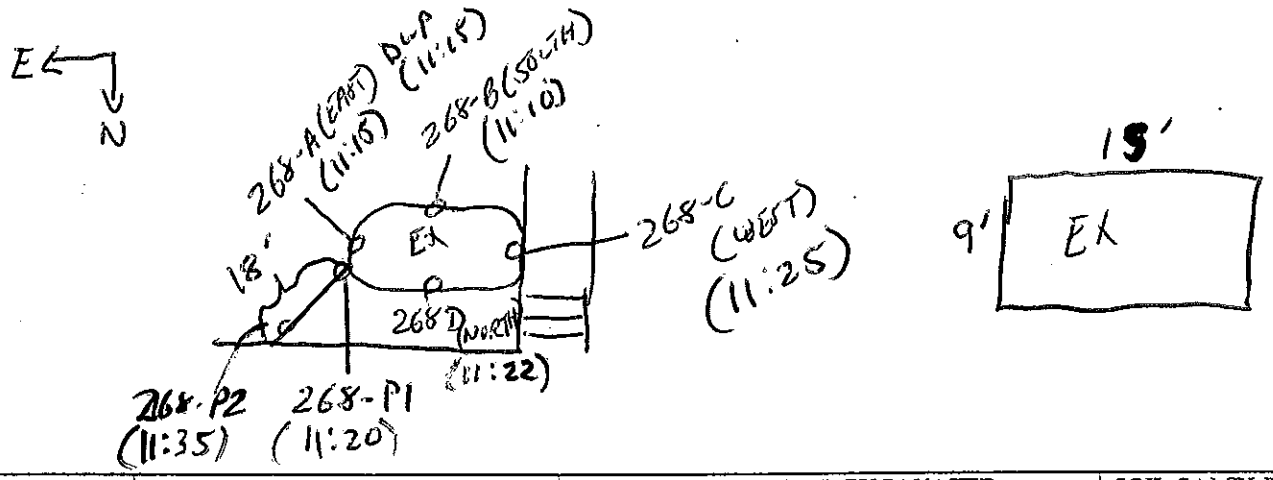
CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

SIGNATURE: _____ DATE: 5/10/99

| DATE: | WORK PERFORMED: | CONTAMINATED SOIL EXCAVATED: | SOIL SAMPLES COLLECTED: yes no |
|---|---|---|---|
| 5/3/99 | SOIL SAMPLING UST-EX BLDG. 268 | 0 CUBIC YARDS | |

SKETCH OF WORK PERFORMED:




| DATE: | WORK PERFORMED: | CONTAMINATED SOIL EXCAVATED: | SOIL SAMPLES COLLECTED: yes no |
|---|---|---|---|
| | | CUBIC YARDS | |

SKETCH OF WORK PERFORMED:

| DATE: | WORK PERFORMED: | CONTAMINATED SOIL EXCAVATED: | SOIL SAMPLES COLLECTED: yes no |
|---|---|---|---|
| | | CUBIC YARDS | |

SKETCH OF WORK PERFORMED:

060817A - BLDG 269

ENTERED INCORRECTLY

269COREA - BLDG 269 CORNER-EAST

LTPOLE - LIGHTPOLE.

