



## 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

October 28, 2016

Ms. Linda Range  
New Jersey Department of Environmental Protection  
Bureau of Case Management  
401 East State Street  
PO Box 420/Mail Code 401-05F  
Trenton, NJ 08625-0028

**Subject: No Further Action Request  
Site Investigation Report Addendum for the Building 750 Motor Pool Area  
Including Underground Storage Tanks, Fort Monmouth, NJ**

### Attachments:

- A. Correspondence
- B. Drawings of Building 750 Motor Pool Area
- C. ECP and SI Report Excerpts and Supporting Documents
- D. Summary Table of Parcel 51/Building 750 Motor Pool Area Underground Storage Tanks
- E. UST 750A and UST 750B File Review and Analyses
- F. UST 750C Report
- G. UST 750D File Review and Analyses
- H. UST 750E File Review and Analyses
- I. UST 750F File Review and Analyses
- J. UST 750G File Review and Analyses
- K. UST 750H File Review and Analyses
- L. UST 750I File Review and Analyses
- M. UST 750J File Review and Analyses
- N. Anomaly P51\_1 File Review and Analyses
- O. Building 750 Area Groundwater Monitoring Supporting Documents

### Previous Correspondence (provided in Attachment A):

1. NJDEP letter to the Army dated July 10, 2012, re: *March 2012 Army Response to NJDEP Correspondence Letter Dated October 28, 2008.*
2. NJDEP letter to the Army dated June 16, 2015, re: *Final Environmental Condition of Property Supplemental Phase II Site Investigation Work Plan Addendum for Parcels 34, 50, 51, 52, 66, 80 and 83 dated February 2015, Fort Monmouth, Oceanport, Monmouth County.*

Dear Ms. Range:

The U.S. Army Fort Monmouth (FTMM) has reviewed existing file information for the Building 750 Motor Pool Area and associated underground storage tank (UST) sites, which are located within a portion of Environmental Condition of Property (ECP) Parcel 51. The purpose of this submittal is to provide documentation and request a No Further Action (NFA) determination for all USTs and other areas of potential environmental concern identified at the Building 750 Motor Pool Area. This submittal provides the information for the Building 750 Motor Pool Area USTs as requested by NJDEP in Correspondence 1 (**Attachment A**). Other Motor Pool Area features identified by NJDEP in their comments on Parcel 51 within Correspondence 2 (**Attachment A**) are also addressed within this submittal.

The portion of Parcel 51 designated as the Building 750 Motor Pool Area is located near the south-central edge of the Main Post, and is generally bounded by Echo Avenue to the north, the installation boundary to the west, Vanguard Road to the south, and Wilson Avenue to the east. The layout of this area is presented in Figure 1 of **Attachment B**. The Building 750 Motor Pool Area is currently occupied by the Monmouth County Department of Public Works and Engineering.

## **1.0 BUILDING 750 MOTOR POOL FEATURES**

An evaluation of the environmental condition of the Building 750 Motor Pool Area was initially provided in the 2007 *Environmental Condition of Property Report, Fort Monmouth, Monmouth County, New Jersey* (the ECP Report). Using the results of the ECP Report, recommendations for additional investigations were developed, including geophysical surveys, and sampling and analysis of soil and groundwater. The results of these investigations for Parcel 51 (including the Building 750 Motor Pool Area) were reported in the 2008 *U.S. Army BRAC Site Investigation Report, Fort Monmouth* (the SI Report). Excerpts of both of these documents pertaining to the Building 750 Motor Pool Area are provided in **Attachment C**, along with several 1990's engineering drawings that better describe the features identified in the ECP and SI Reports.

Correspondence 2 (**Attachment A**) included specific concerns identified by NJDEP for the Building 750 Motor Pool Area. The locations of these features are presented in Figure 1 of **Attachment B**. These features are described below in the same order as the Correspondence 2 comments (**Attachment A**).

- A former diesel and gasoline dispensing system associated with UST 750A (also known as UST 191) and UST 750B (a.k.a UST 192) has been evaluated and is described in Section 2.0 and **Attachment E** of this submittal. The 1990 engineering drawing provided in **Attachment C** shows the layout of these two USTs, piping and dispensers. This fuel dispensing system is no longer in use and the USTs, piping and dispensers have been removed.
- Features described as “two outdoor service pits for draining vehicle oil, the pipes from which discharged to a former oil water separator (OWS)...” in Correspondence 2 (**Attachment A**) refers to two concrete-lined trenches used in the former service bay area located adjacent to the Covered Wash Rack (Figure 1 of **Attachment B**). Drawings presented in **Attachment C** indicate that waste oil lines from the service bays drained to the UST 750C waste oil tank (see Section 2.0 and **Attachment F** of this submittal), and wastewater lines from the service bays drained to the OWS (referred to as the “former OWS” in the ECP Report). Therefore, contrary to Correspondence 2 and the ECP Report, waste oil was not discharged to the OWS but rather to the UST 750C waste oil tank. The area with the former service bays is currently



used for covered parking by Monmouth County, and the service bay trenches have been backfilled to grade with compacted sand and gravel.

- The features described as the “current wash rack previously connected to former OWS, then to new OWS” in Correspondence 2 (**Attachment A**) is the covered wash rack (Figure 1 of **Attachment B**). A trench drain was present within the vehicle wash rack that originally drained to an OWS (referred to as the “former OWS” in Correspondence 2 and the ECP Report) prior to discharge to the sanitary sewer. As shown in the Recycle Wash System drawing provided in **Attachment C**, an updated OWS and wastewater treatment/recycling system was installed prior to 2006 that included drainage of wash rack wastewater to a new sump pit prior to treatment. This newer collection and treatment system was referred to as the “new OWS system” in Correspondence 2 and the ECP Report. The **Attachment C** drawing indicates that the pre-existing OWS (e.g., the “former OWS”) was utilized as the initial plumbing connection for the newer wastewater collection system. Under the newer configuration, wastewater drained through the previous OWS prior to collection in the new sump pit.<sup>1</sup> Therefore the “new OWS system” described in the ECP Report and Correspondence 2 generally refers to the new sump pit and the downstream wastewater treatment system. The “former OWS,” which was originally installed when Building 750 was constructed in 1987, remains in place and was integrated into the updated wastewater collection and treatment system. Currently the wash rack trench drain is not actively used by Monmouth County, although rain water periodically accumulates in this trench, and is typically removed by pumping water from the sump pit into a vacuum truck prior to offsite disposal. The wastewater treatment equipment in Building 750 is still present, but Monmouth County is not using this equipment.
- The three hydraulic lifts within Building 753 described in Correspondence 2 and the ECP Report were electrically-operated floor jacks with hydraulic oil reservoirs located above ground level. Therefore subsurface releases from the Building 753 hydraulic lifts are not of concern. Currently Building 753 is used for general storage by Monmouth County. The hydraulic lifts have been de-energized and are no longer in use, and there is no evidence of oil staining from the lifts.
- Floor drains located within both Buildings 753 and 754 consist of rest room floor drains and safety shower drains that were connected to the sanitary sewer, as previously indicated in the ECP Report, and as verified on a 1995 Plumbing Plan (**Attachment C**). Therefore subsurface releases from the Building 753 and 754 floor drains are not of concern. Building 754 is currently used for general storage by Monmouth County.

A secondary containment pad for parking a diesel fuel tanker truck is an additional feature that was also identified in the ECP Report. Fuel dispensing was discontinued from USTs 750A and 750B prior to 2005, and then a secondary containment pad was constructed for parking a tanker truck when not in use; this truck was used for replenishing diesel fuel to various emergency generators around the Main Post. The secondary containment area shows up on recent drawings and aerial photographs including Figure 3.12-2 of the SI Report (**Attachment C**), and was located in close proximity to the former fuel dispensers. There were no indications or reports of a release from the secondary

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<sup>1</sup> The use and current existence of both the previous OWS and the newer sump pit was confirmed by Mr. Kevin Courtney, who supervised the Building 750 Motor Pool Area prior to FTMM closure in 2011, and is currently employed with the State maintenance contractor at Fort Monmouth.

containment area; therefore, an environmental assessment of this area is not warranted. Currently the secondary containment pad is used by Monmouth County for parking heavy equipment.

Additional information has been provided herein to support the assessment of various Building 750 Motor Pool features previously identified in the ECP Report and subsequently discussed by NJDEP (Correspondence 2). Analytical soil and groundwater data provided in the SI Report did not identify contaminant releases attributed to these features, and there were no historical reports or records of contaminant releases from the Building 750 Motor Pool features. Therefore, the Army requests NJDEP concurrence that further action is not warranted for the Building 750 Motor Pool features.

## **2.0 BUILDING 750 MOTOR POOL AREA UNDERGROUND STORAGE TANKS**

The locations of the USTs within the Building 750 Motor Pool Area are presented in Figure 1 of **Attachment B**, and a summary table of these USTs is provided in **Attachment D**. All 10 of the USTs identified within the Building 750 Motor Pool Area have been removed. USTs 750A and 750B contained diesel and gasoline for the fuel dispensing system, and UST 750C was used for waste oil collection from motor vehicle servicing and wash rack areas, as described in Section 1.0 above. USTs 750D, 750E, 750F, 750G, 750H, 750I, and 750J were each less than 2,000 gallons in size and used to store heating oil for nonresidential buildings, and were therefore considered unregulated heating oil tanks (UHOTs). None of the Building 750 Motor Pool Area USTs or UHOTs have been previously approved for NFA by NJDEP.

We are submitting the following documentation for the USTs and UHOTs that were previously removed from the Building 750 Motor Pool Area, and we request NFA determinations for each site as explained below:

- UST 750A, UST 750B, and fuel dispensers file review summary and analyses are presented in **Attachment E**, and Figure 2 of **Attachment B** shows soil sample locations and a summary of analytical results.
- UST 750C investigation report is presented in **Attachment F**.
- UST 750D file review summary and analyses are presented in **Attachment G**, and soil sample locations and analyses are presented on Figure 3 of **Attachment B**.
- UST 750E file review summary and analyses are presented in **Attachment H**, and soil sample locations and analyses are presented on Figure 3 of **Attachment B**.
- UST 750F file review summary and analyses are presented in **Attachment I**, and soil sample locations and analyses are presented on Figure 4 of **Attachment B**.
- UST 750G file review summary and analyses are presented in **Attachment J**, and soil sample locations and analyses are presented on Figure 3 of **Attachment B**.
- UST 750H file review summary and analyses are presented in **Attachment K**, and soil sample locations and analyses are presented on Figure 4 of **Attachment B**.
- UST 750I file review summary and analyses are presented in **Attachment L**, and soil sample locations and analyses are presented on Figure 4 of **Attachment B**.
- UST 750J file review summary and analyses are presented in **Attachment M**, and soil sample locations and analyses are presented on Figure 4 of **Attachment B**.

A file review summary and analyses for geophysical anomaly P51\_1, where test trenching was performed but an UST was not found, are presented in **Attachment N**. Test trenching was also

performed at geophysical anomaly P51\_15, but no UST was found, and no analytical data were collected. The locations of both of these anomalies are shown on Figure 1 of **Attachment B**.

### **3.0 GROUNDWATER WITHIN THE BUILDING 750 MOTOR POOL AREA**

The potential for impacts to groundwater from the Building 750 Motor Pool Area was assessed to support this request for NFA, as presented below. Specific groundwater monitoring analytical results for USTs 750A, 750B, 750D, 750E, 750G, and 750H were presented in the respective attachments as previously described in Section 2.0 of this submittal.

- Figure 3.12-1 of the SI Report is provided in **Attachment C** and shows the lateral coverage of extensive Geoprobe soil and groundwater sampling that was previously performed within the Building 750 Motor Pool Area. There were no exceedances of Ground Water Quality Criteria (GWQC) within this area.
- Groundwater at specific USTs and UHOTs where releases were identified was further monitored by the installation of eight monitor wells designated as 750MW01 through 750MW08, as shown on Enclosure 1 of **Attachment O**. Well construction information for these wells is tabulated in Enclosure 2 of **Attachment O**. The latest (2009) groundwater analyses and the monitoring results for specific individual USTs are presented in **Attachment E** (Enclosure 4) for wells 750MW01 through 750MW04; **Attachment G** for well 750MW05; **Attachment H** for well 750MW06; **Attachment J** for well 750MW08; and **Attachment K** for well 750MW07. These results indicate that there is currently no release of site-related contaminants to groundwater.
- Groundwater typically flows towards the north or northwest in the central and northern portion of the Building 750 Motor Pool Area, and towards the east or southeast in the southern portion of this area (see Enclosures 3 and 4 of **Attachment O**).
- As demonstrated in **Attachments E through M**, soil left in place at individual UST sites was below the 1,000 mg/kg TPH threshold for additional contingency analysis. This threshold was developed by NJDEP with consideration of potential impacts to groundwater from 2-methylnaphthalene, as well as other contaminants (as described in NJDEP's 2010 *Protocol for Addressing Extractable Petroleum Hydrocarbons*). Therefore, there is minimal risk of impact to groundwater from the soils remaining at former UHOT sites within the Building 750 Motor Pool Area.
- Monitor well records including boring logs for wells 750MW01 through 750MW08 are provided in Enclosure 5 of **Attachment O**.

As indicated above, the Building 750 Motor Pool Area (including USTs) has been adequately addressed and the Army requests that NJDEP approve No Further Action.

The technical Point of Contact (POC) for this submittal is Kent Friesen at (732) 383-7201 or by email at [kent.friesen@parsons.com](mailto:kent.friesen@parsons.com). Should you have any questions or require additional information, please contact me by phone at (732) 380-7064 or by email at [william.r.colvin18.civ@mail.mil](mailto:william.r.colvin18.civ@mail.mil).

Sincerely,



William R. Colvin, PMP, CHMM, PG  
BRAC Environmental Coordinator

cc: Linda Range, NJDEP (3 hard copies)  
Delight Balducci, HQDA ACSIM (CD)  
Joseph Pearson, Calibre (CD)  
James Moore, USACE (CD)  
Jim Kelly, USACE (CD)  
Cris Grill, Parsons (CD)



**New Jersey Department of Environmental Protection**  
Site Remediation Program

**Report Certifications for RCRA GPRA 2020, CERCLA, and Federal Facility Sites**

These certifications are to be used for reports submitted for RCRA GPRA 2020, CERCLA, and Federal Facility Sites. The Department has developed guidance for report certifications for RCRA GPRA 2020, CERCLA, and Federal Facility Sites under traditional oversight. The "Person Responsible for Conducting the Remediation Information and Certification" is required to be submitted with each report. For those sites that are required or opt to use a Licensed Site Remediation Professional (LSRP) the report must also be certified by the LSRP using the "Licensed Site Remediation Professional Information and Statement". For additional guidance regarding the requirement for LSRPs at RCRA GPRA 2020, CERCLA and Federal Facility Sites see [http://www.nj.gov/dep/srp/srra/training/matrix/quick\\_ref/rcra\\_cercla\\_fed\\_facility\\_sites.pdf](http://www.nj.gov/dep/srp/srra/training/matrix/quick_ref/rcra_cercla_fed_facility_sites.pdf).

Documents:

- "No Further Action Request, Site Investigation Report Addendum for the Building 750 Motor Pool Area Including Underground Storage Tanks, Fort Monmouth, New Jersey" (October 2016)

**PERSON RESPONSIBLE FOR CONDUCTING THE REMEDIATION INFORMATION AND CERTIFICATION**

Full Legal Name of the Person Responsible for Conducting the Remediation: William R. Colvin  
Representative First Name: William Representative Last Name: Colvin  
Title: Fort Monmouth BRAC Environmental Coordinator (BEC)  
Phone Number: (732) 380-7064 Ext: \_\_\_\_\_ Fax: \_\_\_\_\_  
Mailing Address: P.O. Box 148  
City/Town: Oceanport State: NJ Zip Code: 07757  
Email Address: [william.r.colvin18.civ@mail.mil](mailto:william.r.colvin18.civ@mail.mil)

This certification shall be signed by the person responsible for conducting the remediation who is submitting this notification in accordance with Administrative Requirements for the Remediation of Contaminated Sites rule at N.J.A.C. 7:26C-1.5(a).

*I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, including all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, to the best of my knowledge, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil penalties for knowingly submitting false, inaccurate or incomplete information and that I am committing a crime of the fourth degree if I make a written false statement which I do not believe to be true. I am also aware that if I knowingly direct or authorize the violation of any statute, I am personally liable for the penalties.*

Signature: *William R. Colvin* Date: *28 October 2016*  
Name/Title: William R. Colvin, PMP, CHMM, PG  
BRAC Environmental Coordinator

## ATTACHMENT A

### Correspondence

#### Contents:

1. NJDEP letter to the Army dated July 10, 2012, re: *March 2012 Army Response to NJDEP Correspondence Letter Dated October 28, 2008.*
2. NJDEP letter to the Army dated June 16, 2015, re: *Final Environmental Condition of Property Supplemental Phase II Site Investigation Work Plan Addendum for Parcels 34, 50, 51, 52, 66, 80 and 83 dated February 2015, Fort Monmouth.*



Excerpts for Parcel 51 only for brevity

## State of New Jersey

CHRIS CHRISTIE  
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BOB MARTIN  
Commissioner

KIM GUADAGNO  
Lt. Governor

July 10, 2012

Wanda Green  
BRAC Environmental Coordinator  
OACSIM – U.S. Army Fort Monmouth  
PO Box 148  
Oceanport, NJ 07757

Re: March 2012 Army Response to NJDEP Correspondence Letter Dated October 28, 2008  
Fort Monmouth, NJ  
PI G000000032

Dear Ms. Green:

A review of the above referenced report, received March 27, 2012 and submitted in response to the Department's comments regarding the Draft Site investigation Report of July 21, 2008 by Shaw Environmental, Inc., has been completed by this office. Many of the parcel comments involved suspected USTs; in addition to that information provided in this submittal and the July 2008 SI, a review and comparison of Appendix G, Appendix O, and Figures 15 and 16 of the January 2007 ECP Report was conducted by this office in an attempt to ascertain the location and status of all tanks located within the parcels. Unless otherwise noted, comments and questions are provided only for each parcel referenced in the submittal and are generally presented by parcel.

### **Parcel 13 – Former Barracks (Buildings 2004-2016)**

Geophysical surveys were performed, and sampling was conducted throughout that area at which USTs were known to or may have been present. No USTs were found; all soils analytical results were below cleanup criteria applicable to the site; no additional action for the parcel is necessary.

### **Parcel 14 – Former Buildings and Housing Area Northwest Portion of CWA**

As indicated in the Department's correspondence of May 30, 2012, the geophysical surveys performed and sampling conducted throughout that area at which USTs were or may have been present were sufficient to adequately characterize the area. No USTs were found; all soils analytical results collected were below cleanup criteria applicable to the site. The parcel was re-categorized from Category 2 to Category 1.



### *PCBs*

Regarding PCBs, a re-sample is currently proposed in the location at which PCBs were noted to exceed the NRDCSCC, sample P49-SS8-A. As no Remedial Action Workplan for this parcel was previously approved, the Soil Remediation Standards (0.2 ppm) apply. As such, PCBs exceed the standard at three locations – P49-SB3-A and P49-SS7-A (which also exhibits the highest levels of BN contamination), in addition to SS8-A. Delineation to the most stringent standard is required.

### *Arsenic*

A review of the site operations and the analytical data, including the horizontal and vertical distribution of the arsenic, the lead to arsenic ratio, as well as the presence of glauconitic soils indicate the arsenic encountered in this area is representative of naturally occurring levels.

### *Volatile Organics*

It is agreed further discussion regarding volatile organics in ground water at the M-18 Landfill is to be discussed in a forthcoming Remedial Investigation Report for the landfill.

### *USTs*

As with the above parcels, although many tanks have received a designation of NFA, several tanks do not have sufficient documentation to be designated same. These include:

- UST-293-67 – per Appendix G, report submitted 2/26/96; no Departmental response
- UST-290-193 - per Appendix G, report submitted October 1993, no Departmental response
- UST 283-59 – per Appendix G, reported Closure Approval 2/24/00; no confirmation available
- UST 283-58 - per Appendix G, no sampling was performed
- UST 296-69 – per Appendix G, report submitted 2/26/96; no Departmental response

For those USTs which Appendix G indicates reports were previously submitted and not responded to, unfortunately, this office has no record of same and re-submittal is required for comment.

### **Parcel 50 – IRP Sites FTMM-54, FTMM-55 & FTMM-61**

The Army acknowledges the Department's August 14, 2007 letter, the comments of which are to be addressed via Remedial Investigation Report Addendums for FTMM-54 (Site 296), FTMM-55 (Site 290) and FTMM-61 (Site 283). Submittal dates were not indicated. This office will await submittal of same.

### **Parcel 51 – 750 Area, 500 Area, 600 Area, 1100 Area – Former Buildings**

The geophysical survey and sampling conducted at portions of the parcel were insufficient to allow for determination of NFA for the USTs previously/currently located in the parcel. Further investigation conducted north of Building 750 revealed the presence of USTs UHOT 1123B and 1123C at the two northernmost previously identified anomalies. The USTs were subsequently removed, as was affected soil. Although it is indicated all soils were removed to below 1000 ppm TPH, Table 2 at Attachment D appears to indicate soils at sample 1123B East Wall at 8.5-9' contains TPH at 9832.44 ppm. Clarification is needed.



Although it is understood the additional investigation undertaken in June of 2009 revealed the presence of the two above referenced USTs located above Semaphore Ave, it is unclear what efforts were made to investigate the nine potential USTs/anomalies noted on Figure 3.12-2 south of Echo Avenue? Are they all to be included in the Building 750 submittal?

Additional questions regarding USTs within the parcel remain. As above, documentation for closure approval or NFA is not available for confirmation on the following USTs.

No geophysical surveys, sampling or at least reports appear to have been performed or submitted for the following USTs - UST 68, 635, 637, 642, 643, 645, 647, 648, 649, 650, 651, 652, 653, 654, 656-97, 656-98, 657-90, 658-100, 660, 662, 663, 665, 667, 689-102.

Appendix O indicates USTs which do not appear to be "closed" per Appendix G which were/are also present in areas outside the geophysical survey, including those at Building 676, several along Sherrill Avenue north of Building 600, east of Brewer Ave by Buildings 545 and 554, Building 555, and several by Building 557.

Although Appendix G indicates closure reports were submitted, it also indicates no Departmental response was received for the following USTs - UST-682-106, UST 656-104, UST 659-101, UST 114-1, UST 645-78, UST 789-126.

**USTs 750 – report pending**

UST 501-76 – Appendix G indicates NFAed July 10, 1998, however confirmation unavailable  
UST 551-80 – Appendix G indicates NFAed August 29, 2000, however, confirmation unavailable  
UST 695 – Appendix indicates NFA August 24, 2000, however, confirmation unavailable

**Parcel 52 – Building 699 – Army Exchange Services Gas Station**

No comments based on submittal; Army acknowledges Department's March 18, 2011 comments; remedial efforts are ongoing.

**Parcel 57 – Former Coal Storage & Railroad Unloading – 800 Area**

Three surface soil samples contained B/Ns at concentrations above the NRDCSCC. The Department concurred with the general recommendation to conduct additional sampling, and required the submittal of a Remedial Investigation Workplan. The March 2012 submittal, however, states the exceedences were related to the asphalt pavement under which the samples were collected.

As with Parcel 49, it is agreed elevated levels of BN constituents related to asphalt rather than a discharge may be encountered beneath asphalt paving. However, information has not been submitted to document these sample results are not reflective of site operations, particularly given the nature of operations in the area. Delineation is necessary.

PCBs analyses was required due to the proximity of the railroad tracks/unloading area, as indicated in the Department's June 15, 2007 letter, rather than historical operations at Parcel 57.



Parcel 51/750 Motor Pool issues  
outlined in red

## State of New Jersey

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June 16, 2015

John Occhipinti  
BRAC Environmental Coordinator  
OACSIM – U.S. Army Fort Monmouth  
PO Box 148  
Oceanport, NJ 07757

Re: *Final Environmental Condition of Property Supplemental Phase II Site Investigation  
Work Plan Addendum for Parcels 34, 50, 51, 52, 66, 80 and 83 dated February 2015*  
Fort Monmouth  
Oceanport, Monmouth County  
PI G000000032

Dear Mr. Occhipinti:

The New Jersey Department of Environmental Protection (Department) has completed review of the referenced report, received March 2, 2015, prepared by Parsons Government Services Inc. (Parsons), on behalf of the U.S. Army Engineering and Support Center, Huntsville (USAESCH). As indicated in the report, activities are to be performed with the goal of Decision Document acceptance in compliance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), the National Contingency Plan (NCP), 40 CFR Part 300, and “to the extent possible to meet the requirements of New Jersey Administrative Code (NJAC) 7:26E Technical Requirements for Site Remediation”, as well as support closure of environmental sites to facilitate transfer of real property.

The workplan describes Site Investigation activities to be performed at the ECP Parcels referenced above. Comments and questions are as follows:

Tables 3.1 and 3.2 also will require revision based upon the following comments.

### **Parcel 34/Building 2567/FTMM-58**

*Section 2.4.1, Page B4-line 2* – Although this office agrees with the statement “post excavation soil samples were collected...and analyzed for TPHCs, VOCs, and lead”, review of historic

information appears to indicate elevated levels of benzene remain in the soil in the area of the dispenser island south of Building 2567. See additional detail under Section 3.2, below.

*Section 2.5, Page B-7, line 21* – This statement regarding the removal of piping was amended via email to Wanda Green (copy to Rob Youhas and Joe Pearson) on June 18, 2013 1519 hrs. The report documenting the investigation of the piping, however, as you likely are aware, has not been received by this office.

*Section 3.2 Sampling Plan* – Although it is agreed the proposal is appropriate for the TBA in ground water, the referenced submittal considers only the issue of TBA in ground water (the proposal for two annual sampling events of monitor wells 2567MW01 and 2567MW03 was approved on July 3, 2014). However, as briefly discussed in a conference call on June 12, 2015, a review of historic information appears to indicate levels of benzene above both the residential and non-residential criteria/standard remain in numerous locations in the vicinity of the dispenser area south of Building 2567. The information was obtained from the October 28, 2005 RIR/RAW, including Figure 2-1 dated 6/9/94, which indicates levels of benzene remain up to 85 ppm. The June 2010 RAPR appears to omit reference to analytical results from the post excavation soil sampling performed in 1993 during removal of USTs 42 through 45, stating only the samples were analyzed for TPHC, VOCs, and lead, however, a copy of the September 2, 2010 PBR Request contained within the submittal's Appendix B referenced benzene remaining to 45 ppm. Pages i, 3-5 and 6-1 of the June 2010 RAPR also indicate the "remaining original UST dispenser island areas" would undergo assessment upon BRAC closure. It is understood available information is currently being evaluated to determine the status of the soils in this area. At this time, however, this office considers the soil in the area an unaddressed area of concern in need of additional delineation.

## **Parcel 50**

*Section 2.2.1 - FTMM-54 - Page C-2 lines 39 & 42* reference the year of the eleven tank removals as 2003, while page C-3, line 17 indicates removal of the eleven tanks was 1993, which appears correct.

*Section 2.2.2 – FTMM-55 - Page C-5, line 11* – Waste oil UST No. 91533-193 is indicated as being NFAed in a January 10, 2003 letter. Although the tanks referenced on line 15 were found on the January 10, 2003 NJDEP NFA letter, that letter does not appear to reference UST No. 91533-193; no record of a letter of no further action for that tank could be located.

*Section 3.2 Sampling Plan* – As noted on page C-6, line 37, levels of TPHC remained in soil at the former location of UST No. 81533-64 at 16,200 and 11,900 ppm, at samples A and B, both at a depth of 5.5-6'. The proposal indicates horizontal delineation sampling is to be performed at locations A (16,200 ppm) and F (9,670 ppm), which is acceptable. Vertical delineation is also required. It is unclear, however, why sampling is not proposed at sample location B, as it does not appear to be vertically delineated.

The Department's EPH Protocol, [http://www.nj.gov/dep/srp/guidance/srra/eph\\_protocol.pdf](http://www.nj.gov/dep/srp/guidance/srra/eph_protocol.pdf), is to be followed, with contingency samples collected/analyzed as required. As per EPH Methodology Version 3.0, the non-fractionation option is appropriate only if the EPH level is anticipated to be below 1,700 ppm. As this cannot be presumed, the "unfractionated EPH" does not appear to be the appropriate option.

## Parcel 51

*Section 2.5, Page D-5, line 40 and Page D-6, line 4* - The submittal indicates the UST questions contained in this office's July 10, 2012 letter are to be addressed under the UHOT program. This office looks forward to submittal of same.

*Section 3.0* - With receipt of the additional clarification provided on page D-4, as well as the figure received on June 15, 2015, the questions noted in the Department's July 2012 letter relative to USTs 1123B and 1123C have been answered. It is agreed no additional action is necessary for UST 1123B. However, it is not agreed there are no COCs at Parcel 51. As indicated on line 11, 2-methylnaphthalene was found in the ground water at P51-G12 above the Ground Water Quality Standards (GWQS), as reported in the July 2008 SI. TPHC (collected due to elevated field screening readings) was also found in soil at that location at 6-6.5' at 7,487 ppm. Additional sampling is necessary.

*Motor Pool Area* - Although information regarding the 750 Motor Pool is not contained within this submittal, concerns regarding the area include, but are not limited to, adequate investigation of;

- Building 750 - UST 191 (15,000 gallon diesel) & UST192 (8000 gallon unleaded gasoline)
- two outdoor service pits for draining vehicle oil, the pipes from which discharged to a former oil water separator (OWS), north of garage bays
- current wash rack previously connected to former OWS, then to new OWS
- Building 753 - three hydraulic lifts and floor drain
- Building 754 - floor drain

Is FTMM 68/Building 700 not considered within Parcel 51?

## Parcel 52/FTMM-53/Building 699 Gas Station

*Section 1.0, Page E-1, line 8* - As many of the parcel narratives include, a listing of NJDEP correspondence by year is provided, which refers the reader back to *Section 5 References* to ascertain which document is being referenced. It does not include, however, this office's January 8, 2014 response to the September 2013 RI/FS Workplan, nor the May 6, 2014 response to the Army's April 22, 2014 response to same, in which delineation sampling was discussed and

the revised proposal accepted. Results of the investigation have not yet been received by this office.

*Section 2.4, Previous Investigation and Historical Data* – No mention is made of the 2000 gallon #2 fuel UST, 0081533-112, given an NFA designation in January of 2003, nor more particularly, of waste oil UST 0081533-197, a 1000 gallon waste oil UST removed in January of 1992 from east of UST-112, at which analytical results indicate TPHC to 11,600 ppm remains in soil. As acceptably indicated in the Army's April 22, 2014 response letter, Response C4, additional sampling was to be performed.

*Section 2.4, Page E-5, lines 21-27* – It appears "IASL" (indoor air screening levels) may have been inadvertently used in the narrative, on lines 22, 26 and 27. These lines reference sub-slab results, the measure of which is against the SGSLs (Soil Gas Screening Levels), accurately referenced on lines 18, 20, 23, 25 and 25.

*Section 2.5 Synthesis of Results, Correspondence and Data Gaps* – As indicated above, the submittal does not appear to include the activities proposed in the September 2013 RI/FS Workplan, nor the followup communications.

*Section 3.2 Sampling Plan* – As indicated, above and through previous correspondence, additional delineation sampling is necessary.

## **Parcel 66**

*Section 1.0 & Section 2.5, Page F-3, line 15* – No mention appears to be made among the listed correspondence between NJDEP and FTMM of the *August 1, 2012 Proposed Soil Sampling and Delineation Plan for Electrical Substations at Building 2700 (Charles Wood Area) and Building 978 (Main Post)*, nor the September 10, 2012 NJDEP approval letter for delineation of the PCBs.

*Section 2.2, Page F-1, line 20* – typo - It is believed FTMM-56 should read FTMM-66.

*Section 2.2, Page F-2, lines 2-4 & Section 2.5* – The submittal references the ECP Report's Appendix A, stating, "no release or disposal of hazardous substances or petroleum products has occurred at Parcel 66...", and that Parcel 66 was assigned an ECP Category of 1. This office does not agree with same, as PCBs are noted present up to 0.84 ppm.

*Section 3.2 Sampling Plan* – The sampling as proposed on pages F-3 and F-4 is acceptable.

## **Parcel 80**

*Section 1.0, line 14* – For clarification, per the 2008 ECP Main Post map (Figure 19), FTMM-56 is also known as Parcel 84 (Building 80), a small ¼+ acre area designated within the larger Parcel 83.

*Section 2.4 Previous Investigations and Historical Data* – As previously indicated, the Weston report was not accepted by the Department as representative of background conditions at Fort Monmouth.

The section also references the July 10, 2012 letter, in which the NJDEP requested additional information regarding the basis for determination of the sample locations, i.e., were as-builts or other plans for the demolished buildings used to assist in locating former floor drains, septic systems, discharge points, etc, and therefore the boring locations. No rationale for sample location selection has been received; therefore a determination remains unavailable regarding the adequacy of the soil sampling performed.

*Section 3.2 Sampling Plan* – The proposal to further evaluate beryllium in ground water reported in the 2008 SI as indicated is acceptable.

### **Parcel 83**

In October of 2008, the NJDEP requested depiction of all areas of concern (AOCs) on a site figure. Although a structures figure was submitted, no figure designating AOCs has been received.

*Section 2.4, Page H-4* - As previously indicated, the Weston “background” report was not accepted by the Department. As regarding the elevated levels of arsenic (SB10A, SB9A), as acknowledged in Section 3.1, this office at this time does not agree these levels of arsenic are representative of naturally occurring conditions. Arsenic is currently considered a contaminant of concern, based on analytical findings at P83-SB9&10. As the NJDEP July 10, 2012 correspondence stated, although Fort Monmouth site soils are often associated with elevated levels of naturally occurring arsenic, the parcel specific soil analytical results, the lead to arsenic ratio, and the decrease of arsenic with depth at those locations exhibiting an elevated level do not appear to indicate the exceedences are naturally occurring, and must be investigated and included in a remedy.

*Section 2.5, line 35* – The submittal indicates further information on the various USTs referenced in the July 10, 2012 letter are to be referred to the “UHOT Program”. Although not familiar with same, this office looks forward to receipt of additional information regarding the USTs.

*Section 3.2 Sampling Plan* – Sampling at the former Building 72 area to better define PAH exceedances, as proposed, is acceptable.

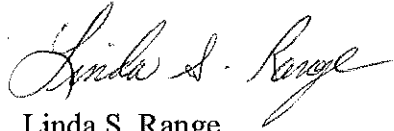
*Section 3.2, lines 15, 16* – PCBs - Please ensure these delineation samples, include PCBs analyses, for delineation of the 0.8 ppm PCBs noted at P83-B5, 1-1.5’.

*Section 3.2* – Building 279 – Although the proposed sampling locations are acceptable, they are inadequate to complete delineation. Arsenic remains undelineated at P83SB10. It is anticipated elevated levels of lead may be present west of P83SB9; what efforts for delineation

are planned? If location FTMM-83-SS-13 is considered a resample of P83SB9, it should be located within 10' feet of the original sample location.

Please contact this office if you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Linda S. Range". The signature is written in black ink and is positioned above the printed name.

Linda S. Range

C: Joe Pearson, Calibre  
James Moore, USACE  
Rick Harrison, FMERA  
Joe Fallon, FMERA  
Frank Barricelli, RAB

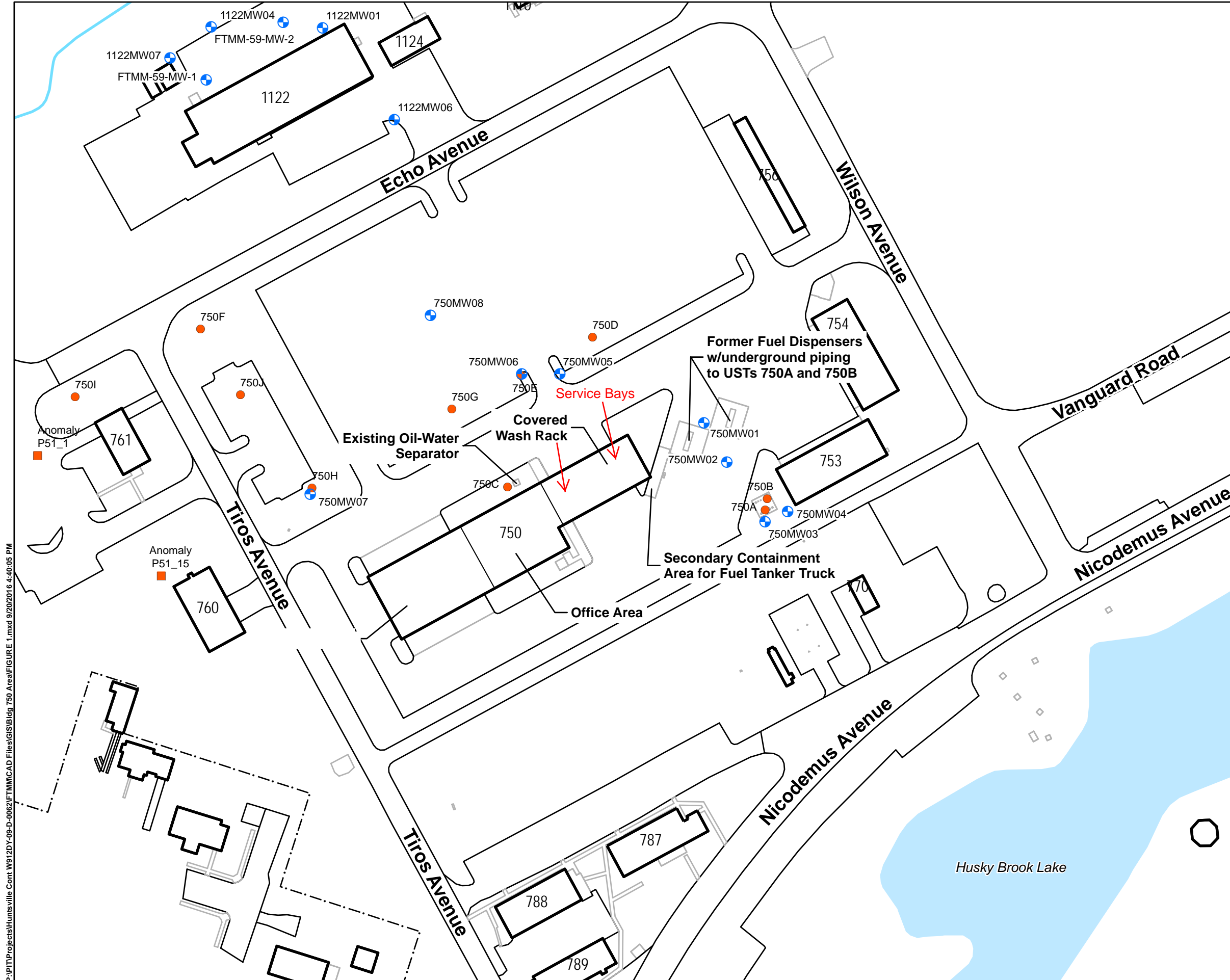
## ATTACHMENT B

### Drawings of Building 750 Motor Pool Area

#### Contents:

1. Building 750 Motor Pool Area Layout
2. Building 750 Area Soil Sample Results for USTs 750A, 750B, Piping & Dispensers
3. Building 750 Area Soil Sample Results for USTs 750D, 750E, and 750G
4. Building 750 Area Soil Sample Results for USTs 750F, 750H, 750I and 750J



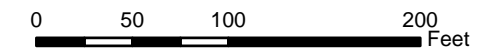


**LEGEND:**

- Shallow Monitoring Well
- Former UST Location
- Geophysical
- [ - - - ] Installation Boundary



1 inch = 100 feet



Source: FTMM Supplied CAD, 2013.

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

**Fort Monmouth**  
New Jersey

**BUILDING 750 MOTOR  
POOL AREA LAYOUT**

CREATED BY:  
**RR**

REVIEWED BY:  
**KF**

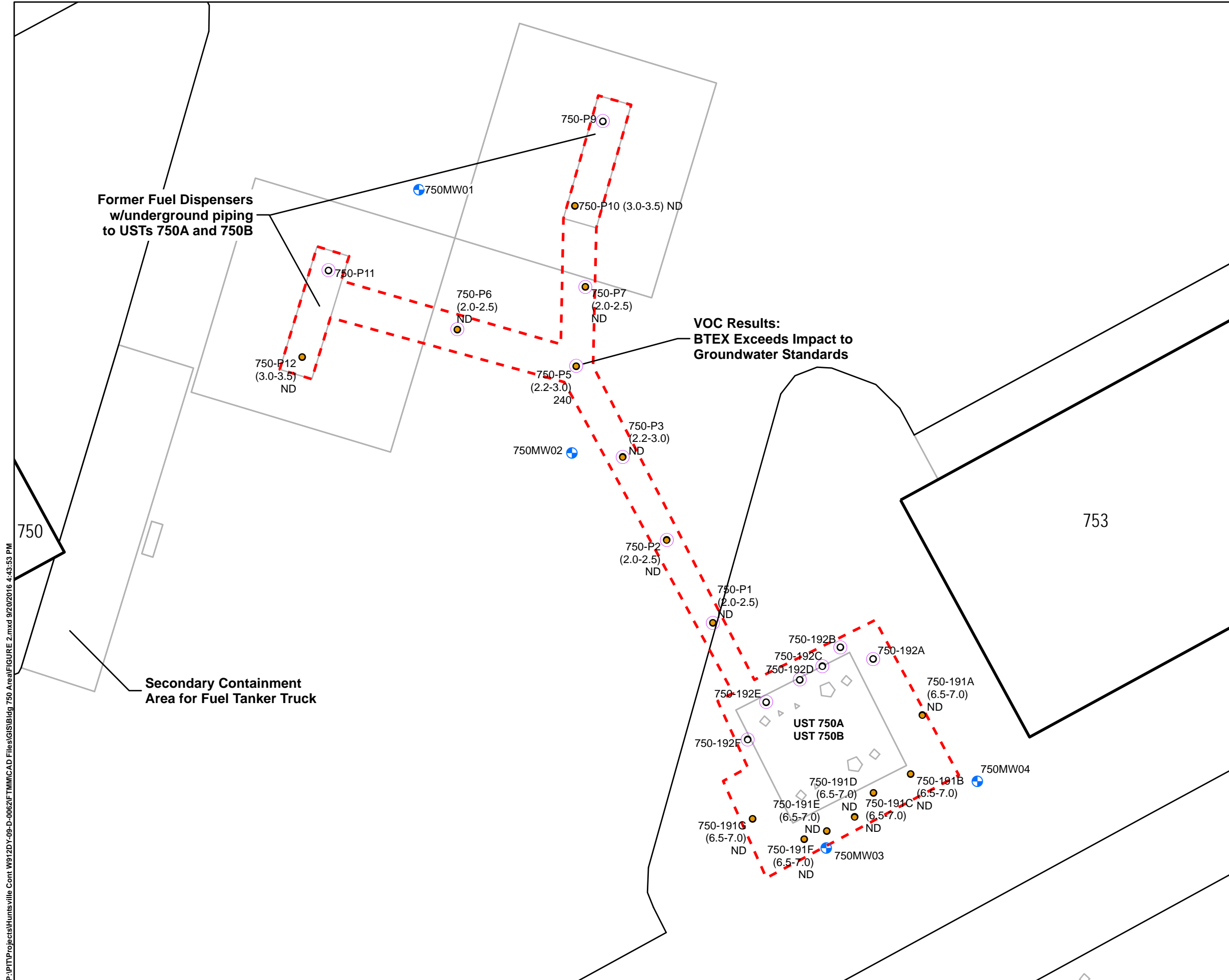
DATE:  
**SEP. 2016**

FIGURE NUMBER:  
**FIGURE 1**

PROJECT NUMBER:  
**748810-06031**

FILE:  
**FIGURE 1.mxd**

P:\PTP\Projects\Huntsville Cont W912DY-09-D-0062\FTMM\CAD Files\GIS\Bldg 750 Area\FIGURE 1.mxd 9/20/2016 4:40:05 PM



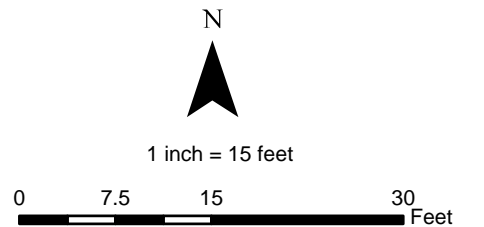
**LEGEND:**

- Soil Sample Analyzed for TPH (Removed)
- Soil Sample Analyzed for TPH (Remains In Place)
- Soil Sample Not Analyzed for TPH (Remains In Place)
- Soil Sample Analyzed for
- Exceeds NJDEP Soil Cleanup Criteria for TPH (5,100 mg/kg)
- ⊕ Shallow Monitoring Well
- [---] Installation Boundary
- [---] Approximate Limits Of Excavation

**EXPLANATION:**

750-P6 — Boring ID  
 (2.0-2.5) — Depth (ft.) (bgs)  
 ND — TPH Concentration (mg/kg)

TPH - Total Petroleum Hydrocarbons  
 VOC - Volatile Organic Compounds  
 BTEX - Benzene, Toluene, Ethyl Benzene, and Xylenes

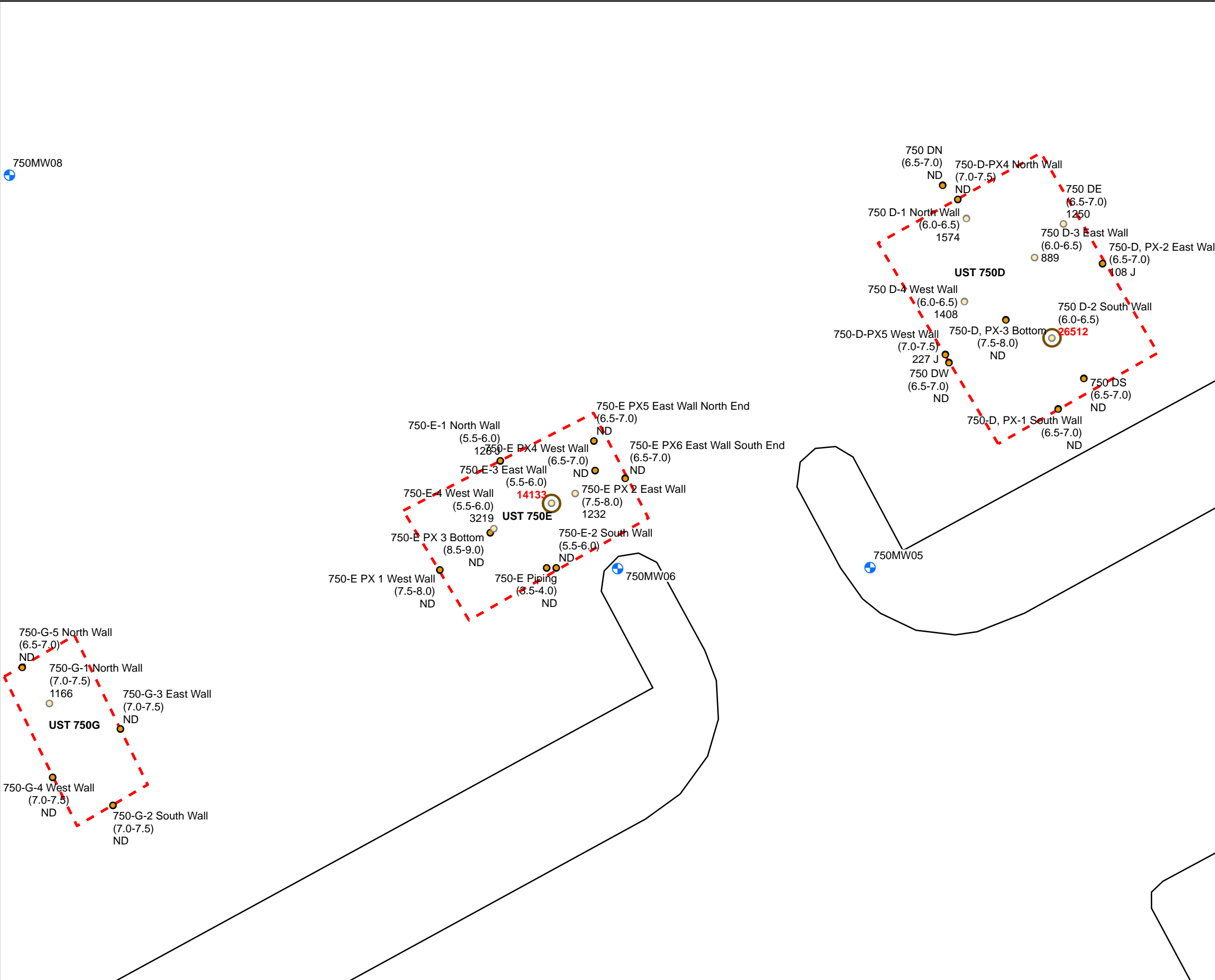


Source: FTMM Supplied CAD, 2013.