REF 1 NOT LABLED. ACTUAL LOCA

CAR WE - EAST OF EX. OF WEST,

BLDGCORWE WEST OF EX

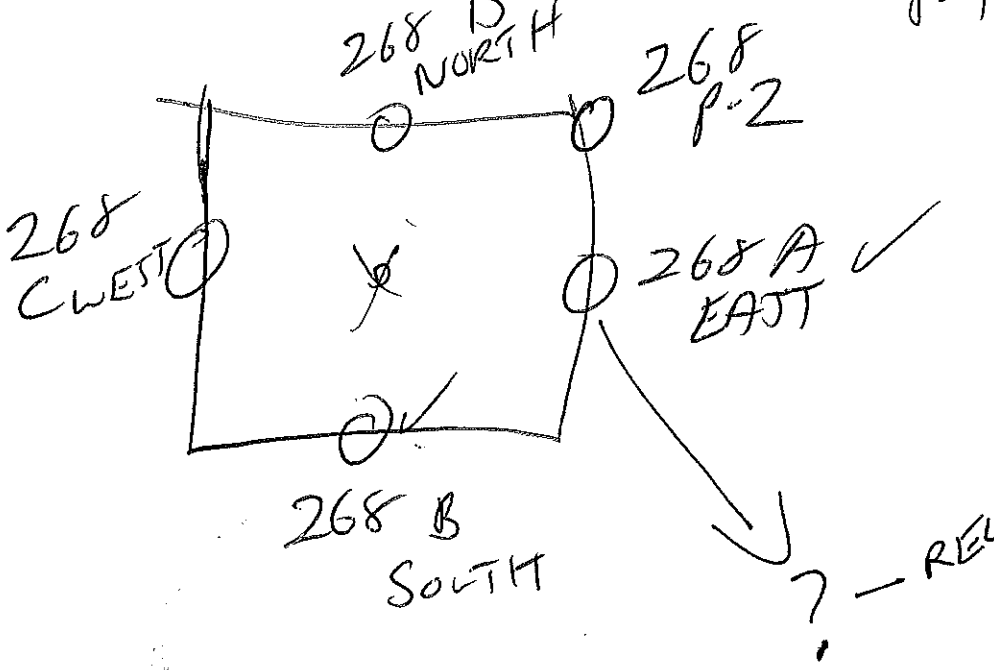
060817B - BLDG 268

REF LTPOLE — EAST OF EX

REF BLDGCOREA — EAST OF EX.

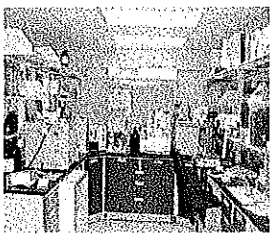
REF CAREA. ← THE CARAG IT WEST OF EX.

268 P-1



# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: #99-0008

## Bldg. 268

| Field Sample Location | Laboratory Sample ID# | Matrix | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 268-A (East) | 4459.01 | Soil | 03-May-99 11:15 | 05/03/99 |
| 268-B (South) | 4459.02 | Soil | 03-May-99 11:10 | 05/03/99 |
| 268-C (West) | 4459.03 | Soil | 03-May-99 11:25 | 05/03/99 |
| 268-D (North) | 4459.04 | Soil | 03-May-99 11:22 | 05/03/99 |
| 268-A Dup (East) | 4459.05 | Soil | 03-May-99 11:15 | 05/03/99 |
| 268-P1 | 4459.06 | Soil | 03-May-99 11:20 | 05/03/99 |
| 268-P2 | 4459.07 | Soil | 03-May-99 11:35 | 05/03/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

5-19-99
Daniel Wright/Date
Laboratory Director

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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination -- If yes, list the sample and the corresponding concentrations in each blank. | NO |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

_____

_____

_____ 5-19-99

Laboratory Manager Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA (X)OMA UST Assessment**

Project No: 99-0008
Location: 268
UST# 81533-52

**Samplers Name / Company : STEVEN SCHIPPER / ENVIRO-TECH**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4459 01 | 268-A (EAST) | 5/3/99 | 11:15 | S | 1 | 1 | | | | | |
| 02 | 268-B (SOUTH) | ↓ | 11:10 | ↓ | ↓ | ↓ | | | | | |
| 03 | 268-C (WEST) | | 11:25 | | | | | | | | |
| 04 | 268-D (NORTH) | | 11:22 | | | | | | | | |
| 05 | 268-A DUP (EAST) | | 11:15 | | | | | | | | |
| 06 | 268-P1 | | 11:20 | | | | | | | | |
| 07 | 268-P2 | ↓ | 11:35 | ↓ | ↓ | ↓ | | | | | |

**Analysis Parameters**

**Comments:**
* = Samples Kept <4 Celsius

Note: H-Nu Calibrated With 100 ppm Isobutylene & Zero Air @ 5/3/99 9:30

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| [signature] | 5/3/99 12:15 | [signature] | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | [signature] | | | |

Report Type: ( )Full, ( )Reduced, (X)Standard, ( )Screen / non-certified
Turnaround time: (X)Standard 4 wks, ( )Rush ____ Days, ( )ASAP Verbal ____ Hrs.

Remarks: Dedicated Sampling Tools Used

000003

print legibly



USTcoc.xls5/3/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4459 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 03-May-99 |
| | Bldg. 173 | **Analysis Start:** | 04-May-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 05-May-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-52 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg-268 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4459.01** | 268-A | **1.00** | 15.20 | 80.47 | 192 | **ND** |
| **4459.02** | 268-B | **1.00** | 15.02 | 79.56 | 197 | **ND** |
| **4459.03** | 268-C | **1.00** | 15.07 | 78.87 | 198 | **ND** |
| **4459.04** | 268-D | **1.00** | 15.07 | 80.89 | 193 | **ND** |
| **4459.05** | 268-A-DUP | **1.00** | 15.05 | 80.38 | 194 | **ND** |
| **4459.06** | 268-P1 | **1.00** | 15.19 | 91.07 | 170 | **ND** |
| **4459.07** | 268-P2 | **1.00** | 15.05 | 84.92 | 184 | **264.47** |
| | | | | | | |
| | | | | | | |
| | | | | | | |
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| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| **METHOD BLANK** | TBLK 233 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

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**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
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8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

**Laboratory Manager or Environmental Consultant's Signature** _____

**Date** 5/19/99

**Laboratory Certification #13461**

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

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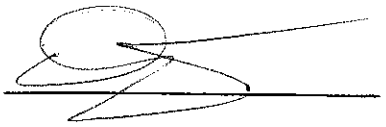


Daniel K. Wright
Laboratory Manager

ATTACHMENT K

UST 269 File Review

Attachment K
PARSONS

UNDERGROUND STORAGE TANK FILE REVIEW
FORT MONMOUTH BRAC 05 FACILITY
OCEANPORT, NEW JERSEY

Date: *December 11, 2014* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 269*** Registration ID: *81533-53*

Recommended Status of Site: ***Case Closed***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High (see below)***

Based on the file review, were there indications of a contaminant release? [ ] Yes [ X ] No

NJDEP Release No. or DICAR (If applicable): *Not Applicable*

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [ ] No [ X ] Not Applicable

Tank Description: [ ] Steel [ X ] Fiberglass Size: 2000 gals. Contents: No. 2 Fuel Oil

[ X ] Residential [ ] Commercial/Industrial

Tank Removed? [ X ] Yes [ ] No If "yes," removal date: 6/3/1999

Were closure soil samples taken? [ X ] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria? ? [ X ] Yes [ ] No

## Brief Narrative

Soil samples were collected from the tank excavation in 1999 and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Building 269 sample results were all non-detected (ND) for TPH. These results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Results were also less than 1,000 mg/kg, which is the current NJDEP threshold criterion for additional required analyses. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed." Although the fiberglass tank was removed, an earlier steel UST could still be present; however, the field notes indicate that test trenching was performed in an attempt to uncover any unknown USTs.

This site is also listed in NJDEP's 7/10/2012 letter regarding ECP Parcel 76, where the State said NFA could not be approved since remedial documentation was not provided.

Recommendations (if any): Change status to "Case closed."

Signed: Kent A. Friesen

Kent A. Friesen, Parsons

JUNE 3, 1999

JILL, ED, AND STEVE ONSITE.

BLDG 269

PER BRIAN, THE TANK REMOVAL WILL BE COMPLETED PRIOR TO MARK OUT COMPLETION.

8:40 BEGIN UNCOVERING TANK.

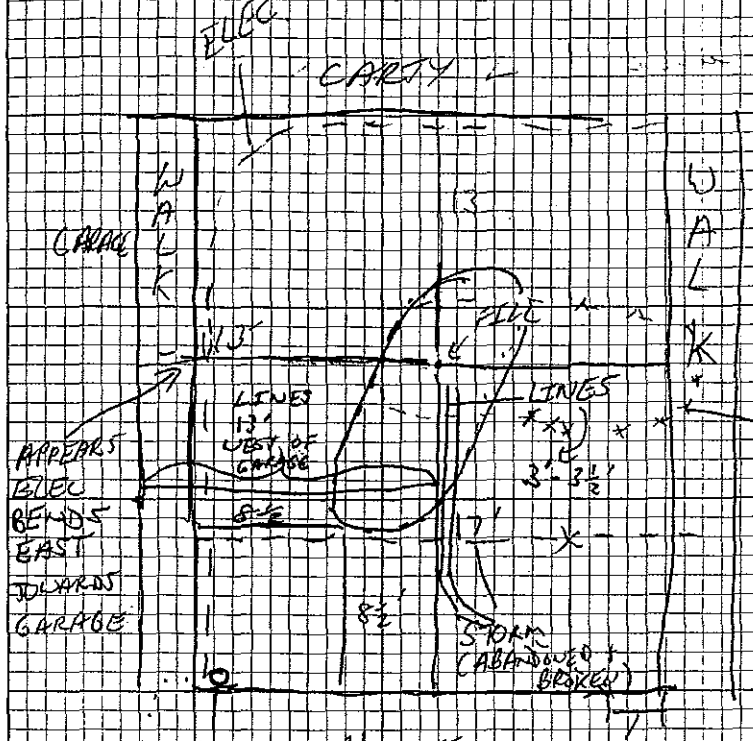
APPROX 1 CUP OF OIL AT MOST CAME OUT ON THE LINES ONTO SOME CLEAN SOIL. THE SOIL WAS REMOVED AND TRANSPORTED TO THE DIRTY PILE. NOT ENOUGH TO WARRANT A CALL TO THE HOTLINE.