<b>PARSONS</b> 401 Diamond Drive NW, Huntsville AL		<b>Fort Monmouth</b> New Jersey	
<b>BUILDING 750 AREA SOIL SAMPLE RESULTS FOR USTs 750A, 750B, PIPING &amp; DISPENSERS</b>			
CREATED BY: RR		REVIEWED BY: KF	
DATE: SEP. 2016		FIGURE NUMBER: FIGURE 2	
PROJECT NUMBER: 748810-06031		FILE: FIGURE 2.mxd	

P:\PTP\Projects\Huntsville Cont W912DY-09-D-0062\FTMMCAD Files\GIS\Bldg 750 Area\FIGURE 2.mxd 9/20/2016 4:43:53 PM

P:\PTP\Projects\Huntsville Cont W912DY-09-D-0062\FTMMCAD Files\GIS\Bldg 750 Area\Figure 3.mxd 9/20/2016 4:45:25 PM



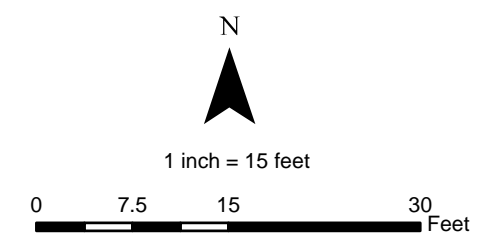
**LEGEND:**

- Soil Sample Analyzed for TPH (Removed)
- Soil Sample Analyzed for TPH (Remains In Place)
- ⊕ Shallow Monitoring Well
- Exceeds NJDEP Soil Cleanup Criteria for TPH (5,100 mg/kg)
- [---] Installation Boundary
- [---] Approximate Limits Of Excavation

**EXPLANATION:**

750-P6 — Boring ID  
 (2.0-2.5) — Depth (ft.) (bgs)  
 ND — TPH Concentration (mg/kg)  
 26512 — Exceedance of 5,100 mg/kg TPH Criteria

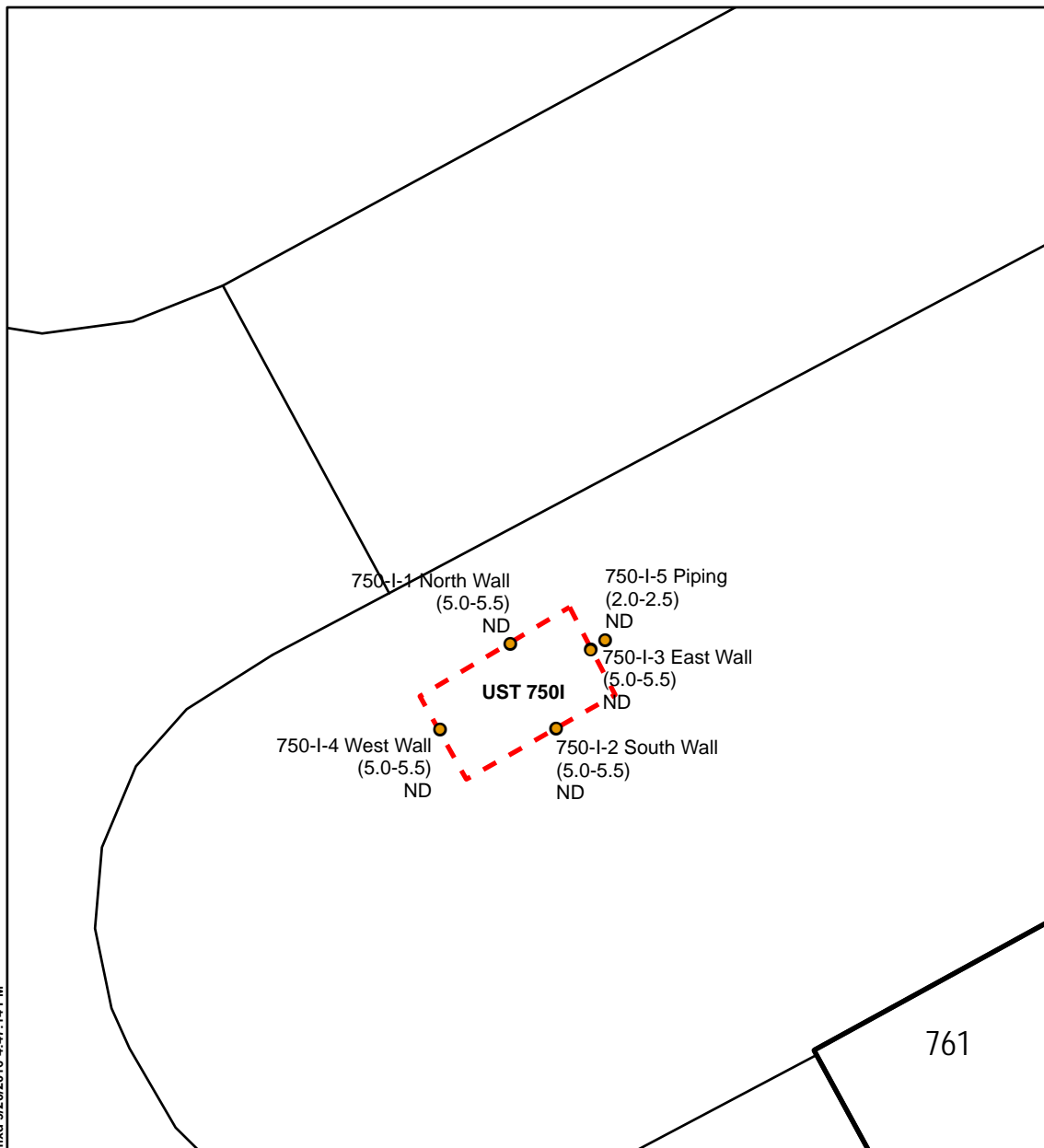
TPH - Total Petroleum Hydrocarbons



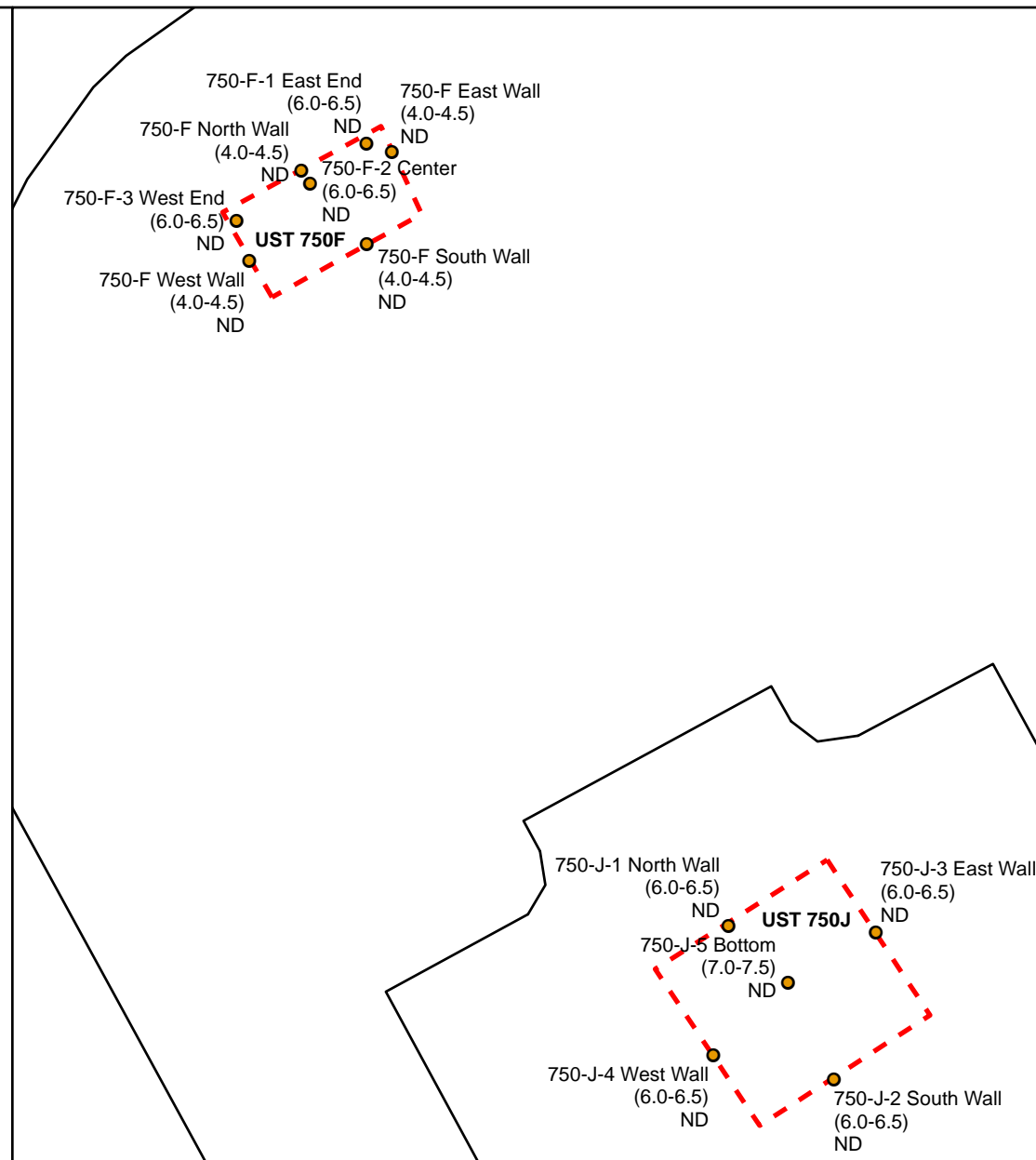
Source: FTMM Supplied CAD, 2013.

<b>PARSONS</b> 401 Diamond Drive NW, Huntsville AL		<b>Fort Monmouth</b> New Jersey	
<b>BUILDING 750 AREA SOIL SAMPLE RESULTS FOR USTS 750D, 750E, AND 750G</b>			
CREATED BY: RR	REVIEWED BY: KF	DATE: SEP. 2016	FIGURE NUMBER: FIGURE 3
PROJECT NUMBER: 748810-06031	FILE: FIGURE 3.mxd		

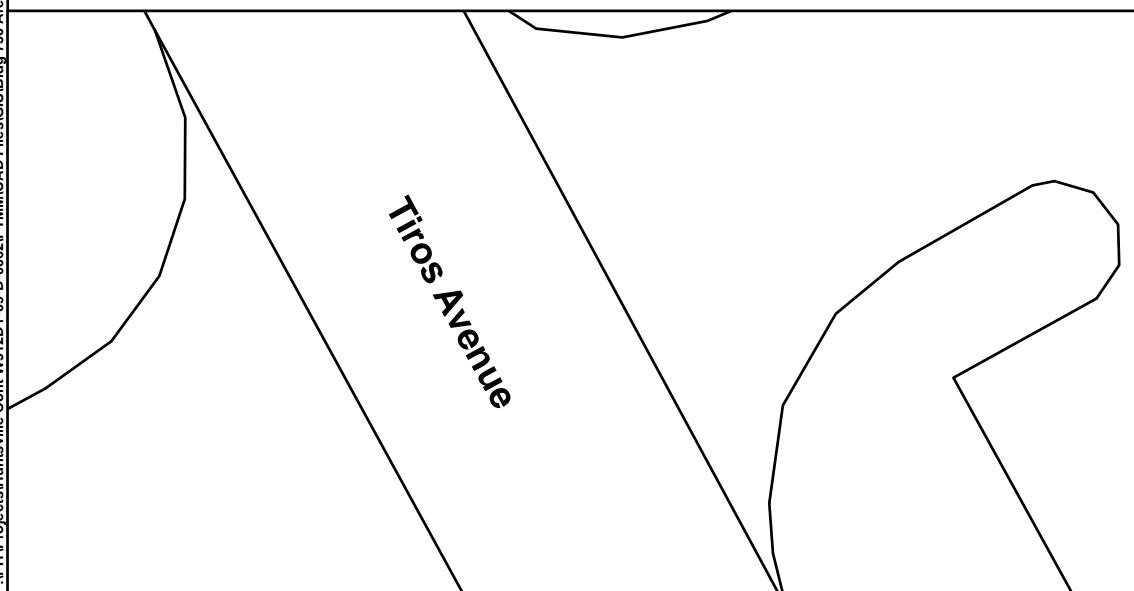
P:\PTP\Projects\Huntsville Cont W912D\09-D-0062\FTMMCAD Files\GIS\Bldg 750 Area\Figure 4.mxd 9/20/2016 4:47:14 PM



**UST 750I**



**USTs 750F AND 750J**



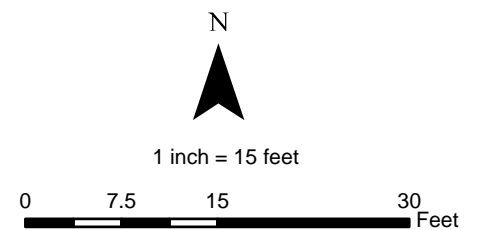
**UST 750H**

**LEGEND:**

- Soil Sample Analyzed for TPH (Removed)
- Soil Sample Analyzed for TPH (Remains In Place)
- Exceeds NJDEP Soil Cleanup Criteria for TPH (5,100 mg/kg)
- ⊕ Shallow Monitoring Well
- Installation Boundary
- Approximate Limits Of Excavation

**EXPLANATION:**

750-P6 — Boring ID  
 (2.0-2.5) — Depth (ft.) (bgs)  
 ND — TPH Concentration (mg/kg)  
26512 — Exceedance of 5,100 mg/kg TPH Criteria  
 TPH - Total Petroleum Hydrocarbons



Source: FTMM Supplied CAD, 2013.

<b>PARSONS</b> 401 Diamond Drive NW, Huntsville AL	<b>Fort Monmouth</b> New Jersey
<b>BUILDING 750 AREA SOIL SAMPLE RESULTS FOR USTs 750F, 750H, 750I, AND 750J</b>	
CREATED BY: RR	REVIEWED BY: KF
DATE: SEP. 2016	FIGURE NUMBER: FIGURE 4
PROJECT NUMBER: 748810-06031	FILE: FIGURE 4.mxd

## ATTACHMENT C

### ECP and SI Report Excerpts and Supporting Documents

#### Contents:

1. Excerpts from 2007 ECP Report
2. Excerpts from 2008 SI Report
3. 1995 Drawing: Vehicle & Equipment Repair Shops, Building 753 & 754
4. 1990 Drawing: 513<sup>th</sup> Stage II Vapor Recovery and Leak Detection
5. Undated Drawing: Recycle Wash System, Building 750
6. 1995 Drawing: Plumbing Plans Building #753 & #754

Contains excerpts about Building 750 Motor Pool Area



**U.S. Army BRAC 2005  
Environmental Condition of Property Report  
Fort Monmouth  
Monmouth County, New Jersey**

**Final 29-January-2007**

Used tires are stored outside to the south of the building in a dumpster for recycling. A 745-gallon used oil AST is located to the south exterior of the building, along with a public collection box for used oil. Along the southeast corner of the parking lot are Poly Paks for the collection of used batteries. A storm drain is located in the western area of the parking lot. A grassy stormwater swale is located to the east of the building. Car detailing washwater from the east bay was observed draining across the parking lot into the grassy stormwater swale. The swale discharges to the ditch between Husky Brook Lake and Oceanport Creek (2006 VSI observations). This site is considered a REC based on historical operations. No RECs associated with current operations were identified.

**Building 750 – Main Post Motor Pool.** This facility is used by the Directorate of Logistics as a storage area for the installation fleet vehicles. The facility was formerly the 513<sup>th</sup> Military Motor Pool from 1987 until the mid-1990s. The Motor Pool collectively includes Buildings 750, 753, 754, and 756. Building 751 was previously associated with fuel dispensing operations in this area, but has since been demolished. Two USTs and four product dispensing pumps were also located at the site. The 15,000-gallon diesel fuel UST and the 8,000-gallon unleaded gasoline UST were removed in February 2005. In addition, a fuel tanker truck with a 1,200-gallon capacity is parked at this facility when not engaged in making fuel deliveries. The vehicle is used to store diesel fuel that is used at various on-site emergency generators. A permanent secondary containment system for the fuel tanker truck has been constructed (8).

In addition to being a storage area, complete automotive repairs are made to the vehicles at this site. Refrigerant R134 is used and chlorinated solvents were formerly utilized for automotive parts cleaning prior to converting to aqueous parts cleaning units. Two out of service outdoor service pits are present to the east of Building 750 from which oil was drained directly into pipes leading to the former OWS that was present in the grassed area north of the service bays. The current wash rack facility was formerly connected to the OWS. The wash rack facility was upgraded several years ago and a new OWS system was added to the wash rack equipment (2006 VSI observations and discussions with site personnel).

A small firearm repair shop is also located within Building 750 in which small amounts of solvents are utilized in firearms service and repair (2006 VSI observations and discussions with site personnel). This site is considered a REC based on the potential for environmental releases from historical operations. No RECs associated with current operations were identified.

**Building 753 – Automotive/Vehicle Repair Shop.** This facility was formerly a storage building and was converted for routine maintenance of vehicles. Three hydraulic lifts are utilized and a Cuda aqueous parts washer is present. Minor stains, typically present in auto repair facilities, were noticeable on the concrete floor and a floor drain is located in the corner of the building near the emergency eye wash center. Plans from 1987 show that the floor and shower drains are connected to the sanitary sewer system (146). Satellite accumulation areas are also present. No RECs were identified based on these operations.



**Building 754 – Forklift/Lawnmower Repair Shop.** Small engine repairs are currently conducted in this facility. One caged area inside the building is a former machine shop. Floor and shower drains were observed in this facility while conducting the VSI. Plans from 1987 show that the floor and shower drains are connected to the sanitary sewer system (146). No RECs were identified based on these operations.

**Building 756.** Building 756 is an open side building previously used by the military for generator storage. It is currently used for storage of material associated with the motor pool, including lead acid batteries, empty fuel cans, and gas cylinders. No RECs were identified based on these operations.

**Building 1122 – Auto Craft Shop.** The Auto Craft Shop houses a modern “do-it-yourself” vehicle repair shop. All vehicle repairs are done by FTMM personnel and are performed inside the building. Degreasing solvents are used and generate hazardous waste from these operations (61).

Pneumatic lifts are present. Floor drains in the bays and satellite accumulation room were noted during the 2006 VSI. A 1993 renovation plan, which details the replacement of the floor drains, shows that the drains are connected to the sanitary sewer system (147). The 2006 SPPP states “Floor drains, located near the pneumatic lifts, have been closed off.” A former oil water separator was associated with this building. Used oil is collected in a 55-gallon drum stored inside the shop. When filled, the contents are pumped into a 995-gallon double-walled AST located between the repair shop and the car wash (Building 1124). The enclosed car wash facility is located to the east of the repair shop. All washwater is recycled and reused and an active OWS is in place (50).

Groundwater contamination at this location continues to be addressed in the IRP as part of FTMM-59. See **Section 5.2.1** for more information. This site is considered a REC.

**Building 450 – Marina.** The Directorate of Morale, Welfare, and Recreation (MWR) operates and maintains a marina at this site. The marina contains several storage bays for recreational boats and the main building is bordered by Riverside Avenue to the north and Oceanport Creek to the South. A 1,000-gallon double-walled AST with an attached fuel dispensing pump is maintained and operated within the facility grounds. The AST is located on the west side of the entrance to the Marina from Riverside Avenue. The tank is situated on a curbed concrete pad which serves as secondary containment (50,8). This site is not considered a REC.

**Former Building 44.** Building 44 was a motor vehicle maintenance and repair facility per the 1980 Installation Assessment (48). The building was located directly east of the southeast corner of Building 116. No other information was obtained for this former building during record searches. This site is considered a REC.

**Former Building 64.** Former Building 64 was identified as a motor vehicle and heavy equipment repair facility in 1954 (34). In 1958, engineer vehicle maintenance and 1<sup>st</sup> and 2<sup>nd</sup> echelon operating engines were identified at this location (36). Former Building 64 was located directly north of Building 167. This site is considered a REC.





# U.S. Army BRAC 2005 Site Investigation Report Fort Monmouth

**Final 21-July-2008**

## 3.12 Parcel 51 – 750 Area, 500 Area, 600 Area, 1100 Area – Former Buildings

### 3.12.1 Site Description

Parcel 51 is located in the central portion of the MP and encompasses the 500 Area, 600 Area, 750 Area, and 1100 Area former buildings. Plan No. 506, “Gas and Fuel Storage Tanks Distribution System” dated January 22, 1956 (**Appendix G**), was reviewed for the MP as part of the Phase I ECP. The plan depicts numerous fuel oil USTs that existed within Parcel 51 in 1956 in association with the former buildings. Additional information pertaining to this parcel can be found in Section 4.4.3.2, Section 4.4.4.2, Section 4.4.4.3, Section 5.1.1.2.1, Section 5.2.1.1, Section 5.4, Section 5.4.2, and Appendix G of the Phase I ECP (1).

### 3.12.2 Previous Investigations

Numerous USTs associated with former and current buildings within the 500, 600, and 1100 Area have been removed under the FTMM UST program and are summarized within the FTMM Phase I ECP Report (1). A review of documented UST removal locations versus the location of former buildings within Parcel 51 was conducted. Based on this review, it was determined that no UST removals have been documented at the locations of numerous former buildings within Parcel 51 throughout the 750 Area (current motor pool), within the northern portion of the 1100 Area, and around the east and south perimeter of the 600 Area.

A soil investigation and remedial action was recently conducted in portions of the 400, 700, and 800 Bldg areas. The only portion of Parcel 51 that was included within this investigation was the southwestern corner of the parcel associated with Bldgs 787, 788, and 789 (34).

### 3.12.3 Site Investigation Sampling

In order to determine the absence/presence of formerly utilized USTs and the potential release from the USTs, geophysical surveys, soil sampling, and groundwater sampling were conducted throughout the 750 Area (current motor pool), within the northern portion of the 1100 Area, and around the east and south perimeter of the 600 Area.

#### Geophysical Investigation

An EM survey was conducted throughout the three identified former buildings areas to determine if USTs are present. Follow-up GPR surveys were conducted at anomalies identified from the EM surveys. **Section 2.1** summarizes the methodologies utilized during the geophysical surveys.

## Geoprobe® Investigation

Geoprobe® soil samples were collected in October and November 2007, and groundwater samples were collected in November 2007 in Parcel 51 in order to investigate potential releases from historic USTs associated with the former 600, 750, and 1100 Area buildings. A total of 122 surface soil and 136 subsurface soil (including 12 duplicate samples) were collected from 122 distinct Geoprobe® borings (**Figure 3.12-1**). Soil boring locations were conducted on 100-ft centers. Surface soil samples for non-VO analysis were collected from the 0- to 6-inch interval bgs. For borings located in paved areas, non-VO surface soil samples were collected from the 0- to 6-inch interval directly below the pavement sub-base. Surface soil samples collected for VO analysis were collected from the 18- to 24-inch bgs interval. Subsurface soil samples were collected from the 6-inch interval directly above the water table from each boring. Due to high water table conditions encountered at three boring locations (grid locations G11, I6, and K7), subsurface soil samples were collected from the 18- to 24-inch bgs interval. No additional VO sample was collected as the sample interval coincided with the 18- to 24-inch surface soil VO sampling interval. Field screening of the soil boring cores was conducted using a PID and FID meter. Olfactory evidence of impacted soil was noted 6 ft bgs at boring location P51-G12. Two additional soil samples were collected based on elevated results from field screening tests at boring location 51-G12.

A total of 26 groundwater samples (including four duplicate samples) were collected from 22 distinct temporary wells (**Figure 3.12-1**). Temporary wells were installed along the downgradient boundaries of the soil boring grids and constructed of PVC and 5 ft of factory-slotted screen.

**Table 3.12-1** presents a summary of field activities, and sample locations are provided on **Figure 3.12-1**. A summary of the analytical and sampling program, including sample IDs, collection dates, and analytical parameters, is provided in **Table 3.12-2**.

**Table 3.12-1  
Parcel 51 Sampling Location, Rationale and Analytical**

Sample Location	Sample Media	Sample Location Rationale	Analytical Suite
Former Buildings Areas (11 Acres)		A geophysical survey was conducted in three areas throughout the parcel to determine the presence/absence of USTs associated with former buildings. The geophysical investigations consisted of an EM survey followed by targeted GPR surveys of anomalies identified by the EM survey. One survey was conducted around the east and south perimeter of the 600 Area to investigate potential USTs not addressed under previous removals and investigations; one survey was conducted in the footprint of former buildings in the 1100 Area; and one survey was conducted in the footprint of former buildings in the 750 Area (current motor pool) not addressed as part of the 700 Residential Communities Initiative project.	

Sample Location	Sample Media	Sample Location Rationale	Analytical Suite
51SS-A10 through 51SS-I12 (51 samples)	Surface soil	Soil samples were collected from the 0- to 6-inch bgs interval from Geoprobe® soil borings in a grid configuration (conducted on 100-ft center) to investigate the potential release from former heating oil USTs associated with the former buildings around the eastern and southern perimeter of the 600 Area. If the sample location was paved, the sample was collected from the 0- to 6-inch interval below the pavement sub-base.	TPHC, VO+10 (25% of TPHC > 1,000 mg/kg)
51SB-A10 through 51SB-I12 (57 samples – includes 4 duplicate samples)	Subsurface soil	Soil samples were collected from the 6-inch interval directly above the water table (ranging from 2.5 to 8 ft bgs) from each Geoprobe® soil boring in the grid (conducted on 100-ft centers) to investigate the potential release from former heating oil USTs associated with the former buildings around the eastern and southern perimeter of the 600 Area. Field screening of the entire Geoprobe® soil core was conducted using PID/FID meters.	TPHC, VO+10 (25% of TPHC > 1,000 mg/kg)
51SS-J1 through 51SS-K9 (18 samples)	Surface soil	Soil samples were collected from the 0- to 6-inch bgs interval from Geoprobe® soil borings in a grid configuration (conducted on 100-ft center) to investigate the potential release from former heating oil USTs associated with the former buildings in the 1100 Area (former Bldgs 1111 through 1118). If the sample location was paved, the sample was collected from the 0- to 6-inch interval below the pavement sub-base.	TPHC, VO+10 (25% of TPHC > 1,000 mg/kg)
51SB-J1 through 51SB-K9 (20 samples – includes 2 duplicate samples)	Subsurface soil	Soil samples were collected from the 6-inch interval directly above the water table (ranging from 2.5 to 9 ft bgs) from each Geoprobe® soil boring in the grid (conducted on 100-ft centers) to investigate the potential release from former heating oil USTs associated with the former buildings in the 1100 Area (former Bldgs 1111 through 1118). Field screening of the entire Geoprobe® soil core was conducted using PID/FID meters.	TPHC, VO+10 (25% of TPHC > 1,000 mg/kg)
51SS-L1 through 51SS-R9 (53 samples)	Surface soil	Soil samples were collected from the 0- to 6-inch bgs interval from Geoprobe® soil borings in a grid configuration (conducted on 100-ft center) to investigate the potential release from former heating oil USTs associated with the former buildings in the 750 Area. If the sample location was paved, the sample was collected from the 0- to 6-inch interval below the pavement sub-base.	TPHC, VO+10 (25% of TPHC > 1,000 mg/kg)
51SB-L1 through 51SB-R9 (59 samples – includes 6 duplicate samples)	Subsurface soil	Soil samples were collected from the 6-inch interval directly above the water table (ranging from 1 to 14.5 ft bgs) from each Geoprobe® soil boring in the grid (conducted on 100-ft centers) to investigate the potential release from former heating oil USTs associated with the former buildings southwest of Bldg 2700. Field screening of the entire Geoprobe® soil core was conducted using PID/FID meters.	TPHC, VO+10 (25% of TPHC > 1,000 mg/kg)

Sample Location	Sample Media	Sample Location Rationale	Analytical Suite
51GW-A10, A12, C12, E12, G12, I1, I3, I5, I10, I12, K1, K3, K5, K7, K9, L9, N9, P9, R3, R5, R7, R9 (26 samples – includes 4 duplicate samples)	Groundwater	Groundwater samples were collected from the specified Geoprobe® soil borings in the grid to investigate the potential release from former heating oil USTs associated with the former buildings.	VO+10, B/N+15

### 3.12.4 Site Investigation Results

#### Geophysical Survey Results

The EM survey identified a total of 74 target EM anomalies in the 750 Area. The survey areas are presented on **Figure 3.12-2**. This area was scanned with the EM-61 because of a large amount of surface metal, and the parking lots which comprise most of the area could only be cordoned off in small portions. The EM-61 towing rig was better suited for the necessary tight turns. Several areas in this parcel were scanned with the TW-6 only due to interference of the GPS signal by nearby buildings and trees and the presence of parked cars during the EM survey. No anomalies indicative of USTs were located within the TW-6 scanning areas. The results of the GPR/TW-6 follow-up scanning are listed in **Table 3.12-3**, and full results of the geophysical surveys are included in **Appendix A**. Targets located on the asphalt-covered portions within the 750 Area could not be scanned with the TW-6 due to suspected high metal content fill material; therefore, only GPR was utilized in these areas. In summary, GPR scanning of the 74 targets in the 750 Area revealed:

- Thirty-four targets that were associated with surface metal/debris (previously unaccounted for).
- Seven targets with moderate-amplitude near-surface point target reflections indicative of small buried debris; not indicative of USTs.
- Six targets with the moderate-amplitude parabolic scattered reflections indicative of scattered small debris.
- Three targets that are suspected to be associated with nearby utility features.
- Three targets with the characteristics of a utility.

- Eleven targets that could not be relocated with the TW-6 because the targets were too small to be re-occupied, and therefore are most likely scrap metallic debris, not USTs.
- One target scanned with GPR only, no GPR anomaly associated with EM anomaly.
- Nine targets with the high-amplitude parabolic reflections indicating a possible UST. The suspected USTs match up with former Bldgs 758, 759, 763, 764, 767, 768, 769, 771, and 790. Said buildings served as schools/general instrument buildings, non-housing structures, until the end of their life cycles. Supporting real property records are included in **Appendix I**.

The geophysical surveys identified a total of 49 target EM anomalies in the 600 and 1100 Areas. The survey areas are presented on **Figure 3.12-2**. Several locations were scanned with the TW-6 due to the presence of parked cars during the main EM survey; however, no TW-6 anomalies were detected. The results of the GPR/TW-6 follow-up scanning are listed in **Table 3.12-4**, and full results of the geophysical surveys are included in **Appendix A**. In summary, GPR scanning of the 49 targets revealed:

- Twenty-two targets that were associated with surface metal/debris (previously unaccounted for).
- Thirteen targets that could not be relocated with the TW-6 because the targets were terrain conductivity anomalies not associated with metallic objects, and therefore are not USTs.
- Six targets with the characteristics of a utility.
- Five targets with moderate-amplitude near-surface reflections indicative of small buried debris; not indicative of a UST.
- Two targets in the 1100 Area with the high-amplitude parabolic reflections indicating a possible UST. The suspected USTs match up with former Bldgs 1111 and 1112. Said buildings served as schools/general instrument buildings, non-housing structures, until the end of their life cycles. Supporting real property records are included in **Appendix I**.
- One target resulted from a parked car that was later scanned with TW-6 and with no resulting anomalies.

This parcel of FTMM has been previously developed and the land surface reworked multiple times throughout its history. The findings of the geophysical survey (the density and small size of anomalies) are consistent with the site history. A total of 11 suspected USTs were identified within Parcel 51 (nine in the 750 Area and two in the 1100 Area); the location of the suspected USTs is presented on **Figure 3.12-2**.

## Geoprobe® Investigation Results

Surface and subsurface soil samples were analyzed for TPHC. Corresponding surface and subsurface soil samples were collected for contingent VO+10 analysis. Groundwater samples were analyzed for VO+10 and B/N+15.

### Soil

In addition to the subsurface soil samples collected from the interval directly above the water table, two supplementary subsurface soil samples, P51-G12-D and P51-G12-D-DUP, were collected for TPHC and contingent VO analysis based on elevated field screening measurements. As shown in **Table 3.12-5**, TPHC was detected in 41 of the 122 surface soil samples and in 18 of the 137 subsurface soil samples. A total of six subsurface soil samples, P51-G12-D;DUP, P51-H12-C, P51-N3-C, and P51-O7-C;DUP, contained TPHC at concentrations greater than 1,000 mg/kg, and VO analysis was conducted (**Table 3.12-6**). No VOs or TPHC were detected in soil above the NJDEP NRDCSCC.

### Groundwater

As presented in **Table 3.12-7**, a total of 11 VOs were detected at concentrations below NJDEP GWQC in groundwater samples collected from temporary wells at Parcel 51.

A total of eight B/Ns were detected in Parcel 51 groundwater samples. Of the eight B/Ns detected, two (2-methylnaphthalene and bis[2-ethylhexyl]phthalate) were detected at concentrations that exceeded NJDEP GWQC. 2-Methylnaphthalene was detected at a concentration exceeding the NJDEP GWQC of 30 µg/L in one groundwater sample (P51-G12) at a concentration of 40.51 µg/L and is considered a COC in groundwater. Bis(2-ethylhexyl)phthalate was detected at a concentration exceeding the NJDEP GWQC of 3 µg/L in three groundwater samples at concentrations ranging from 3.49 µg/L in P51-P9 to 4.47 µg/L in P51-K7. Bis(2-ethylhexyl)phthalate is present in a wide variety of plastic products, is commonly detected in field and laboratory QC samples, and was detected in the field blank associated with the Parcel 51 groundwater samples. Therefore, it is not considered a COC in groundwater at Parcel 51.

## 3.12.5 Summary and Conclusions

Eleven suspected USTs were identified during the geophysical survey. No constituents were identified above applicable NJDEP criteria in surface or subsurface soil. Soil and analytical results suggest that a release has not occurred. In light of the absence of evidence of a release to the environment, NFA for soil and the suspected USTs in Parcel 51 is recommended.

One COC, 2-methylnaphthalene, was detected in groundwater above the NJDEP GWQC. Further evaluation of 2-methylnaphthalene in groundwater is recommended.

**Table 3.12-5  
Fort Monmouth Phase II Site Investigation, Parcel 51  
Summary of TPHC Detected in Soil (mg/kg)**

Sample ID	Lab ID	Sample Date	Depth (ft. bgs)	Result	MDL	NJDEP NRDCSCC <sup>2</sup> (mg/kg)	NJDEP IGWSCC <sup>3</sup> (mg/kg)
P51-B11-A	7044131	11/05/07	1.0-1.5	648	74	10000	10000
P51-C10-A	7044124	11/05/07	0.0-0.5	741	73	10000	10000
P51-C10-C	7044126	11/05/07	6.0-6.5	103	82	10000	10000
P51-C11-A	7044121	11/05/07	0.0-0.5	433	74	10000	10000
P51-D10-A	7044118	11/05/07	0.5-1.0	243	73	10000	10000
P51-D11-A	7043831	11/02/07	0.5-1.0	857	71	10000	10000
P51-D11-C	7043833	11/02/07	5.5-6.0	115	80	10000	10000
P51-D12-A	7043828	11/02/07	0.0-0.5	149	71	10000	10000
P51-E10-C	7043827	11/02/07	3.0-3.5	568	75	10000	10000
P51-E11-A	7043821	11/02/07	0.5-1.0	213	73	10000	10000
P51-F7-A	7043818	11/02/07	1.0-1.5	496	71	10000	10000
P51-G12-C	7044405	11/06/07	4.5-5.0	273	75	10000	10000
P51-G12-D	7044406	11/06/07	6.0-6.5	7487	83	10000	10000
P51-G12-D DUP	7044402	11/06/07	6.0-6.5	7524	82	10000	10000
P51-H10-A	7043029	10/31/07	0.0-0.5	150	73	10000	10000
P51-H11-A	7043026	10/31/07	1.0-1.5	200	75	10000	10000
P51-H11-C	7043028	10/31/07	4.5-5.0	98	71	10000	10000
P51-H12-A	7043023	10/31/07	0.0-0.5	99	77	10000	10000
P51-H12-C	7043025	10/31/07	4.0-8.0	3973	74	10000	10000
P51-H7-A	7043039	10/31/07	0.0-0.5	82	73	10000	10000
P51-H9-C	7043035	10/31/07	5.0-5.5	201	78	10000	10000
P51-I2-A	7043020	10/31/07	0.0-0.5	115	74	10000	10000
P51-I2-C	7043022	10/31/07	5.5-6.0	123	75	10000	10000
P51-I4-A	7043017	10/31/07	0.0-0.5	86	71	10000	10000
P51-I4-C	7043019	10/31/07	2.0-2.5	105	73	10000	10000
P51-I5-C	7044111	11/05/07	3.5-4.0	94	71	10000	10000
P51-I6-A	7043015	10/31/07	0.0-0.5	110	73	10000	10000
P51-I6-B	7043016	10/31/07	1.5-2.0	106	71	10000	10000
P51-I7-A	7043012	10/31/07	0.0-0.5	100	73	10000	10000
P51-I7-C	7043014	10/31/07	2.0-2.5	149	71	10000	10000
P51-I8-A	7043009	10/31/07	0.0-0.5	298	76	10000	10000
P51-I8-C	7043011	10/31/07	3.5-4.0	126	71	10000	10000
P51-I9-C	7043008	10/31/07	3.5-4.0	148	75	10000	10000
P51-J1-A	7045403	11/09/07	0.0-0.5	83	73	10000	10000
P51-J4-A	7045412	11/09/07	0.0-0.5	106	74	10000	10000
P51-J5-A	7045415	11/09/07	0.0-0.5	280	73	10000	10000
P51-K1-A	7044603	11/08/07	0.0-0.5	144	71	10000	10000
P51-K2-A	7044606	11/08/07	0.0-0.5	338	70	10000	10000
P51-K3-A	7044609	11/08/07	0.0-0.5	487	72	10000	10000
P51-K4-A	7044612	11/08/07	0.0-0.5	497	73	10000	10000
P51-K5-A	7044615	11/08/07	0.0-0.5	400	71	10000	10000
P51-K6-A	7044618	11/08/07	0.0-0.5	338	72	10000	10000
P51-K7-A	7044622	11/08/07	0.0-0.5	701	71	10000	10000



**Table 3.12-5  
Fort Monmouth Phase II Site Investigation, Parcel 51  
Summary of TPHC Detected in Soil (mg/kg)**

Sample ID	Lab ID	Sample Date	Depth (ft. bgs)	Result	MDL	NJDEP NRDCSCC <sup>2</sup> (mg/kg)	NJDEP IGWSCC <sup>3</sup> (mg/kg)
P51-K7-B	7044623	11/08/07	1.5-2.0	90	72	10000	10000
P51-K8-A	7044624	11/08/07	0.0-0.5	465	71	10000	10000
P51-K9-A	7044627	11/08/07	0.0-0.5	540	71	10000	10000
P51-L4-A	7045912	11/13/07	1.0-1.5	166	72	10000	10000
P51-L5-A	7045915	11/13/07	1.0-1.5	82	72	10000	10000
P51-L6-A	7045918	11/13/07	1.0-1.5	97	75	10000	10000
P51-L7-A	7045921	11/13/07	1.0-1.5	98	74	10000	10000
P51-L8-A	7045925	11/13/07	1.0-1.5	147	71	10000	10000
P51-M3-A	7046309	11/14/07	1.0-1.5	119	74	10000	10000
P51-M6-A	7046318	11/14/07	1.0-1.5	98	74	10000	10000
P51-M7-A	7046703	11/15/07	1.0-1.5	118	70	10000	10000
P51-M8-A	7046706	11/15/07	1.0-1.5	320	70	10000	10000
P51-N3-C	7046720	11/15/07	5.5-6.0	1498	74	10000	10000
P51-O7-C DUP	7047411	11/19/07	4.0-4.5	1188	71	10000	10000
P51-O7-C	7047402	11/19/07	4.0-4.5	1367	71	10000	10000
P51-R4-A	7047203	11/17/07	0.0-0.5	156	70	10000	10000

<sup>1</sup> NJDEP Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) per NJAC 7:26D, 1999.

<sup>2</sup> NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) per NJAC 7:26D, 1999.

<sup>3</sup> NJDEP Impact to Groundwater Soil Cleanup Criteria (IGWSCC) per NJAC 7:26D, 1999.

DUP = Duplicate sample.

ft. bgs = Feet below ground surface.

MDL = Method detection limit

mg/kg = milligram per kilogram.

**Table 3.12-6  
Fort Monmouth Phase II Site Investigation, Parcel 51  
Summary of Analytical Parameters Detected in Soil (mg/kg)**

Chemical	Sample ID:	Analytical Results					
		P51-G12-D	P51-G12-D DUP	P51-N3-C	P51-O7-C	P51-O7-C DUP	
	Lab ID:	7044406	7044402	7046720	7047411	7047402	
	Date Sampled:	11/6/2007	11/6/2007	11/15/2007	11/19/2007	11/19/2007	
	Depth (ft. bgs):	6.0-6.5'	6.0-6.5'	5.5-6.0'	4.0-4.5'	4.0-4.5'	
	NRDCSCC <sup>2</sup>	IGWSCC <sup>3</sup>	Result	Result	Result	Result	
<b>Volatiles</b>							
Acetone	1,000	100	0.360 U	0.320 U	<b>0.110 J</b>	<b>0.480 B</b>	<b>0.520 B</b>
Ethylbenzene	1,000	100	<b>0.730</b>	<b>0.560</b>	0.300 U	0.250 U	0.270 U
Xylenes (Total)	1,000	67	<b>1.900</b>	<b>1.400</b>	0.980 U	<b>0.096 J</b>	<b>0.095 J</b>

<sup>1</sup> NJDEP Residential Direct Contact Soil Cleanup Criteria per NJAC 7:26D, 1999. Beryllium, Copper and Lead criteria per NJAC 7:26D, 2008.

<sup>2</sup> NJDEP Non-Residential Direct Contact Soil Cleanup Criteria per NJAC 7:26D, 1999. Beryllium, Copper and Lead criteria per NJAC 7:26D, 2008.

<sup>3</sup> NJDEP Impact to Groundwater Soil Cleanup Criteria per NJAC 7:26D, 1999.

DUP = Duplicate Sample.

ft. bgs = Feet below ground surface.

B = The compound was found in the associated method blank as well as in the sample.

D = Sample was diluted.

E = The compound's concentration exceeds the calibration range of the instrument for that specific analysis.

J = Mass spec and retention time data indicate the presence of a compound however the result is less than the MDL but greater than zero.

U = The compound was analyzed for but not detected.

NT = Not tested.

NLE = No limit established.

mg/kg = milligram per kilogram.

Bold = Analyte was detected.

Shaded = Concentration exceeds level of concern.

(Surface soil compared to NRDCSCC. Subsurface soil compared to IGWSCC when available, otherwise compared to NRDCSCC).

**Table 3.12-7  
Fort Monmouth Phase II Site Investigation, Parcel 51  
Summary of Analytical Parameters Detected in Groundwater (µg/L)**

Chemical	Sample ID: Lab ID: Date Sampled: Screened Interval (ft. bgs): Quality Criteria <sup>1</sup>	Analytical Results										
		P51-A10	P51-A12	P51-C12	P51-C12 DUP	P51-E12	P51-G12	P51-I3	P51-I3 DUP	P51-I5	P51-I10	P51-K1
		7044704	7044705	7044706	7044703	7044707	7044708	7044305	7044303	7044306	7044307	7045504
		11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/8/2007	11/6/2007	11/6/2007	11/6/2007	11/6/2007	11/10/2007
		5-10'	5-10'	5-10'	5-10'	5-10'	5-10'	3-8'	3-8'	3-8'	3-8'	10-15'
		Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
<b>Volatiles</b>												
Acetone	6000	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	<b>6.78</b>	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
Benzene	1	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	<b>0.10 J</b>	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Carbon disulfide	700	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Chloroform	70	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloromethane (Methyl chloride)	NLE	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Ethylbenzene	700	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	<b>1.74</b>	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Methyl ethyl ketone (2-Butanone)	300	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Methyl tertiary butyl ether (MTBE)	70	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
Tertiary butyl alcohol	100	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U
Toluene	600	0.27 U	<b>1.03</b>	<b>0.65</b>	<b>0.54</b>	<b>1.07</b>	<b>2.00</b>	<b>0.37</b>	<b>0.82</b>	<b>0.29</b>	<b>0.38</b>	<b>0.53</b>
Xylenes (Total)	1000	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	<b>2.15</b>	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
<b>Semi-Volatiles</b>												
2-Methylnaphthalene	30*	<b>3.28</b>	1.01 U	1.01 U	1.01 U	1.01 U	<b>40.51</b>	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U
bis(2-Ethylhexyl)phthalate	3	1.28 U	1.28 U	1.28 U	1.28 U	<b>0.95 J</b>	1.28 U	1.28 U	1.28 U	1.28 U	<b>2.55</b>	<b>1.42</b>
Dibenzofuran	NLE	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Di-n-butylphthalate	700	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
Fluorene	300	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	<b>1.97</b>	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Naphthalene	300	<b>1.00</b>	0.76 U	0.76 U	0.76 U	0.76 U	<b>23.40</b>	0.76 U	0.76 U	<b>4.01</b>	0.76 U	0.76 U
n-Nitrosodiphenylamine	10	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	<b>2.89</b>	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Phenanthrene	NLE	<b>1.94</b>	0.81 U	0.81 U	0.81 U	0.81 U	<b>3.75</b>	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U

<sup>1</sup> Higher of Practical Quantitation Limits (PQLs) & Groundwater Quality Criterion (GWQC) per NJAC 7:9-6, 2005 (\* Interim GWQC).

DUP = Duplicate Sample.

ft. bgs = Feet below ground surface.

B = The compound was found in the associated method blank as well as in the sample.

D = Sample was diluted.

E = The compound's concentration exceeds the calibration range of the instrument for that specific analysis.

J = Mass spec and retention time data indicate the presence of a compound however the result is less than the MDL but greater than zero.

U = The compound was analyzed for but not detected.

NT = Not tested.

NLE = No limit established.

Bold = Analyte was detected.

Shaded = Concentration exceeds Quality Criteria.

µg/L = micrograms per liter.

**Table 3.12-7  
Fort Monmouth Phase II Site Investigation, Parcel 51  
Summary of Analytical Parameters Detected in Groundwater (µg/L)**

Chemical	Sample ID: Lab ID: Date Sampled: Depth (ft. bgs):	Analytical Results										
		P51-K3 7045505 11/10/2007 10-15'	P51-K5 7045506 11/10/2007 10-15'	P51-K7 7045507 11/10/2007 10-15'	P51-K7 DUP 7045503 11/10/2007 10-15'	P51-K9 7045508 11/10/2007 10-15'	P51-L9 7047110 11/17/2007 3-8'	P51-N9 7047109 11/17/2007 7-12'	P51-P9 7047108 11/17/2007 5-10'	P51-R3 7047104 11/17/2007 15-20'	P51-R3 DUP 7047103 11/17/2007 15-20'	P51-R9 7047107 11/17/2007 11-16'
	Quality Criteria <sup>1</sup>	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
<b>Volatiles</b>												
Acetone	6000	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	<b>9.31 B</b>	0.85 U	<b>1.99 B</b>	<b>1.12 B</b>	0.85 U	<b>3.56 B</b>
Benzene	1	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Carbon disulfide	700	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	<b>0.17 J</b>	0.44 U	<b>0.50</b>	0.44 U	0.44 U	<b>0.23 J</b>
Chloroform	70	<b>0.74</b>	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U
Chloromethane (Methyl chloride)	NLE	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	<b>0.34 J</b>
Ethylbenzene	700	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Methyl ethyl ketone (2-Butanone)	300	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	<b>1.58</b>	0.14 U	0.14 U	0.14 U	0.14 U	<b>0.76</b>
Methyl tertiary butyl ether (MTBE)	70	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	<b>4.31</b>	<b>33.79</b>	0.23 U	0.23 U	<b>15.92</b>
Tertiary butyl alcohol	100	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U	<b>4.03</b>	1.82 U	1.82 U	1.82 U	1.82 U	1.82 U
Toluene	600	<b>0.35</b>	<b>0.77</b>	0.27 U	0.27 U	<b>0.22 J</b>	<b>0.45</b>	<b>0.25 J</b>	<b>0.69</b>	0.27 U	0.27 U	0.27 U
Xylenes (Total)	1000	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
<b>Semi-Volatiles</b>												
2-Methylnaphthalene	30*	1.01 U	<b>2.61</b>	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U	1.01 U
bis(2-Ethylhexyl)phthalate	3	1.28 U	1.28 U	<b>4.47</b>	<b>3.53</b>	1.28 U	1.28 U	1.28 U	<b>3.49</b>	1.28 U	1.28 U	1.28 U
Dibenzofuran	NLE	0.69 U	<b>0.30 J</b>	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Di-n-butylphthalate	700	0.92 U	<b>0.41 J</b>	<b>0.25 J</b>	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U	0.92 U
Fluorene	300	0.71 U	0.71 U	<b>0.42 J</b>	<b>0.51 J</b>	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
Naphthalene	300	0.76 U	<b>18.24</b>	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
n-Nitrosodiphenylamine	10	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U	0.62 U
Phenanthrene	200	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U	0.81 U

<sup>1</sup> Higher of Practical Quantitation Limits (PQLs) & Groundwater Quality Criterion (GWQC) per NJAC 7:9-6, 2005.

DUP = Duplicate Sample.

ft. bgs = Feet below ground surface.

D = Sample was diluted.

E = The compound's concentration exceeds the calibration range of the instrument for that specific analysis.

JB = The concentration should be considered estimated due to blank contamination.

UB = The presence of the analyte in the sample is negated due to blank contamination.

NT = Not tested.

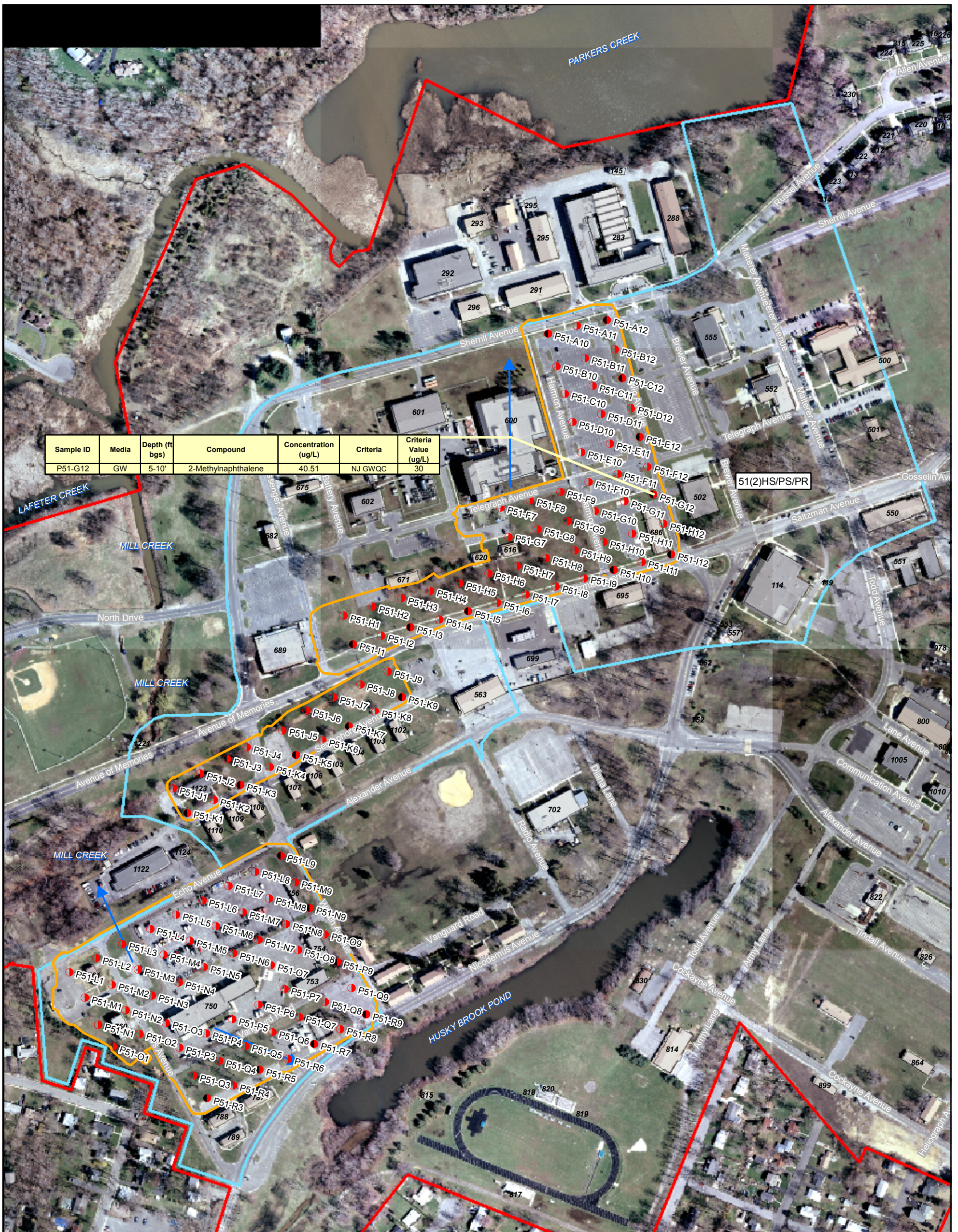
NLE = No limit established.

Bold = Analyte was detected.

Shaded = Concentration exceeds Quality Criteria.

µg/L = micrograms per liter.





Sample ID	Media	Depth (ft bgs)	Compound	Concentration (ug/L)	Criteria	Criteria Value (ug/L)
P51-G12	GW	5-10'	2-Methylnaphthalene	40.51	NJ GWQC	30

51(2)HS/PS/PR

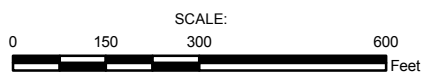
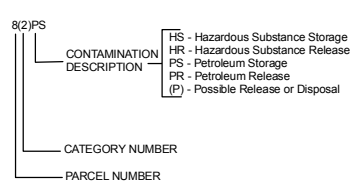
**LEGEND**

- Geoprobe Soil Sample Location
- Geoprobe Soil & Groundwater Sample Location
- ➔ Generalized Groundwater Flow Direction. Direction of Generalized Groundwater Flow derived from qualitative evaluation of surface topography, surface water features, and pre-existing IRP site groundwater potentiometric maps where available.
- ▭ Geophysical Investigation Area - Electromagnetic (EM) and Ground Penetrating Radar (GPR)
- ▭ Building
- ▭ Installation Boundary

**ECP PARCEL CATEGORY DEFINITIONS**

- ▭ 2 Areas where only release or disposal of petroleum products has occurred.

**BRAC PARCEL LABEL DEFINITIONS**



Base Realignment and Closure 2005

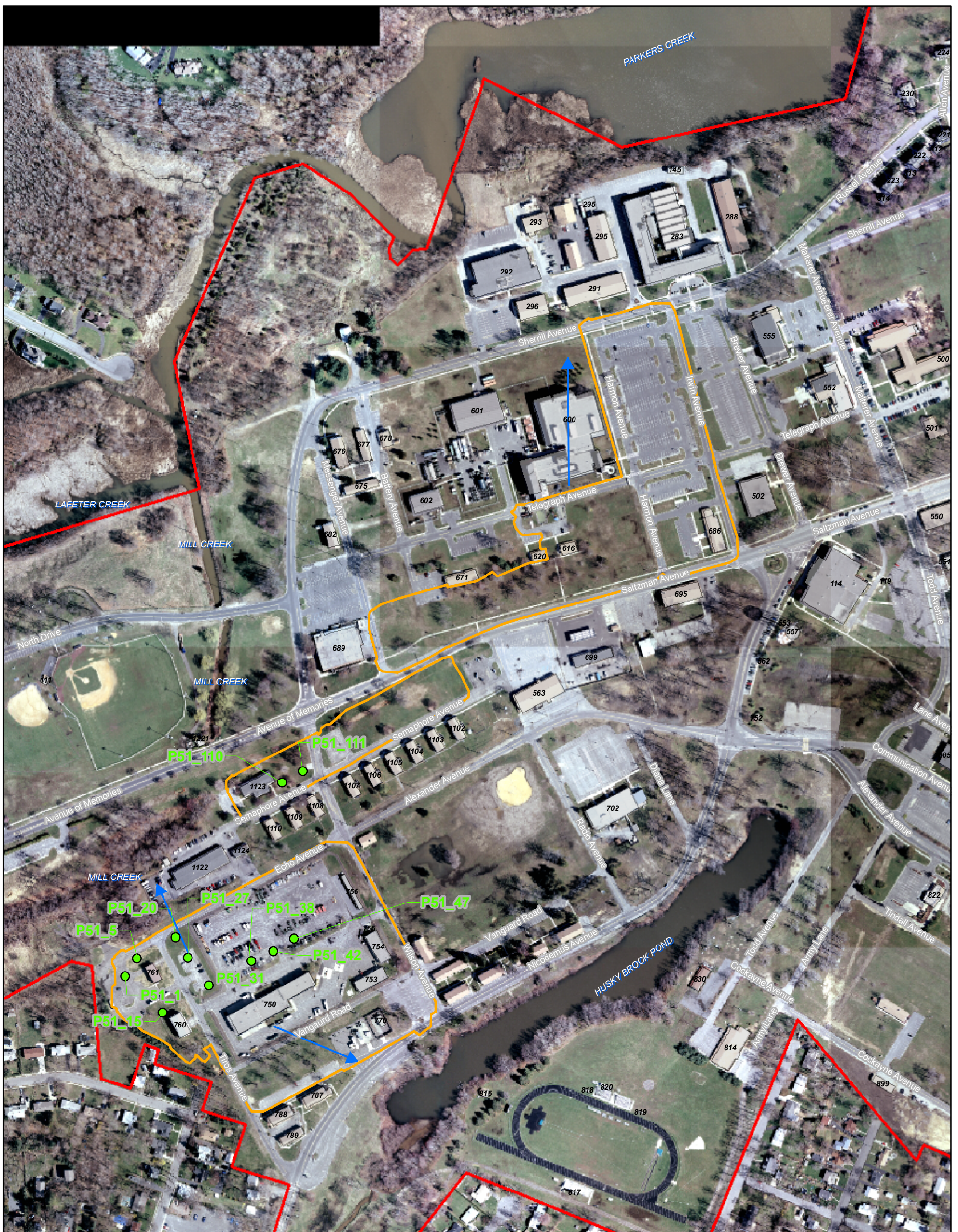


FIGURE 3.12-1  
FORT MONMOUTH ECP  
SITE INVESTIGATION

PARCEL 51 SAMPLE LOCATIONS  
AND CONSTITUENTS OF CONCERN

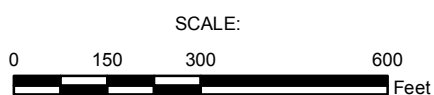
MAIN POST  
FORT MONMOUTH  
NEW JERSEY





**LEGEND**

- Subsurface Metallic Object (Suspected UST)
- Generalized Groundwater Flow Direction. Direction of Generalized Groundwater Flow derived from qualitative evaluation of surface topography, surface water features, and pre-existing IRP site groundwater potentiometric maps where available.
- Geophysical Investigation Area - Electromagnetic (EM) and Ground Penetrating Radar (GPR)
- Building
- Installation Boundary



Base Realignment and Closure 2005

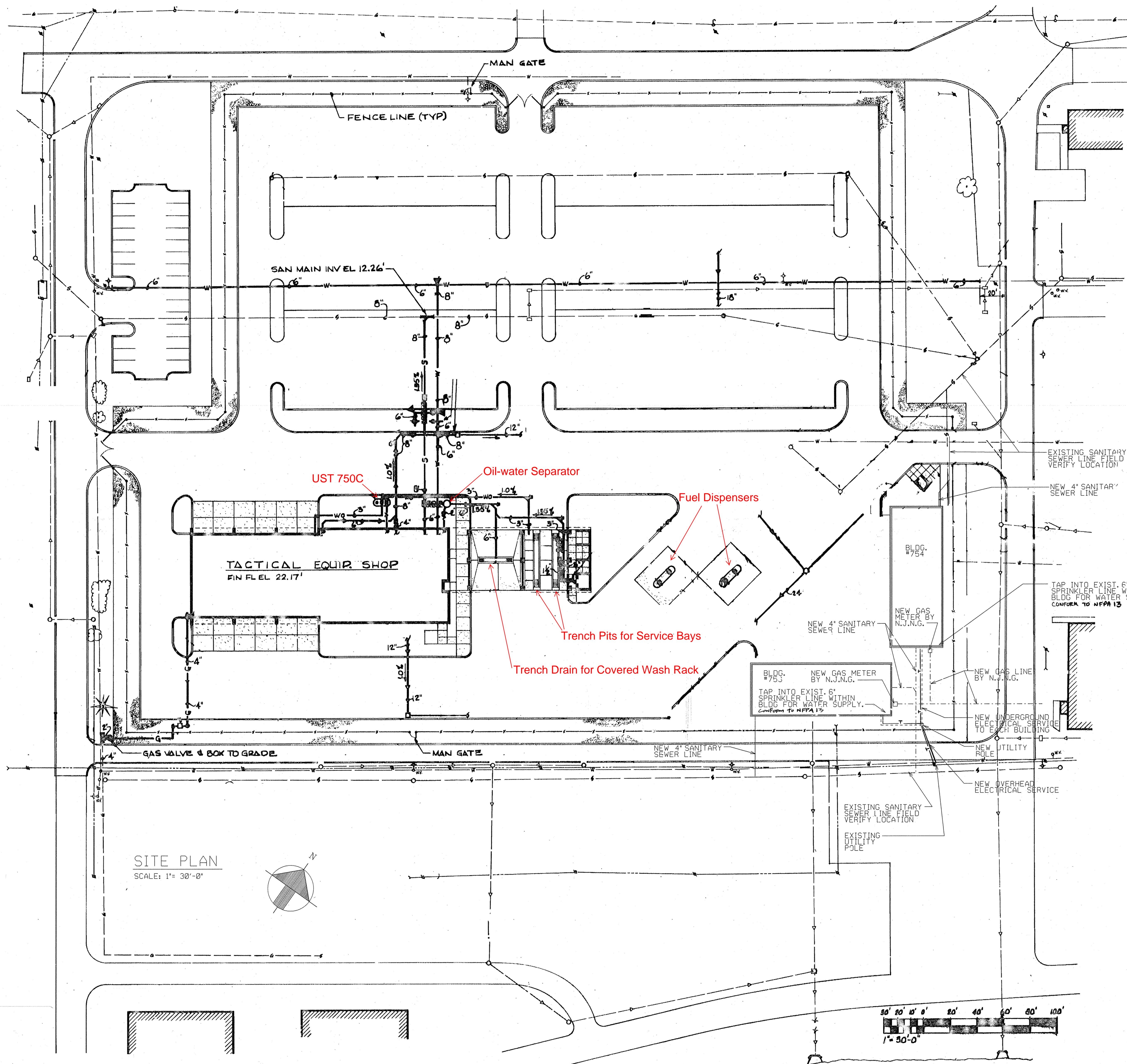


Shaw Environmental, Inc.



**FIGURE 3.12-2**  
**FORT MONMOUTH ECP**  
**SITE INVESTIGATION**  
**PARCEL 51**  
**SUSPECTED UST LOCATIONS**  
 MAIN POST  
 FORT MONMOUTH  
 NEW JERSEY

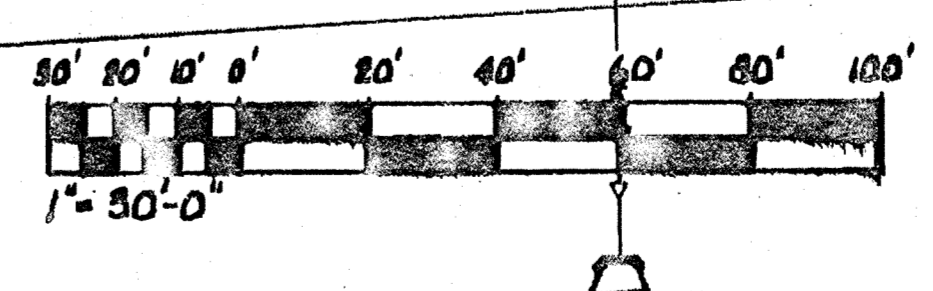




EXISTING LEGEND		REFERENCE ONLY
EXISTING	ITEM	
---	SANITARY SEWER	---
---	STORM DRAIN	---
---	WATER PIPING	---
---	NATURAL GAS PIPING	---
---	GASOLINE PIPING	---
---	DIESEL FUEL PIPING	---
---	FUEL TANK VENT	---
---	WASTE OIL PIPING	---
---	POINT OF NEW CONN.	---
---	FIRE HYDRANT & VALVE BOX	---
---	POST INDICATOR & VALVE	---

NEW LEGEND	
---	GAS PIPING
---	ELECTRICAL SERVICE
---	SANITARY PIPING
---	TELEPHONE LINE

SITE PLAN  
SCALE: 1" = 30'-0"

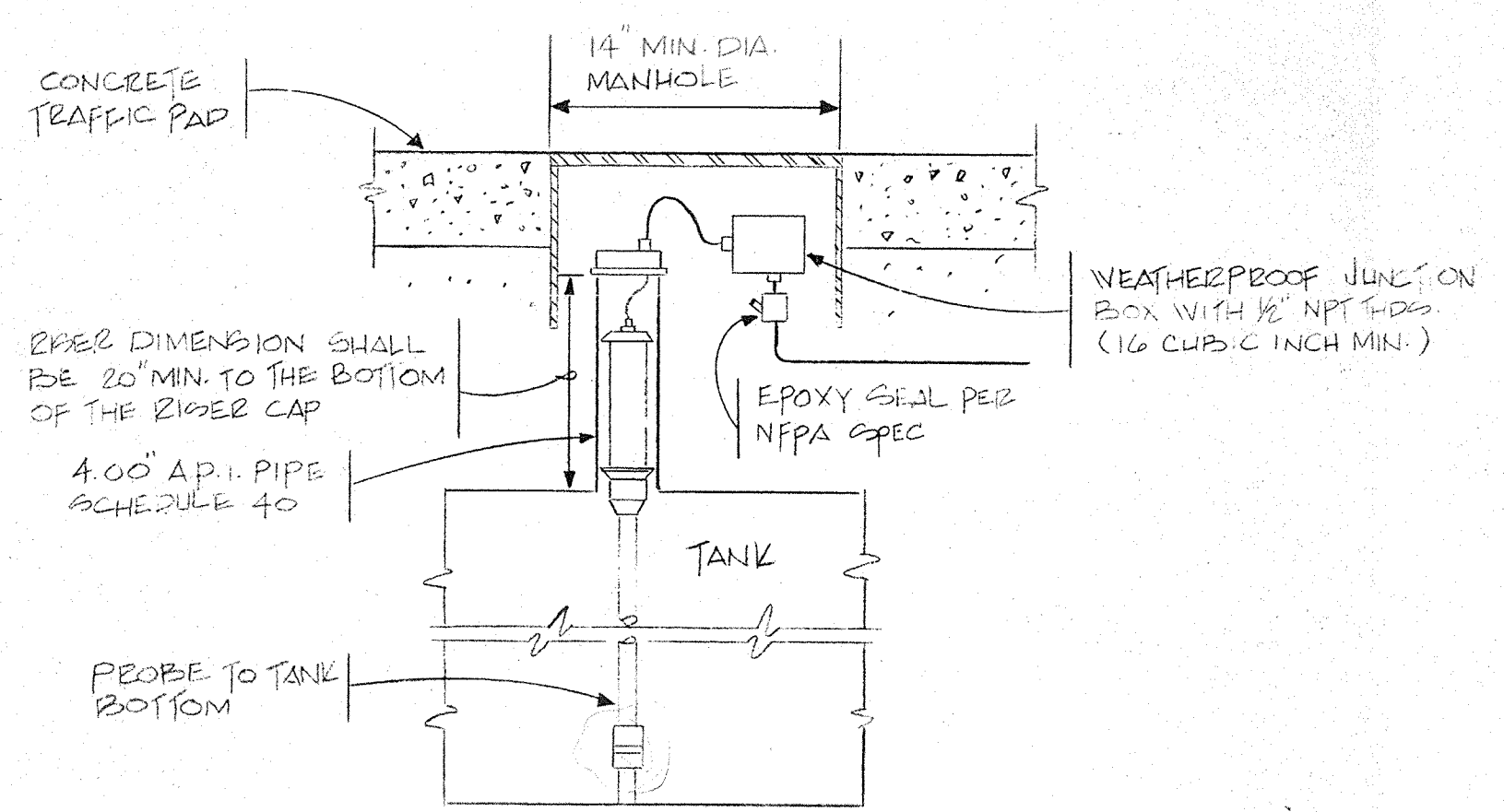


SYMBOL		DESCRIPTION	DATE	APPROVED
REVISIONS				
DIRECTORATE OF PUBLIC WORKS Fort Monmouth, New Jersey "An Army Community Of Excellence"				
DWN 3. BAND		DSGN 3. BAND		
DEH PR. MGR.		S. BAND		
CHIEF ESB		A. SMOLIK		
SAFETY PREPARED		J. CAFFRY		
FP&P BR		ENVIR		
A. GUZZI		D. DESAI		
CHIEF ENGY OFF		J. CODER		
CUSTOMER		MARK SAUCHER		
RECOMMENDED:		<i>Jim Dooney</i>	SCALE: AS NOTED	DRAWING NUMBER: 10697-2
APPROVED:		<i>Jim Dooney</i>	DATE: 1-5-95	
JIM OTT (P.E.)		ACT. DIR. OF PUBLIC WORKS	JOR NO: 93-0948	SHEET 2 OF 12

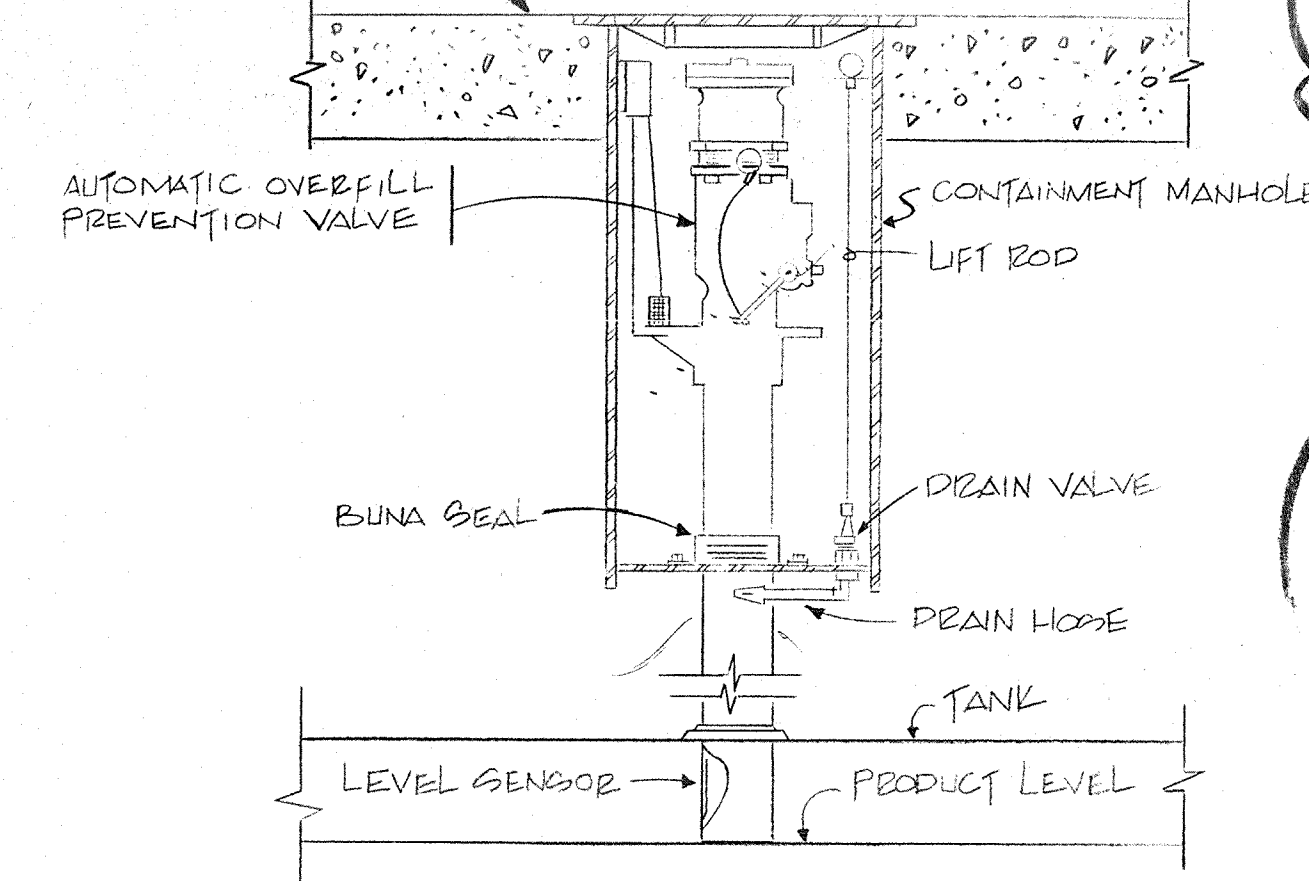
VEHICLE & EQUIPMENT  
REPAIR SHOPS  
BUILDING 753 & 754

SITE PLAN  
BUILDING #753 & #754

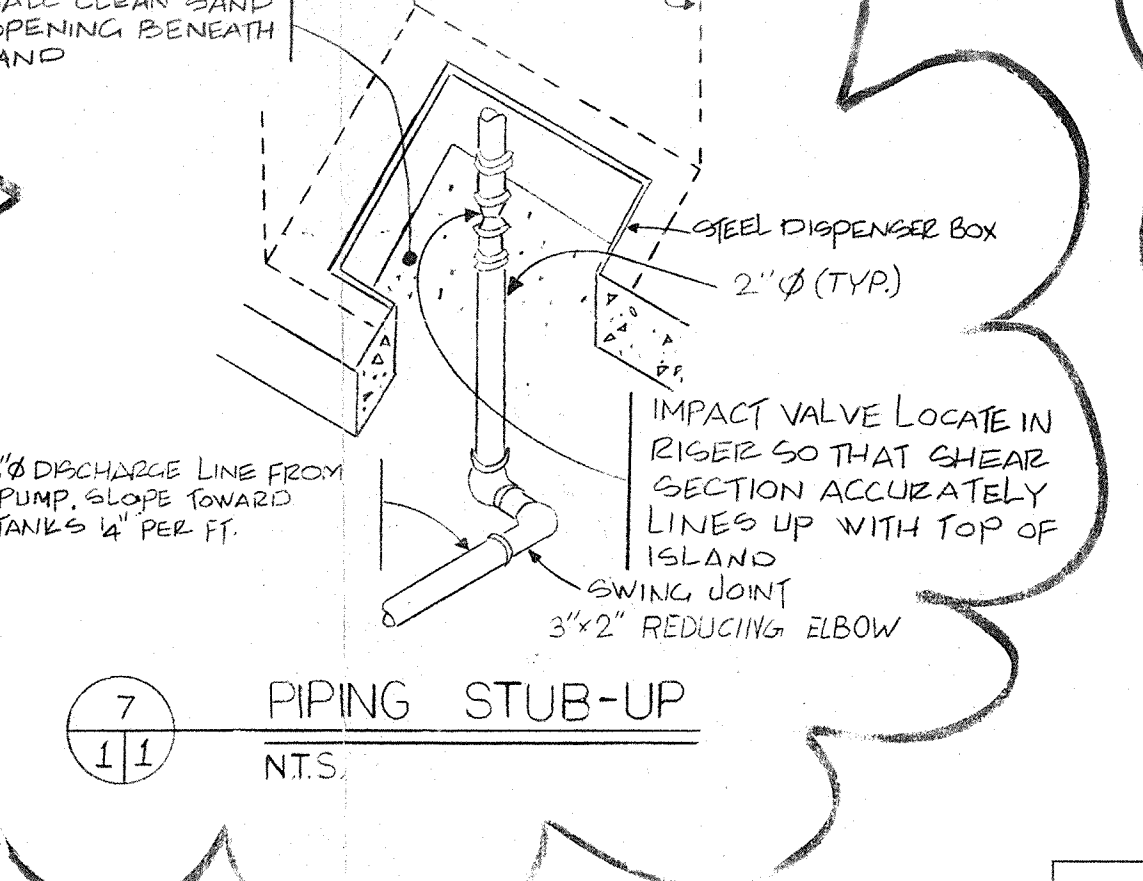




5 TANK LEVEL SENSING PROBE  
N.T.S.



4 FILL WITH CONTAINMENT MAN-HOLE  
N.T.S.

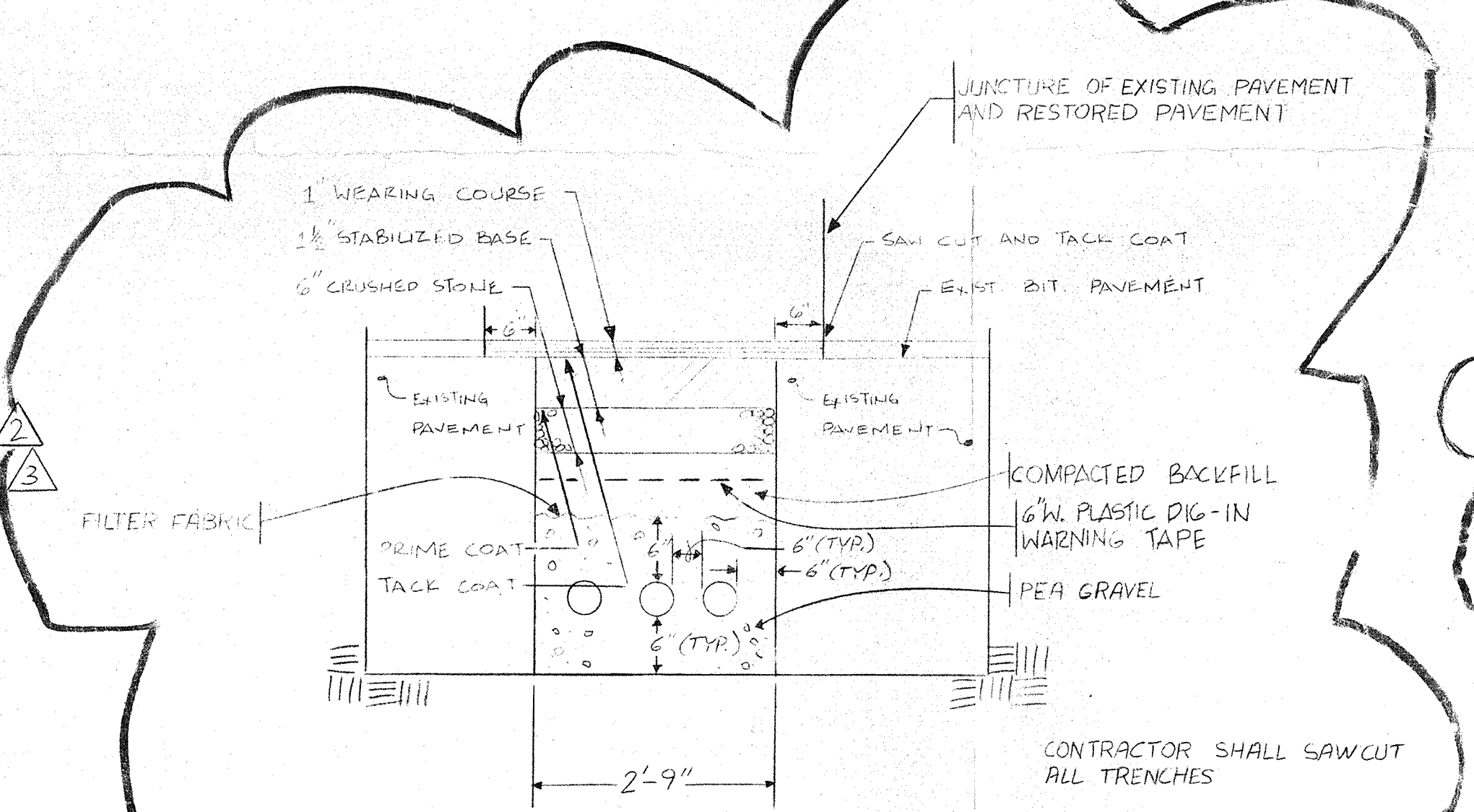


7 PIPING STUB-UP  
N.T.S.

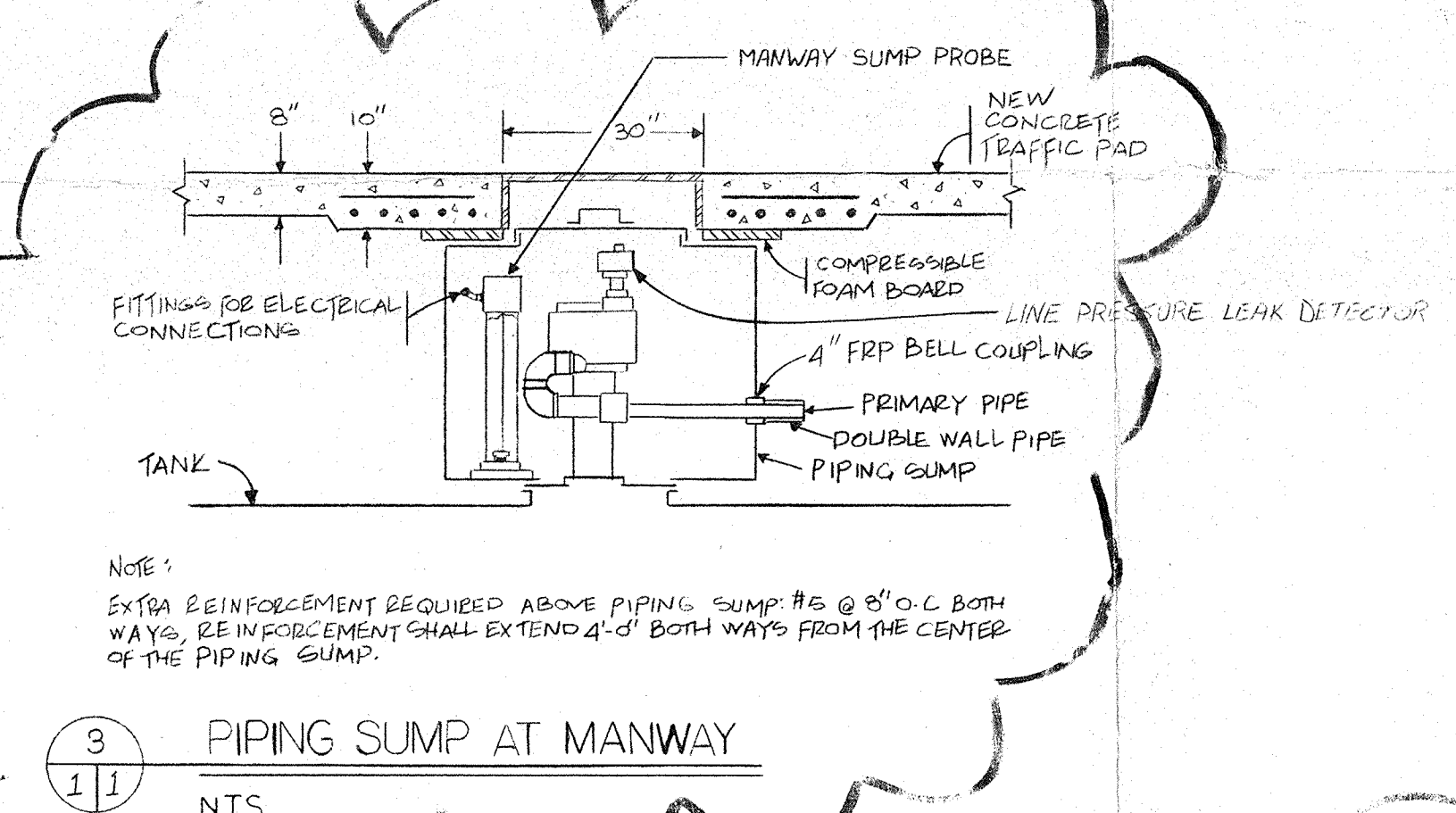
2	ISA-3P	PUMP
3		
4		
5		
6		
7		
8		

SERVICE-120/208V-3Ø, 5W  
MOUNTING-SURFACE  
SWITCHED-NEUTRAL TYPE (PLUG IN) CIRCUIT BREAKER  
ALL CIRCUITS SHALL HAVE A SEPARATE GROUND WIRE  
PANEL SHALL HAVE BUILT-IN MECHANICALLY HEED 5 PAGES, 100A CONTRACTOR  
CONTRACTOR SHALL BE CONTROLLED BY EMERGENCY CUTOFF SWITCH  
PANEL LPA-A SHALL BE TRAPPED FROM EXISTING PANEL LPA-B

2. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF NDEP.
3. VAPOR CONTROL PIPING SHALL BE FIBERGLASS SURROUNDED WITH PEA GRAVEL BACKFILL
4. VAPOR CONTROL PIPING SHALL BE SLOPE @ 1" PER 50 FEET MIN. BACK TO UNLEADED FRP TANK
5. EXISTING UTILITY LINES INDICATED ON DRAWING ARE APPROXIMATE. IT IS THE CONTRACTORS RESPONSIBILITY TO SURVEY AND SCOPE AREA TO DETERMINE EXACT LOCATION
6. ANY DAMAGE TO THE EXISTING FACILITIES RESULTING FROM SPECIFIED WORK SHALL BE PROMPTLY RESTORED, REPAIRED OR REPLACED AT NO ADDITIONAL COST TO THE GOVERNMENT
7. CONTRACTOR SHALL EXCAVATE EXISTING REINFORCED CONCRETE HOLD DOWN SLAB TO INSTALL VAPOR RECOVERY, LEAK DETECTION AND OVERFILL SYSTEM. UPON COMPLETION OF SPECIFIED BACKFILL AND INSTALLATION OF BILL SYSTEMS THE CONTRACTOR SHALL CONSTRUCT NEW REINFORCED CONCRETE HOLD DOWN SLAB TO MATCH EXISTING CONCRETE SLAB WITH SAME DIMENSION, SHAPE, MATERIALS AND REINFORCEMENT
8. CONTRACTOR SHALL INSTALL NEW AUTOMATIC OVERFILL PREVENTION VALVE TO EXISTING DROP TUBE AND EXISTING COAXIAL ADAPTER. ENTIRE ASSEMBLY SHALL BE ENCLOSED IN A NEW CONTAINMENT MANHOLE WITH A 26 GAL CAPACITY
9. ALL WIRING, EQUIPMENT, AND FITTINGS SHALL BE EXPLOSION-PROOF IN CONFORMANCE WITH THE APPLICABLE REQUIREMENTS OF UL 674, UL 698, AND UL 876 FOR CLASS I, DIVISION 1, GROUP C AND D HAZARDOUS LOCATIONS AND THE CONTRACTOR SHALL SUBMIT PROOF OF SUCH CONFORMANCE. ELECTRICAL INSTALLATIONS SHALL CONFORM TO THE REQUIREMENTS OF THE NFPA 70, NFPA 30A, AND NFPA 70
10. GROUND WATER TABLE IS AT 6' BELOW GRADE, SEASONAL HIGH WATER TABLE IS AT 5' BELOW GRADE
11. GROUND WATER FLOW DIRECTION IS SOUTHEAST
12. MONITORING WELLS SHALL BE INSTALLED 10'-0" O.C. EDGE OF WELLS SHALL BE 10'-0" AWAY FROM THE EDGE OF TANKS AS INDICATED ON DRAWING
13. REMOVE EXISTING REMOTE DISPENSERS, SUBMERSIBLE PUMPS, LEAK DETECTORS, RELAY CONTROL BOXES, SINGLE WALL FUEL LINES, ELECTRICAL WIRING AND CONDUIT
14. CONTRACTOR SHALL PROVIDE AND INSTALL NEW REMOTE DISPENSERS, SUBMERSIBLE PUMP RELAY CONTROL BOXES, DOUBLE WALL FUEL LINES, LINE LEAK DETECTORS, PIPING SUMP AND LIQUID SENSORS. ELECTRICAL WIRING SHALL BE AS REQUIRED BY MANUFACTURER
15. SIZE OF PRIMARY FUEL LINE SHALL BE 3" Ø
16. ALL MANHOLES, MANWAYS AND COVERS SHALL HOLD UP UNDER HEAVY TRAFFIC
17. ALL PROBES FOR MONITORING WELL, PIPING SUMP AND DOUBLE WALL PIPE SHALL BE SET @ 1/8-INCH PRODUCT ALARM AND SHALL BE MONITORED BY ONE (1) CONTROL UNIT
18. UNLEADED GASOLINE SHALL USE TWO GASBOY 9152XTW-1 DISPENSER, DIESEL SHALL USE ONE GASBOY 1500RDX-1 DISPENSER AND ONE GASBOY 9152XTW-1
19. UNLEADED GASOLINE SHALL USE RED JACKET P-150 SINGLE STAGE 1 1/2 HP SUBMERSIBLE PUMP, DIESEL SHALL USE RED JACKET BIG-FLOW P300H3-2HB 3HP TWO STAGE SUBMERSIBLE PUMP.