2:20 CAME CLOSE TO HITTING AND BREAKING A PHONE LINE THAT HAS NOT YET BEEN MARK OUT.

2:45 TANK OUT AND ON TRUCK TO BE TRANSPORTED TO THE YARD PHOTOGRAPHED.

2:50 START DIGGING TRENCH TO FIND OUT WHERE THE LINES GO.

PEAGRAVEL AROUND FILL @ 6"




TANK IS ON AN ANGLE (NE)

GROUND WATER @ 7-7½' BELOW GRADE

LINES GO INTO THE IN ACCESSABLE BASEMENT

FELLE OFF EX AND SAMPLE W/ GPS ON MONDAY.

NEED TO LOOK IN WHERE THE LINES FROM THE ~~ACCESSABLE~~ ACCESSABLE ~~LINES~~ BASEMENT GO.

JUNE 8, 1999

BLDG 269

ONSITE TO COLLECT POST-EX SOIL SAMPLES + GPS SAMPLE POINTS.

OVA CALIBRATED @ 8:40

0 @ 0

95 @ 95

NOTE: THE METAL TUBE TO THE RIGHT OF THE SAMPLE FLOW RATE METER IS BROKEN LOOSE. APPEARS THAT AT ONE POINT IT HAD BROKEN IN THE PAST AND WAS GLUED BACK. APPEAR IT HAS BROKEN IN THE SAME LOCAL.

0900 BASE SAMPLE COLLECTED IN SATURATED ZONE. 6X CONCRETE PAD PEA GRAVEL TO A DEPTH OF 10' PAD AT 10'

$H_2O$ @ ~~62~~ 6½' - 7'

NO BASE SAMPLE COLLECTED.

CHECKING TO SEE IF A FULL PAD HAS USED = PREVENT SAMPLING BIAS OR IF SADDLE'S WERE USED, POSSIBLY SAMPLE BETWEEN CONCRETE SADDLES.