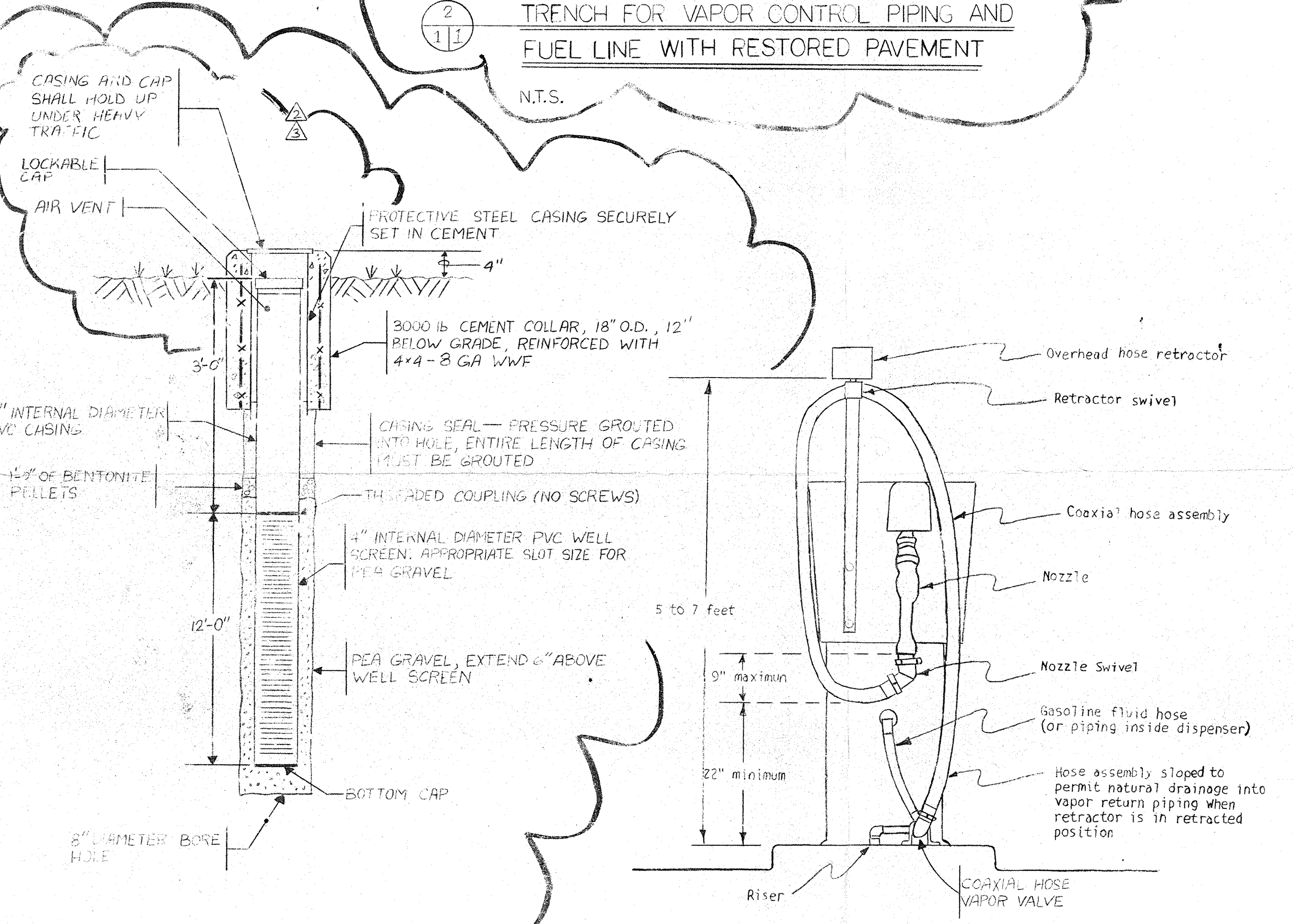
2 TRENCH FOR VAPOR CONTROL PIPING AND FUEL LINE WITH RESTORED PAVEMENT  
N.T.S.



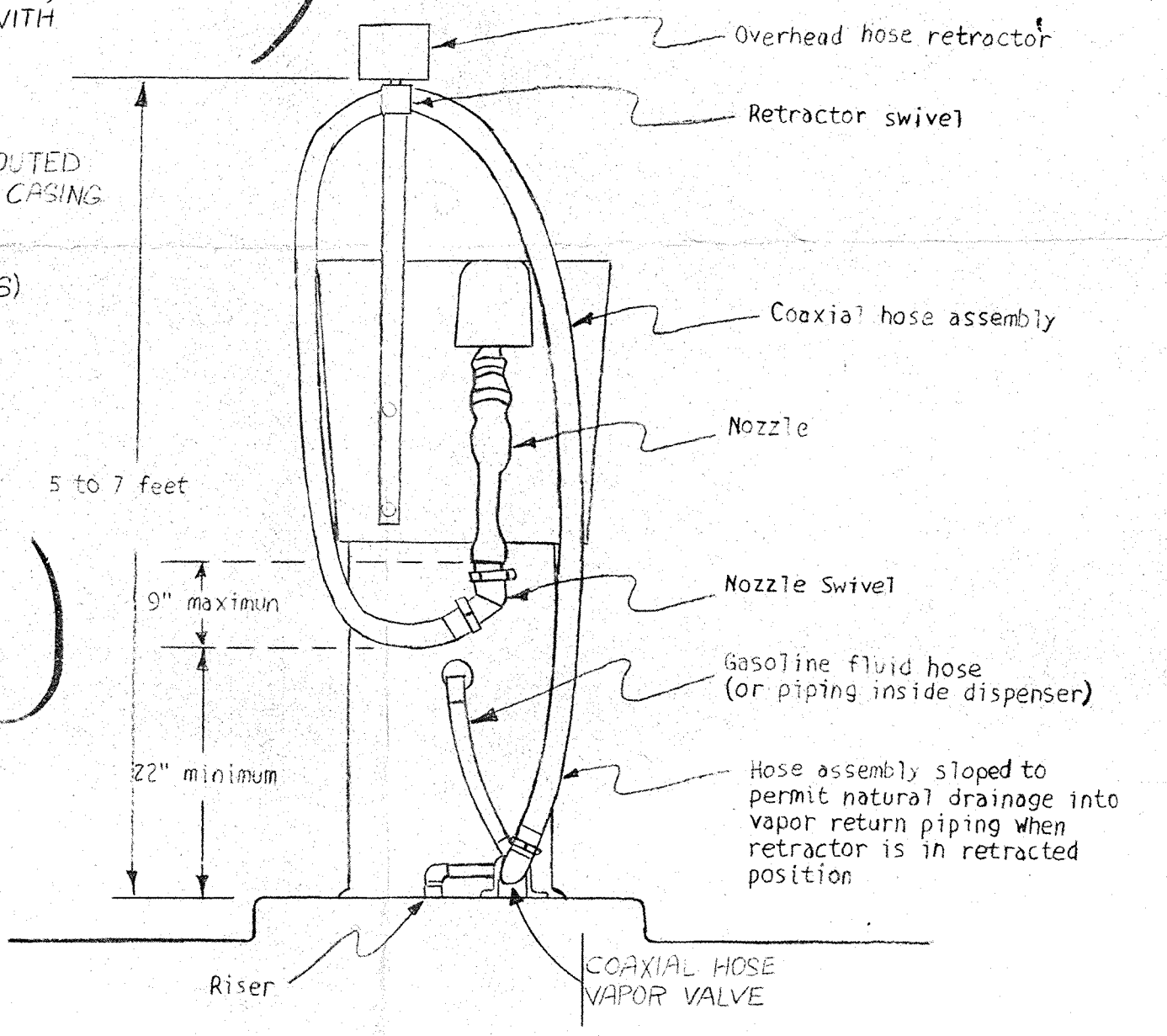
9 PIPING SUMP AT MANWAY  
N.T.S.

ITEM	MANUFACTURE	MODEL	REMARKS
CONTAINMENT MANHOLE	EMCO WHEATON	A106-001	26 GAL. CAP.
OVERFILL PROTECTION SYSTEM	EMCO WHEATON	A-1000	EACH TANK
TANK LEVEL SENSING SYSTEM	VEEDER-ROOT	TLS-250	PROBE IN TANK, MONITOR IN ADMIN OFFICE RM 109
MANHOLE FOR IN-TANK LEAK DETECTION PROBE			14" MIN. INSIDE DIA. MANHOLE
DISPENSER	GASBOY		SEE NOTE # 13
SUMP PROBE	POLLULERT	FD241RRA	ALL LIQUID SENSORS SHALL BE SET @ 1/8-INCH PRODUCT ALARM
ELECTRONIC FLUID DETECTION SYSTEM	POLLULERT	FD103	MONITOR IN ADMIN. OFFICE RM 109
PIPING SUMP	OWENS/CORNING	SPS42-30A	EACH TANK (30" DIA)
MONITORING WELL PROBE	POLLULERT	FD241GRA	SET @ 1/8-INCH PRODUCT ALARM
SUBMERSIBLE PUMP	RED JACKET		SEE NOTE # 19
LINE PRESSURE LEAK DETECTOR	RED JACKET	DIESEL-116-012 GASOLINE-116035	

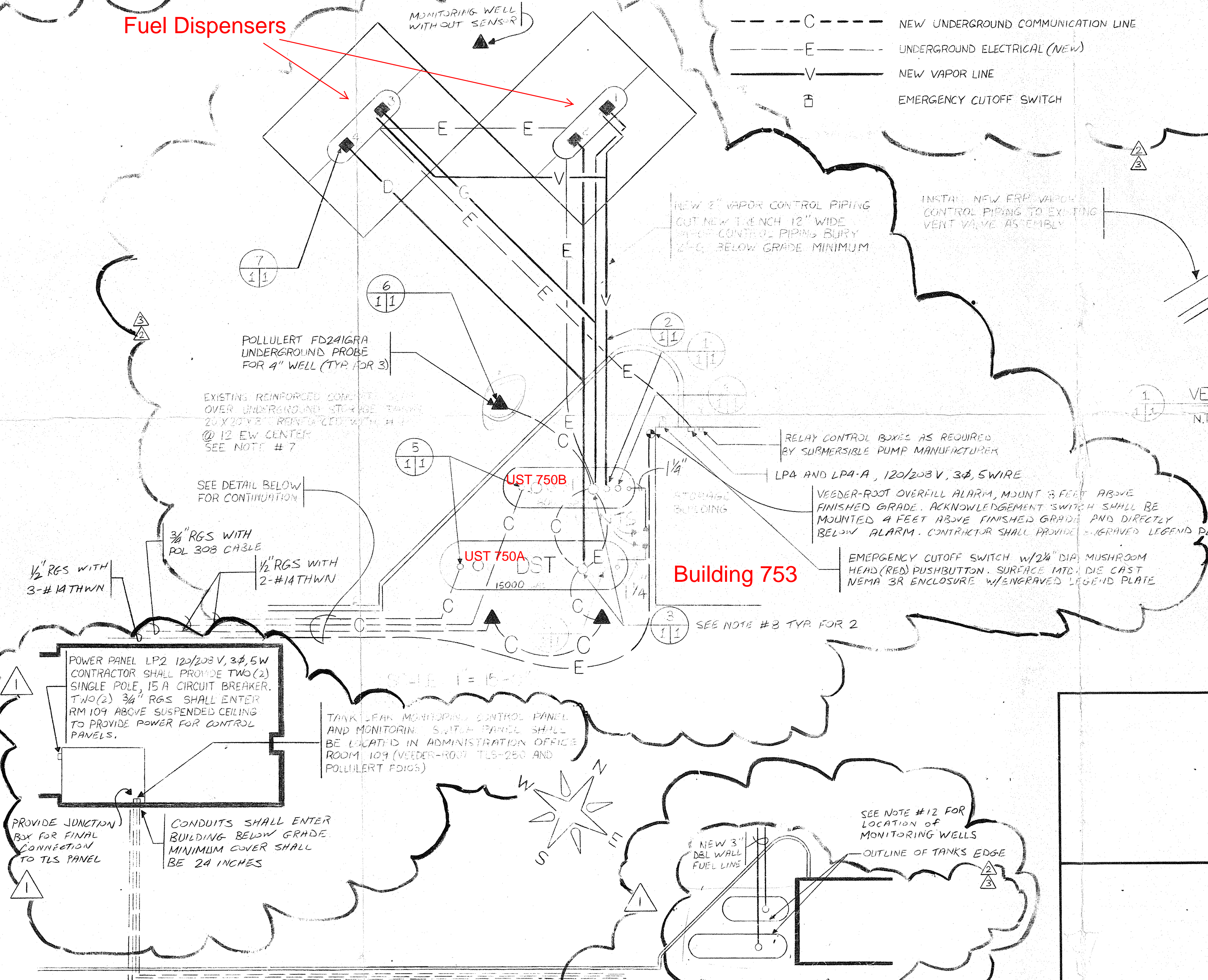
Fuel Dispensers



6 MONITORING WELL  
N.T.S.



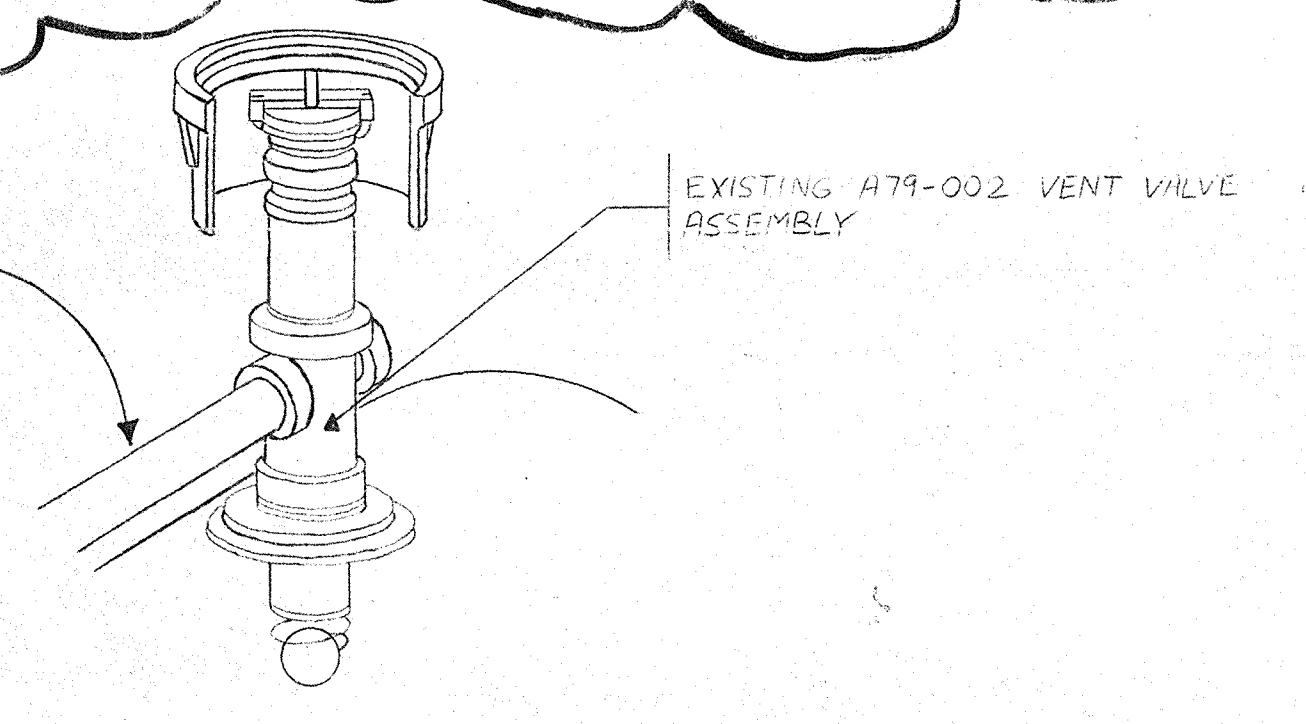
COAXIAL HOSE SIDE MOUNT HIGH RETRACTOR CONFIGURATION  
N.T.S.



SCALE 1" = 30'-0"

- C- NEW UNDERGROUND COMMUNICATION LINE
- E- UNDERGROUND ELECTRICAL (NEW)
- V- NEW VAPOR LINE
- EMERGENCY CUTOFF SWITCH
- ▲ MONITORING WELL WITH SENSOR UNLESS OTHERWISE NOTED
- VEEDER-ROOT OVERFILL ALARM WITH ACKNOWLEDGEMENT SWITCH

- D NEW DBL WALL DIESEL LINE
- G NEW DBL WALL GASOLINE LINE



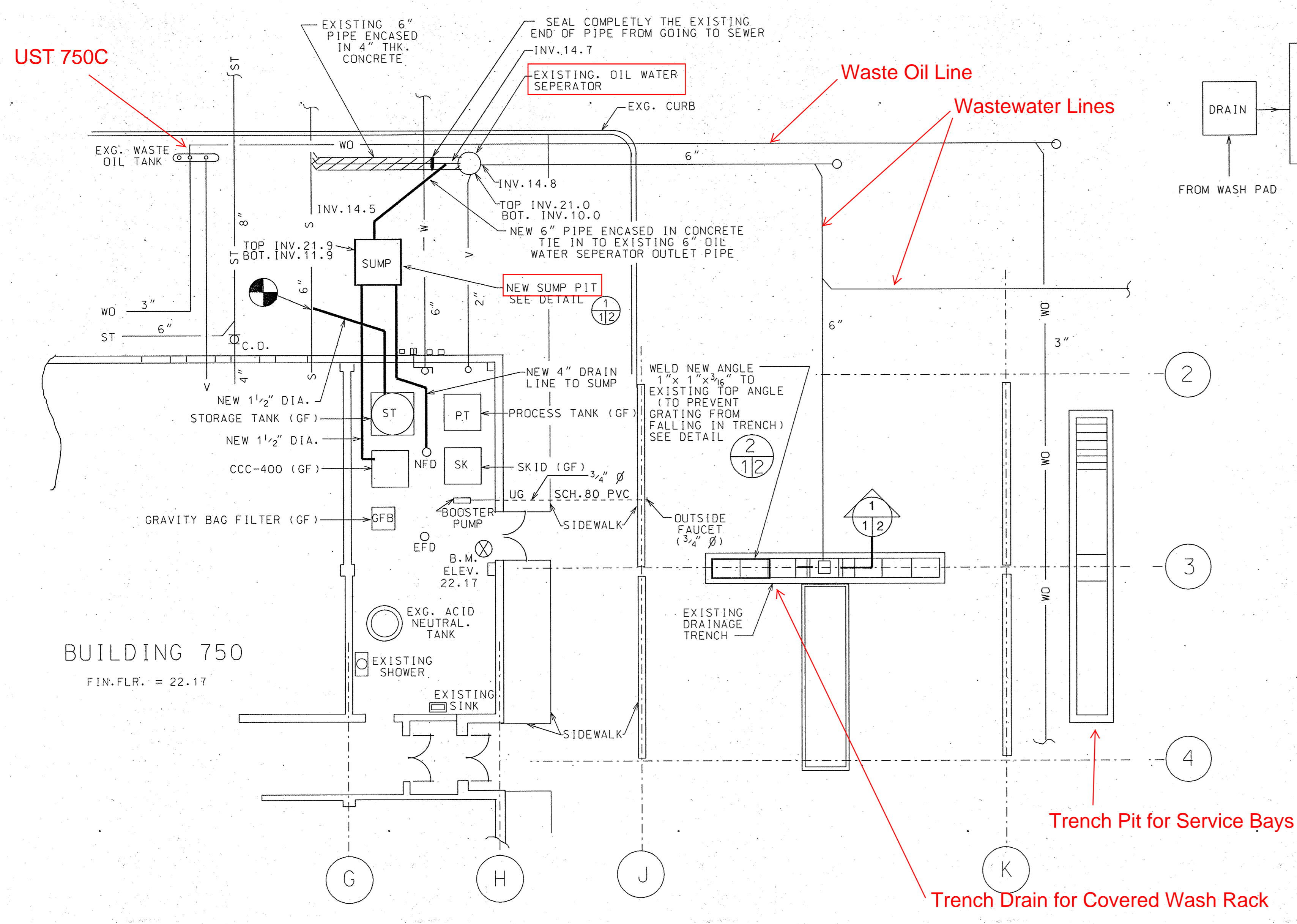
1 VENT VALVE ASSEMBLY  
N.T.S.

SYMBOL	DESCRIPTION	DATE	APPROVED
▲	REMOVE SUBMERSIBLE PUMPS & REPLACE WHEN SUBMERSIBLE PUMPS	5/11/99	J. LEE
▲	REMOVE SUBMERSIBLE PUMPS & REPLACE WHEN SUBMERSIBLE PUMPS	11/19/99	J. LEE
▲	MONITORING WELLS	10/26/99	J. LEE

DIRECTORATE OF ENGINEERING & HOUSING  
Fort Monmouth, New Jersey  
"AN ARMY COMMUNITY OF EXCELLENCE"

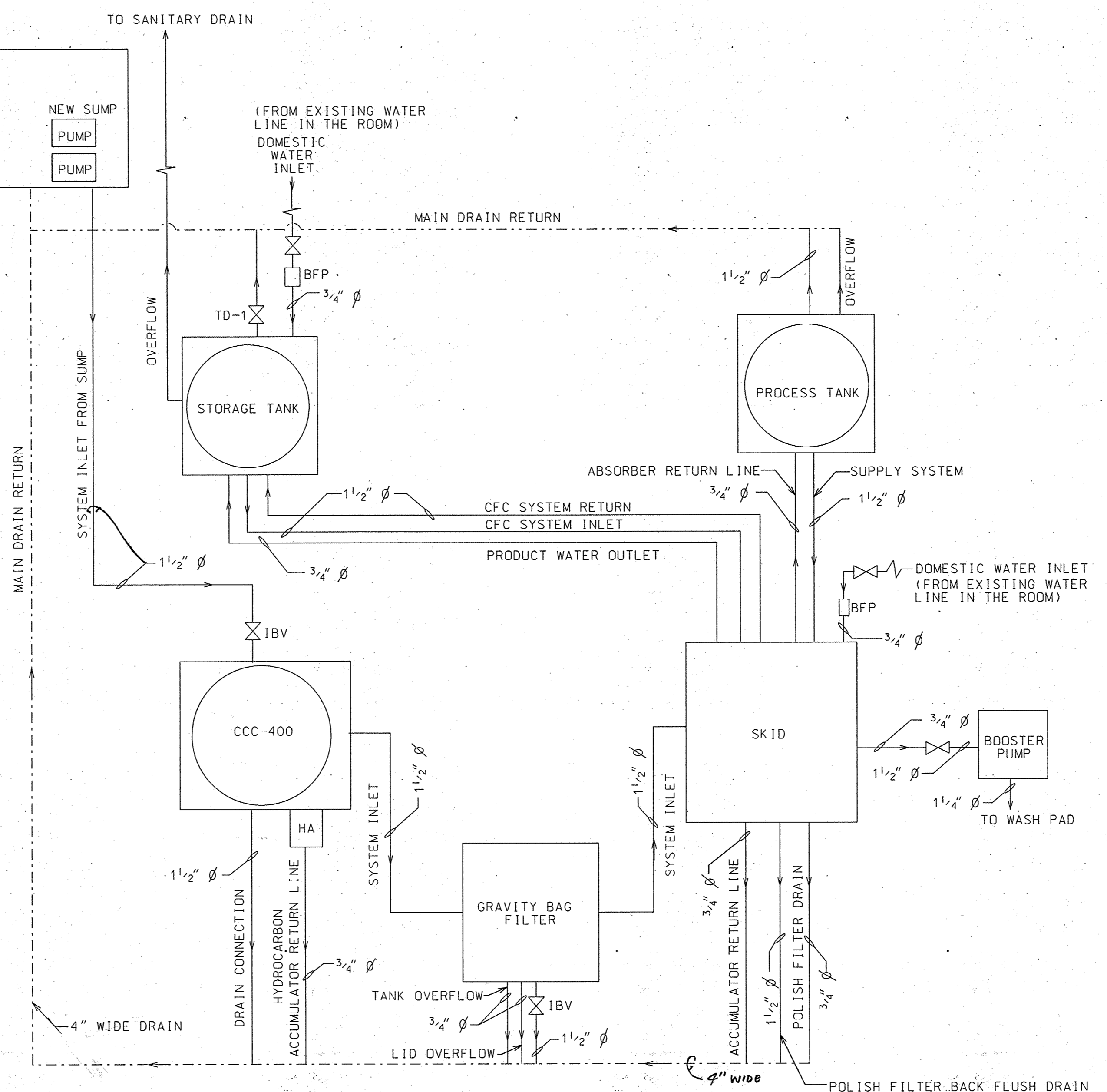
DRAWN: J. LEE	513TH STAGE II VAPOR RECOVERY AND LEAK DETECTION	MAIN POST FORT MONMOUTH, NJ
DEH PR. MGR. J. LEE		
CHIEF ESB L. PARINHAS		
SAFETY J. CAFFIN		
PP&P BR. A. GUTY		
FM CODE M. MAIER	CUSTOMER	CPT PARKS
RECOMMENDED: J. DOONEY	SCALE: AS NOTED	DRAWING NUMBER: 10-16-1
APPROVED: J. DOONEY	DATE: JUNE 22 '90	PR. NO. 90-0771
J. LEE, J.L. BOOTH, DIR. ENGR. & HSG.		SHEET 1 OF 2





**SITE UTILITY PLAN**

SCALE: 1/8" = 1' - 0"

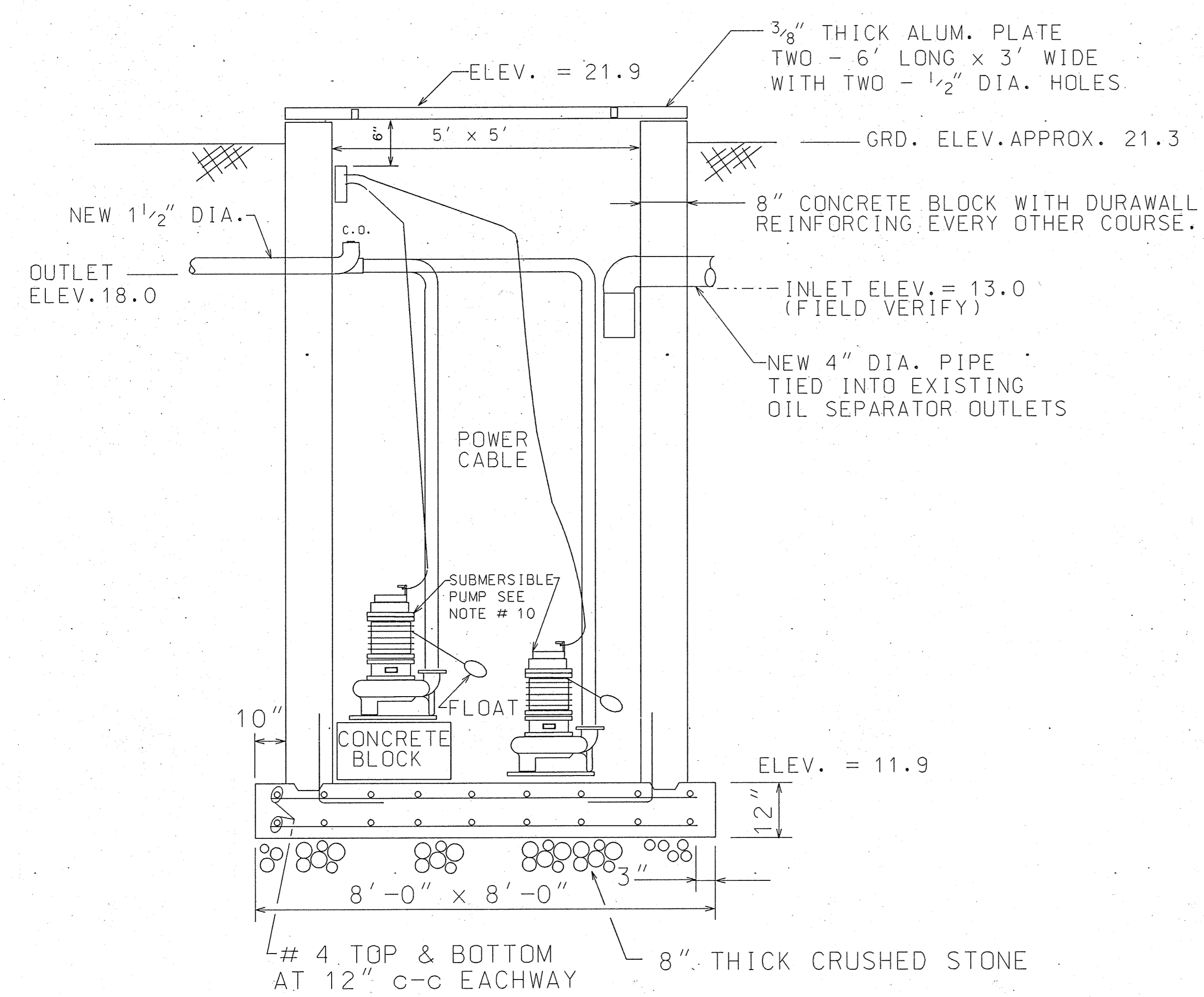


**SCHEMATIC DIAGRAM**

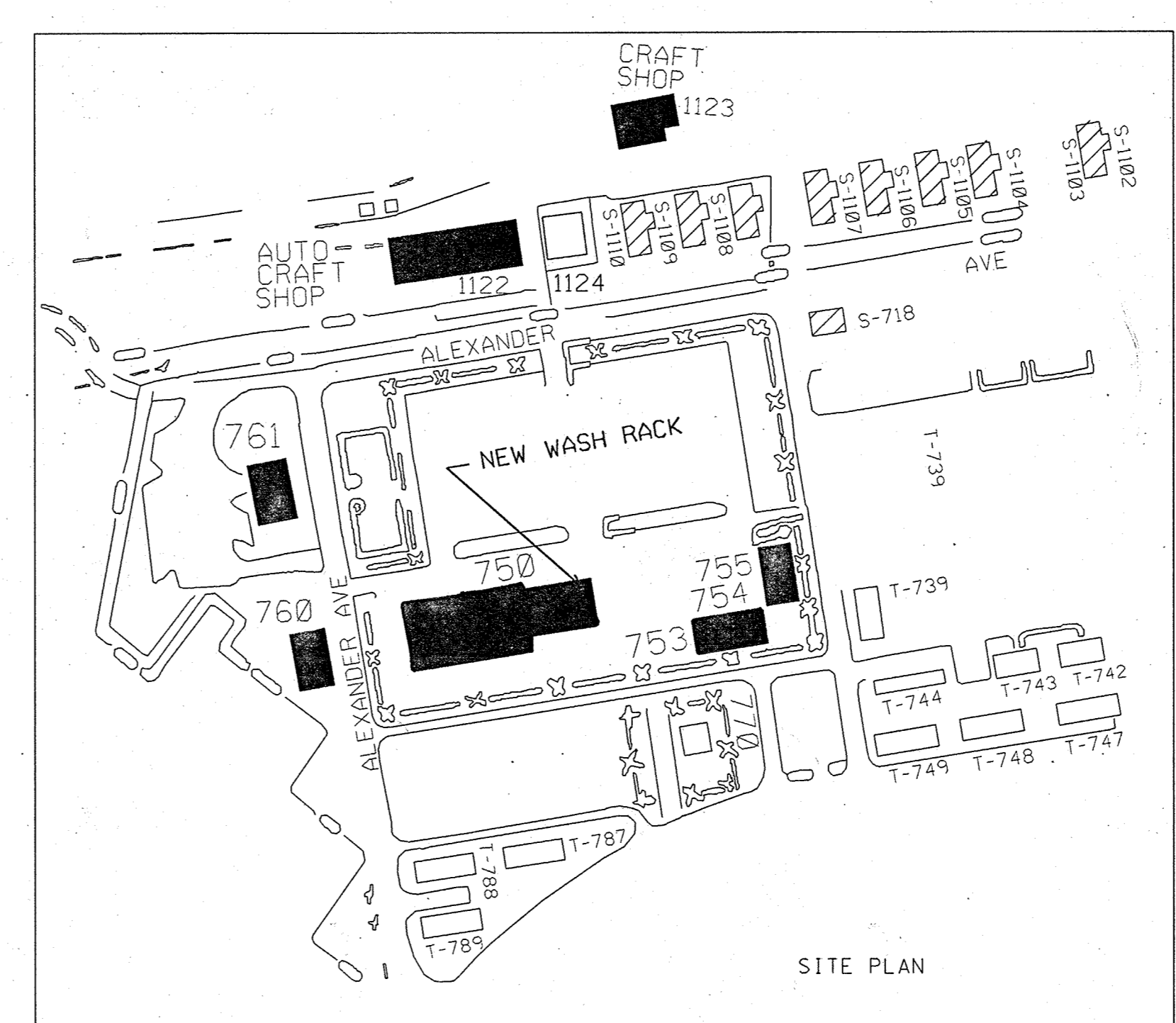
SCALE: NONE

**NOTES:**

1. ALL RGF ENVIRONMENTAL SYSTEMS, INC. EQUIPMENT (MODEL XL2) SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THIS DRAWING AND THE MANUFACTURER'S OPERATION MANUAL.
2. MANUFACTURER'S EQUIPMENT IS PRESENTLY STORED IN THE ROOM SHOWN ON SITE UTILITY PLAN.
3. ALL FLOOR AND WALL PENETRATIONS SHALL BE PROPERLY SEALED.
4. PRIOR TO ALL UNDERGROUND DIGGING, THE CONTRACTOR SHALL CALL TECOM VINNELL SERVICES AT 342-1122 FOR A MARK OUT OF WATER, SEWER AND ELECTRICAL UTILITIES. THE CONTRACTOR SHALL ALSO CALL 1-800-272-1000 FOR A MARK OUT OF GAS, PHONE AND CABLE UTILITIES.
5. THE CONTRACTOR SHALL VISIT THE SITE OF THE WORK AND EXAMINE THE PREMISES SO AS TO FULLY UNDERSTAND ALL THE EXISTING CONDITIONS RELATIVE TO THE WORK. HE SHALL NOTIFY THE CONTRACTING OFFICER'S REPRESENTATIVE OF ANY CONDITION REQUIRING CORRECTION OR MODIFICATION PRIOR TO PROCEEDING WITH THE WORK.
6. THE CONTRACTOR SHALL REPAIR ALL DAMAGES DONE TO THE BUILDING AS A RESULT OF CONSTRUCTION TO MATCH EXISTING SURROUNDING MATERIALS.
7. THE CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, CONNECTIONS, GRADES AND LOCATIONS PRIOR TO PERFORMING WORK. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTING OFFICER IN WRITING.
8. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF ALL APPLICABLE CODES AND GOVERNING AUTHORITIES AND SHALL BE PERFORMED TO THE HIGHEST STANDARDS OF PRACTICE FOR EACH TRADE.
9. PROVIDE ALL TEMPORARY SHORING OF SOIL OR EXISTING PIPES AS REQUIRED.
10. THE CONTRACTOR SHALL PROVIDE AND INSTALL SUMP PUMPS, MYER'S MODEL ME40, CAPACITY 28 GPM AT 25 FEET TOTAL HEAD, 0.4 HP, 230 VOLTS, 5.8 AMPS, 1 PHASE, 60 HZ OR AN APPROVED EQUAL.
11. THE CONTRACTOR SHALL PROVIDE AND INSTALL A BOOSTER PUMP, TEEL/DAYTON MODEL NO. 9K863A, RPM 3450, 1.0 HP, 230 VOLTS, 1 PHASE, 60 HZ OR AN APPROVED EQUAL. THE BOOSTER PUMP SHALL HAVE A PRESSURE CONTROL SWITCH.
12. THE CONTRACTOR SHALL PROVIDE AND INSTALL GATE/BALL VALVES AS INDICATED ON THE PLANS.
13. THE CONTRACTOR SHALL PROVIDE UNIONS AND INSTALL THEM BETWEEN THE CONNECTED PIPING AND THE PUMPS.
14. THE CONTRACTOR SHALL PROVIDE SCHEDULE 40 PVC PIPING TO MAKE CONNECTIONS BETWEEN DIFFERENT UNITS WHEREVER NECESSARY.
15. THE CONTRACTOR SHALL TAP FROM THE EXISTING DOMESTIC WATER PIPING TO PROVIDE CONNECTIONS TO THE SKID AND THE STORAGE TANK. THE NEW CONNECTIONS SHALL HAVE A BACK FLOW PREVENTOR TO PREVENT WASH WATER SYSTEM ENTERING DOMESTIC WATER LINES.
16. ALL WORK IS NEW AND SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE INDICATED.



**SUMP PUMP PIT**



**LEGEND:**

- ⊗ B.M. - BENCH MARK ELEVATION
- C.O. - CLEAN OUT
- GF - GOVERNMENT FURNISHED
- E.F.D. - EXISTING FLOOR DRAIN
- N.F.D. - NEW FLOOR DRAIN
- - - - - NEW PIPING
- S - SANITARY UNDERGROUND PIPING
- ST - STORM UNDERGROUND PIPING
- V - VENT UNDERGROUND PIPING
- W - WATER UNDERGROUND PIPING
- WO - WASTE OIL
- IBV - ISOLATION BALL VALVE
- BFP - BACK FLOW PREVENTOR
- PVC PIPE
- - - - - DRAIN RETURN
- C.F.C. - CONTINUOUS FLOW CONTROL
- G.P.M. - GALLONS PER MINUTE
- EXISTING POWER LOAD CENTER AND CABINET
- 240V, 2 POLE FUSED DISCONNECT SWITCH
- JUNCTION BOX-6" x 6" MINIMUM
- 125V DUPLEX RECEPTACLE, MOUNTED 1'-6" A.F.F.
- 100A MLD 120/208V LOAD CENTER W/8 20A 1P CIRCUIT BREAKERS.

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			

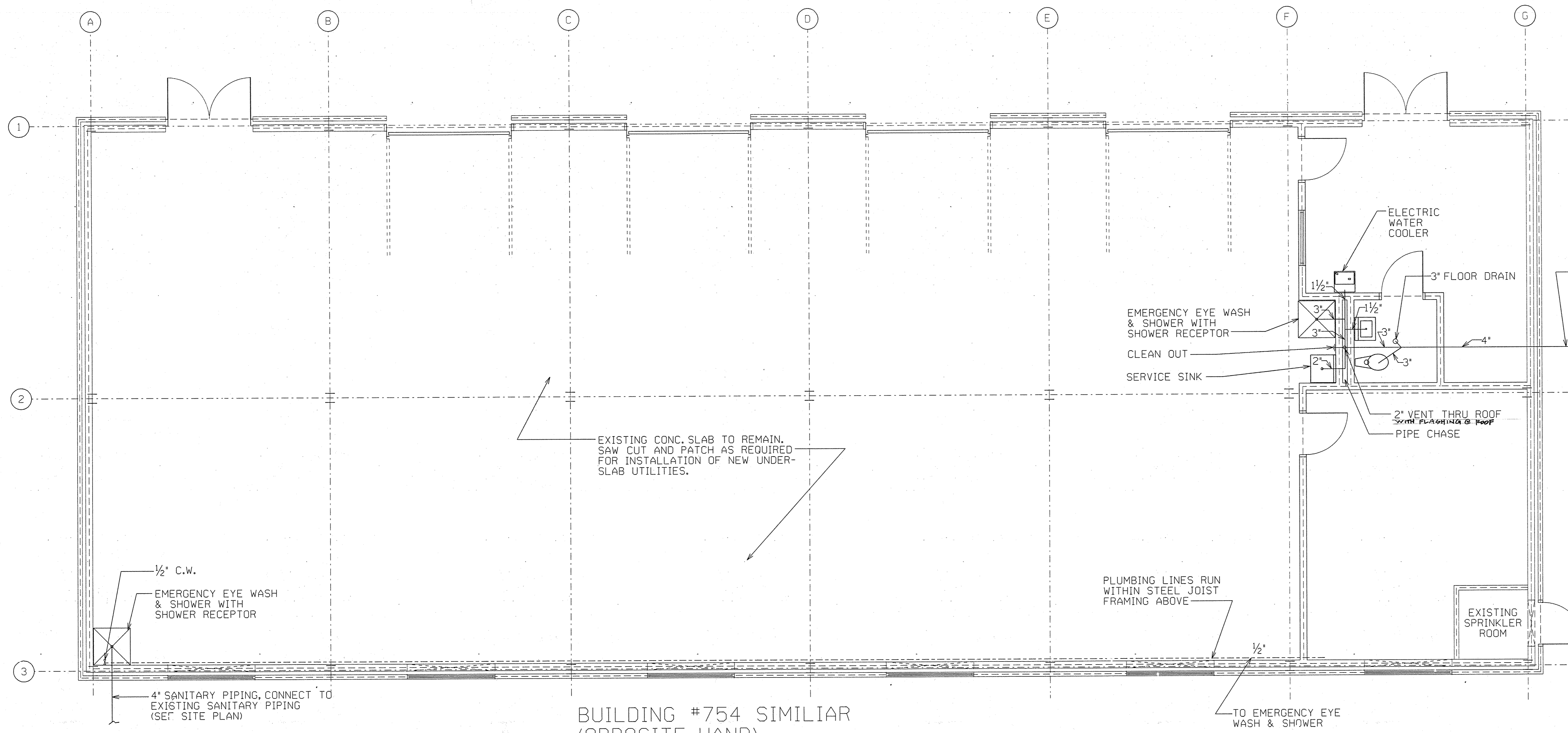
**DIRECTORATE OF PUBLIC WORKS**  
Fort Monmouth, New Jersey  
"An Army Community of Excellence"

DWN: DSGN: K.W.R./M.U./S.L.  
DPW PR MGR: KEN WALLING  
CHIEF ESB: A. SMOLLA  
SAFETY: J. CAFFY  
PREV. MGR: B. PELKA  
PPM: J. ROSEN  
ENVIRON: D. DESAI  
CHIEF ENG: C. KONIG  
CUSTOMER: TREVIN COURTNEY

**RECYCLE WASH SYSTEM**  
**BUILDING 750**

**PARTIAL PLAN**  
**AND DETAILS**

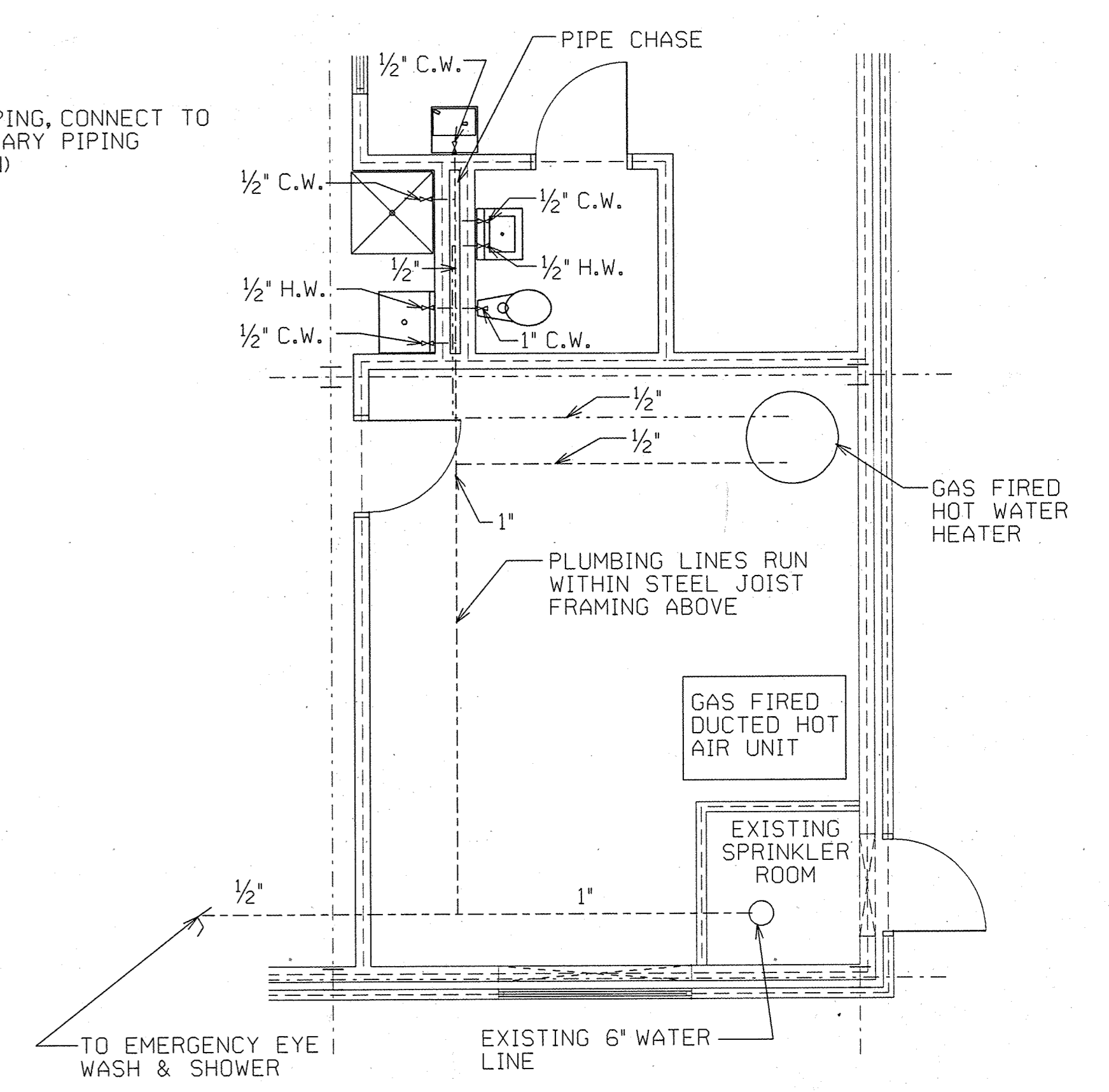




NEW PLUMBING PLAN-BLDG. #753

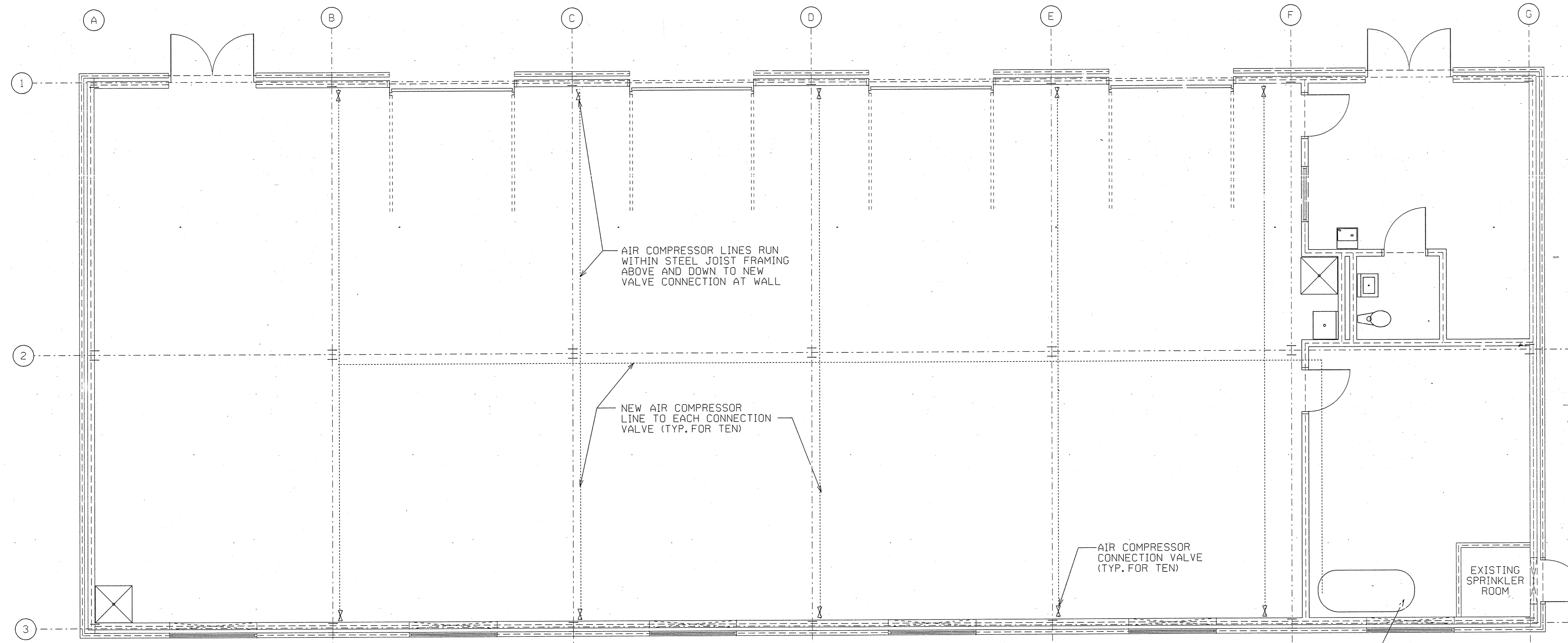
SCALE: 1/4" = 1'-0"

BUILDING #754 SIMILIAR  
(OPPOSITE-HAND)



PARTIAL PLUMBING PLAN

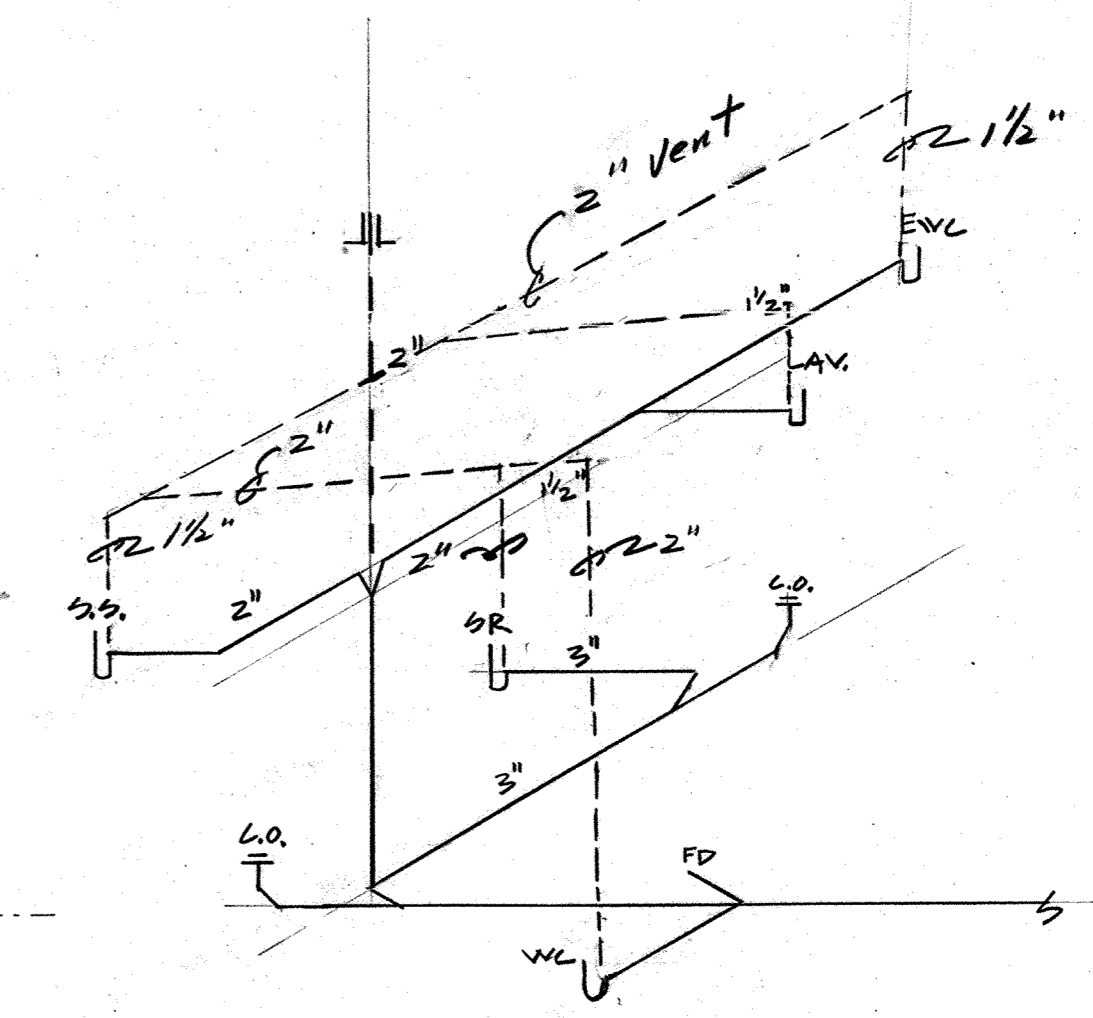
SCALE: 1/4" = 1'-0"



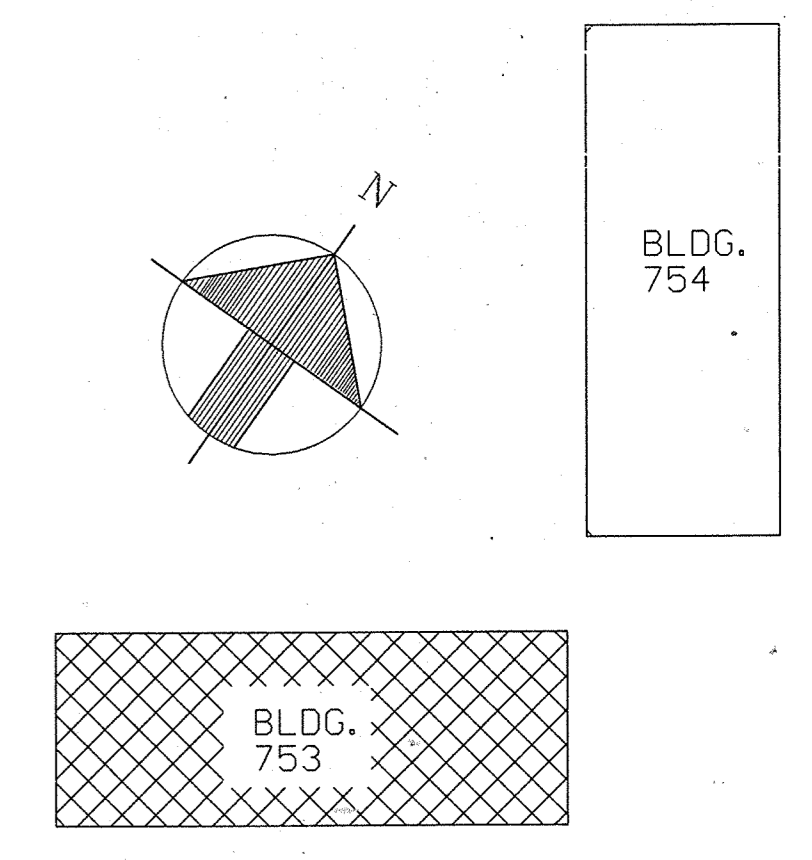
NEW COMPRESSED AIR LINE PLAN-BLDG. #753

SCALE: 1/4" = 1'-0"

BUILDING #754 SIMILIAR  
(OPPOSITE-HAND)



SANITARY RISER DIAGRAM



KEY PLAN

SYMBOL	DESCRIPTION	DATE	APPROVED
REVISIONS			
DIRECTORATE OF PUBLIC WORKS Fort Monmouth, New Jersey "An Army Community of Excellence"			
VEHICLE & EQUIPMENT REPAIR SHOPS BUILDING 753 & 754		PLUMBING PLANS BUILDING #753 & #754	
DWN S. BAND	DSGN S. BAND	SCALE: AS NOTED	DRAWING NUMBER: 10697-11
DEH PR. MGR. S. BAND	CHIEF ESD S. BAND	DATE: 1-5-95	JOR NO: 93-0948
SAFETY PREP J. CAFFIN	ENV A. GUZZO	SHEET 11 OF 12	
CHIEF ENGY OFF M. WILSON	CUSTOMER MARK BOUCHER		
RECOMMENDED: K. DOONEY - Chief Engineering Plans & Services			
APPROVED: JIM OTT - DEPUTY DIR. ENGR. & HSG.			

ATTACHMENT D

Summary Table of Parcel 51/Building 750 Motor Pool Area  
Underground Storage Tanks

## Summary Table of Parcel 51/Building 750 Motor Pool Area USTs

Site Name	Residential ?	Registration ID	DICAR	Tank Size and Type	Product	Army Case Status	Date Tank Removed	Comments on Current or Requested NJDEP Status
750A	NO	81533-191	92-05-07-1600	15,000 gallon fiberglass	DIESEL	Case Open	2/9/2005	1994 Weston report for both -191 and -192 documents removal of soil due to release from fuel dispenser and piping area, and initiated groundwater monitoring (wells 750MW01 through MW04). 2005 closure sample results support NFA for the two tanks; however, 2005 sampling along the distribution piping indicated soil contamination with BTEX above RDCSRs in one area. Quarterly groundwater monitoring results indicate attenuation of benzene to below GWQS by 2009. So, <b>additional corrective action needed</b> ; need a sample location figure to assess the next step. Historical groundwater results should be submitted to NJDEP.
750B	NO	81533-192	92-05-07-1600	15,000 gallon fiberglass	GASOLINE	Case Open	2/11/2005	See comments for -191; <b>additional corrective action needed</b> .
750C	NO	81533-198		1000 gallon fiberglass	WASTE OIL	Case Closed	3/11/1998	Need to submit 1993 Weston report, and request NFA. This is a good candidate for NFA approval.
750D	YES	-	090611130909	1000 gallon steel	#2 FUEL OIL	Case Open	6/11/2009	Initial excavation samples up to 26,511 mg/kg TPHC, and sheen noted on groundwater in excavation. Additional 60 cy soil removed, and follow-on post-ex samples from ND to 227 mg/kg. Well installed 750MW05; 2 rounds of gw data in 2009 were clean.
750E	YES	-	09-06221402-58	1000 gallon steel	#2 FUEL OIL	Case Open	6/19/2009	Initial excavation samples up to 14,133 mg/kg TPHC, and sheen noted on groundwater in excavation. Additional soil removed, and follow-on post-ex samples were ND for TPHC. Well installed 750MW06; 2 rounds of gw data in 2009 were clean.
750F	YES	-		1000 gallon steel	#2 FUEL OIL	Case Open	7/13/2009	Initial excavation samples ND for TPHC. Good candidate for NFA approval.
750G	YES	-	09-07-16-1341-23	1000 gallon steel	#2 FUEL OIL	Case Open	7/16/2009	Initial excavation samples up to 1,166 mg/kg TPHC, and sheen noted on groundwater in excavation. Additional soil removed, and follow-on post-ex samples were ND for TPHC. Downgradient well installed 750MW08; 2 rounds of gw data in 2009 were clean.
750H	YES	-	09-07-28-1554-16	1000 gallon steel	#2 FUEL OIL	Case Open	7/28/2009	Initial excavation samples ND to 79 mg/kg for TPHC. Good candidate for NFA approval. No clear indication of why the DICAR release was reported. Well installed 750MW07; 2 rounds of gw data in 2009 were clean.
750I	YES	-		1000 gallon steel	#2 FUEL OIL	Case Open	8/13/2009	Initial excavation samples ND for TPHC. Good candidate for NFA approval.
750J	YES	-	09-08-200915-22	1000 gallon steel	#2 FUEL OIL	Case Open	8/25/2009	Initial excavation samples not collected; sheen noted on groundwater in excavation. Additional 24 cy soil removed, and follow-on post-ex samples were ND for TPHC. <b>Probably needs groundwater assessment</b> .

## ATTACHMENT E

### UST 750A and UST 750B File Review and Analyses

#### Contents:

- Underground Storage Tank File Review
- Enclosure 1 – 31 May 1994 Weston Report: *Underground Storage Tank System Piping and Site Investigation Report, Building 750, NJDEPE UST Facility No. 008153, UST Nos. 191 and 192, TMS No. S-91-2811, Spill Case No. 92-05-07-1600.*
- Enclosure 2 – Tank and Piping Soil Analytical Reports
- Enclosure 3 – Benzene in Well 750MW01 Graph, and Tabulated Groundwater Monitoring Data from 1997 to 2009
- Enclosure 4 – 11/03/09 Analytical Data Package for Groundwater

UNDERGROUND STORAGE TANK FILE REVIEW  
 FORT MONMOUTH BRAC 05 FACILITY  
 OCEANPORT, NEW JERSEY

Date: September 2, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750A and 750B** Registration ID: 81533-191 and 81533-192

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release?  Yes  No

NJDEP Release No. or DICAR (If applicable): 92-05-07-1600

Did NJDEP approve No Further Action (NFA) for this site?  Yes  No  Not Applicable

Tank Description:  Steel  Fiberglass Size: 15,000 gals.; 8,000 gals.

Contents: Diesel, gasoline

Residential  Commercial/Industrial

Tank Removed?  Yes  No If "yes," removal date: 2/9/2005, 2/11/2005

Were closure soil samples taken?  Yes  No Analyses: VOCs, TPH, lead

Comparison criteria: RDCSRC; 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria?  Yes  No

**Brief Narrative**


Environmental assessment including soil and groundwater sampling for these two tanks and the associated fuel lines and fuel dispenser systems has been performed from approximately 1992 through 2009. Following is a summary of major activities and environmental sampling events:

- Building 750 was constructed in 1987, and was used as a Motor Pool support structure until Fort closure in 2011. Barracks were present in the area from the 1940's through the 1970's.
- Fuel dispensers were initially provided in 1986 at the Building 750 Motor Pool for gasoline and diesel. Diesel was stored in UST 750A (Registration ID 81533-191), a 15,000 gallon fiberglass tank. Gasoline was stored in UST 750B (Registration ID 81533-192), an 8,000 gallon fiberglass tank.
- Substantial modifications were approved by NJDEPE in 1991 for upgrading below-grade single wall steel piping to fiberglass with leak containment. The piping and dispensers were subsequently excavated and removed in 1992, and replaced with new components.
- During the 1992 upgrades, petroleum contaminated soil was noted in the vicinity of the dispensers, and the NJDEP was notified of the release (case No. 92-05-07-1600). A total of 1,140 cubic yards of petroleum-contaminated soil were excavated and removed from the site. Site assessment soil samples were collected from below the pipeline and dispensers, and four monitor wells were installed, as reported in the Weston 1994 closure report (**Enclosure 1**).
- UST 750A and UST 750B were subsequently removed in 2005, along with the associated upgraded piping and fuel dispensers. Site assessment soil samples were collected from below the tanks, piping and dispensers (**Enclosure 2**).
  - None of the sample results exceeded the RDCSRS (for the gasoline UST) or the 5,100 mg/kg TPH criteria (for the diesel UST).

- One sample (P5) from below the pipeline exceeded the Impact to Groundwater standards for benzene, ethyl benzene, toluene and xylenes (BTEX). However, groundwater monitor well 750MW02 was located near sample P5, and has not had indications of BTEX contamination in groundwater. This indicates that the soil represented by Sample P5 had not previously impacted groundwater and (due to the previous soil removal in 1992) will not impact groundwater in the future.
- Groundwater monitoring at the four wells was performed initially in 1993, twice in 1994, and then quarterly from 1997 through November 2009, primarily due to benzene concentrations in well 750MW01 in excess of the Ground Water Quality Criteria (GWQC). A tabulated summary of analytical results is presented in **Enclosure 3**. Benzene was initially detected in excess of GWQC in monitor well 750MW01. Select metals also periodically exceed GWQC but are attributable to either sample turbidity and/or naturally elevated metals concentrations due to glauconitic soils in the area. As shown on the graph of time versus benzene concentration in **Enclosure 3**, benzene has attenuated significantly over time, and the latest benzene results from 2008 to 2009 were at or below the GWQC of 1 ug/L in 2008 and 2009.
- The analytical data package for the last round of groundwater monitoring in 2009 is provided in **Enclosure 4**. All VOCs were non-detect in wells 750MW01 through 750MW04. It is concluded that natural attenuation has successfully maintained benzene concentrations below the GWQC, and therefore further monitoring is not warranted.
- Since 2014 the Building 750 Motor Pool area has been used for maintenance activities by Monmouth County.

In conclusion, the analytical results support changing the UST Case Status to “Case Closed” for both UST 750A and UST 750B.

Recommendations (if any): Change to “Case Closed”, request NFA from NJDEP

Signed:   
Kent A. Friesen, Parsons

ENCLOSURE 1 of Attachment E

31 May 1994 Weston Report: *Underground Storage Tank System Piping and Site Investigation Report, Building 750, NJDEPE UST Facility No. 008153, UST Nos. 191 and 192, TMS No. S-91-2811, Spill Case No. 92-05-07-1600.*





**UNDERGROUND STORAGE TANK SYSTEM  
PIPING CLOSURE AND SITE  
INVESTIGATION REPORT  
BUILDING 750  
NJDEPE UST FACILITY NO. 008153  
UST NOS. 191 AND 192  
TMS NO. S-91-2811  
SPILL CASE NO. 92-05-07-1600**

31 May 1994

W.O. No.: 03886-088-001

Prepared For:

**UNITED STATES ARMY  
DIRECTORATE OF PUBLIC WORKS  
BUILDING 167  
FORT MONMOUTH, NEW JERSEY 07703**

Prepared by:

**ROY F. WESTON, INC.  
Raritan Plaza I - 4th Floor  
Edison, New Jersey 08837**



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## EXECUTIVE SUMMARY

On 25 July 1991, the U.S. Army Fort Monmouth Directorate of Public Works (DPW) submitted a permit application to the New Jersey Department of Environmental Protection and Energy (NJDEPE) to substantially modify the piping system associated with two (2) Underground Storage Tanks (USTs) at Building 750 on the Main Post. The modification included removal of the existing single wall ~~fiberglass~~ <sup>STEEL</sup> piping, approximately 150 feet in length and replacing it with double wall fiberglass piping and a piping leak detection system. The permit also indicated that the piping system would be precision tested in lieu of soil sampling and analysis.

On 18 November 1991 Substantial Modification permit, TMS #S-91-2811, was issued by the NJDEPE for UST Nos. 191 and 192, Facility UST Registration No. 0081533. UST No. 191, a single wall fiberglass, 15,000-gallon capacity, gasoline tank, and UST No. 192, a single wall fiberglass, 15,000-gallon capacity, diesel tank were modified with leak detection systems, new dispensers and double walled piping. The permit was for a period of one year and would expire on 18 November 1992.

On 26 December 1991, precision tightness testing of the piping system was attempted. Due to the piping configuration, the test could not be performed. Eleven (11) soil samples were collected from along the piping for visual inspection. Based on this evaluation the soil was believed to be contaminated and a program was established to remediate the stained soils.

On 7 May 1992, excavation commenced along the piping and around the dispenser islands. Contamination was confirmed using organic vapor analyzer (OVA) readings. A discharge was reported immediately to the NJDEPE by the Directorate of Public Works (DPW) (Case No. 92-05-07-1600).

On 11 May 1992, excavation of the contaminated soils continued. Approximately 1,140 cubic yards of contaminated soil was removed. No groundwater was present in the excavation.

On 2 June 1992, twenty soil samples were collected from the piping excavation and analyzed by Analytical Associates Laboratory for volatile organic compounds plus 15 tentatively identified compounds (VO+15), base neutral extractable compounds plus 15 tentatively identified compounds (BN+15) and lead. All samples contained either non-detectable concentrations of contaminants or concentrations of contaminants below proposed NJDEPE subsurface cleanup criteria (revision dated 3 February 1994).

Between 30 October and 3 November 1992, four monitoring wells were installed in the area surrounding UST Nos. 191 and 192. Monitoring Well No. 1 (MW-1) was placed southwest of the tank farm; Monitoring Well No. 2 (MW-2) was placed northeast of the tank farm; Monitoring Well No. 3 (MW-3) was installed near the piping runs and Monitoring Well No. 4 (MW-4) between the two fuel distribution areas.



On 21 April 1993, one groundwater samples was collected from each monitoring well and analyzed by 21st Century Environmental Laboratories for VO+15, BN+15 and lead. Benzene and total xylenes were detected in groundwater samples collected from MW-4 (12 ug/L and 64 ug/L, respectively). These concentrations of contaminants exceed the NJDEPE Class II-A Ground Water Quality Criteria. In addition, methylene chloride was detected in all samples, including the laboratory method blank. Methylene chloride present in the method blank indicates its presence in samples is due to laboratory induced contamination.

On 7 June 1993, UST Nos. 191 and 192 were substantially modified in accordance with NJDEPE requirements. Charles J. Hoffman, Inc. performed the substantial modification of the UST system and piping closure.

Due to the concentrations of contaminants detected in MW-4 collected 21 April 1993 which exceeded the NJDEPE Class II-A Ground Water Quality Criteria, it is proposed that each monitoring well be analyzed quarterly for a one year period. Each sample will be analyzed for VO+15. The analytical results will be compared to Class II-A Ground Water Quality Criteria. Analytical results and recommendations for further action will be presented in an addendum to this report.

Based on remedial measures performed and the absence of contamination in the post excavation samples, it is recommended that no further action be required for soil surrounding the piping and dispenser areas.



## SECTION 1.0

### UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

#### 1.1 OVERVIEW

On 7 June 1993, two underground storage tank (UST) systems were substantially modified in accordance with New Jersey Department of Environmental Protection and Energy (NJDEPE) requirements at U.S. Army Fort Monmouth, New Jersey. UST Nos. 191 and 192, were located adjacent to Building 750 in the Main Post area of Fort Monmouth. UST No. 191, a single walled 15,000-gallon capacity fiberglass tank which stored gasoline and UST No. 192, a single walled 15,000-gallon capacity fiberglass tank which stored diesel were modified by installation of leak detection, new dispensers and double walled piping. This report presents the results of the DPW's implementation of the UST Substantial Modification and Piping Closure Plan submitted to the NJDEPE-DHWM on 12 July 1991, and approved 18 November 1991. UST permit (TMS No. S-91-2811) was assigned to the U.S. Army for this modification.

All activities associated with the UST substantial modification and piping closure 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. 7:26E-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 29 CFR 1910.146 & 29 CFR 1910.120. All permits including but not limited to the NJDEPE-approved UST Substantial Modification and Piping Closure Plan were posted onsite for inspection. At the time the work was performed, Charles J. Hoffman, Inc., the contractors that conducted the UST modification activities, were registered and certified by the NJDEPE for performing UST substantial modification activities. The UST substantial modification permit and the UST Site Assessment Summary Form have been included in Appendices A and B, respectively. The UST Site Assessment Summary Form has been signed and sealed by Mr. James Ott, P.E., Director of DPW.

This UST Piping System Closure and Site Investigation Report was prepared by Roy F. Weston Inc. (WESTON®), to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEPE Bureau of Underground Storage Tanks (NJDEPE-BUST) regulations. The applicable NJDEPE-BUST regulations at the date of closure were the "Technical Requirements for Site Remediation - Proposed New Rules" (N.J.A.C. 7:26E-1 et seq. May 1992). Section 1.0 of this UST System Piping Closure and Site Investigation Report provides a summary of the UST piping system decommissioning activities. Section 2.0 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the soil and groundwater sampling investigation, are presented in the Section 3.0 of this report.

## **1.2 SITE DESCRIPTION AND UST HISTORY**

Building 750 is located on Alexander Avenue within the northeastern portion of the Main Post of Fort Monmouth. A site location map is provided in Figure 1-1. A site map detailing the tank farm and former piping locations is provided in Figure 1-2. Building 750 is an active military vehicle repair and maintenance facility which was constructed in 1986. Two (2) USTs, identified as UST Nos. 191 and 192, are located approximately 150 feet east of Building 750. A piping chase, approximately 150 feet long, runs northwest and connects the diesel and gasoline dispenser area.

## **1.3 GEOLOGICAL/HYDROGEOLOGICAL SETTING**

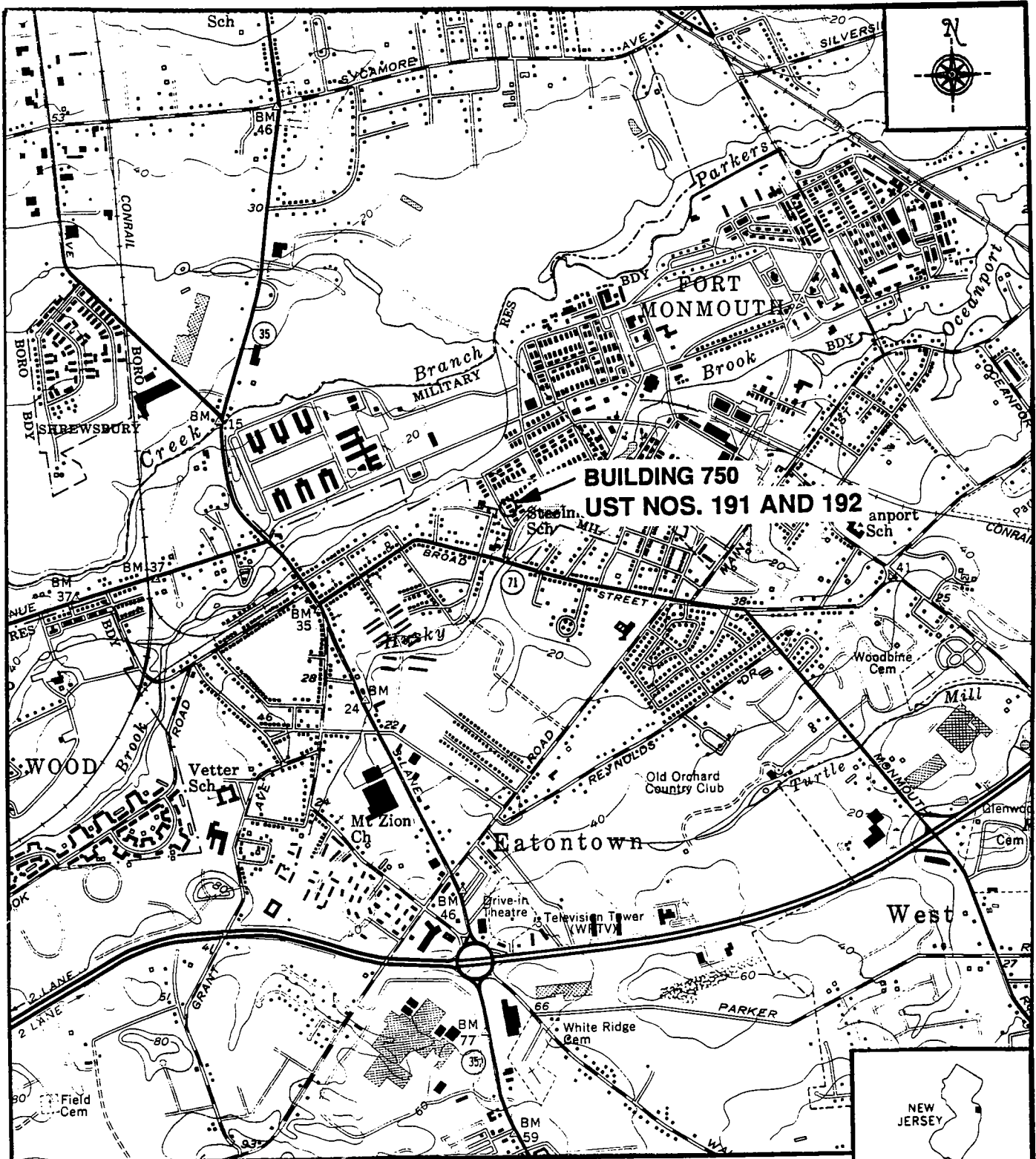
The following is a description of the geological/hydrogeological setting of the area surrounding Building 750. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

### **1.3.1 Geological Setting**

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post, Charles Wood, and the Evans areas are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey, Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapczka, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which 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). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapczka, 1990).



REFERENCE: U.S.G.S. QUADRANGLE LONG BRANCH, NJ: PHOTOREVISED 1981  
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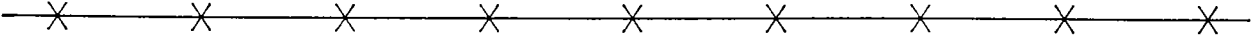
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 UST LONGITUDE: W 74 Deg. 02 Min. 58 Sec.

QUADRANGLE LOCATION



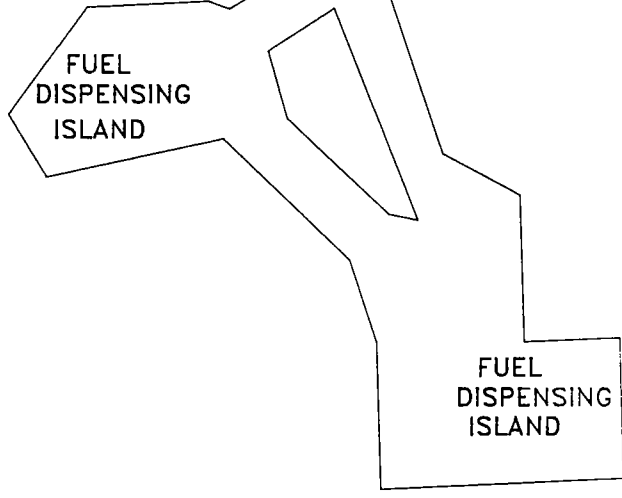
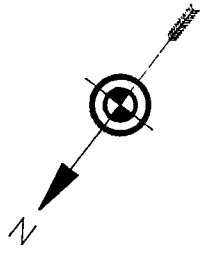
**FIGURE 1-1**  
**FACILITY LOCATION MAP**  
**U.S. ARMY - DIRECTORATE OF PUBLIC WORKS**  
**FORT MONMOUTH, NEW JERSEY**



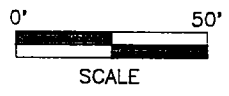


FENCE

UST FIELD  
15K DIESEL TANK  
8K GASOLINE TANK



BUILDING  
750



REVISION # 1 DATE: 5/16/94 PLOT NAME: B750USTS  
FILE NAME: B750USTS.DWG DRAWN BY: B. MAC



PROJECT NAME:  
UST SYSTEM PIPING CLOSURE AND  
REMEDIAL INVESTIGATION REPORT  
BUILDING 750 - UST NOS. 191,192  
FORT MONMOUTH, NEW JERSEY  
CLIENT NAME: U.S. ARMY - FORT MONMOUTH  
DIRECTORATE OF PUBLIC WORKS

SITE MAP  
DATE: 5/17/94  
FIGURE #: 1-2

## Local Geology

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-course-grained sand that contains abundant rock fragments, minor mica and glauconite (Jablonski). The lower member (Sandy Hook) is a dark grey 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).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Main Post area range from five feet above mean sea level (MSL) to 31 feet above MSL.

### 1.3.2 Hydrogeological Setting

The water table aquifer at the Main Post 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.

Based on records from wells drilled at the Main Post, groundwater is typically encountered at depths of two to nine feet below ground surface (BGS). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Shallow groundwater is locally influenced within the Main Post area by the following factors:

- tidal influence (based on proximity to the Atlantic Ocean, rivers and tributaries),
- topography,
- nature of the fill material within the Main Post area,
- presence of clay and silt lenses in the natural overburden deposits, and
- local groundwater recharge areas (i.e. stream, lakes).

Due to the fluvial nature of the overburden deposits (i.e. sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. This is consistent with

lithologies observed in borings installed within the Main Post area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of silt and/or clay.

Building 750 is less than 1/4 mile north of Husky Brook, the nearest water body. In addition, Mill Brook is located approximately 1/4 mile north of Building 750. Four groundwater monitoring wells were installed as part of the substantial modification of UST Nos. 191 and 192. The monitoring well permit, monitoring well records and Form B for each well is provided in Appendix C. Figure 1-3 indicates the location of the groundwater monitoring wells and groundwater flow direction based on water level elevations obtained on 10 January 1994. Table 1-1 provides a summary of groundwater level informations. The groundwater flow direction in the area of Building 750 was determined to be to the northeast. The Atlantic Ocean is located approximately five miles east of the site.

### 1.3.3 Offsite Ground Water Usage

In compliance with the NJDEPE regulations, WESTON conducted a well search to identify all irrigation, monitoring, domestic, industrial and public supply wells within one half mile of Fort Monmouth. The file search produced records for 104 wells within one half mile of Building 750. The well search summary table includes the following information on surrounding wells: well identification number; well owner; well address; total depth (feet BGS); casing length (feet); static water level elevation (feet BGS); use code; and NJDEPE permit number. In addition, a summary table of all U.S. Army wells located at Fort Monmouth, which includes the following information: well number, NJDEPE permit number; New Jersey State Plane Coordinates; casing elevation and, elevation of ground well records for the nearest identified offsite well have also been included, if available. This information is included in Appendix D.

A review of the well records indicated that the majority of the wells within the area of concern are used for monitoring purposes. There were 90 monitoring wells. An irrigation well (Permit Number 29-22571), owned by Mr. A. Khristiansen is the closest to the site in the downgradient flow direction. The well is located at 54 Trafalcer Place, approximately 4,500 feet northeast of the site.

## 1.4 HEALTH AND SAFETY

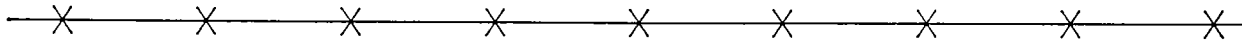
Before, during, and after all activities, hazards at the work site which may have posed a threat to the health and safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing approved equipment. The trained individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.



**TABLE 1-1**

**WATER LEVEL ELEVATIONS FOR  
MONITORING WELLS MW-1, MW-2, MW-3 AND MW-4  
COLLECTED ON 10 JANUARY 1994**

Monitoring Well Permit Number	Time of Collection	Top of Well Casing Elevation (feet)	Depth to Water (feet)	Groundwater Surface Elevation (feet)
29-28992 (MW-1)	1:40 pm	18.79	5.39	13.40
29-28993 (MW-2)	1:42 pm	18.61	5.08	13.53
29-28994 (MW-3)	1:46 pm	19.04	5.23	13.81
29-28995 (MW-4)	1:50 pm	18.98	5.54	13.44

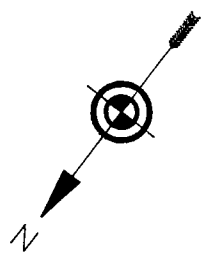


FENCE

MW-2  
 LATITUDE: N 40° 18' 33.0"  
 LONGITUDE: W 74° 02' 58.3"

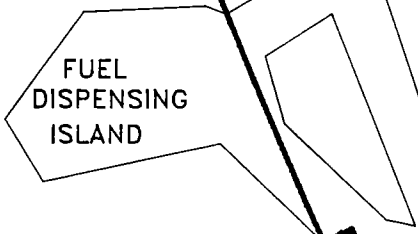
UST FIELD  
 15K DIESEL TANK  
 8K GASOLINE TANK

MW-1  
 LATITUDE: N 40° 18' 33.4"  
 LONGITUDE: W 74° 02' 58.6"



MW-3  
 LATITUDE: N 40° 18' 32.4"  
 LONGITUDE: W 74° 02' 57.8"  
 METHYLENE CHLORIDE ug/L 3.9

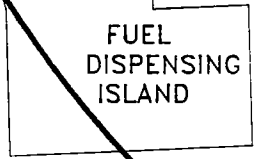
BUILDING 750



FUEL DISPENSING ISLAND

MW-3

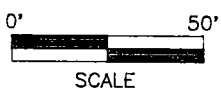
MW-4  
 LATITUDE: N 40° 18' 32.5"  
 LONGITUDE: W 74° 02' 57.6"  
 BENZENE ug/L 12  
 XYLENE (TOTAL) 64  
 METHYLENE CHLORIDE 2.2



FUEL DISPENSING ISLAND

MW-4

13.45



SCALE

LEGEND



MONITORING WELL LOCATION

REVISION # 1 DATE: 5/16/94 PLOT NAME: B750USTS  
 FILE NAME: B750USTS.DWG DRAWN BY: B. MAG



PROJECT NAME: UST SYSTEM PIPING CLOSURE AND SITE INVESTIGATION REPORT  
 BUILDING 750 - UST NOS. 191,192  
 FORT MONMOUTH, NEW JERSEY  
 CLIENT NAME: U.S. ARMY - FORT MONMOUTH  
 DIRECTORATE OF PUBLIC WORKS

MONITORING WELL LOCATION PLAN AND GROUNDWATER FLOW

DATE: 5/17/94

FIGURE #: 1-3

## **1.5 REMOVAL OF UNDERGROUND STORAGE TANK PIPING**

### **1.5.1 General Procedures**

Between 26 December 1991 and 7 June 1993 soil around the piping system for UST Nos. 191 and 192 were investigation for contamination.

Ground Water was evaluated by the installation and sampling of four (4) monitoring wells in the area of the tank farm, piping and dispenser areas between 30 October 1992 and 21 April 1993.

On 7 June 1993 the two UST systems were substantially modified by the installation of double wall fiberglass piping, leak detection systems and new dispensers.

- All underground obstructions (utilities,... etc.) were marked out by the contractor performing the closure prior to excavation activities.
- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.
- All excavated soils were screened visually and with air monitoring instruments for evidence of contamination. Approximately 1140 cubic yards of contaminated soil was identified and removed during remediation activities.
- Surface materials (i.e, asphalt, concrete, etc...) were excavated and staged separate from all soils. These materials were later recycled in accordance with all applicable laws and regulations.
- A Sub-Surface Evaluator from the DPW was present during all closure activities.

### **1.5.2 Underground Storage Tank Piping Excavation**

On 26 December 1991, after failure of precision tightness testing, soil samples were collected for visual inspection along the suction lines extending from UST Nos. 191 and 192 to the dispenser area. Soil screening revealed the presence of potential contamination and a program was established to excavate tainted soils.

On 7 May 1992, excavation commenced along the piping run and around the dispenser islands. Contamination was confirmed using an OVA. A discharge was immediately reported to the NJDEPE by the DPW (Case No. 92-05-07-1600). Soil was excavated to expose the piping. The piping was drained of all free product, removed and disposed. The dispenser islands were removed and soil beneath and surrounding them excavated.

On 11 May 1992 excavation of the dispenser areas continued and the area was excavated to non-detectable (OVA) levels. Approximately 1140 cubic yards of contaminated soil was removed and



transported to a designated staging area within Fort Monmouth (T-80 yard). The soil was then transported to Soil Remediation of Philadelphia, Inc. by Allied Environmental, Inc. for recycling. A certificate of soil remediation is provided in Appendix E. Groundwater was not present in the excavation.

#### **1.6 UNDERGROUND STORAGE TANK PIPING TRANSPORTATION AND DISPOSAL:**

The UST system piping was transported and disposed of by Charles J. Hoffman, Inc.

#### **1.7 MANAGEMENT OF EXCAVATED SOILS:**

Approximately 1140 cubic yards of contaminated soil was removed from the area surrounding the dispenser islands and placed on and covered with polyethylene sheets. All excavated soils suspected to be contaminated were excavated by Serv-Air, Inc., a base operations contractor, and transported, by Charles J. Hoffman, Inc. to a designated staging area within Fort Monmouth (T-80 yard). The soils were then transported to Soil Remediation of Philadelphia, Inc. for recycling. A certificate of soil remediation is provided in Appendix E.

## SECTION 2.0

### SITE INVESTIGATION ACTIVITIES

#### 2.1 OVERVIEW

The Site Investigation was managed and carried out by U.S Army DPW personnel. Post excavation soil analyses were performed and reported by A.A. Laboratories, Inc. Ground Water sample analysis was performed by 21st Century Environmental. Both laboratories were NJDEPE certified at the time testing was performed. All sampling was performed under the direct supervision of a NJDEPE Certified Sub-Surface Evaluator according to the methods described in the NJDEPE Field Sampling Procedures Manual (May 1992). Sampling frequency and parameters analyzed complied with the NJDEPE-BUST document "Technical Requirements for Site Remediation - Proposed New Rules" (May 1992) which was the applicable regulation at the date of closure. All records of the site investigation activities are maintained by Fort Monmouth DPW: Environmental Office.