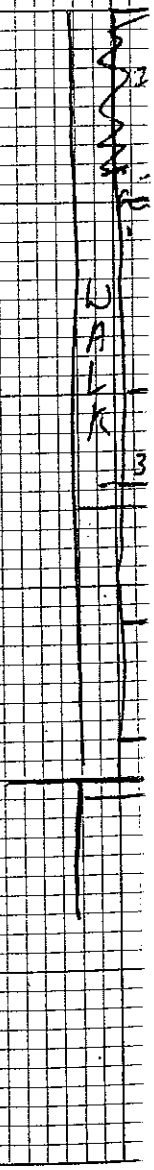
A FULL

THE P

BROKE,

ACTUAL

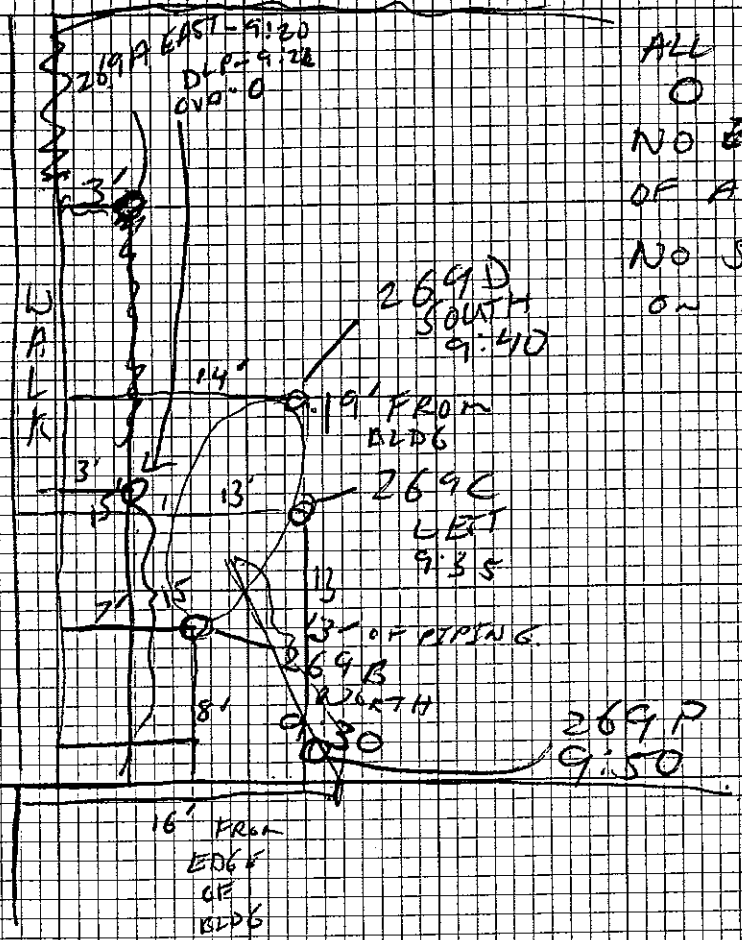
269 A E



A FULL PAD NO BASE SAMPLE COLLECTED.

THE PVC PIPE CONDUIT AROUND THE ELEC BROKE, DOES NOT APPEAR THAT THE ACTUAL CONDUIT BROKE.

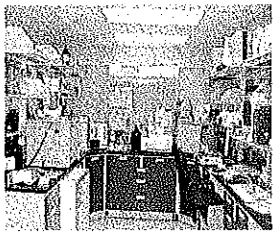
269A EAST - 9:20 @ 6" - 6½" BELOW GRADE
DUP - 9:22




ALL OVA READINGS 0
NO EVIDENCE OF A DISCHARGE.
NO SHEEN ON $H_2O$.

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

**DIRECTORATE OF PUBLIC WORKS**
**PHONE: (732)532-6224 FAX: (732)532-6263**
**WET-CHEM - METALS - ORGANICS - FIELD SAMPLING**
**NJDEP LABORATORY CERTIFICATION # 13461**



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
[illegible]mouth, New Jersey
[illegible]008

Box
20

| Field Sample Location | Sample [illegible] | | Date and Time of Collection | Date Received |
|---|---|---|---|---|
| 269 A-East | 4537.01 | [illegible] | 08-Jun-99 09:20 | 06/08/99 |
| 269 A-East Dup. | 4537.02 | Soil | 08-Jun-99 09:22 | 06/08/99 |
| 269 B-North | 4537.03 | Soil | 08-Jun-99 09:30 | 06/08/99 |
| 269 C-West | 4537.04 | Soil | 08-Jun-99 09:35 | 06/08/99 |
| 269 D-South | 4537.05 | Soil | 08-Jun-99 09:40 | 06/08/99 |
| 269 P | 4537.06 | Soil | 08-Jun-99 09:50 | 06/08/99 |

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, %SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

6-17-99
Daniel Wright/Date
Laboratory Director

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# Method Summary

## NJDEP Method OQA-QAM-025-10/97

## Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

Twenty five milliliters(25mL) Methylene Chloride is added to the flask and it is secured on a gyrotory shaker table. The agitation rate is set to 400rpm and the sample is shaken for 30 minutes. The flask is the removed from the table and the particulate matter is allowed to settle. The extract is transferred to a Teflon capped vial. A second 25mL of Methylene Chloride is added to the flask and shaken for an additional 30 minutes. The flask is again removed and allowed to settle. The extracts are combined in the vial then transferred to a 1mL autosampler vial.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

# PHC Conformance/Non-conformance Summary Report

| | | Indicate Yes, No, N/A |
|---|---|---|
| 1. | Method Detection Limits provided. | Yes |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank. | No |
| 3. | Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 4. | Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range). | Yes |
| 5. | IR Spectra submitted for standards, blanks and samples. | NA |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted. | Yes |
| 7. | Analysis holding time met. (If not met, list number of days exceeded for each sample). | Yes |

Additional comments: _____

_____

_____

_____ 6-17-99

Laboratory Manager Date



# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

## Chain of Custody Record

**Customer: Charles Appleby**
**Phone #: X26224**
**( )DERA ( X )OMA UST Assessment**

Project No: 99-0008
Location: BLDG 269
UST# 81533 - 53

**Samplers Name / Company : Steve Schipper/TVS**

| Lab Sample I.D. | Sample Location | Date | Time | Sample Type | # bottles | TPHC | % SOLIDS | VOA+15 | VOA ID Number | H-Nu Reading | Remarks / Preservation Method |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 4537.01 | 269 A-EAST | 6/8/99 | 9:20 | S | 1 | X | | | | | |
| 02 | 269 A-EAST-DUP | | 9:22 | | | | | | | | |
| 03 | 269 B-NORTH | | 9:30 | | | | | | | | |
| 04 | 269 C-WEST | | 9:35 | | | | | | | | |
| 05 | 269 D-SOUTH | | 9:40 | | | | | | | | |
| 06 | 269 P | | 9:50 | | | | | | | | |