The following Parties participated in closure and site investigation activities:

- Closure Contractor: Charles J. Hoffman, Inc.  
Contact Person: Charles Hoffman  
Phone Number: (908) 775-7979  
NJDEPE Company Certification No.: 1300221
- Subsurface Evaluator: Charles Appleby  
Employer: U.S. Army, Fort Monmouth  
Phone Number: (908) 532-6224  
NJDEPE Certification No.: 2056
- Analytical Laboratory: A.A. Laboratories, Inc.  
Contact Person: Raymond Feldt  
Phone Number: (609) 799-8787  
NJDEPE Laboratory Certification No.: 12660
- Analytical Laboratory: 21st Century Environmental, Inc.  
Contact Person: Richard W. Lynch  
Phone Number: (609) 467-9521  
NJDEPE Laboratory Certification No.: 08031



## **2.2 FIELD SCREENING/MONITORING**

All soils that were excavated as part of the substantial modification of UST Nos. 191 and 192 were screened using a OVA, for evidence of contamination. Soils were also inspected visually for evidence of contamination (staining, free product, etc.). Soils on the sidewalls and base of the excavation were screened with a OVA by an individual under the direct supervision of the NJDEPE Certified Sub-Surface Evaluator. Evidence of contamination was noted during excavation of soils surrounding the UST system and associated piping and subsequently 1140 cubic yards of contaminated soil was removed and recycled. Excavation was continued until OVA readings on the sidewalls were below 10 units.

## **2.3 SOIL AND Ground Water SAMPLING**

### **2.3.1 Soil**

On 2 June 1992, following the exposure of the piping system, removal of the dispenser pads and excavation of potentially contaminated soils, twenty (20) soil samples were collected for laboratory analysis. Each sample was analyzed by A. A. Laboratories, Inc. (NJDEPE Certification No. 12660) for VO+15 and lead. Soil samples were obtained from the bottoms of the piping excavations, and the sidewalls and the bottoms of other excavated areas. Figure 2-1 depicts the locations of the post-excavation soil samples and Table 2-1 provides a summary of sampling activities including sample location and depths.

Samples were collected using decontaminated stainless steel scoops and placed in laboratory supplied sample bottles. After sampling, the soils were placed in coolers with ice for transportation to the laboratory. One field blank was collected during post-excavation sampling activities.

### **2.3.2 Ground Water**

On 21 April 1993, one groundwater sample was collected from each of the four (4) monitoring well and analyzed by 21st Century Environmental Laboratories for VO+15 and BN+15. A summary of sampling activities including parameters analyzed is provided in Table 2-2.

The groundwater samples were collected using decontaminated teflon bailers. Prior to sampling, the wells were purged. Samples were placed into laboratory prepared sample bottles and placed in coolers with ice for transportation to the laboratory. In addition to the well samples, one duplicate sample was obtained from MW-4 and one trip blank and one field blank were collected and analyzed.

As noted in the analytical report narrative, volatile organic analysis surrogates for sample Nos. MW-4-2928995 and MW-4-2928995-Dup were outside of the acceptable range. Because the



surrogate did not pass quality control requirements they were re-analyzed. Surrogates for the second run were within acceptable limits.

The frequency of sampling and parameters analyzed were consistent with the applicable NJDEPE regulations at the date of closure, which were the "Technical Requirements for Site Remediation - Proposed New Rules" (N.J.A.C. 7:26E-1 et seq., dated May 1992).

**TABLE 2-1**  
**SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES**  
**BUILDING NO. 750**  
**UST NO. 191 & 192**  
**FORT MONMOUTH, NEW JERSEY**

Sample Location	Sample No.	Sample Location	Sample Depth (ft)	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
Site A	841A	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site B	842B	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site C	843C	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site D	844D	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site E	845E	Bottom of Piping Chase	2	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site F	846F	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site G	847G	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site H	848H	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site I	849I	Bottom of Excavation	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site J	850J	Excavation Sidewall	3-4	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site K	851K	Bottom of Piping Chase	3	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site L	852L	Bottom of Piping Chase	3	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site M	853M	Bottom of Piping Chase	3	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site N	854N	Excavation Sidewall	5	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site O	855O	Excavation Sidewall	5	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site P	856P	Bottom of Excavation	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop

**TABLE 2-1 (CONTINUED)**

**SUMMARY OF POST-EXCAVATION SAMPLING ACTIVITIES  
 BUILDING NO. 750  
 UST NOS. 191 & 192  
 FORT MONMOUTH, NEW JERSEY**

Sample Location	Sample No.	Sample Location	Sample Depth (ft)	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
Site Q	857Q	Excavation Sidewall	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site R	858R	Excavation Sidewall	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site S	859S	Excavation Sidewall	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop
Site T	860T	Bottom of Excavation	8	6/2/92	Soil	Post-Excavation	Lead, VO+15	Stainless Steel Scoop

**Abbreviations:**

VO+15 - Volatile Organic Compounds plus 15 tentatively identified compounds.

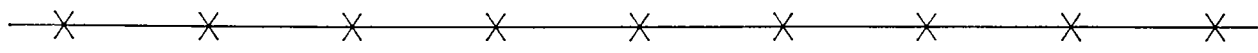
TABLE 2-2

SUMMARY OF GROUNDWATER SAMPLING ACTIVITIES  
 BUILDING NO. 750  
 UST NO. 191 & 192  
 FORT MONMOUTH, NEW JERSEY

Sample Location	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sampling Method
MW-1	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer
MW-2	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer
MW-3	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer
MW-4	4/21/93	Aqueous	Monitoring Well	VO+15, BN+15	Decontaminated Teflon Bailer

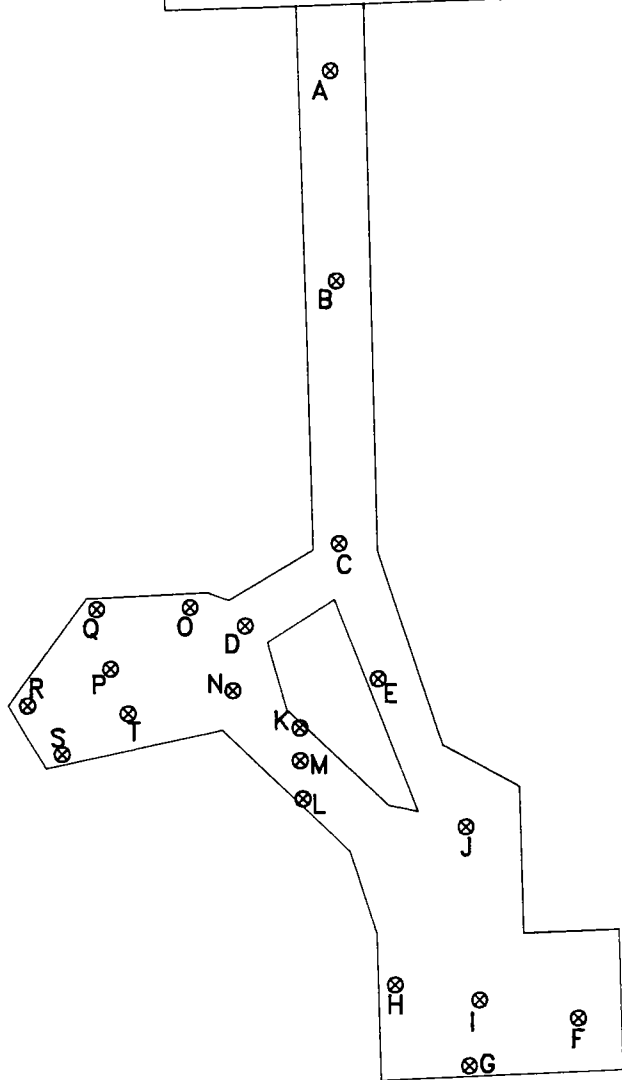
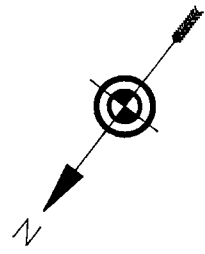
Abbreviations:

- BN+15 - Base neutral compounds plus 15 tentatively identified compounds.
- VO+15 - Volatile Organic analysis plus 15 tentatively identified compounds.



FENCE

UST FIELD  
15K DIESEL TANK  
8K GASOLINE TANK



BUILDING  
750



SCALE

LEGEND

⊗ POST-EXCAVATION SAMPLING LOCATION

REVISION # 1 DATE 5/16/94 PLOT NAME B750USTS  
FILE NAME B750USTS.DWG DRAWN BY B. MAC



PROJECT NAME:  
UST SYSTEM PIPING CLOSURE  
AND SITE INVESTIGATION REPORT  
BUILDING 750 - UST NOS. 191,192  
FORT MONMOUTH, NEW JERSEY  
CLIENT NAME: U.S. ARMY - FORT MONMOUTH  
DIRECTORATE OF PUBLIC WORKS

POST-EXCAVATION  
SAMPLING LOCATIONS

DATE: 5/17/94

FIGURE #: 2-1



## SECTION 3.0

### CONCLUSIONS AND RECOMMENDATIONS

#### **3.1 SOIL AND GROUND WATER SAMPLING RESULTS**

To evaluate soil conditions following the substantial modification of the UST piping system for UST Nos. 191 and 192, twenty post-excavation soil samples were collected and analyzed by Analytical Associates Laboratories for VO+15 and lead. The post-excavation soil sample results were compared to NJDEPE Impact to Ground Water Soil Cleanup Criteria (revision dated 3 February 1994). All samples contained either non-detectable concentrations of contaminants or concentrations of contaminants below NJDEPE impact to groundwater soil cleanup criteria.

To evaluate groundwater conditions following the substantial modification of the UST piping system, one round of groundwater sampling was collected and analyzed for VO+15 and BN+15 by 21st Century Environmental, Inc. Analytical results from the groundwater samples were compared to NJDEPE Class II-A Ground Water Quality Criteria (N.J.A.C. 7:9-6.4, 6.8 and Table 1).

Benzene and total xylenes were detected in groundwater samples collected from MW-4 (12 ug/L and 64 ug/L, respectively). These concentrations of contaminants exceed the NJDEPE Class II-A Ground Water Quality Criteria. Methylene chloride was detected in all groundwater samples. Reported concentrations of methylene chloride were in excess of the NJDEPE's Class II-A Ground Water Quality Criteria. All analytical results for methylene chloride were marked with the data qualifier "B" to indicate methylene chloride was present in laboratory's quality control method blank sample. Therefore, the detected concentrations of methylene chloride in groundwater samples are attributable to laboratory induced contamination and not related to the operation of the piping. Figure 3-1 depicts the location of monitoring wells and contaminant concentrations for detected volatile and semivolatile compounds.

A summary of the analytical results and comparison to NJDEPE Impact to Ground Water Soil Cleanup Criteria is provided in Table 3-1. A summary of the analytical results for groundwater and comparison to NJDEPE Class II-A Ground Water Quality Criteria is provided in Table 3-2. A summary of the analytical methods used and quality assurance information is provided in Table 3-2. The analytical data package summary is provided in Appendix F. The full data package, including associated quality control and chromatograph data is on file at U.S. Army, DPW.



### **3.2 CONCLUSIONS AND RECOMMENDATIONS:**

On 7 June 1993, DPW modified the piping system for UST Nos. 191 and 192 and closed the associated piping at Building 750 in the Main Post Fort Monmouth.

Ground Water flow direction at Building 750 is to the northeast based on water level readings obtained 10 January 1994. Due to the concentrations of contaminants detected in the downgradient well (MW-4) which exceed NJDEPE Class II-A Ground Water Quality Criteria, it is proposed that each monitoring well be analyzed quarterly for a period of one year. Each sample will be analyzed for VO+15. The analytical results will be compared to NJDEPE Class II-A Ground Water Quality Criteria. After completion of the quarterly sampling, an addendum to this report will be submitted to NJDEPE outlining sampling results and recommending further action if necessary.

Based on the remedial measures performed and the absence of contamination in the post excavation samples, it is recommended that no further action be required for soil surrounding the piping chases and dispenser areas.



TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS FOR SOILS  
 BUILDING NO. 750  
 UST NOS. 191 & 192  
 FORT MONMOUTH, NEW JERSEY

Sample ID No.	841A	842B	843C	844D	845E	846F	847G	NJDEPE Impact to Ground Water Soil Cleanup Criteria	
Lab ID No.	13608	13609	13610	13611	13612	13613	13614		
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Sample Type	PE	PE	PE	PE	PE	PE	PE		
Date of Collection	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92		
Analytical Parameters	Units								
Inorganics									
Lead	ND	5.46	5.75	2.81	2.51	4.38	5.54	NC	
Volatile Organic Compounds									
Methylene Chloride	0.002 JB	0.0037 JB	0.0066 B	0.0063 B	0.0083 B	ND B	0.0075 B	1	
Methyl Tert-Butyl Ether (MTBE)	0.0064	0.0086	0.0034 J	ND	ND	ND	ND	NC	
Benzene	ND	0.0027 J	ND	ND	ND	ND	ND	1	
Xylene (Total)	ND	0.0147 J	ND	ND	ND	ND	ND	10	
1,2-Dichlorobenzene	ND	0.061	0.0037 J	ND	ND	ND	ND	50	
Acetone (Tentatively Identified Compound)	ND	ND	0.006	ND	0.023	0.007	0.012	50	

Abbreviations:

- NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
- ND: - Indicates compound not detected.
- PE: - Post-Excavation.
- mg/kg: - Milligrams per kilograms.

Data Qualifiers:

- B: - Indicates also present in blank.
- J: - Indicates detected below method detection limit.

TABLE 3-1 (CONTINUED)

SUMMARY OF ANALYTICAL RESULTS FOR SOILS  
 BUILDING NO. 750  
 UST NOS. 191 & 192  
 FORT MONMOUTH, NEW JERSEY

Sample ID No.	848H	849I	850J	8451K	852L	853M	865N	NIDEPE Impact to Ground Water Soil Cleanup Criteria	
Lab ID No.	13615	13616	13617	13618	13619	13620	13621		
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil		
Sample Type	PE	PE	PE	PE	PE	PE	PE		
Date of Collection	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92		
Analytical Parameters	Units								
<b>Inorganics</b>									
Lead	ND	9.58	2.88	3.50	2.74	2.40	2.87	NC	
<b>Volatile Organic Compounds</b>									
Methylene Chloride	0.0042 JB	0.0052 JB	0.0043 JB	0.0043 JB	0.0052 JB	0.0067 B	0.0039 JB	1	
Methyl Tert-Butyl Ether (MTBE)	0.0093	0.160	0.0057	0.0020 J	0.0022 J	0.0088	ND	NC	
Benzene	0.0036 J	ND	ND	ND	ND	ND	ND	1	
Xylene (Total)	ND	0.0069	ND	ND	ND	ND	ND	10	
1,2-Dichlorobenzene	ND	ND	ND	ND	ND	ND	ND	50	
Acetone (Tentatively Identified Compounds)	0.004	0.005	ND	ND	ND	ND	ND	50	

Abbreviations:

- NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
- ND: - Indicates compound not detected.
- PE: - Post-Excavation.
- mg/kg: - Milligrams per kilograms.

Data Qualifiers:

- B: - Indicates also present in blank.
- J: - Indicates detected below method detection limit.

TABLE 3-1 (CONTINUED)

SUMMARY OF ANALYTICAL RESULTS FOR SOILS  
 BUILDING NO. 750  
 UST NOS. 191 & 192  
 FORT MONMOUTH, NEW JERSEY

Sample ID No.	855O	856P	857Q	858R	859S	860T	Method Blank	NJDEPE Impact to Ground Water Soil Cleanup Criteria
Lab ID No.	13622	13623	13624	13625	13626	13627	VBLK	
Matrix	Soil	Soil	Soil	Soil	Soil	Soil	Soil	
Sample Type	PE	PE	PE	PE	PE	PE	QA	
Date of Collection	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	6/2/92	NA	
Analytical Parameters	Units							
<b>Inorganics</b>								
Lead	mg/kg	ND	ND	ND	6.88	8.33	NR	NC
<b>Volatile Organic Compounds</b>								
Methylene Chloride	mg/kg	0.0055 JB	0.0071 B	ND B	0.0046 JB	ND B	0.0015 B	0.0024 J
Tert-butyl Methyl Ether (MTBE)	mg/kg	ND	0.0042 J	ND	ND	ND	0.002 J	ND
Benzene	mg/kg	ND	0.0015 J	ND	ND	ND	ND	ND
Xylene (Total)	mg/kg	ND	ND	ND	ND	ND	ND	ND
1,2-Dichlorobenzene	mg/kg	ND	ND	ND	ND	ND	ND	ND
Acetone (Tentatively Identified Compound)	mg/kg	0.006	ND	ND	0.018	ND	ND	ND

Abbreviations:

- NA: - Not applicable.
- NC: - No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.
- ND: - Indicates compound not detected.
- NR: - Analysis not requested.
- PE: - Post-Excavation.
- QA: - Quality Assurance sample.
- mg/kg: - Milligrams per Kilograms.

**SUMMARY OF ANALYTICAL RESULTS FOR GROUND WATER  
BUILDING NO. 750  
UST NOS. 191 & 192  
FORT MONMOUTH, NEW JERSEY**

Sample ID No.	MW-1	MW-2	MW-3	MW-4	MW-4 (Dup)	Method/Blank	NIDEPE Class II-A Ground Water Quality Criteria
Lab ID No.	A1629	A1628	A1627	A1630	A1631	NA	
Matrix	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Sample Type	MW	MW	MW	MW	MW	QA	
Date of Collection	4/21/93	4/21/93	4/21/93	4/21/93	4/21/93	NA	
Analytical Parameters	Units						
<b>Volatile Organic Compounds</b>							
Xylene (Total)	ND	ND	ND	64	53	ND	40
Benzene	ND	ND	ND	12	9	ND	1
Toluene	ND	ND	ND	16	12	ND	1,000
Ethylbenzene	ND	ND	ND	6.8	5.4	ND	700
Methyl Tert-Butyl Ether (MTBE)	ND	ND	30	500	500	ND	NC
Acetone	140B	140B	2.7 JB	4.2 J	ND	3.6JB	700
Methylene Chloride	2.0 JB	1.9 JB	3.9 JB	2.2 JB	2.9 JB	3.1JB	2
Tertiary Butyl Alcohol	ND	ND	ND	6.6 J	7.2 J	ND	NC
<b>Base Neutral Compounds</b>							
Butylbenzylphthalate	4.1 J	ND	ND	2.5 J	ND	ND	100
Bis(2-ethylhexyl)phthalate	1.0 J	ND	ND	ND	ND	ND	100

**Abbreviations:**

- NA: - Not Available.
- NC: - No Class II-A groundwater cleanup standard has been proposed for this analyte by NIDEPE.
- ND: - Indicates compound not detected.
- NR: - Analysis not requested.
- MW: - Monitor well.
- QA: - Quality Assurance sample.
- ug/L: - Micrograms per Kilograms.

**Data Qualifiers:**

- B: - Indicates compound detected in blank.
- J: - Indicates compound detected below method detection limit (MDL).

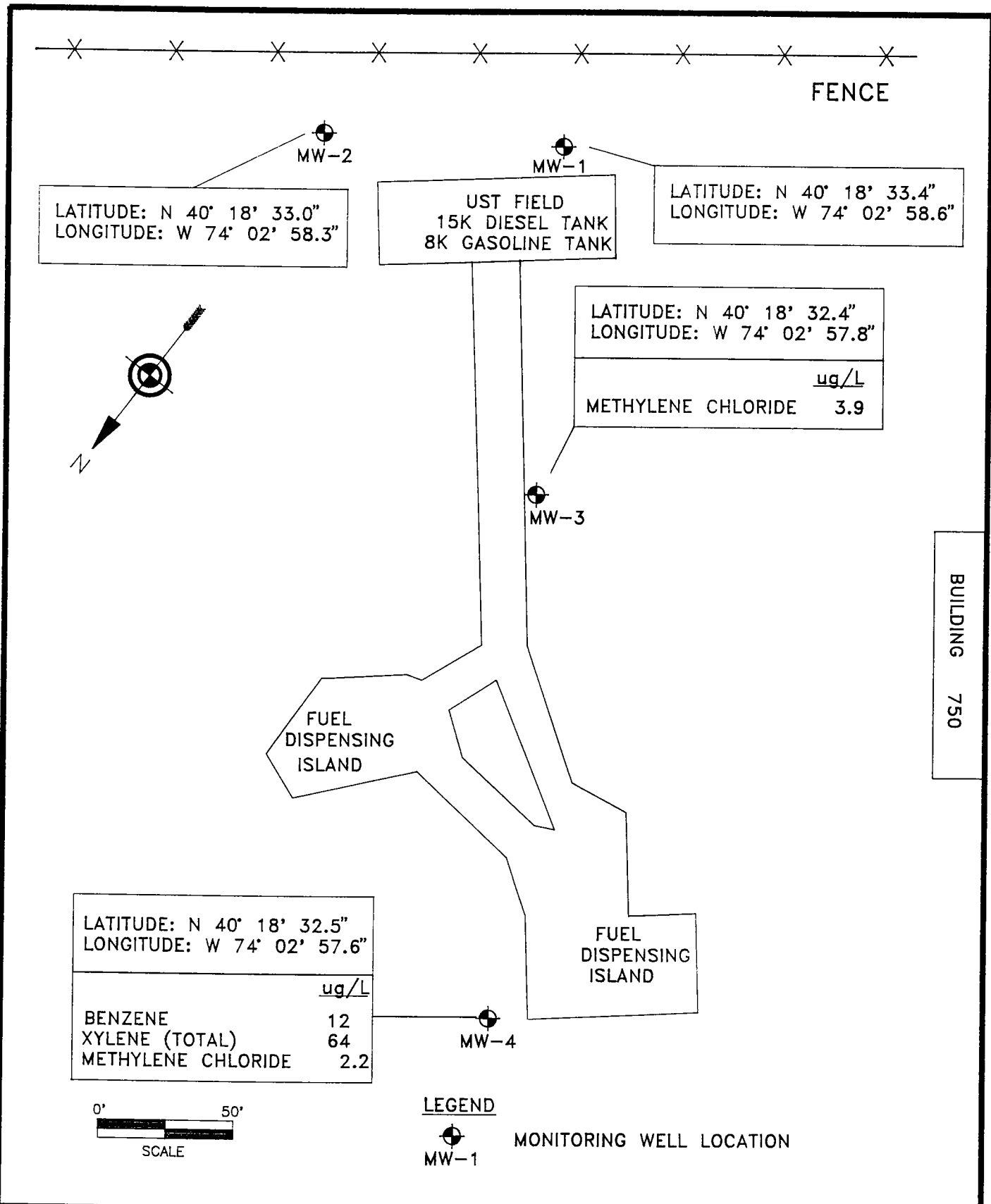
TABLE 3-3

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLES  
 BUILDING NO. 750  
 UST NO. 191 AND 192  
 FORT MONMOUTH, NEW JERSEY

Analytical Parameter	No. of Samples Collected	Matrix	Date Collected	Date Analysis Completed	Preservation Method	USEPA SW-846 Analytical Method
VO+15	19	Soil	6/2/92	6/8/92	Cool to 4°C	8240
Lead	19	Soil	6/2/92	6/11/92	Cool to 4°C	6010
VO+15	4	Aqueous	4/21/93	4/28/93	Cool to 4°C	USEPA-CLP-IFB
BN+15	4	Aqueous	4/21/93	5/13/93	Cool to 4°C	8270

Abbreviations:

- USEPA-CLP-IFB - Volatile samples were analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP volatile method is based on USEPA Method 624 and SW-846.
- VO+15: - Volatile Organic Compounds plus 15 tentatively identified compounds.
- C: - Celsius.
- BN+15: - Base Neutral Compounds plus 15 tentatively identified compounds.



LATITUDE: N 40° 18' 33.0"  
LONGITUDE: W 74° 02' 58.3"

UST FIELD  
15K DIESEL TANK  
8K GASOLINE TANK

LATITUDE: N 40° 18' 33.4"  
LONGITUDE: W 74° 02' 58.6"

LATITUDE: N 40° 18' 32.4"  
LONGITUDE: W 74° 02' 57.8"  
  
METHYLENE CHLORIDE 3.9 ug/L

LATITUDE: N 40° 18' 32.5"  
LONGITUDE: W 74° 02' 57.6"  
  
BENZENE 12 ug/L  
XYLENE (TOTAL) 64  
METHYLENE CHLORIDE 2.2

BUILDING 750



LEGEND

MONITORING WELL LOCATION  
MW-1

REVISION # 1 DATE 5/16/94 PLOT NAME: B750USTS  
FILE NAME: B750USTS.DWG DRAWN BY: B. MAC



PROJECT NAME:  
UST SYSTEM PIPING CLOSURE  
AND SITE INVESTIGATION REPORT  
BUILDING 750 - UST NOS. 191,192  
FORT MONMOUTH, NEW JERSEY  
CLIENT NAME: U.S. ARMY - FORT MONMOUTH  
DIRECTORATE OF PUBLIC WORKS

MONITORING WELL LOCATIONS

DATE: 5/17/94 FIGURE #: 3-1



**APPENDIX A**

**NJDEPE-BUST SUBSTANTIAL MODIFICATION PERMIT**

# UNDERGROUND STORAGE TANK SYSTEM PERMIT

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL  
PROTECTION AND ENERGY  
DIVISION OF RESPONSIBLE PARTY SITE REMEDIATION  
BUREAU OF UNDERGROUND STORAGE TANKS  
CN-029, TRENTON, NJ 08625-0029

- SEE  
Substantial  
modification  
File.

4-14-94  
Charles  
App's

TMS # S-91-2811

UST # 0081533

NOV 22 1991

Fort Monmouth  
Main Post West Building 750  
Fort Monmouth

(Monmouth County)

THE ABOVE LISTED FACILITY IS HEREBY GRANTED A PERMIT TO PERFORM THE  
FOLLOWING ACTIVITY IN ACCORDANCE WITH N.J.A.C. 7:14B-1 et. seq.:

Substantial modification to one (1) underground gasoline  
storage tank and one (1) diesel tank, to consist of installation  
of a discharge monitoring system, and spill and overfill  
prevention.

ON-SITE MANAGER: Joseph M. Fallon

TELEPHONE: 908 532-1475

OWNER: United States Army

TELEPHONE:

EFFECTIVE DATE: November 18, 1991

EXPIRATION DATE: November 18, 1992

THIS FORM MUST BE DISPLAYED AT THE SITE DURING THE APPROVED  
ACTIVITY AND MUST BE MADE AVAILABLE FOR INSPECTION AT ALL TIMES.

*Kenneth Goldstein*

KENNETH GOLDSTEIN, P.E., CHIEF  
BUREAU OF UNDERGROUND STORAGE TANKS





**APPENDIX B**

**NJDEPE UST SITE ASSESSMENT SUMMARY FORM**

UST-014  
2/91



FOR STATE USE ONLY

UST# \_\_\_\_\_  
Date Rec'd: \_\_\_\_\_  
TMS # \_\_\_\_\_  
Staff: \_\_\_\_\_

State of New Jersey  
Department of Environmental Protection and Energy  
Division of Responsible Party Site Remediation

CN 028  
Trenton, NJ 08625-0028  
Tel. # 609-984-3156  
Fax. # 609-292-5604

Scott A. Weiner  
Commissioner

Karl J. Delane  
Director

**UNDERGROUND STORAGE TANK  
SITE ASSESSMENT SUMMARY**

*Under the provisions of the Underground Storage  
of Hazardous Substances Act  
in accordance with N.J.A.C. 7:14B*

This Summary form shall be used by all owners and operators of Underground Storage Tank Systems (USTS) who have either reported a release and are subject to the site assessment requirements of N.J.A.C. 7:14B-8.2 or who have closed USTS pursuant to N.J.A.C. 7:14B-9.1 et seq. and are subject to the site assessment requirements of N.J.A.C. 7:14B-9.2 and 9.3.

**INSTRUCTIONS:**

- Please print legibly or type.
- Fill in all applicable blanks. This form will require various attachments in order to complete the Summary. The technical guidance document, Interim Closure Requirements for USTs, explains the regulatory (and technical) requirements for closure and the Scope of Work, Investigation and Corrective Action Requirements for Discharges from Underground Storage Tanks and Piping Systems explains the regulatory (and technical) requirements for corrective action.
- Return one original of the form and all required attachments to the above address.
- Attach a scaled site diagram of the subject facility which shows the information specified in Item IV B of this form.
- Explain any "No" or "N/A" response on a separate sheet.

Date of Submission 6-7-94

81533-191 & 192  
**FACILITY REGISTRATION #**

**I. FACILITY NAME AND ADDRESS**

U.S. Army Fort Monmouth  
Directorate of Public Works, Building 167  
Fort Monmouth, NJ 07703 County Monmouth  
Telephone No. (908) 532-1475

**OWNER'S NAME AND ADDRESS, if different from above**

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Telephone No. \_\_\_\_\_

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found?  Yes  No If Yes, Case No. 92-05-07-1600  
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) Gasoline, Diesel

C. Have any vapor hazards been mitigated?  Yes  No  N/A

III. DECOMMISSIONING OF TANK SYSTEMS

Closure Approval No. S-91-2811

The site assessment requirements associated with tank decommissioning are explained in the Technical Guidance Document, Interim Closure Requirements for UST's, Section V. A-D. Attach complete documentation of the methods used and the results obtained for each of the steps of tank decommissioning used. Please include a site map which shows the locations of all samples and borings, the location of all tanks and piping runs at the facility at the beginning of the tank closure operation and annotated to differentiate the status of all tanks and piping (e.g., removed, abandoned, temporarily closed, etc.). The same site map can be used to document other parts of the site assessment requirements, if it is properly and legibly annotated.

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

Any evidence of contamination in excavated soil will require that the soil be classified as either Hazardous Waste or Non-Hazardous Waste. Please include all required documentation of compliance with the requirements for handling contaminated excavated soil (if any was present) as explained in the technical guidance documents for closure and corrective action. Describe amount of soil removed, its classification, and disposal location.

B. Scaled Site Diagrams

1. Scaled site diagrams must be attached which include the following information:

- a. North arrow and scale
- b. The locations of the ground water monitoring wells
- c. Location and depth of each soil sample and boring
- d. All major surface and sub-surface structures and utilities.
- e. Approximate property boundaries
- f. All existing or closed underground storage tank systems, including appurtenant piping
- g. A cross-sectional view indicating depth of tank, stratigraphy and location of water table
- h. Locations of surface water bodies

C. Soil samples and borings (check appropriate answer)

1. Were soil samples taken from the excavation as prescribed?  Yes  No  N/A
2. Were soil borings taken at the tank system closure site as prescribed?  Yes  No  N/A
3. Attach the analytical results in tabular form and include the following information about each sample
  - a. Customer sample number (keyed to the site map)
  - b. The depth of the soil sample
  - c. Soil boring logs
  - d. Method detection limit of the method used
  - e. QA/QC information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 4

2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:

- a. Site diagram number for each well installed
- b. Depth of ground water surface
- c. Depth of screened interval
- d. Method detection limit of the method used
- e. Well logs
- f. Well permit numbers
- g. QA/QC information as required

V. SOIL CONTAMINATION

A. Was soil contamination found?  Yes  No  
If "Yes", please answer Question B-E  
If "No", please answer Question B

B. The highest soil contamination still remaining in the ground has been determined to be:

1. <u>17.4</u> ppb total BTEX.	<u>28</u> ppb total non-targeted VOC
2. <u>NA</u> ppb total B/N.	<u>NA</u> ppb total non-targeted B/N
3. <u>NA</u> ppm TPHC	
4. <u>9.58</u> ppb <u>Lead</u>	(for non-petroleum substance)

C. Remediation of free product contaminated soils

- 1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface  Yes  No
- 2. Free product contaminated soils are suspected to exist below the water table  Yes  No
- 3. Free product contaminated soils are suspected to exist off the property boundaries.  Yes  No

D. Was the vertical and horizontal extent of contamination determined?  Yes  No  N/A

E. Does soil contamination intersect ground water?  Yes  No  N/A

VI. GROUND WATER CONTAMINATION

A. Was ground water contamination found?  Yes  No  
If "Yes", please answer Questions B-G.  
If "No", please answer only Question B.

B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be:

1. <u>98.8</u> ppb total BTEX.	<u>160.4</u> ppb total non-targeted VOC:
2. <u>5.1</u> ppb total B/N.	<u>9.17</u> ppb total non-targeted B/N
3. <u>0</u> ppb total MTBE.	<u>7.2</u> ppb total TBA
4. <u>NA</u> ppb <u>NA</u>	(for non-petroleum substance)
5. greatest thickness of separate phase product found <u>NA</u>	
6. separate phase product has been delineated <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	

C. Result(s) of well search

1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work.  Yes  No  N/A

2. The number of these wells identified is 13.

D. Proximity of wells and contaminant plume ->

1. The shallowest depth of any well noted in the well search which may be in the horizontal or vertical potential path(s) of the contaminant plume(s) is 20 feet below grade (consideration has been given for the effects of pumping, subsurface structures, etc. on the direction(s) of contaminant migration). This well is 1500 feet from the source and its screening begins at a depth of 5 feet.
2. The shallowest depth to the top of the well screen for any well in the potential path of the plume(s) (as described in D1 above) is 20 feet below grade. This well is located 1500 feet from the source.
3. The closest horizontal distance of a private, commercial or municipal well in the potential path of the plume (as determined in D1) is 4500 feet from the source. This well is 50 feet deep and screening begins at a depth of NA feet. (no screen)

E. A plan for separate phase product recovery has been included.  Yes  No  N/A

F. A ground water contour map has been submitted which includes the ground water elevations for each well.  
 Yes  No  N/A

G. Delineation of contamination

1. The ground water contaminants have been delineated to MCLs or lower values at the property boundaries.  Yes  No
2. The plume is suspected to continue off the property at concentrations greater than MCLs.  
 Yes  No
3. Off property access (circle one):  is being sought  has been approved  has been denied  
NA

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-8.3(b) & 9.5(a)(3)]

The person signing this certification as the "Qualified Ground Water Consultant" (as defined in N.J.A.C. 7:14B-1.6) responsible for the design and implementation of the site assessment plan as specified in N.J.A.C. 7:14B-8.3(a) & 9.2(b)2, must supply the name of the certifying organization and certification number.

*"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with N.J.A.C. 7:14B-8 and 9. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

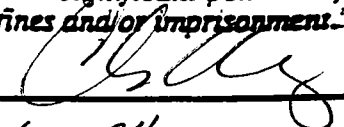
NAME (Print or Type) Charles Appleby SIGNATURE 

COMPANY NAME U.S. Fort Monmouth DATE 6-7-94  
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEPE CERTIFICATION NUMBER 2056

VIII. TANK DECOMMISSIONING CERTIFICATION (person performing tank decommissioning portion of closure plan - N.J.A.C. 7:14B-9.5(a)4)

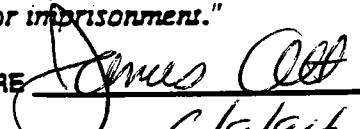
*"I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) Charles Appleby SIGNATURE   
COMPANY NAME U.S. Army Fort Monmouth DATE 6-7-94  
(Performer of Tank Decommissioning)

IX. CERTIFICATIONS BY THE RESPONSIBLE PARTY(IES) OF THE FACILITY

A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility (N.J.A.C. 7:14B-2.3(c)1).

*"I certify under penalty of law that the information provided in this document is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) James Ott SIGNATURE   
COMPANY NAME U.S. Army Fort Monmouth DATE 6/8/94

B. The following certification shall be signed as follows (according to the requirements of N.J.A.C. 7:14B-2.3(C)2):

1. For a corporation, by a principal executive officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency by either the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

*"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) \_\_\_\_\_ SIGNATURE \_\_\_\_\_  
COMPANY NAME \_\_\_\_\_ DATE \_\_\_\_\_



## ATTACHMENT I

### NO/NA RESPONSE EXPLANATION

<u>SAS QUESTION #</u>	<u>RESPONSE</u>	<u>EXPLANATION</u>
V.A	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
V.B.2.3	N/A	Soil samples were not analyzed for these parameters.
VI.B.5,6	N/A	No free product was identified with respect to the substantial modification of UST Nos. 191 and 192.
VI.E	N/A	Same as above.
VI.G.1-3	No	Additional groundwater samples shall be collected in order to confirm the existence of groundwater contamination in the area surrounding the substantial modification of UST Nos. 191 and 192.



## APPENDIX C

### MONITORING WELL INFORMATION



VR-133M (4/90) SERIAL # 17288

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION  
DIVISION OF WATER RESOURCES  
TRENTON, N.J.

Permit No. 3928195

Mail to  
Water Allocation  
CN 029  
Trenton, N.J. 08625

**MONITORING WELL PERMIT**

VALID ONLY AFTER APPROVAL BY THE D.E.P.

COORD #:

39144.411

Owner U.S. Army  
Address Fort Monmouth, NJ 07703

Driller Garden State Environmental Drilling  
Address 1565 Suite 13, Rte 37 West  
Toms River, NJ

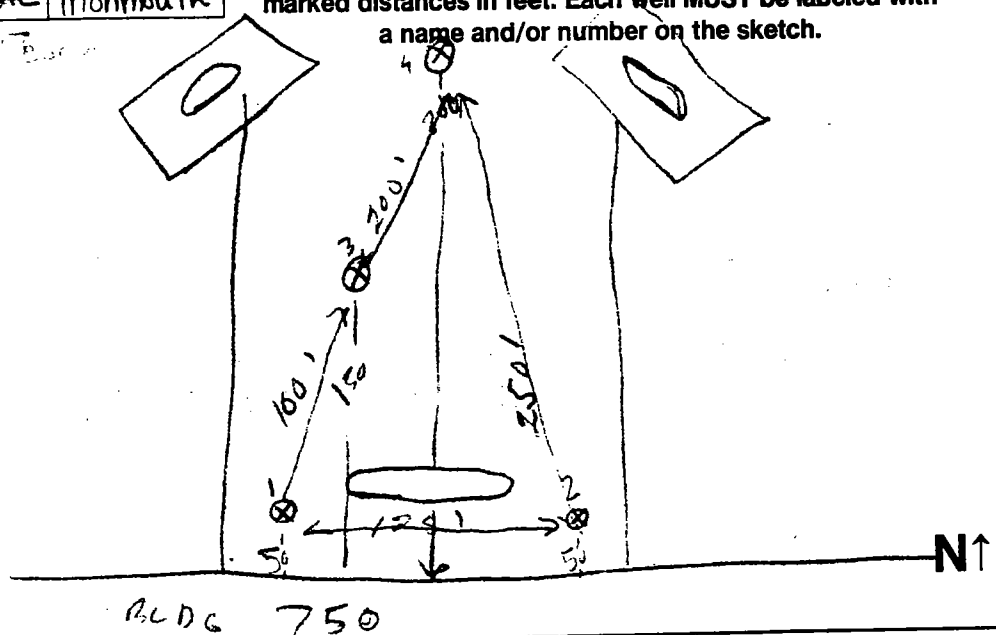
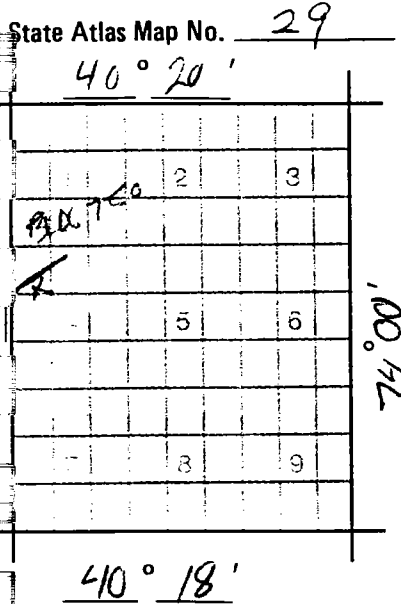
Name of Facility 513th Motor Pool, Bldg 75c  
Address Fort Monmouth, NJ 07703

Diameter of Well(s) <u>4"</u> Inches	Proposed Depth of Well(s) <u>20'</u> Feet
# of Wells Applied for (max. 10) <u>4</u>	Will pumping equipment be installed? YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>
Type of Well (see reverse) <u>MONITORING</u>	If Yes, give pump capacity <u>        </u> GPM

**LOCATION OF WELL(S)**

Lot # 1 Block # 3 Municipality Fort Monmouth County Monmouth

Draw sketch of well(s) nearest roads, buildings, etc. with marked distances in feet. Each well MUST be labeled with a name and/or number on the sketch.



FOR MONITORING WELLS, RECOVERY WELLS, OR PIEZOMETERS, THE FOLLOWING MUST BE COMPLETED BY THE APPLICANT. PLEASE INDICATE WHY THE WELLS ARE BEING INSTALLED:

- Spill Fund Case
- ECRA Case
- CERCLA (Superfund) Site
- RCRA Site
- Underground Storage Tank
- NJPDES Municipal Discharge Permit
- NJPDES Industrial Discharge Permit
- Div. Hazardous Waste Mgmt. Enforcement Case
- Div. Water Resources Enforcement Case
- Water Supply Aquifer Test Observation Well
- Other (explain) \_\_\_\_\_

Case I.D. Number \_\_\_\_\_

This Space for Approval Stamp

**PERMIT APPROVED**  
 Dept. of Environmental Protection  
 Water Resources / Water Allocation

**OCT 27 1992**

**FOR D.E.P. USE**  Issuance of this permit is subject to the conditions attached. (see next page)  The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

For monitoring purposes only

SEE REVERSE SIDE FOR IMPORTANT PROVISIONS AND REGULATIONS PERTAINING TO THIS PERMIT. In compliance with N.J.S.A. 58:4A-14, application is made for a permit to drill a well as described above.

Date 10/27/92

Signature of Driller Charles Smith License # 1098

Signature of Owner Logan Smith

Driller — White

### MONITORING WELL RECORD

Well Permit No. 29 28092  
Atlas Sheet Coordinates 29 : 14 : 441

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address 513 MOTOR POOL, BLDG. 750  
City FORT HARRIS State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. \_\_\_\_\_  
County \_\_\_\_\_ Municipality OKANAFAN TOWNSHIP Lot No. 1 Block No. 1  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 10/30/92  
Regulatory Program Requiring Well UST Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. Army Tele. # 908-532-6224

#### WELL CONSTRUCTION

Total depth drilled 15' ft.

Well finished to 15' ft.

Borehole diameter:  
Top 12 in.  
Bottom 12 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing  
height (stick up) above land  
surface \_\_\_\_\_ ft.

Was steel protective casing installed?  
 Yes  No

Static water level after drilling 7'6" ft.

Water level was measured using WATER TAP

Well was developed for 30 min hours at 1 gpm

Method of development GRV pump

Was permanent pumping equipment installed?  Yes  No

Pump capacity \_\_\_\_\_ gpm

Pump type: \_\_\_\_\_

Drilling Method \_\_\_\_\_

Drilling Fluid \_\_\_\_\_ Type of Rig REG AUGER

Name of Driller CLAUDE BRITTON

Health and Safety Plan submitted?  Yes  No

Level of Protection used on site (circle one) None D C B A

N.J. License No. 1098

Name of Drilling Company NEW JERSEY STATE DRILLING COMPANY

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Claude Britton

Date 10-31-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6"	5'	4"	P.V.C. F.J.
Screen (Note slot size)	5'	15'	4"	P.V.C. F.J.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6'	3'6"	12"	BENSEAL
Method of Grouting				

#### GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0' - 8' - GW  
8' - 13' - SW  
13' - 15' - CL GRGW  
WATER AT 7'6"

### MONITORING WELL RECORD

Well Permit No. 29 28993  
Atlas Sheet Coordinates 29 14 441

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address 513 HAZAR POOL, BLDG. 760  
City PORT HENRIE State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. \_\_\_\_\_  
County \_\_\_\_\_ Municipality OCEANPORT BORO Lot No. 1 Block No. 3  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 10/30/92  
Regulatory Program Requiring Well UST Case I.D. # \_\_\_\_\_  
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) US Army Tele. # 908-537-6229

#### WELL CONSTRUCTION

Total depth drilled 15' ft.

Well finished to 15' ft.

Borehole diameter:  
Top 12" in.  
Bottom 12" in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

Static water level after drilling 7'6" ft.  
Water level was measured using WATER TAPE  
Well was developed for 20 MIN hours at 5 gpm  
Method of development W/ DUMP

Was permanent pumping equipment installed?  Yes  No

Pump capacity \_\_\_\_\_ gpm

Pump type: \_\_\_\_\_

Drilling Method \_\_\_\_\_

Drilling Fluid \_\_\_\_\_ Type of Rig R61 AUGER

Name of Driller CLAUDE BRITTON

Health and Safety Plan submitted?  Yes  No

Level of Protection used on site (circle one) None D C B A

N.J. License No. 1098

Name of Drilling Company GARDEN STATE DRILLING COMPANY

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6'	5'	4"	PVC F.J.
Screen (Note slot size)	5'	15'	4"	PVC F.J.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	BEUSEAL
Method of Grouting				

#### GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8" GW  
8'-13" SW  
13'-15" CL GRGW  
WATER AT 7'6"

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Claude Britton

Date 10-31-92

### MONITORING WELL RECORD

Well Permit No. 29 28994  
Atlas Sheet Coordinates 29 : 14 : 141

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address 513 HAYDEN POOL, BLDG. 7507  
City FORT MONMOUTH State NI Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. \_\_\_\_\_  
County \_\_\_\_\_ Municipality OCCANORPT HORO Lot No. 1 Block No. \_\_\_\_\_  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11, 21, 92  
Regulatory Program Requiring Well UST Case I.D. # \_\_\_\_\_  
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) US ARMY Tele. # 908-533-62

#### WELL CONSTRUCTION

Total depth drilled 15' ft.  
Well finished to 15' ft.  
Borehole diameter:  
Top 12" in.  
Bottom 12" in.  
Well was finished:  above grade  
 flush mounted  
If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6"	5'	4"	PVC. F. J.
Screen (Note slot size)	5'	15'	4"	PVC. F.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	BENEFAL
Method of Grouting				

Was steel protective casing installed?  
 Yes  No

Static water level after drilling 7'6" ft.  
Water level was measured using WATER TAPES  
Well was developed for 20 min hours at \_\_\_\_\_ gpm  
Method of development WAS PUMP  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity \_\_\_\_\_ gpm  
Pump type: \_\_\_\_\_  
Drilling Method \_\_\_\_\_  
Drilling Fluid \_\_\_\_\_ Type of Rig RLI mobile  
Name of Driller CLAUDE BRITON  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None D C B A  
N.J. License No. 1098  
Name of Drilling Company GARDEN STATE DRILLING COMPANY

#### GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0'-3" gw  
3'-7" CL  
7'-13" SM-  
13'-15" CL GIBON  
  
WATER AT 7'6"

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Claude Briton Date 11-4-92

### MONITORING WELL RECORD

Well Permit No. 29 14 41  
Atlas Sheet Coordinates \_\_\_\_\_

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address 113 HAVOR POOL, BLDG. 75A,  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. \_\_\_\_\_  
County \_\_\_\_\_ Municipality CORANPOW TOWNSHIP Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 11/3/92  
Regulatory Program Requiring Well CRSI Case I.D. # \_\_\_\_\_  
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. ARMY Tele. # 908-532-6

#### WELL CONSTRUCTION

Total depth drilled 15' ft.  
Well finished to 15' ft.  
Borehole diameter:  
Top 12" in.  
Bottom 12" in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6"	5'	4"	P.V.C. F
Screen (Note slot size)	5'	15'	4"	P.V.C. F
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	BENSOLAC
Method of Grouting				

Static water level after drilling 7'6" ft.  
Water level was measured using WATER TAP  
Well was developed for 20 min hours at 5 gpm  
Method of development GAS PUMP  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity \_\_\_\_\_ gpm  
Pump type: \_\_\_\_\_  
Drilling Method AUGER  
Drilling Fluid \_\_\_\_\_ Type of Rig 1361 Mobile  
Name of Driller \_\_\_\_\_  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None D C B A  
Permit No. 1098

#### GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-3' GW  
3'-7' CL  
7'-13' SM  
13'-15' CL  
WATER AT 7'6"

Drilled by \_\_\_\_\_ Company NEW JERSEY STATE DRILLING COMPANY

Drilled the above-referenced well in accordance with all well permit requirements and all applicable regulations.

Driller's Signature [Signature] Date 11-4-92

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army  
Name of Facility: Fort Monmouth - Building No. 750  
Location: Fort Monmouth  
New Jersey  
NJPDES Permit No: NJ 29-28992

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):  
This number must be permanently affixed to the well casing. 29-28992  
Longitude (one tenth of a second): West 74° 02' 58.6"  
Latitude (one tenth of a second): North 40° 18' 33.4"  
Elevation of Top of Casing (cap off) 18.79  
Distance from Top of Casing (cap off) to ground 0.10  
Owner's Well Number (As shown in the application or Plans): MW-1  
Benchmark:

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

*William E. Telling*

Professional Land Surveyor's Signature

William E. Telling, P.L.S.  
Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211  
Professional Land Surveyor's License #

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THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army  
Name of Facility: Fort Monmouth - Building No. 750  
Location: Fort Monmouth  
New Jersey  
NJPDES Permit No: NJ 29-28993

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

Longitude (one tenth of a second):	West	<u>29-28993</u> <u>74° 02' 58.3"</u>
Latitude (one tenth of a second):	North	<u>40° 18' 33.0"</u>
Elevation of Top of Casing (cap off)		<u>18.61</u>
Distance from Top of Casing (cap off) to ground		<u>0.10</u>
Owner's Well Number (As shown in the application or Plans):		<u>MW-2</u>
Benchmark:		

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

*William E. Telling*

Professional Land Surveyor's Signature

William E. Telling, P.L.S.

Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211

Professional Land Surveyor's License #

(lak41\wp51\ftmonfmb.wet)

THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army  
Name of Facility: Fort Monmouth - Building No. 750  
Location: Fort Monmouth  
New Jersey  
NJPDES Permit No: NJ 29-28994

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):

This number must be permanently affixed to the well casing.

Longitude (one tenth of a second): West 29-28994  
Latitude (one tenth of a second): North 74° 02' 57.8"  
Elevation of Top of Casing (cap off) 40° 18' 32.4"  
Distance from Top of Casing (cap off) to ground 19.04  
Owner's Well Number (As shown in the application or Plans): 0.16  
Benchmark: MW-3

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

*William E. Telling*

Professional Land Surveyor's Signature

William E. Telling, P.L.S.  
Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211  
Professional Land Surveyor's License #

(lak41\wp51\ftmonfmb.wet)



THIS FORM MUST BE COMPLETED BY THE PERMITTEE OR HIS OR HER AGENT

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION

Name of Permittee: United States Army  
Name of Facility: Fort Monmouth - Building No. 750  
Location: Fort Monmouth  
New Jersey  
NJPDES Permit No: NJ 29-28995

LAND SURVEYOR'S CERTIFICATION

Well Permit Number; As assigned by NJDEPE's Water Allocation Section (609-984-6831):  
This number must be permanently affixed to the well casing. 29-28995  
Longitude (one tenth of a second): West 74° 02' 57.6"  
Latitude (one tenth of a second): North 40° 18' 32.5"  
Elevation of Top of Casing (cap off) 18.98  
Distance from Top of Casing (cap off) to ground 0.19  
Owner's Well Number (As shown in the application or Plans): MW-4  
Benchmark:

AUTHENTICATION:

I declare under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

*William E. Telling*

Professional Land Surveyor's Signature

William E. Telling, P.L.S.  
Professional Land Surveyor's Name

SEAL

N.J.P.L.S. License No. 37211  
Professional Land Surveyor's License #

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**APPENDIX D**  
**WELL SEARCH INFORMATION**

WELL SEARCH SUMMARY TABLE

MAIN POST AREA

U.S. ARMY FORT MONMOUTH

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO
5	Eatontown Senior Housing	55 Wyckoff Road, Eatontown	192	177	25	G	29-15008
14	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	4	M	29-24953
15	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	3	M	29-24953
16	Shell Oil Company	Block 110, Lot 25, Oceanport	12	2	3	M	29-24953
17	Shell Oil Company	Block 110, Lot 25, Oceanport	11	2	3	M	29-24953
34	Boro of Eatontown	Block 14, Lot 17, Eatontown	20	10	12.1	M	29-28236
35	Dennis Berweiler	Orchard St, Block 73, Lot 36, Eatontown	67	52	16	D	29-23690
36	Walter & Patricia Zinn	92 Sunnybrook Dr, Shrewsbury Boro	197	191	7	D	29-23608
37	V. J. Russo Realty	170 Ave of Commons, Shrewsbury Boro	250	245	4	G	29-27756
38	Price Communication Corp	1 Register Plaza, Shrewsbury Boro	28	15	8	M	29-26185
39	A. Kristiansen	Trafalger Pl, Block 69.04, Lot 4, Shrewsbury Boro	50	50	5	G	29-22571
40	H. Kodama	83 Sunnybrook Dr, Shrewsbury Boro	250	210	8	D	29-26704
41	Boro of Eatontown	Block 14, Lot 17, Eatontown	20	10	11.7	M	29-29158
42	Boro of Eatontown	Block 14, Lot 17, Eatontown	18	8	10.1	M	29-29159
43	Bill Rudolph	Relwof Ave, Block 98, Lot 1&2, Oceanport	45	35	2	G	29-21780
44	Kleiner Bros. Construction	Allenhurst & Myrtle Aves, Oceanport	50	40	5	D	29-6499
64	Travis Thomas	112 Orchid St, Oceanport	323	317	16	D,G	29-14244
65	N.J. Transit Corporation	Silverside & Fairview Ave, Little Silver	*	*	*	M	29-13825
97	Shell Oil Company	1 Main Street, Oceanport	10	2	2.5	M/S	29-12553
98	Shell Oil Company	1 Main Street, Oceanport	9	1	2	M/S	29-12554
99	Shell Oil Company	1 Main Street, Oceanport	9	1	2	M/S	29-12555
100	Anthony S. Camara	121 Horseneck Point Rd, Oceanport	15	12	5	D	29-5084
101	Bridgewater Townhouse	57 Bridgewater Dr, Oceanport	180	155	12	G	29-22549
113	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.38	M	29-14180
114	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	5.1	M	29-14181
115	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.47	M	29-14182
116	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.39	M	29-14183
117	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.75	M	29-14184
118	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.10	M	29-14185
119	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.82	M	29-14186
120	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.30	M	29-14187
121	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.54	M	29-14188
122	Shell Oil Company	Route 35 and South Street, Eatontown	12	2	4.34	M	29-14189

ID - Identification

BGS - Below Ground Surface

G - Irrigation Well

D - Domestic Well

M - Monitoring Well

E - Recovery Well

S - Sealed Well

\* - This information was not available during the well search

\*\* - This well has not received a permit by the NJDEPE

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
123	Shell Oil Company	Route 35 & South Street, Eatontown	12	2	4.22	M	29-14190
124	Shell Oil Company	Route 35 & South Street, Eatontown	12	2	3.9	M	29-14191
125	Shell Oil Company	Route 35 & South Street, Eatontown	14.83	4	4	E	29-14192
127	Vincent J. Russo, Bldr	Block 70.1, Lot 90, Shrewsbury	184	165	5	G	29-14168
128	William Goodspeed	30 Alwin Terrace, Little Silver	173	158	6	G	29-22526
129	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23732
130	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23733
131	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23734
132	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-23735
133	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24138
134	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	4	*	M	29-24139
135	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24140
136	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	*	M	29-24141
137	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	20	5	7	M	29-27072
138	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	16	3	6	M	29-29208
138A	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	6	E	29-30283
138B	Exxon Company, USA	Branch & Sycamore Ave, Little Silver	15	5	6	E	29-30284
139	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.36	M	29-12793
140	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	7.08	M	29-12794
141	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.34	M	29-12795
142	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	7.59	M	29-12796
143	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.63	M	29-12797
144	Hunter's Superior Service	333 Willow Drive, Little Silver	10	1	6.07	M	29-12798
145	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12785
146	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12786
147	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12787
148	Citgo Oil Co.	700 Branch Avenue, Little Silver	10	1	*	M	29-12788
149	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12789
150	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12790
151	Citgo Oil Co.	700 Branch Avenue, Little Silver	9	1	*	M	29-12792
152	Mobile Oil Corporation	700 Branch Avenue, Little Silver	10	1	*	M	29-12793
153	Mobile Oil Corporation	700 Branch Avenue, Little Silver	11	1	*	M	29-12794
154	Mobile Oil Corporation	700 Branch Avenue, Little Silver	11	1	*	M	29-12795
155	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25317

ID - Identification  
 BGS - Below Ground Surface  
 G - Irrigation Well  
 D - Domestic Well  
 M - Monitoring Well  
 E - Recovery Well  
 S - Sealed Well  
 \* - This information was not available during the well search  
 \*\* - This well has not received a permit by the NJDEPE

**U.S. ARMY FORT MONMOUTH  
MAIN POST AREA**

WELL ID NO	WELL OWNER	WELL ADDRESS	TOTAL DEPTH (FEET BGS)	CASING LENGTH (FEET)	STATIC WATER ELEV. (FEET BGS)	USE CODE	NJDEPE PERMIT NO.
156	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	2	7	M	29-25316
157	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25318
158	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25319
159	Mobile Oil Corporation	Highway 35 & Tinton Avenue, Eatontown	15	5	7	M	29-25320
160	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	16	3	4.7	M	29-26806
161	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	17	2	6	M	29-26807
162	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	15	3	8.2	M	29-26808
163	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	15	3	5.8	M	29-26809
164	Exxon Oil Company	Highway 35 & Tinton Avenue, Eatontown	12	2	2.35	M	29-28143
165	Allied Signal, Inc.	118 Route 35, Eatontown	*	*	*	M	*
814/1	U.S. Army, Fort Monmouth	Main Post, Building 814, Ft Monmouth	14	4	4	M	29-26939
750/1	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28992
750/2	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28993
750/3	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28994
750/4	U.S. Army, Fort Monmouth	Main Post, Building 750, Ft Monmouth ***	15	5	7.5	M	29-28995
699/1	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23677-1
699/2	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	17	1.5	5	M	29-23678-9
699/3	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23679-1
699/4	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	20	2	3	M	29-23680-7
699/5	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	3	5	M	29-23808-1
699/6	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	1	4.5	M	29-23809-9
699/7	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	3	3	M	29-23810-2
699/8	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	4	M	29-23811-1
699/9	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	2	3	M	29-24639
699/10	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	14	1	3	M	29-24640
699/11	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	*	*	E	29-28031
699/12	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	15	5	7.1	M	29-28907
699/13	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	5	*	*	M	**
699/14	U.S. Army, Fort Monmouth	Main Post, Building 699, Ft Monmouth	5.7	*	*	M	**
1076/1	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	15	3	5.5	M	29-26940
1076/2	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	14	4	5	M	29-26941
1076/3	U.S. Army, Fort Monmouth	Main Post, Building 1076, Ft Monmouth ***	15	5	6	M	29-26942
65A/1	U.S. Army, Fort Monmouth	Main Post, Building 65, Ft Monmouth ***	12	2	4	M	29-26938
L/1	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	9.85	3.05	5.08	M	49-000551
L/2	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	16.99	1.30	*	M	49-000552
L/3	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	16.43	1.62	10.83	M	49-000553
L/4	U.S. Army, Fort Monmouth	Main Post, Landfill, Fort Monmouth	10.25	1.90	*	M	49-000554
108/1	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29739
108/2	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29740
108/3	U.S. Army, Fort Monmouth	Main Post, Building 108, Ft Monmouth ***	13	3	4	M	29-29741

**ID -** Identification  
**BGS -** Below Ground Surface  
**G -** Irrigation Well  
**D -** Domestic Well  
**M -** Monitoring Well  
**E -** Recovery Well  
**S -** Sealed Well  
**\*** - This information was not available during the well search  
**\*\*** - This well has not received a permit by the NJDEPE  
**\*\*\*** - Form B has been completed for this well.

US Army Fort Monmouth

Well Coordinates

Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
5	29-15008	534833	2172701	***	30
14	29-24953	539699	2176794	***	***
15	29-24953	539699	2176794	***	***
16	29-24953	539699	2176794	***	***
17	29-24953	539699	2176794	***	***
34	29-28236	536866	2169110	***	***
35	29-23690	534905	2173743	31.5	30
36	29-23608	542674	2175219	41.5	40
37	29-27756	541198	2169014	11	10
38	29-26185	541186	2168357	***	***
39	29-22571	542306	2172913	31	30
40	29-26704	542869	2173760	21	21
41	29-29158	536588	2169220	***	***
42	29-29159	536292	2169165	***	***
43	29-21780	540011	2179428	***	9
44	29-6499	539721	2181216	***	48
64	29-14244	541732	2181489	***	***
65	29-13825	544679	2175765	***	***
97	29-12553	539866	2176849	***	***
98	29-12554	539866	2176849	***	***
99	29-12555	539866	2176849	***	***
100	29-5084	542528	2182033	***	5
101	29-22549	539587	2178036	***	30
113	29-14180	534995	2168385	***	***
114	29-14181	534995	2168385	***	***
115	29-14182	534995	2168385	***	***
116	29-14183	534995	2168385	***	***
117	29-14184	534995	2168385	***	***
118	29-14185	534995	2168385	***	***
119	29-14186	534995	2168385	***	***
120	29-14187	534995	2168385	***	***
121	29-14188	534995	2168385	***	***
122	29-14189	534995	2168385	***	***
123	29-14190	534995	2168385	***	***
124	29-14191	534995	2168385	***	***
125	29-14192	534777	2168285	***	***

## US Army Fort Monmouth

## Well Coordinates

## Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
127	29-14168	541665	2168429	***	60
128	29-22526	545069	2180319	***	20
129	29-23732	545613	2175613	***	***
130	29-23733	545613	2175613	***	***
131	29-23734	545613	2175613	***	***
132	29-23735	545613	2175613	***	***
133	29-24138	545613	2175613	***	***
134	29-24139	545613	2175613	***	***
135	29-24140	545613	2175613	***	***
136	29-24141	545613	2175613	***	***
137	29-27072	545613	2175613	***	***
138	29-29208	545613	2175613	***	***
138A	29-30283	545613	2175613	***	***
138B	29-30284	545613	2175613	***	***
139	29-12793	546086	2175947	***	***
140	29-12794	546086	2175947	***	***
141	29-12795	546086	2175947	***	***
142	29-12796	546086	2175947	***	***
143	29-12797	546086	2175947	***	***
144	29-12798	546086	2175947	***	***
145	29-12785	546225	2174788	***	***
146	29-12786	546225	2174788	***	***
147	29-12787	546225	2174788	***	***
148	29-12788	546225	2174788	***	***
149	29-12789	546225	2174788	***	***
150	29-12790	546225	2174788	***	***
151	29-12792	546225	2174788	***	***
152	29-12793	546393	2175613	***	***
153	29-12794	546393	2175613	***	***
154	29-12795	546393	2175613	***	***
155	29-25317	537562	2168385	***	***
156	29-25316	537562	2168385	***	***
157	29-25318	537562	2168385	***	***
158	29-25319	537562	2168385	***	***
159	29-25320	537562	2168385	***	***
160	29-26806	537896	2168078	***	***

## US Army Fort Monmouth

## Well Coordinates

## Main Post Area

Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		
161	29-26807	537896	2168078	***	***
162	29-26808	537896	2168078	***	***
163	29-26809	537896	2168078	***	***
164	29-28143	537896	2168078	***	***
165	*	534471	2171838	***	***
1076/1	29-26940	537975	2175236	19.44	19.28
1076/2	29-26941	537975	2175236	18.03	17.61
1076/3	29-26942	537975	2175236	19.36	19.28
108/1	29-29739	541565	2178231	11.85	8.48
108/2	29-29740	541565	2178231	10.89	7.65
108/3	29-29741	541565	2178231	8.16	8.06
65A/1	29-26938	541114	2178147	8.47	8.47
699/1	29-23677-1	539367	2171941	15.81	***
699/2	29-23678-9	539486	2171973	16.64	***
699/3	29-23679-1	539399	2173050	15.8	***
699/4	29-23680-7	539380	2171986	15.92	***
699/5	29-23808-1	539409	2173150	15.48	***
699/6	29-23809-9	539342	2173066	15.78	***
699/7	29-23810-2	539272	2172914	15.97	***
699/8	29-23811-1	539331	2172842	16.2	***
699/9	29-24639	539220	2173102	15.96	***
699/10	29-24640	539171	2173042	15.97	***
699/11	29-28031	539334	2173025	17.14	***
699/12	29-28907	539194	2172956	16.66	***
699/13	**	539389	2173010	16.21	***
699/14	**	539351	2173021	15.98	***
750/1	29-28992	538342	2171950	18.79	18.69
750/2	29-28993	538342	2171950	18.61	18.51
750/3	29-28994	538342	2171950	19.04	18.88
750/4	29-28995	538342	2171950	18.98	18.79
814/1	29-26939	538025	2173387	***	***
L/1	49-000551	540568	2172144	***	***
L/2	49-000552	540568	2172144	***	***
L/3	49-000553	540568	2172144	***	***
L/4	49-000554	540568	2172144	***	***



Well No.	Permit No.	NJ Planar Coord****		Elevation-TOC	Elevation-GRD
		Northing	Easting		

Notes: \* - This information was not available during the well search

\*\* - This well was not issued a permit by NJDEPE

\*\*\* - No elevation data was found for this well location.

\*\*\*\* - Except for wells 699/1-14, all coordinates shown are approximate.

The information given does not represent surveyed coordinates.

TOC - Top of Casing

GRD - Ground Surface

WELL RECORD

**WELL ID NO. 39**

Well Permit No. 29 - 22571  
Atlas Sheet Coordinates 29 : 13 : 653

OWNER IDENTIFICATION - Owner KRISTIANSEN, A.  
Address 54 TRAFALGAR PLACE  
City SHREWSBURY State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same owner please give address. Owner's Well No. \_\_\_\_\_  
Address Trafalgar Place  
County Monmouth Municipality SHREWSBURY TWP. Lot No. 4 Block No. 69.04

WELL USE Irrigation Status In Use

WATER USE Irrigation Average \_\_\_\_\_ gals. daily Maximum \_\_\_\_\_ gals. daily

WELL CONSTRUCTION Date well completed 4 / 24 / 89  
BOREHOLE DIMENSIONS Depths: Total 50 ft. Finished 55 ft.  
Diameter: Top 8 in. Bottom 4 in.  
Land Surface Elevation at well 30 ft. Elevation was determined using Atlas Sheet  
Casing Height (stick-up) above land surface 1 ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL Screens: Note Slot Size(s)
Casing 1		<u>50</u>	<u>4</u>	<u>Black Steel</u>
Casing 2				
Casing 3				
Screen 1	<u>None</u>			
Screen 2				
Tail Piece				
Gravel Pack				
Grout				<u>Ben Seal</u>
Grouting Method	<u>Pressure</u>			

WELL FLOWS NATURALLY \_\_\_\_\_ gals. per min. at \_\_\_\_\_ ft. above the land surface.  
Water rises to \_\_\_\_\_ ft. above the land surface.

RECORD OF TEST Test Date 4 / 24 / 89  
Static water-level before pumping 5 ft below land surface. Water level \_\_\_\_\_ ft. below land surface after \_\_\_\_\_ hrs. of pumping.  
Water level was measured using \_\_\_\_\_ Drawdown \_\_\_\_\_ ft.  
Discharge rate measured using Calibrated Pail Discharge Rate 10 gals. per min.  
Well was pumped using Air Compressor Specific Capacity \_\_\_\_\_ gals. per min. per ft. of drawdown  
Observed effects on nearby wells None  
Water Quality (taste, odor, color, etc.) Irony

PERMANENT PUMPING EQUIPMENT Installed by \_\_\_\_\_ Pump Type \_\_\_\_\_  
Mfrs. Name \_\_\_\_\_ Model \_\_\_\_\_  
CAPACITY: Pump delivers \_\_\_\_\_ GPM at \_\_\_\_\_ PSI pressure.  
POWER: \_\_\_\_\_ HP at \_\_\_\_\_ RPM Power Source \_\_\_\_\_  
DEPTHS: Pump \_\_\_\_\_ ft. Footpiece \_\_\_\_\_ ft. Airline \_\_\_\_\_ ft.  
FLOW METER: Model \_\_\_\_\_ installed on \_\_\_\_\_ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor KAYE WELL DRILLING  
Address Rt. 1, Box 75  
Jackson State N.J. Zip Code \_\_\_\_\_  
Name of Driller Gary Pepp License No. 1180

Signature of Contractor May Lehman Sec. 1 - Trust Date 5 / 16 / 89

DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 23677  
Atlas Sheet Coordinates 29 : 13 : 665

OWNER IDENTIFICATION - Owner US ARMY  
Address 167 RIVERSIDE DR.  
City FORT MONMOUTH State NJ Zip Code 07703

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 1  
County Monmouth Municipality OCEANPORT BORO Lot No. TAXIDOM Block No. TAX  
Address Bldg G 99, Seltzman Ave, Fort Monmouth NJ 07703

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11/2/89  
Regulatory Program Requiring Well - Case I.D. # -

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater & Environ. Syst. Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.  
Well finished to 15 ft.

Well hole diameter:  
Top 10 in.  
Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface          ft.

Was steel protective casing installed?  Yes  No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	2	4	Sch 40 PVC Solid
Outer Casing (Not Protective Casing)	-	-		
Screen (Note slot size)	2	15	4	Sch 40 PVC <sup>FT</sup> 0.2
Tail Piece	-	-		
Gravel Pack	2	15		#2 Marine Gravel
Annular Seal/Grout	.5	1.5		Bentonite Pellets
Method of Grouting	0 - .5 Slurry			

Static water level after drilling          ft.  
Water level was measured using interface probe  
Well was developed for 1 hours at 2-3 gpm  
Method of development irrigated with pump  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity NA gpm  
Pump type: COASTAL PUMP NA  
Drilling Method Auger  
Drilling Fluid None Type of Rig TH-10  
Name of Driller Brogg Myers  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None D C B A  
N.J. License No. J 1472  
Name of Drilling Company B.L. MYERS BROS., INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Monica Selfino for Brogg Myers Date 2/15/90

DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

**MONITORING WELL RECORD**

Well Permit No. 29 . 23878  
Atlas Sheet Coordinates 29 : 13 : 665

OWNER IDENTIFICATION - Owner US ARMY  
Address 167 RIVERSIDE DR.  
City FORT MONMOUTH State NJ Zip Code 07703

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 2  
County Monmouth Municipality OCEANPORT BORO Lot No. TAXICOM Block No. TAX  
Address Bldg 699, Saltzman Ave, Fort Monmouth NJ 07703

TYPE OF WELL (as per Wall Permit Categories) MONITORING Date well completed 11/2/89  
Regulatory Program Requiring Well \_\_\_\_\_ Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Environ Svcs, Inc Tele. # 201-530-4787

**WELL CONSTRUCTION**

Total depth drilled 17 ft.

Well finished to 17 ft.

Well hole diameter:

Top 10 in.

Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	2	4	Sch40 PVC solid
Outer Casing (Not Protective Casing)	-	-		
Screen (Note slot size)	1.5	17	4	Sch40 PVC 1/2"
Tail Piece	-	-		
Gravel Pack	1.5	17		#2 Marine Gravel
Annular Seal/Grout	1.5	1.5		Bentonite Pellets
Method of Grouting	0-1.5 Slurry			

Static water level after drilling \_\_\_\_\_ ft.

Water level was measured using interface probe

Well was developed for 1 hours at 2-3 gpm

Method of development purged with pump

Was permanent pumping equipment installed?  Yes  No

Pump capacity NA gpm

Pump type: NA

Drilling Method Auger

Drilling Fluid Water Type of Rig TH-10

Name of Driller Greg Myers

Health and Safety Plan submitted?  Yes  No

Level of Protection used on site (circle one) None  C  B  A

N.J. License No. J1472

Name of Drilling Company B.L. MYERS BROS., INC.

**GEOLOGIC LOG** (Copies of other geologic logs and/or geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Theresa Delmonico for Greg Myers Date 2/15/90

DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 23679  
Atlas Sheet Coordinates 29 : 13 : 665

OWNER IDENTIFICATION - Owner US ARMY  
Address 167 RIVERSIDE DR.  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 3  
County Monmouth Municipality OCEANPORT BORO Lot No. TAX Block No. TAX  
Address 3 Hg 699 Saltzman Ave, Fort Monmouth NJ 07703

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11/21/89  
Regulatory Program Requiring Well \_\_\_\_\_ Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater of Enclon Sices, Inc Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.  
Well finished to 15 ft.  
hole diameter:  
Top 10 in.  
Bottom 10 in.

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	1.5	4	Sch 40 PVC EST 1/2" ID
Outer Casing (Not Protective Casing)	-	-	-	
Screen (Note slot size)	<del>10</del> 2	15	4	Sch 40 PVC EST 1/2" ID
Tail Piece	-	-	-	
Gravel Pack	1.5	15		#3 Marine Gravel
Annular Seal/Grout	1.5	1.5		Penton te Pellets
Method of Grouting	0-1.5 Slurry			

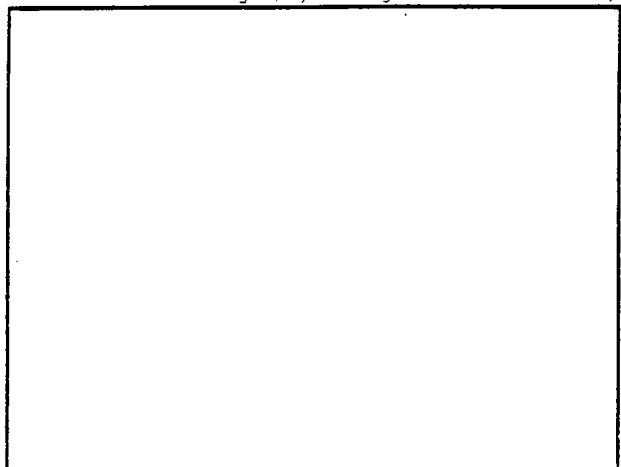
Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

Static water level after drilling \_\_\_\_\_ ft.  
Water level was measured using interfaca probe  
Well was developed for 1 hours at 2-3 gpm  
Method of development flushed with pump  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity NA gpm  
Pump type: Centrifugal pump NA  
Drilling Method Avgc  
Drilling Fluid none Type of Rig TH-10  
Name of Driller Greg Myers  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None  C  B  A  
N.J. License No. J1472  
Name of Drilling Company B.L. MYERS BROS., INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)



I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Theresa DeSteno for Greg Myers Date 2/15/90

DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 . 23680  
Atlas Sheet Coordinates 29 : 13 : 665

OWNER IDENTIFICATION - Owner US ARMY  
Address 167 RIVERSIDE DR.  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 4  
County Monmouth Municipality OCEANPORT BORO Lot No. TAXESIDE Block No. TAX  
Address Bldg 699, Soltzman Ave, Fort Monmouth NJ 07703

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 11/2/89  
Regulatory Program Requiring Well \_\_\_\_\_ Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Environ. Serv. Inc. Tele. # 201-531-4787

WELL CONSTRUCTION

Total depth drilled 20 ft.  
Well finished to 20 ft.

hole diameter:  
Top 10 in.  
Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	2	4	SCH40 PVC Solid
Outer Casing (Not Protective Casing)	-	-		
Screen (Note slot size)	2	20	4	SCH40 PVC .02
Tail Piece	-	-		
Gravel Pack	1.5	20		#2 Marine Gravel
Annular Seal/Grout	1.5	1.5		Bentonite Pellets
Method of Grouting	0 - .5 slurry			

Static water level after drilling \_\_\_\_\_ ft.  
Water level was measured using interface probe  
Well was developed for 1 hours at 2-3 gpm  
Method of development purged with pump  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity NA gpm  
Pump type: Centrifugal Pump NA  
Drilling Method Auger  
Drilling Fluid none Type of Rig TH-10  
Name of Driller Greg Myers  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None  C  B  A  
N.J. License No. J1472  
Name of Drilling Company B.L. MYERS BROS., INC.

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Theresa Delino for Greg Myers Date 2/15/90

DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 - 23808  
Atlas Sheet Coordinates 29 : 13 : 629

OWNER IDENTIFICATION - Owner US ARMY  
Address 167 RIVERSIDE DR  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 5  
County Monmouth Municipality OCEANPORT BOBO Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
Address Bldg 699, Saltzman Ave, Fort Monmouth, NJ TAX 07703 EXEMPT

TYPE OF WELL (as per Well Permit Categories) \_\_\_\_\_ Date well completed 11, 30, 89  
Regulatory Program Requiring Well MONITORING Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Environ Sucs, Inc Tele. # 201-531-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.  
Well finished to 15 ft.

Borehole diameter:  
Top 10 in.  
Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	3	4	PVC Sch 40 <sup>FT</sup> 1/2
Outer Casing (Not Protective Casing)	-	-		
Screen (Note slot size)	3	15	4	Sch 40 PVC <sup>FT</sup> 1/2
Tail Piece	-	-		
Gravel Pack	3	15		#2 Maria Gravel
Annular Seal/Grout	1	3		Bentonite Pellets
Method of Grouting	0-1 Slurry			

Static water level after drilling \_\_\_\_\_ ft.  
Water level was measured using interface probe  
Well was developed for 1 hours at 2 gpm  
Method of development purged with pump  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity NA gpm  
Pump type: NA  
Drilling Method Auger  
Drilling Fluid None Type of Rig TH-10  
Name of Driller Anthony Kull  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None (D) C B A  
N.J. License No. J1312  
Name of Drilling Company ANTHONY A. KULL

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Keresa Bellino Anthony Kull Date 2/15/90

DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 23800  
Atlas Sheet Coordinates 29 13 620

OWNER IDENTIFICATION - Owner US ARMY  
Address 187 REVERSHAM DR.  
City BORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 6  
County Monmouth Municipality Oceanport Boro, Port Monmouth Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
Address Bldg 699, Saltzman TAX 115 EXEMPT

TYPE OF WELL (as per Well Permit Categories) \_\_\_\_\_ Date well completed 12/1/89  
Regulatory Program Requiring Well MONITORING Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater Svcs Tele. # 201-530-4787

WELL CONSTRUCTION  
Total depth drilled 15 ft.  
Well finished to 15 ft.  
Borehole diameter:  
Top 10 in.  
Bottom 10 in.

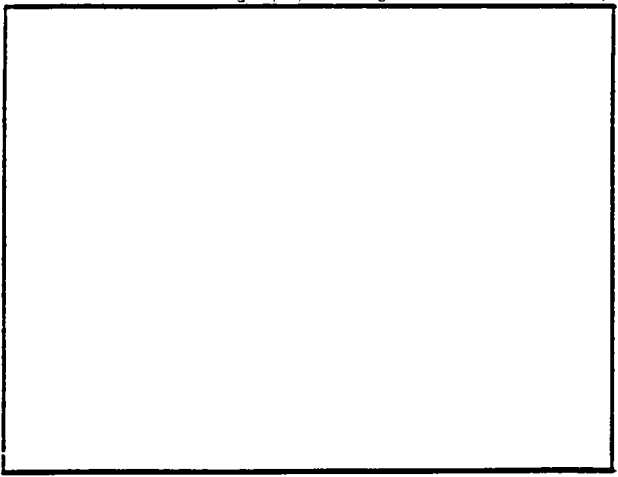
	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	<u>0</u>	<u>2</u>	<u>4</u>	<u>Sch 40 PVC solid</u>
Outer Casing (Not Protective Casing)	<u>-</u>	<u>-</u>		
Screen (Note slot size)	<u>2</u>	<u>15</u>	<u>4</u>	<u>Sch 40 PVC .020</u>
Tail Piece	<u>-</u>	<u>-</u>		
Gravel Pack	<u>1</u>	<u>15</u>		<u>#2 Mica Gravel</u>
Annular Seal/Grout	<u>15</u>	<u>1</u>		<u>Bentonite Pellets</u>
Method of Grouting	<u>Slurry 0-5</u>			

Well was finished:  above grade  
 flush mounted  
If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

Static water level after drilling \_\_\_\_\_ ft.  
Water level was measured using interfac probe  
Well was developed for 1 hours at 1 gpm  
Method of development parged with pump  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity NA gpm  
Pump type: NA  
Drilling Method Auger  
Drilling Fluid None Type of Rig T4-10  
Name of Driller Anthony A. Kull  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None (D) C B A  
N.J. License No. J1317  
Name of Drilling Company ANTHONY A. KULL

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)



certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.  
Driller's Signature [Signature] Date 2/15/90



DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 - 23810  
Atlas Sheet Coordinates 29 : 13 : 629

OWNER IDENTIFICATION - Owner US ARMY  
Address 167 REVERSIDE DR.  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 7  
County BHg 699 Municipality OCEANPORT BORO Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
Address Saltzman Ave. Fort Monmouth, NJ 07033 EXEMPT

TYPE OF WELL (as per Well Permit Categories) \_\_\_\_\_ Date well completed 12/1/89  
Regulatory Program Requiring Well MONITORING Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater & Environ Svcs Inc Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.  
Well finished to 15 ft.

Borehole diameter:  
Top 10 in.  
Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	3	4	Sch 40 PVC solid
Outer Casing (Not Protective Casing)	-	-		
Screen (Note slot size)	3	15	4	Sch 40 PVC solid
Tail Piece	-	-		
Gravel Pack	3	15		#20 More Gravel
Annular Seal/Grout	15	3		Bent-nite Pellets
Method of Grouting	Slurry 0-15			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

Static water level after drilling \_\_\_\_\_ ft.  
Water level was measured using interface probe  
Well was developed for 1 hours at 2-3 gpm  
Method of development purged with pump  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity NA gpm  
Pump type: NA  
Drilling Method Auger  
Drilling Fluid None Type of Rig TH-10  
Name of Driller Anthony Kull  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None (D) C B A  
N.J. License No. J 1317  
Name of Drilling Company ANTHONY A. ROLL

certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Theresa Bellino for Anthony A. Roll Date 2/15/90

DWR-138 M  
6/89

New Jersey Department of Environmental Protection  
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29-23811  
Atlas Sheet Coordinates 29 : 13 : 629

OWNER IDENTIFICATION - Owner US ARMY  
Address 167 RIVERSIDE DR.  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 8  
County Monmouth Municipality OCEANPORT BORO Lot No. TAX Block No. SECRET  
Address Bldg G 99 SATTAMAN AVE, Fort Monmouth NJ

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 12/1/89  
Regulatory Program Requiring Well \_\_\_\_\_ Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Groundwater & Environ Svcs, Inc Tele. # 201-530-4787

WELL CONSTRUCTION

Total depth drilled 15 ft.

Well finished to 15 ft.

Corehole diameter:  
Top 10 in.  
Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

	Depth to Top (ft.) (From land surface)	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	2	4	Sch 40 PVC 1/2" slot
Outer Casing (Not Protective Casing)	-	-	-	
Screen (Note slot size)	2	15	4	Sch 40 PVC 1/2" slot
Tail Piece	-	-	-	
Gravel Pack	2	15		#2 Mica Gravel
Annular Seal/Grout	1	2		Bentonite Pellets
Method of Grouting	Slurry 0-1'			

Static water level after drilling \_\_\_\_\_ ft.

Water level was measured using interface probe

Well was developed for 1 hours at 2-3 gpm

Method of development purged with pump

Was permanent pumping equipment installed?  Yes  No

Pump capacity NA gpm

Pump type: NA

Drilling Method Auger

Drilling Fluid None Type of Rig TH-10

Name of Driller Anthony A. Kill

Health and Safety Plan submitted?  Yes  No

Level of Protection used on site (circle one) None (D) C B A

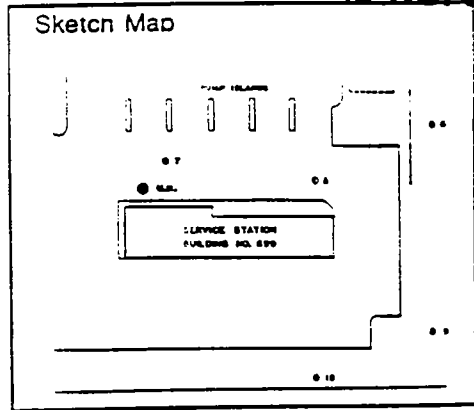
N.J. License No. T1317

Name of Drilling Company ANTHONY A. KILL

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Meresa Delfino for Anthony Kill Date 2/15/90



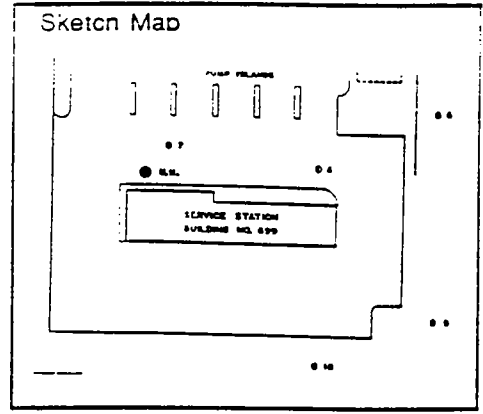
Project Fort Monmouth Owner E-Systems, Inc.  
 Location Fort Monmouth Eatontown Permit No 2924639  
 Well Number 9 Total Depth 15' Diameter 10"  
 casing Elevation \_\_\_\_\_ Water Level: Initial 5.0' Static \_\_\_\_\_  
 Screen Diameter 4" Length 13' Slot Size .020"  
 casing Diameter 4" Length 2' Type Sch. 40 PVC  
 Drilling Method Auger Sample Method Split Spoon  
 Completion Details Flush mount, with manhole cover, Inner locking cap

Driller B.L. Myers Log By J. Gallagher Date Drilled 5/1/90

Depth (ft)	Well Constr	HNU ppm	Lithological Description	Comments
0-2'			SAND Brown-black Silt, medium (-) to fine SAND trace fine Gravel	No odor slightly moist
2-4'			SAND Brown fine SAND, trace Silt	Groundwater encountered @ 4'
4-8'		0	SAND Light Brown fine SAND, some Silt little Clay	
8-9'			SAND Green-brown SAND, some clay	No odor or sheen
9-10'		0	CLAY Gray, some orange fine Sand	
10-12'			SAND Green-gray to orange coarse to fine SAND, some Clay	
12-15'		0	CLAY Light-brown, some fine Sand	
15'			END HOLE @ 15'	

# WELL ID NO. 699/10

Project Fort Monmouth Owner E-Systems, Inc.  
 Location Fort Monmouth Eatontown Permit No 2924640  
 Well Number 10 Total Depth 15' Diameter 10"  
 casing Elevation Water Level: Initial 5.0' Static  
 Screen Diameter 4" Length 13' Slot Size .020"  
 casing Diameter 4" Length 2' Type Sch 40 PVC  
 Drilling Method Auger Sample Method Split Spoon  
 Completion Details Flush mount, with manhole cover, Inner locking cap



Driller B.L. Myers Log By J. Gallagher Date Drilled 5/1/90

Depth (ft)	Well Constr	HNU ppm	Lithological Description	Comments
0-2'			SAND Brown, fine SAND little Gravel	No odor or sheen
2-3'			SILT Black SILT & fine Sand, trace Gravel	
3-4'			SILT Brown, fine Sand, some SILT trace Clay	Groundwater encountered @4'
4-7'		0	SAND Light green coarse to fine SAND little Clay	
7-12'		0	CLAY Orange CLAY & fine Sand	Saturated, no odor
12-15'			CLAY Light green CLAY, some fine Sand Black CLAY, little Sand	No odor
15'			END HOLE @ 15'	

DWR-138 M  
12/91

New Jersey Department of Environmental Protection and Energy  
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 29-28031  
Atlas Sheet Coordinates 29-14-444

OWNER IDENTIFICATION - Owner U S ARMY  
Address EVANS AREA BLDG. 699  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. R-1 (BLDG 699)  
County \_\_\_\_\_ Municipality OCEANPORT BORO Lot No. N/A Block No. N/A  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Categories) \_\_\_\_\_ Date well completed 5-12-92  
Regulatory Program Requiring Well recovery Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. Army / CHUCK ADRIAN Tele. # \_\_\_\_\_

WELL CONSTRUCTION

Total depth drilled 20 ft.

Well finished to 20 ft.

Borehole diameter:  
Top 16 in.  
Bottom 16 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

Static water level after drilling 6 ft.

Water level was measured using LINE PUMP

Well was developed for \_\_\_\_\_ hours at \_\_\_\_\_ gpm

Method of development N/A

Was permanent pumping equipment installed?  Yes  No

Pump capacity N/A gpm

Pump type: \_\_\_\_\_

Drilling Method MSA

Drilling Fluid \_\_\_\_\_ Type of Rig REDUCED U-120

Name of Driller WILLIAM SHAW

Health and Safety Plan submitted?  Yes  No

Level of Protection used on site (circle one) None  C B A

N.J. License No. 1289

Name of Drilling Company TABASCO DRILLING CORP

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	5	10	FR. SCH. 40
Outer Casing (Not Protective Casing)				
Screen (Note slot size)	5	20	10	FR. SCH. 40 ZOSLOT
Tail Piece				
Gravel Pack	4	20	16	FR. SCH. 40
Annular Seal/Grout	0	4	16	FR. SCH. 40
Method of Grouting	TRACITE			

GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0  
BFW F-C SAND, LITTLE T. GRAVEL, TO SHT.  
4  
BLU. SAND, SOME SHT.  
20 BLU. CLAY, SHT. (MOR.)

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature [Signature] Date 5-20-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.