**Comments:**
* = Samples Kept <4 Celsius

Analysis Parameters

OVA sn# 2 was calibrated with zero air & at 95 ppm METHANE read 0+95 ppm. 6/8/99, 8:40 SRS (time/date & initial)

| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
|---|---|---|---|---|---|
| | 6/8/99 15:05 | | | | |
| Relinquished by (signature): | Date/Time: | Received by (signature): | Relinquished by (signature): | Date/Time: | Received by (signature): |
| | | | | | |

Report Type: ( )Full, ( )Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, ( )Rush 3 Days, ( )ASAP Verbal ___ Hrs.

Remarks: Dedicated Sampling Tools Used

000103

print legibly



USTcoc.xls5/13/99

Report of Analysis
U.S. Army, Fort Monmouth Environmental Laboratory
NJDEP Certification # 13461

| | | | |
|---|---|---|---|
| **Client :** | U.S. Army | **Lab. ID # :** | 4537 |
| | DPW. SELFM-PW-EV | **Date Rec'd:** | 08-Jun-99 |
| | Bldg. 173 | **Analysis Start:** | 09-Jun-99 |
| | Ft. Monmouth, NJ 07703 | **Analysis Complete:** | 10-Jun-99 |
| **Analysis:** | OQA-QAM-025 | **UST Reg. #:** | 81533-53 |
| **Matrix:** | Soil | **Closure #:** | |
| **Analyst:** | D.DEINHARDT | **DICAR #:** | |
| **Inst. ID.** | GC TPHC INST. #1 | **Injection Volume** | 1 ul |
| **Column Type** | RTX 5 | **Column ID** | 0.32 um |
| **Ext. Meth:** | Shake | **Location #:** | Bldg. 269 |

| Sample | Field ID | Dilution Factor | Weight (g) | % Solid | MDL (mg/kg) | TPHC Result (mg/kg) |
|---|---|---|---|---|---|---|
| **4537.01** | 269-A-EAST | **1.00** | 15.14 | 86.30 | 180 | **ND** |
| **4537.02** | 269-A-EAST-DUP | **1.00** | 15.67 | 85.60 | 175 | **ND** |
| **4537.03** | 269-B-NORTH | **1.00** | 15.77 | 88.90 | 168 | **ND** |
| **4537.04** | 269-C-WEST | **1.00** | 14.97 | 82.56 | 190 | **ND** |
| **4537.05** | 269-D-SOUTH | **1.00** | 15.09 | 82.97 | 188 | **ND** |
| **4537.06** | 269-P | **1.00** | 15.16 | 91.17 | 170 | **ND** |
| | | | | | | |
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| | | | | | | |
| **METHOD BLANK** | TBLK244 | **1.00** | 15.00 | 100.00 | 157 | **ND** |

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

000004

# LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

## THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

**The following Laboratory Deliverables checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements for Site Remediation, effective June 7, 1993, provides further details. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages will be returned or held without review until the data package is completed.**

**It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the data package and in the main body of the report.**

1. **Cover page, Title Page listing Lab Certification #, facility name and address, & date of report submitted** ✓
2. **Table of Contents submitted** ✓
3. **Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted** ✓
4. **Document paginated and legible** ✓
5. **Chain of Custody submitted** ✓
6. **Samples submitted to lab within 48 hours of sample collection** ✓
7. **Methodology Summary submitted** ✓
8. **Laboratory Chronicle and Holding Time Check submitted** ✓
9. **Results submitted on a dry weight basis** ✓
10. **Method Detection Limits submitted** ✓
11. **Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP** ✓

**Laboratory Manager or Environmental Consultant's Signature** _____

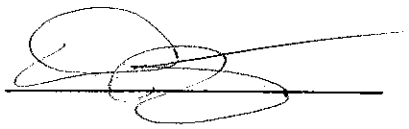
**Date** 6/17/99

**Laboratory Certification #13461**

*Refer to NJAC 7:26E - Appendix A, Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance.

# Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information contained in this report and to the best of my knowledge, I believe that the submitted information is true, accurate, complete and meets the above referenced standards where applicable. I am aware that there are significant penalties for purposefully submitting falsified information, including the possibility of a fine and imprisonment.



Daniel K. Wright
Laboratory Manager

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ATTACHMENT L

USTs 270 and 271 Previous Approval by NJDEP

Attachment L

# State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
*Governor*

Robert C. Shinn, Jr.
*Commissioner*

Mr. James Ott
C/O: Dinker Desai
Director – Public Works
U.S. Army, Fort Monmouth
Fort Monmouth, NJ 07703

FEB 24 2000

Re: UST Closure Reports - Closure Approvals
Fort Monmouth Army Base
Fort Monmouth, Monmouth County

Dear Mr. Ott:

The NJDEP has reviewed the UST Closure and Site Investigation Reports for the Fort Monmouth underground storage tank sites noted below. Based on the NJDEP review of these documents, your request that the NJDEP approve the closure reports for those tanks listed below.

The following tanks were removed, sampled and analyzed in accordance with State and Federal requirements. Additionally, the reports consistently state the Fort Monmouth Public Works Department policy of removing all soils which are determined to have total petroleum hydrocarbon contamination (TPHC) greater than 1000 ppm. NJDEP criteria requires similar removal for TPHC contamination greater than 10,000 ppm. These activities are conservative and therefore further assure the NJDEP that no further action is necessary at these sites.

| NJDEP Req. # | Bldg. # | NJDEP Req. # | Bldg. # |
|---|---|---|---|
| 0090016–16 | 165 | 0081533–151 | 913 |
| 0090010–69 | 170D | 0081533–155 | 917 |
| 0090010–20 | 197 | 0081533–165 | 1105 |
| 0081533–54 | 270** | 0081533–169 | 1109 |
| 0081533–60 | 286 | 0081533–173 | 1213A |
| 0081533–65 | 291 | 0081533–208 | 1221 |
| 0090010–70 | 400 | 00192486–34 | 2018 |
| 0081533–103 | 671A | 00192486–35 | 2021A |
| 0081533–138 | 876A | 0081515–30 | 2543 |
| 0081533–149 | 911 | 0081515–40 | 2707 |
| 0081533–150 | 912 | | |

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH06\IRC.DOC

State of New Jersey

James E. McGreevey
*Governor*

Department of Environmental Protection

Bradley M. Campbell
Commissioner

Mr. Dinkerrai Desai
DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY COMMUNICATIONS-ELECTRONIC COMMAND
FORT MONMOUTH, NJ 07703-5000

JAN 10 2003

Re: UST Closure Approval/NFA
Fort Monmouth Main Post
Monmouth County

Dear Mr. Desai:

The NJDEP is in receipt of sixty-eight (68) underground storage tank (UST) closure reports dated between July 17, 2001 and May 15, 2002. The Army has requested to receive No Further Action (NFA) approval letters for each of these reports. This letter approves the NFA requests for the following 68 UST that are located on the Main Post of the Fort Monmouth site:

| Submittal Date | Building No. | NJDEP Reg. # | Residential |
|---|---|---|---|
| 07/17/2001 | 104 | 90010-75 | NO |
| 07/17/2001 | 699A | 81533-112 | NO |
| 07/17/2001 | 800A | 81533-127 | NO |
| 07/17/2001 | 875 | 81533-234 | NO |
| 07/17/2001 | 949 | 81533-203 | NO |
| 07/17/2001 | 1220A | 81533-184 | NO |
| 07/17/2001 | 2000B | 192486-38 | NO |
| 01/02/2002 | 257 | 81533-200 | NO |
| 01/02/2002 | 283C | 81533-229 | NO |
| 01/02/2002 | 290B | 81533-224 | NO |
| 01/02/2002 | 290B | 81533-225 | NO |
| 01/02/2002 | 491 | 90010-71 | NO |
| 01/02/2002 | 605 | 81533-85 | NO |
| 01/02/2002 | 678 | 81533-105 | NO |
| 01/02/2002 | 699 | 81533-236 | NO |
| 01/02/2002 | 699 | 81533-238 | NO |
| 01/02/2002 | 699 | 81533-237 | NO |
| 01/02/2002 | 699 | 81533-235 | NO |
| 01/02/2002 | 801B | 81533-129 | NO |
| 01/02/2002 | 804A | 81533-130 | NO |
| 01/02/2002 | 2337 | 81515-65 | NO |
| 01/02/2002 | 2562A | 81515-41 | NO |
| 01/02/2002 | 2707 | 81515-50 | NO |
| 01/02/2002 | 2707 | 81515-49 | NO |
| 01/02/2002 | 2707 | 81515-51 | NO |
| 01/02/2002 | 2707 | 81515-47 | NO |
| 01/02/2002 | 2707 | 81515-48 | NO |

| Submittal Date | Building No. | NJDEP Reg. # | Residential |
|---|---|---|---|
| 02/13/2002 | 2044 | 192486-24 | NO |
| 02/13/2002 | 2044 | 192486-32 | NO |
| 02/13/2002 | 2044 | 192486-33 | NO |
| 02/26/2002 | 208B | 81533-210 | YES |
| 03/05/2002 | 246 | N/A | YES |
| 03/05/2002 | 261B | N/A | YES |
| 05/15/2002 | 106 | 90010-74 | NO |
| 05/15/2002 | 164 | 90010-15 | NO |
| 05/15/2002 | 173 | 90010-19 | NO |
| 05/15/2002 | 200 | 81533-2 | NO |
| 05/15/2002 | 208A | 81533-6 | YES |
| 05/15/2002 | 233 | 81533-21 | YES |
| 05/15/2002 | 237 | 81533-25 | YES |
| 05/15/2002 | 271 ** | 81533-55 | YES |
| 05/15/2002 | 277 | 90010-24 | NO |
| 05/15/2002 | 296B | 81533-217 | NO |
| 05/15/2002 | 296B | 81533-223 | NO |
| 05/15/2002 | 296B | 81533-221 | NO |
| 05/15/2002 | 296B | 81533-220 | NO |
| 05/15/2002 | 296B | 81533-222 | NO |
| 05/15/2002 | 296B | 81533-218 | NO |
| 05/15/2002 | 296B | 81533-216 | NO |
| 05/15/2002 | 296B | 81533-215 | NO |
| 05/15/2002 | 296B | 81533-214 | NO |
| 05/15/2002 | 296B | 81533-213 | NO |
| 05/15/2002 | 296B | 81533-219 | NO |
| 05/15/2002 | 426 | 90010-40 | NO |
| 05/15/2002 | 482 | 90010-54 | NO |
| 05/15/2002 | 600 A | 81533-83 | NO |
| 05/15/2002 | 600 B | 81533-212 | NO |
| 05/15/2002 | 611 | 81533-87 | NO |
| 05/15/2002 | 615 | 81533-89 | NO |
| 05/15/2002 | 618 | 81533-91 | NO |
| 05/15/2002 | 619 | 81533-92 | NO |
| 05/15/2002 | 621 | 81533-94 | NO |
| 05/15/2002 | 634 | N/A | NO |
| 05/15/2002 | 638 | N/A | NO |
| 05/15/2002 | 639-2 | N/A | NO |
| 05/15/2002 | 640 | N/A | NO |
| 05/15/2002 | 641 | N/A | NO |
| 05/15/2002 | 644 | N/A | NO |
| 05/15/2002 | 664 | N/A | NO |
| 05/15/2002 | 666 | N/A | NO |
| 05/15/2002 | 686 | 81533-107 | NO |
| 05/15/2002 | 697 | 81533-194 | NO |
| 05/15/2002 | 697 | 81533-195 | NO |

**

| Submittal Date | Building No. | NJDEP Reg. # | Residential |
|---|---|---|---|
| 05/15/2002 | 697 | 81533-196 | NO |
| 05/15/2002 | 876B | 81533-139 | NO |
| 05/15/2002 | 886 | 81533-140 | NO |
| 05/15/2002 | 905 | 81533-145 | NO |
| 05/15/2002 | 1102 | 81533-162 | NO |
| 05/15/2002 | 1104 | 81533-164 | NO |
| 05/15/2002 | 2067 | 192486-37 | NO |
| 05/15/2002 | 2534 | 81515-24 | NO |
| 05/15/2002 | 2603 | 81515-60 | NO |
| 05/15/2002 | 2700 2,6 | 81515-61 | NO |

The NJDEP has determined that the Army has performed the remedial actions in a manner consistent with the regulatory requirements, specifically the Technical Requirements For Site Remediation (N.J.A.C. 7:26E et seq.). Soils with contamination in excess of the NJDEP residential cleanup criteria have been excavated and the Army has taken great care to provide documentation that assures us that all sources of contamination have been remediated.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH116IRC.DOC