WELL ID NO. 699/12  
WELL ID NO. 699/13  
WELL ID NO. 699/14

# PROJECT NOTE

S. GOLUB

Originator

TO: U. S. ARMY, FT. MONMOUTH

DATE: FEB 2, 1994

FROM: STEVEN GOLUB

W.O. NO.: 03886-088-001-0003

SUBJECT: WELL RECORD FOR BUILDINGS 699/12, 13,14

NOTES: MONITORING WELLS RECORDS FOR BUILDINGS 699/12, 699/13 AND

699/14 WERE UNAVAILABLE DURING THIS WELL SEARCH. AS INFORMATION

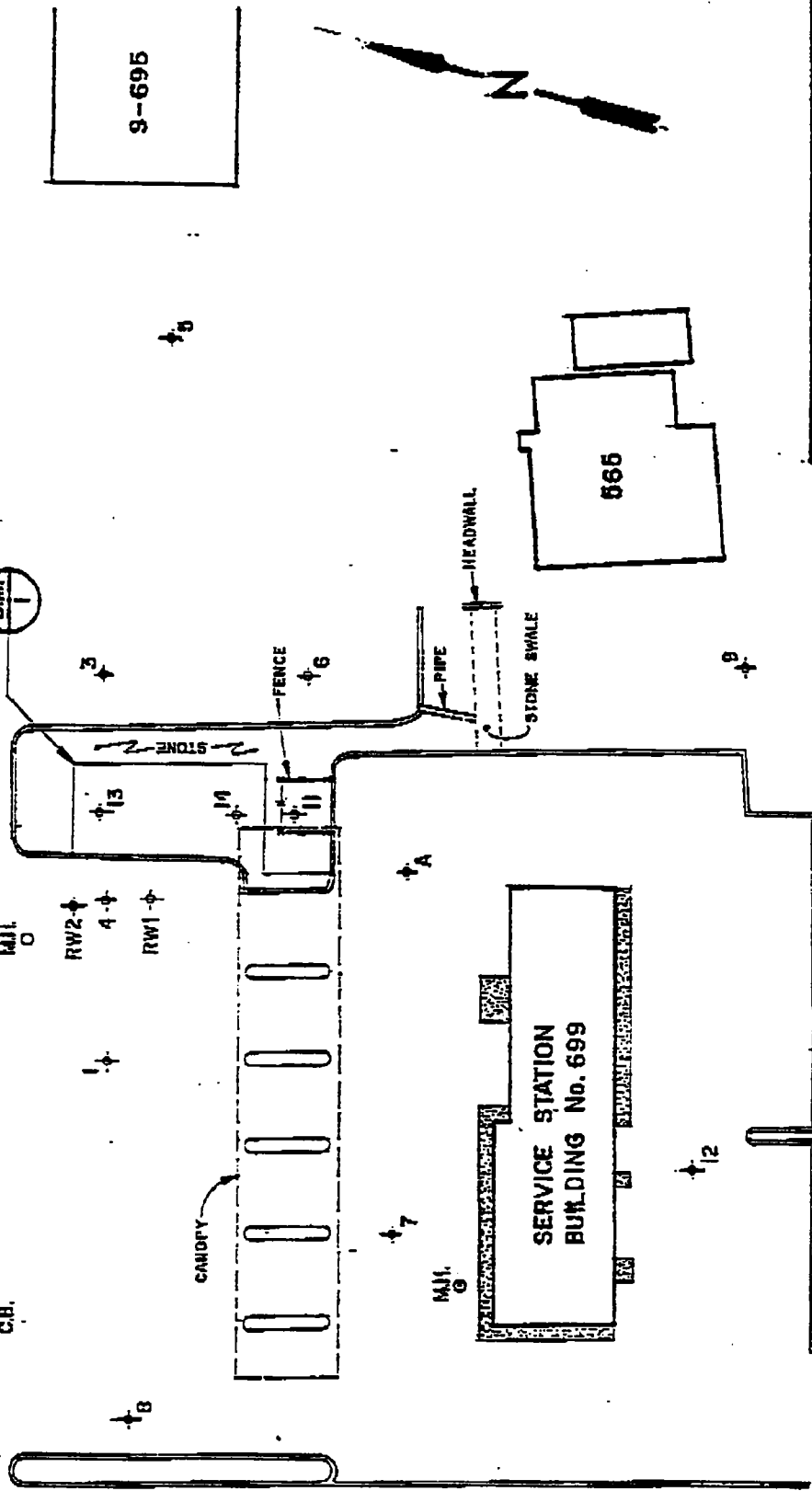
BECOMES AVAILABLE CONCERNING THESE WELLS, IT WILL BE INCORPORATED

INTO THE REPORT.

**NOTE:**  
 INFORMATION ON THIS MAP IS BASED ON A SURVEY  
 PERFORMED BY ANTHONY S. KOVAL, P.L.S. No. 32117,  
 ON 4/19/83.

WELL	CASING ELEVATION
1	16.01
2	16.44
3	20.80
4	25.92
5	18.18
6	15.76
7	15.97
8	16.30
9	15.96
10	15.97
11	17.14
12	16.66
13	16.21
14	15.98
A	15.47
RW1	15.93
RW2	16.09

SALTZMAN AVENUE



**SITE MAP**

SERVICE STATION BLDG. No. 699  
 SALTZMAN AVENUE  
 FORT MONMOUTH, NEW JERSEY

SCALE: 1" = 50'  
 9082 - 9301

DATE: 4/30/83  
 BY: D9/T9

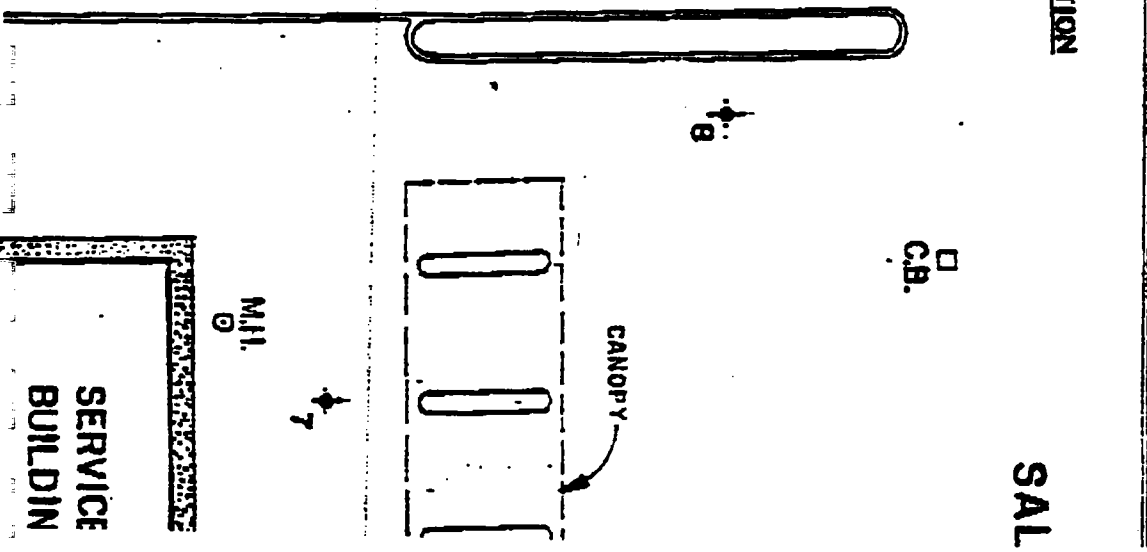
**BENCHMARK:** B.M. No. 1, BOX CUT IN CORNER OF  
 CONC. PAD, ELEV. = 16.62

**BUILDING 699**  
**MONITORING WELL**  
**STATE PLANE COORDINATES**

<u>Well #</u>	<u>Northing</u>	<u>Easting</u>
1	539366.8083	2171940.7903
2	539485.8788	2171973.4779
3	539399.1426	2173050.0135
4	539379.7602	2171986.2115
5	539408.7326	2173149.7318
-6	539342.0819	2173065.6781
7	539271.6999	2172914.0015
8	539331.3116	2172841.9991
9	593219.7750	2173102.2622
10	539171.4854	2173041.7736
11	539334.3793	2173025.4191
12	539194.0916	2172956.3047
13	539389.0031	2173010.4812
14	539350.9794	2173020.8452
A	539298.2118	2173017.8716
RW1	539367.3112	2172990.1686
RW2	539389.6935	2172981.8246

**NOTE:**  
 INFORMATION ON THIS MAP IS BASED ON A SURVEY  
 PERFORMED BY ANTHONY B. KOVAL, P.L.S. No. 32117  
 ON 4/19/93.

<u>WELL</u>	<u>CASING ELEVATION</u>
1	15.81
2	16.64
3	15.80
4	15.92
7	15.48
8	15.76
9	15.97
10	16.30
11	15.96
12	17.14
13	16.66
14	16.21
A	15.98
RW1	15.47
RW2	15.92
	16.09







**APPENDIX E**  
**CERTIFICATION OF SOIL RECLAMATION**

# SOIL REMEDIATION of Philadelphia, Inc.

3201 South 61st Street


Philadelphia, PA 19153

Pennsylvania Department of Environmental Resources Permitted Facility

## CERTIFICATE OF SOIL REMEDIATION

Soil Remediation of Philadelphia, Inc. certifies that 242269 tons of non-hazardous petroleum contaminated soil delivered by ALLIED ENVIRONMENTAL and identified as lot # 471 has been processed to destroy the hydrocarbon contamination. This soil has been remediated to meet Level A Protection as established by the Pennsylvania Department of Environmental Resources Cleanup Standards issued October 18, 1991. This states that the hydrocarbons are removed so that they are non-detectable thereby allowing the soil to be considered clean fill.

Certificate Issued To: U.S. ARMY FORT MONMOUTH

Authorized Signature: 

Date: 8-3-93



**APPENDIX F**  
**ANALYTICAL DATA PACKAGE**

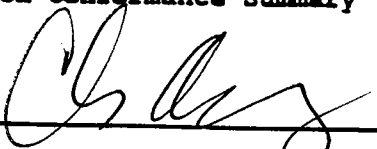
LABORATORY DELIVERABLES

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

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The proposed "Technical Requirements for Site Remediation" rules, which appeared in the May 4, 1992 New Jersey Register, 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 be included in one section of the data package and in the main body of the report.

- |   | Check if Complete |
|---|-------------------|
| 1. Cover Page, Title Page listing Lab Certification #, facility name & address, & date of report              | <u>✓</u>          |
| 2. Table of Contents  | <u>✓</u>          |
| 3. Summary Sheets listing analytical results for all targeted and non-targeted compounds                      | <u>✓</u>          |
| 4. Summary Table cross-referencing field ID #'s vs. Lab ID #'s  | <u>✓</u>          |
| 5. Document bound, paginated and legible  | <u>✓</u>          |
| 6. Chain of Custody   | <u>✓</u>          |
| 7. Methodology Summary  | <u>✓</u>          |
| 8. Laboratory Chronicle and Holding Time Check  | <u>✓</u>          |
| 9. Results submitted on a dry weight basis (if applicable)  | <u>N/A</u>        |
| 10. Method Detection Limits   | <u>✓</u>          |
| 11. Lab certified by NJDEPE for parameters or appropriate category of parameters or a member of the USEPA CLP | <u>✓</u>          |
| 12. Non-Conformance Summary   | <u>✓</u>          |



6-7-94

Laboratory Manager or Environmental Consultant's Signature

Date

151dg. 750



# A.A. LABS, INC.

Analytical Associates Laboratory

NJ DEP# 12660

1375 OFFICE CENTER  
PRINCETON MEADOWS  
P.O. BOX 749  
PLAINSBORO, N.J. 08536  
609-799-8787  
FAX: 609-799-8262

**E-SYSTEMS, INC./SAI**  
P.O. Box 360  
Fort Monmouth, NJ 07703

SAMPLE DATE: 6/2/92

REPORT DATE: 6/12/92

SAMPLE ID	LAB LOG NO	ANALYSIS
C92-841	3406-1	Pb
C92-842	3406-2	Pb
C92-843	3406-3	Pb
C92-844	3406-4	Pb
C92-845	3406-5	Pb
C92-846	3406-6	Pb
C92-847	3406-7	Pb
C92-848	3406-8	Pb
C92-849	3406-9	Pb
C92-850	3406-10	Pb
C92-851	3406-11	Pb
C92-852	3406-12	Pb
C92-853	3406-13	Pb
C92-854	3406-14	Pb
C92-855	3406-15	Pb
C92-856	3406-16	Pb
C92-857	3406-17	Pb
C92-858	3406-18	Pb
C92-859	3406-19	Pb
C92-860	3406-20	Pb

Approved by

*Raymond J. Feldt*

Raymond J. Feldt  
Chemistry Lab Manager



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FAX: 609-799-8262

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Methodology Summary/Data Reporting Qualifiers	2
Data - Lead	3
QA/QC Summary Sheets	4



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## SECTION 1

CHAIN OF CUSTODY RECORD

ANALYSES REQUESTED

Page 1 of 2

CLIENT NAME: SERV-AIR INC.  
 Bldg 750  
 SITE LOCATION: PO BOX 369 BLDG 490  
 Ft. MONMOUTH NJ 07703 (908)542-4359

SAMPLERS: C. Appleby

G. ROSENKOWSKY

SAMPLE ID.	DATE	TIME	MAT RIX	COMB	GRAB	SAMPLE LOCATION	NUMBER OF CONTAINERS	VOA/METHOD 8240		REMARKS
								X	X	
C92-841	6/2	1055	Soil		X	S.pt "A" 513th gas sta	1	X	X	Samples KEPT AT 40C
C92-842		1100	↑		X	S.pt "B" ↑	1	X	X	
C92-843		1110			X	S.pt "C"	1	X	X	
C92-844		1120			X	S.pt "D"	1	X	X	
C92-845		1125			X	S.pt "E"	1	X	X	
C92-846		1135			X	S.pt "F"	1	X	X	
C92-847		1140			X	S.pt "G"	1	X	X	
C92-848		1150			X	S.pt "H"	1	X	X	
C92-849		1355			X	S.pt "I"	1	X	X	
C92-850		1400			X	S.pt "J"	1	X	X	
C92-851		1410			X	S.pt "K"	1	X	X	
C92-852		1415			X	S.pt "L"	1	X	X	
C92-853		1425			X	S.pt "M"	1	X	X	
C92-854		1430	↓		X	S.pt "N" ↓	1	X	X	
TOTALS							14	14	14	

SAMPLE CONTAINERS PREPARED BY:

RELINQUISHED BY:

DATE TIME RECEIVED BY:

RELINQUISHED BY:

DATE TIME RECEIVED BY:

RELINQUISHED BY:

DATE TIME RECEIVED BY:

*[Signature]*  
 6/3/13 1350 / C. Appleby



CHAIN OF CUSTODY RECORD

Page 1 of 2

CLIENT NAME: SERV-AIR INC.  
 Bldg 750 E  
 SITE LOCATION: PO BOX 369 BLDG 490  
 Ft. MONMOUTH NJ 07703 (908)542-4359

SAMPLERS: C. APPELBY  
 G. ROCHKOVSKY

ANALYSES REQUESTED

SAMPLE ID.	DATE	TIME	MAT RIX	COMPT	COMPT	SAMPLE LOCATION	NUMBER OF CONTAINERS	VOC Method 8240		REMARKS	
								X	X		
C92-855	6/2	1440	SO/C	X	X	5. pt "O" 5134 Gas Sta	1	X	X	Samples kept at 4°C	
C92-856	6/2	1455	SO/C	X	X	5. pt "P" 5134 Gas Sta	1	X	X		
C92-857	6/2	1505	SO/C	X	X	5. pt "Q" 5134 Gas Sta	1	X	X	Tien II-VOC	
C92-858	6/2	1515	SO/C	X	X	5. pt "R" 5134 Gas Sta	1	X	X		
C92-859	6/2	1520	SO/C	X	X	5. pt "S" 5134 Gas Sta	1	X	X		
C92-860	6/2	1525	SO/C	X	X	5. pt "T" 5134 Gas Sta	1	X	X		
C92-861	6/2	-	-	X	X	FIELD BLANK	2	X	X		
TOTALS									8	7	

SAMPLE CONTAINERS PREPARED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY: *[Signature]*

DATE TIME RECEIVED BY:

RELINQUISHED BY:

RECEIVED BY:

6/30/1350 J. COLCOTAN

LABORATORY DIV.

RECEIVED AT LABORATORY DIV.

LABORATORY DIV.



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609-799-8787

LABORATORY CHRONICLE (p. 1 of 2)

CLIENT: E-Systems / SAI

DATE SAMPLED: 6/2/92

MATRIX: soil

DATE SUBMITTED: 6/3/92

ANALYTICAL PARAMETER: Pb

SAMPLE NUMBER	EXTRACTION DATE/TIME	EXTRACTOR'S INITIALS	ANALYSIS DATE/TIME	ANALYST'S INITIALS
<u>3406-1</u>	<u>6/10/92</u>	<u>MT</u>	<u>6/11/92</u>	<u>MT</u>
<u>-2</u>				
<u>-3</u>				
<u>-4</u>				
<u>-5</u>				
<u>-6</u>				
<u>-7</u>				
<u>-8</u>				
<u>-9</u>				
<u>-10</u>				
<u>-11</u>				
<u>-12</u>				
<u>-13</u>				
<u>-14</u>				
<u>-15</u>				
<u>-16</u>				





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## SECTION 2



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FAX: 609-799-8262

## METHODOLOGY SUMMARY

### PRIORITY POLLUTANT METALS:

Metals analyses in water are performed by atomic absorption using EPA methods presented in "Methods for Chemical Analysis of Water and Wastewater" (EPA 600/4-79-020). Solid sample analyses are conducted as specified in the EPA publication "Test Methods for Evaluating Solid Waste" (SW-846, 3rd Edition). Specific method references are as follows:

<u>PARAMETER</u>	<u>WATER METHODS</u>		<u>SOLID METHOD</u>	
	<u>FLAME</u>	<u>FURNACE</u>	<u>FLAME</u>	<u>FURNACE</u>
Antimony	204.1	204.2	7040	7041
Arsenic	-	206.2	-	7060
Beryllium	210.1	210.2	7090	7091
Cadmium	213.1	213.2	7130	7131
Chromium	218.1	218.2	7190	7191
Copper	220.1	220.2	7210	7211
Lead	239.1	239.2	7420	7421
Mercury*	245.1	-	7470, 7471**	-
Nickel	249.1	249.2	7520	-
Selenium	-	270.2	-	7740
Silver	272.1	272.2	7760	-
Thallium	279.1	279.2	7840	7841
Zinc	289.1	289.2	7950	-

\* Cold vapor technique.

\*\* Method 7470 is for liquid waste; 7471 is for solid or semisolid waste.



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## DATA REPORTING QUALIFIERS

- ND - The compound was not detected at the indicated concentration.
- B - The analyte was found in the laboratory blank as well as the sample. This indicates possible laboratory contamination of the environmental sample.

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# A.A. LABS, INC.

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## SECTION 3



# A.A. LABS, INC.

Analytical Associates Laboratory

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PLAINSBORO, N.J. 08536  
609-799-8787  
FAX: 609-799-8262

NJ DEP# 12660

REPORT TO: E-Systems, Inc/Serv-Air  
P.O. Box 360  
Fort Monmouth, NJ  
07703  
ATTN: Barbara/Chuck

DATE SAMPLED: 6/2/92  
SAMPLED BY: customer  
DATE SUBMITTED: 6/3/92  
DATE EXTRACTED: 6/10/92  
DATE ANALYZED: 6/11/92

REPORT DATE: 6/11/92

A.A. LAB LOG NO: 3406 (1-20)

CUSTOMER SAMPLE ID: See below

PARAMETER MEASURED: Lead

UNITS: mg/kg

CUSTOMER SAMPLE ID

RESULTS

DETECTION LIMITS

C92-841	ND	2.40
C92-842	5.46	2.40
C92-843	5.75	2.40
C92-844	2.81	2.40
C92-845	2.51	2.40
C92-846	4.38	2.40
C92-847	5.54	2.40
C92-848	ND	2.25
C92-849	9.58	2.40
C92-850	2.88	2.40
C92-851	3.50	2.40
C92-852	2.74	2.40
C92-853	2.40	2.40
C92-854	2.87	2.40
C92-855	ND	2.34
C92-856	ND	2.34
C92-857	ND	2.23
C92-858	ND	2.30
C92-859	6.88	2.40
C92-860	8.33	2.40

ID = not detected.  
= less than.

*Raymond J. Feldt*

Raymond J. Feldt  
Chemistry Laboratory Manager





# A.A. LABS, INC.

*Analytical Associates Laboratory*

NJDEP CERTIFICATION # 12660

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P.O. BOX 749  
PLAINSBORO, N.J. 08536  
609-799-8787

## SECTION 4





# A.A. LABS, INC.

Analytical Associates Laboratory

NJ DEP# 12660

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PRINCETON MEADOWS  
P.O. BOX 749  
PLAINSBORO, N.J. 08536  
609-799-8787  
FAX: 609-799-8262

REPORT TO: E-Systems, Inc./SAI  
P.O. Box 360  
Fort Monmouth, NJ  
07703  
ATTN: Barbara/Chuck

DATE SAMPLED: -  
SAMPLED BY: -  
DATE SUBMITTED: -  
DATE EXTRACTED: 6/10/92  
DATE ANALYZED: 6/11/92

REPORT DATE: 6/11/92

A.A. LAB LOG NO: -

CUSTOMER SAMPLE ID: Method Blank for 3406-11 through -20

## PARAMETERS

## RESULTS

## DETECTION LIMITS

Lead

ND

0.050 mg/L

ND = not detected.  
< = less than.

*Raymond J. Feldt*

Raymond J. Feldt  
Chemistry Laboratory Manager



# A.A. LABS, INC.

Analytical Associates Laboratory

1375 OFFICE CENTER  
PRINCETON MEADOWS  
P.O. BOX 749  
PLAINSBORO, N.J. 08536  
609-799-8787  
FAX: 609-799-8262

NJ DEP# 12660

REPORT TO: E-Systems, Inc./Serv-Air  
P.O. Box 360  
Fort Monmouth, NJ  
07703  
ATTN: Barbara/Chuck

DATE SAMPLED: -  
SAMPLED BY: -  
DATE SUBMITTED: -  
DATE EXTRACTED: 6/10/92  
DATE ANALYZED: 6/11/92

REPORT DATE: 6/11/92

A.A. LAB LOG NO: -

CUSTOMER SAMPLE ID: Method Blank for 3406-1 through -10

## PARAMETERS

## RESULTS

## DETECTION LIMITS

<u>PARAMETERS</u>	<u>RESULTS</u>	<u>DETECTION LIMITS</u>
Lead	ND	0.050 mg/L

ND = not detected.  
= less than.

*Raymond J. Feldt*

Raymond J. Feldt  
Chemistry Laboratory Manager



*Analytical Associates Laboratory*

NJDEP CERTIFICATION # 12660

1375 OFFICE CENTER  
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609-799-8787

### NONCONFORMANCE SUMMARY

**No nonconformance reported.**



# A.A. LABS, INC.

Analytical Associates Laboratory

NJ DEP# 12660

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PLAINSBORO, N.J. 08536  
609-799-8787  
FAX: 609-799-8262

## LABORATORY CHRONICLE

CLIENT: E Systems

DATE SAMPLED: 6/2/92

MATRIX: Soil/H<sub>2</sub>O

DATE SUBMITTED: 6/3/92

ANALYTICAL PARAMETER: DOA + 15'

SAMPLE NUMBER	EXTRACTION DATE/TIME	EXTRACTOR'S INITIALS	ANALYSIS DATE/TIME	ANALYST'S INITIALS
<u>13608</u>	<u>N/A</u>	<u>NA</u>	<u>6-4-92/13:08</u>	<u>RL</u>
<u>13609</u>			<u>13:55</u>	
<u>13610</u>			<u>14:43</u>	
<u>13611</u>			<u>15:31</u>	
<u>13612</u>			<u>16:19</u>	
<u>13613</u>			<u>17:07</u>	
<u>13614</u>			<u>17:55</u>	
<u>13615</u>			<u>18:46</u>	
<u>13616</u>			<u>19:34</u>	
<u>13617</u>			<u>20:21</u>	
<u>13618</u>			<u>6-5-92/16:08</u>	<u>YFB</u>
<u>13619</u>			<u>16:56</u>	
<u>13620</u>			<u>17:43</u>	
<u>13621</u>			<u>18:31</u>	
<u>13622</u>			<u>19:19</u>	
<u>13623</u>			<u>20:06</u>	
<u>13624</u>			<u>20:54</u>	
<u>13625</u>			<u>21:42</u>	
<u>13626</u>			<u>22:29</u>	
<u>13627</u>			<u>6/8/92/19:44</u>	
<u>13628</u>			<u>6/9/92/14:08</u>	<u>RL</u>



1375 OFFICE CENTER  
 PRINCETON MEADOWS  
 P.O. BOX 749  
 PLAINSBORO, N.J. 08536  
 609-799-8787  
 FAX: 608-799-8262

NJ DEP# 12660

**E SYSTEMS, INC./SERV-AIR**

**VOLATILES REPORT**

SAMPLE DATE: 6/2/92  
 REPORT DATE: 6/10/92

SAMPLE ID	NJ ASSAY #	A.A. LAB LOG #	ANALYSES
C92-841	3406-1	013608	8240
C92-842	3406-2	013609	8240
C92-843	3406-3	013610	8240
C92-844	3406-4	013611	8240
C92-845	3406-5	013612	8240
C92-846	3406-6	013613	8240
C92-847	3406-7	013614	8240
C92-848	3406-8	013615	8240
C92-849	3406-9	013616	8240
C92-850	3406-10	013617	8240
C92-851	3406-11	013618	8240
C92-852	3406-12	013619	8240
C92-853	3406-13	013620	8240
C92-854	3406-14	013621	8240
C92-855	3406-15	013622	8240
C92-856	3406-16	013623	8240
C92-857	3406-17	013624	8240
C92-858	3406-18	013625	8240
C92-859	3406-19	013626	8240
C92-860	3406-20	013627	8240
C92-861	3406-21	013628	624

Approved by



222 EASTON AVENUE  
NEW BRUNSWICK, NEW JERSEY 08901  
TELEPHONE: (908) 249-0148  
TELEFAX: (908) 249-0243

ANALYTICAL TESTING  
SINCE 1939

Division:  
PHARMETICS LABORATORY

E-SYSTEMS, INC./SAI  
P.O. Box 360  
Fort Monmouth, NJ 07703

SAMPLE DATE: 6/2/92

REPORT DATE: 6/12/92

SAMPLE ID	LAB LOG NO	ANALYSIS
C92-841	3406-1	Pb
C92-842	3406-2	Pb
C92-843	3406-3	Pb
C92-844	3406-4	Pb
C92-845	3406-5	Pb
C92-846	3406-6	Pb
C92-847	3406-7	Pb
C92-848	3406-8	Pb
C92-849	3406-9	Pb
C92-850	3406-10	Pb
C92-851	3406-11	Pb
C92-852	3406-12	Pb
C92-853	3406-13	Pb
C92-854	3406-14	Pb
C92-855	3406-15	Pb
C92-856	3406-16	Pb
C92-857	3406-17	Pb
C92-858	3406-18	Pb
C92-859	3406-19	Pb
C92-860	3406-20	Pb

Approved by

*Raymond J. Feldt*

Raymond J. Feldt  
Chemistry Lab Manager



NONCONFORMANCE SUMMARY  
LABORATORY CHRONICLES  
CHAIN OF CUSTODY  
METHODOLOGY SUMMARY

**1**

---

METHOD BLANK RESULTS  
SAMPLE RESULTS

**2**

---

BFB TUNE CHECK FORM  
SPECTRA, CHROMATOGRAM, AND TABULATION OF BFB  
INITIAL CALIBRATION SUMMARY  
CONTINUING CALIBRATION SUMMARY

**3**

---

SURROGATE RECOVERIES  
MATRIX SPIKE RECOVERIES  
METHOD BLANK SUMMARY

**4**

---

BLANK AND SAMPLE RAW DATA:  
QUANT REPORTS  
CHROMATOGRAMS  
SPECTRA OF IITS

**5**

---

CLIENT NAME: SERV-AIR INC. - Bldg. 750  
 SITE LOCATION: PO BOX 369 BLDG 490  
 Ft. MOUNTAIN NJ 07703 (908) 542-4359

SAMPLERS:

C. Appaly DEH

SAMPLE ID.	DATE TIME	MAT RIX	CRFB	CRFB	SAMPLE LOCATION	CONTAINERS		TPHC	% Solids	REMARKS
						*	*			
092-1035	11/3/92 1505	Soil	X	X	MW#4-SS-5'-7'			*		*SS held until 5 days after arrival.
092-1036	1505	Soil	X	X	MW#4-SS-10'-12'			X		
092-1037	1530	Soil	X	X	MW#4-SS-15'-17'			X		
										75% -
										092-1035 - 81%
										092-1036 - 79%
										092-1037 - 78%
TOTALS										

SAMPLE CONTAINERS PREPARED BY: *PRE cleaned ESS-*

RELINQUISHED BY: *Chas. Appy*

RELINQUISHED AT: \_\_\_\_\_

DATE TIME RECEIVED BY: \_\_\_\_\_

DATE TIME RELINQUISHED BY: \_\_\_\_\_

DATE TIME RECEIVED BY: \_\_\_\_\_

DATE TIME RELINQUISHED BY: \_\_\_\_\_

SAMPLE NO.	DATE	TIME	SOIL	NO. OF CONTAINERS	SAMPLE LOCATION	REMARKS	ANALYSIS	
							TPHC	CONCENTRATION
092-1032	11/2	1020	X	1	M.W.#3 S#5			
092-1033	11/2	1040	X	1	M.W.#3 S#6			
092-1034	11/2	1120	X	1	M.W.#3 S#7			
								75%
								Post
								092-1032 - 16.107 - 12.578 = 78.47
								1033 - 17.489 - 13.815 = 79.7
								1034 - 22.757 - 17.897 = 77.5
				3				
Relinquished by: (Signature) <i>Rochevsky</i>						Received by: (Signature) <i>J. Hubbard</i>	Date/Time	Date/Time
Relinquished by: (Signature)						Received by: (Signature)	11/2	1420
Relinquished by: (Signature)						Received, for Laboratory by: (Signature)		
Relinquished by: (Signature)						Received, for Laboratory by: (Signature)		



CHAIN OF CUSTODY RECORD

ANALYSES REQUESTED

CLIENT NAME: SERV-AIR INC.  
 SITE LOCATION: PO BOX 369 BLDG 490  
 Ft. MONMOUTH NJ 07703 (908)542-4359

SAMPLERS: C. Appleby  
 G. RACHKOVSKY

SAMPLE ID.	DATE	TIME	MAT RIX	CORRECTION	CORRECTION	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSES REQUESTED		REMARKS	
								NOA/meters	Lead		
C92-841	6/2	1055	5012			Spt 'A' S13T4 942 sta	1	X	X	SAMPLES	
C92-842		1100	↑			Spt 'B' ↑	1	X	X	KEPT AT	
C92-843		1110				Spt 'C'	1	X	X	4°C	
C92-844		1120				Spt 'D'	1	X	X	Tier II-Voc	
C92-845		1125				Spt 'E'	1	X	X		
C92-846		1135				Spt 'F'	1	X	X		
C92-847		1140				Spt 'G'	1	X	X		
C92-848		1150				Spt 'H'	1	X	X		
C92-849		1355				Spt 'I'	1	X	X		
C92-850		1400				Spt 'J'	1	X	X		
C92-851		1410				Spt 'K'	1	X	X		
C92-852		1415				Spt 'L'	1	X	X		
C92-853		1425				Spt 'M'	1	X	X		
C92-854		1430	↓			Spt 'N' ↓	1	X	X		
TOTALS							14	14	14		

SAMPLE CONTAINERS PREPARED BY:

RELINQUISHED BY:

DATE TIME RECEIVED BY:

RELINQUISHED BY: *[Signature]*

DATE TIME RECEIVED BY: 6/3/13 1350 / C. Appleby

DATE TIME RECEIVED BY:

DATE TIME RECEIVED AT LABORATORY BY: REMARKS

CHAIN OF CUSTODY RECORD

Page 1 of 2

ANALYSES REQUESTED

CLIENT NAME: SERV-AIR INC.  
 SITE LOCATION: PD BOX 369 BLDG 490  
 FT. MONMOUTH NJ 07703 (908)542-4359

SAMPLERS: C. APPELBY  
 G. ROCHKOVSKY

SAMPLE ID.	DATE	TIME	MATERIAL	SAMPLE LOCATION	NUMBER OF CONTAINERS	ANALYSES REQUESTED		REMARKS
						Lead	Ua Method 8240	
C92-855	6/2	1440	Soil	5. pt "O" 5134 Gas Sta	1	X	X	Samples kept at 4°C
C92-856	6/2	1455	Soil	5. pt "P" 5134 Gas Sta	1	X	X	
C92-857	6/2	1505	Soil	5. pt "Q" 5134 Gas Sta	1	X	X	Tier II-Voc
C92-858	6/2	1515	Soil	5. pt "R" 5134 Gas Sta	1	X	X	
C92-859	6/2	1520	Soil	5. pt "S" 5134 Gas Sta	1	X	X	
C92-860	6/2	1525	Soil	5. pt "T" 5134 Gas Sta	1	X	X	
C92-861	6/2	-	-	FIELD BLANK	2	X	X	
TOTALS					8	7	6	

SAMPLE CONTAINERS PREPARED BY:

RELINQUISHED BY:

RECEIVED BY:

RELINQUISHED BY:

DATE TIME RECEIVED BY:

DATE TIME

RECEIVED BY:

RELINQUISHED BY: *[Signature]*  
 DATE TIME: 6/3/92/1350  
 RECEIVED BY: *[Signature]*  
 DATE TIME: 6/3/92/1350



# A.A. LABS, INC.

Analytical Associates Laboratory

NJDEP CERTIFICATION # 12660

1375 OFFICE CENTER  
PRINCETON MEADOWS  
P.O. BOX 749  
PLAINSBORO, N.J. 08536  
609-799-8787

## GC/MS VOLATILE ORGANIC METHODOLOGY

Aqueous samples are analyzed in accordance with USEPA Methods 624, 40 CRF Ch. 1 Part 136 (7-1-85 Edition). A five mL portion of sample is purged at ambient temperature and then rapidly desorbed onto a GC/MS.

Soil samples are analyzed in accordance with USEPA SW-846 Methods for Evaluating Solid Waste (9/86) Rev. 0 Method 8240 and 5030. 5 grams of sample are purged at 40 °C and then rapidly desorbed onto a GC/MS.

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>UBLK</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u></u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>UBLK 6/B</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4463</u>	DATE ANALYZED	<u>06/08/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	2.4 J	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 100. is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected



1E  
**VOLATILE ORGANICS ANALYSIS DATA SHEET**  
 TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

UBLK

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: UBLK

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4448

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/05/92

Column: PACK

Dilution Factor: 1.00

Number of TICs found: 0

CONCENTRATION UNITS:  
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13608</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>841-A</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4436</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	13	Trichloroethene	ND	6
Bromomethane	ND	13	Dibromochloromethane	ND	6
Vinyl Chloride	ND	13	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	13	Benzene	ND	6
Methylene Chloride	2.0 JB	6	2-Chloroethyl vinyl ether	ND	13
Acrolein	ND	63	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	63	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	63	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	6.4	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	63	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 79.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

UBLK

Lab Name: AA LABS NJDEP Cert. # 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: UBLK

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4463

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/08/92

Column: PACK

Dilution Factor: 1.00

Number of TICs found: 0

CONCENTRATION UNITS:  
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

841-A

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13608

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4436

Level: (low/med) LOW Date Received: NA

% Moisture: not dec.\_\_\_\_\_ Date Analyzed: 06/04/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13609</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>042-B</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4437</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	2.7 J	6
Methylene Chloride	3.7 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	8.6	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	3.7 J	6
Carbon Tetrachloride	ND	6	o,p-Xylene	11	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	61	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 83.0 is used for all Target compounds.

17.4 ppb,

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

842-B

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13609

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4437

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/04/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID 13610  
CLIENT NAME E-SYSTEM  
CLIENT ID 843-C  
DATA FILE >T4438

MATRIX Soil  
DILUTION FACTOR 1.00  
QA BATCH \_\_\_\_\_  
DATE ANALYZED 06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	6.6 B	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	3.4 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	3.7 J	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 83.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

843-C

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 13610

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4438

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/04/92

Column: PACK

Dilution Factor: 1.00

Number of TICs found: 2

CONCENTRATION UNITS:  
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	*Acetone	7.94	6	
21	Unknown alkane	19.34	6	

\*Quantitated from calibration

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13611</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>844-D</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4439</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	6.3 B	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	58	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	58	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	58	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	58	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 86.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

1E  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

844-D

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13611

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4439

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/04/92

Column: PACK Dilution Factor: 1.00

Number of TICs found: 1 CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	Unknown	19.34	5	

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID 13612  
 CLIENT NAME E-SYSTH.  
 CLIENT ID 845-E  
 DATA FILE >T4440

MATRIX Soil  
 DILUTION FACTOR 1.00  
 QA BATCH \_\_\_\_\_  
 DATE ANALYZED 06/04/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	8.3 B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

845-E

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13612

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4440

Level: (low/med) LOW Date Received: NA

% Moisture: not dec.\_\_\_\_\_ Date Analyzed: 06/04/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	* Acetone	7.87	23	
21	Unknown alkane	19.35	5	

\*Quantitated from calibration

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13613</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>846-F</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4441</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	ND B	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	58	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	58	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	58	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	58	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 86.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

846-F

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13613

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4441

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/04/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:

Number of TICs found: 2

ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	* Acetone	7.84	7	
2	Unknown alkane	19.35	5	

\*Quantitated from calibration

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13614</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTEM</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>842-G</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4442</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	7.5 B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected



1E  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

847-G

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13614

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4442

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/04/92

Column: PACK Dilution Factor: 1.00

Number of TICs found: 2 CONCENTRATION UNITS:  
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	* Acetone	7.90	12	
21	Unknown alkane	19.34	5	

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13615</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>848-H</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4443</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	5
Bromomethane	ND	11	Dibromochloromethane	ND	5
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	11	Benzene	3.6 J	5
Methylene Chloride	4.2 JB	5	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	55	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	55	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	55	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	9.3	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	55	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 91.0 is used for all Target compounds.

*3.6 ppb.*

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

848-H

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 13615

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4443

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_

Date Analyzed: 06/04/92

Column: PACK

Dilution Factor: 1.00

Number of TICs found: 2

CONCENTRATION UNITS:  
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	* Acetone	7.91	4	
21	Unknown alkane	19.39	5	

Quantitated from calibration

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13616</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>849-I</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4444</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	5.2 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethane	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	160	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	6.9	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

6.9 PRB

Percent Solid of 84.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

849-I

Lab Name: AA LABS NJDEP Cert. # 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13616

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4444

Level: (low/med) LOW Date Received: NA

% Moisture: not dec.\_\_\_\_ Date Analyzed: 06/04/92

Column: PACK Dilution Factor: 1.00

Number of TICs found: 2

CONCENTRATION UNITS:  
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	Unknown alkene	7.72	9	
2	* Acetone	7.91	5	

\*Quantitated from calibration

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13617</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>850-J</u>	QA BATCH	
DATA FILE	<u>T4445</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	4.3 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	5.7	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 88.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected



AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13618</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>851-K</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4449</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	4.3 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	56	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	56	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	56	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	2.0 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	56	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 89.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.  

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**851-K**

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Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----  
Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----  
Matrix: SOIL Lab Sample ID: 13618  
Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4449  
Level: (low/med) LOW Date Received: NA  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/05/92  
Column: PACK Dilution Factor: 1.00

Number of TICs found: 1  
CONCENTRATION UNITS:  
ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	Unknown	10.40	8	

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13619</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>852-L</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4450</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	5.2 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	56	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	56	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	56	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	2.2 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	56	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 89.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

852-L

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13619

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4450

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/05/92

Column: PACK Dilution Factor: 1.00

Number of TICs found: 0 CONCENTRATION UNITS: ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13620</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>853-H</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4451</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	6.7 B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	8.8	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

853-M

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13620

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4451

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/05/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	Unknown alkane	19.35	5	

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13621</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>854-N</u>	QA BATCH	
DATA FILE	<u>&gt;T4452</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	3.9 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	58	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	58	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	58	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	58	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 86.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

854-N

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13621

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4452

Level: (low/med) LOW Date Received: NA

% Moisture: not dec.\_\_\_\_ Date Analyzed: 06/05/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID 13622  
CLIENT NAME E-SYSTH.  
CLIENT ID 855-0  
DATA FILE >T4453

MATRIX Soil  
DILUTION FACTOR 1.00  
QA BATCH \_\_\_\_\_  
DATE ANALYZED 06/05/92

COMPOUND	UG/KG	HDL	COMPOUND	UG/KG	HDL
Chloromethane	ND	12	Trichloroethene	ND	6
Bromomethane	ND	12	Dibromochloromethane	ND	6
Vinyl Chloride	ND	12	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	12	Benzene	ND	6
Methylene Chloride	5.5 JB	6	2-Chloroethyl vinyl ether	ND	12
Acrolein	ND	60	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	60	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	60	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	60	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 83.0 is used for all Target compounds.

(J) Indicates detected below HDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

855-0

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13622

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4453

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/05/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13623</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>856- P</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4454</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	13	Trichloroethene	ND	6
Bromomethane	ND	13	Dibromochloromethane	ND	6
Vinyl Chloride	ND	13	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	13	Benzene	1.5 J	6
Methylene Chloride	7.1 B	6	2-Chloroethyl vinyl ether	ND	13
Acrolein	ND	64	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	64	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	64	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	4.2 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	64	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 78.0 is used for all Target compounds.

1.5 ppb

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

856-P

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13623

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4454

Level: (low/med) LOW Date Received: NA

% Moisture: not dec.\_\_\_\_\_ Date Analyzed: 06/05/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11*	Acetone	7.95	6	

\*Quantitated from calibration

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13624</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>857-0</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4455</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	ND B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

857-Q

Lab Name: AA LABS NJDEP Cert. # 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL Lab Sample ID: 13624

Sample wt/vol: 5.0 (g/ml) g Lab File ID: >T4455

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/05/92

Column: PACK Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID 13625  
CLIENT NAME E-SYSTH.  
CLIENT ID 858-R  
DATA FILE >T4456

MATRIX Soil  
DILUTION FACTOR 1.00  
QA BATCH \_\_\_\_\_  
DATE ANALYZED 06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	4.6 JB	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	56	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	56	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	56	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	56	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 90.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

858-R

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 13625

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4456

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/05/92

Column: PACK

Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	Unknown	30.52	5	

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13626</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>859-5</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4457</u>	DATE ANALYZED	<u>06/05/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	11	Trichloroethene	ND	6
Bromomethane	ND	11	Dibromochloromethane	ND	6
Vinyl Chloride	ND	11	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	11	Benzene	ND	6
Methylene Chloride	ND B	6	2-Chloroethyl vinyl ether	ND	11
Acrolein	ND	57	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	57	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	57	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	ND	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	57	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropene	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 87.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected



1E  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

859-S

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 13626

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4457

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/05/92

Column: PACK

Dilution Factor: 1.00

CONCENTRATION UNITS:  
 ug/Kg

Number of TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	*Acetone	7.87	18	

\*Quantitated from calibration

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID 13627  
CLIENT NAME E-SYSTH.  
CLIENT ID 860-T  
DATA FILE >T4464

MATRIX Soil  
DILUTION FACTOR 1.00  
QA BATCH \_\_\_\_\_  
DATE ANALYZED 06/08/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	13	Trichloroethene	ND	6
Bromomethane	ND	13	Dibromochloromethane	ND	6
Vinyl Chloride	ND	13	1,1,2-Trichloroethane	ND	6
Chloroethane	ND	13	Benzene	ND	6
Methylene Chloride	15 B	6	2-Chloroethyl vinyl ether	ND	13
Acrolein	ND	65	Trans-1,3-Dichloropropene	ND	6
Acrylonitrile	ND	65	Ethylene Dibromide	ND	6
tert-Butyl alcohol	ND	65	Diisopropylether	ND	6
Trichlorofluoromethane	ND	6	Bromoform	ND	6
1,1-Dichloroethene	ND	6	2-Hexanone	ND	6
1,1-Dichloroethane	ND	6	4-Methyl-2-pentanone	ND	6
trans-1,2-Dichloroethene	ND	6	Tetrachloroethene	ND	6
Chloroform	ND	6	1,1,2,2-Tetrachloroethane	ND	6
2-Butanone	ND	6	Toluene	ND	6
1,2-Dichloroethane	ND	6	Chlorobenzene	ND	6
tert-Butyl methyl ether	2.0 J	6	Ethylbenzene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
1,4-Dioxane	ND	65	m-Xylene	ND	6
Carbon Tetrachloride	ND	6	o,p-Xylene	ND	6
Bromodichloromethane	ND	6	1,3-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6	1,2-Dichlorobenzene	ND	6
cis-1,3-Dichloropropane	ND	6	1,4-Dichlorobenzene	ND	6

Percent Solid of 77.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

860-T

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 13627

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4464

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/08/92

Column: PACK

Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
11	Unknown alkane	19.35	5	

1E  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

5995T,VOA

Lab Name: AA LABS NJDEP Cert. # 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: SOIL

Lab Sample ID: 5995T,VOA

Sample wt/vol: 5.0 (g/ml) g

Lab File ID: >T4435

Level: (low/med) LOW

Date Received: NA

% Moisture: not dec. \_\_\_\_\_

Date Analyzed: 06/04/92

Column: PACK

Dilution Factor: 1.00

CONCENTRATION UNITS:  
ug/Kg

Number of TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>13628</u>	MATRIX	<u>Water</u>
CLIENT NAME	<u>E-SYSTH.</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>FIELD BLK</u>	QA BATCH	
DATA FILE	<u>&gt;T4470</u>	DATE ANALYZED	<u>06/09/92</u>

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	3.8 JB	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

(J) Indicates detected below MDL  
 (B) Indicates also present in blank  
 (ND) Indicates compound not detected

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

LAB SAMPLE NO.

FIELD BLK.
------------

Lab Name: AA LABS NJDEP Cert.# 12660 Contract:-----

Lab Code: GC/MS Case No.: ----- SAS No.: ----- SDG No.: -----

Matrix: WATER Lab Sample ID: 13628

Sample wt/vol: 5.0 (g/ml) ml Lab File ID: >T4470

Level: (low/med) LOW Date Received: NA

% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 06/09/92

Column: PACK Dilution Factor: 1.00

Number of TICs found: 0

CONCENTRATION UNITS:  
ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID	<u>5995T.VOA</u>	MATRIX	<u>Soil</u>
CLIENT NAME	<u></u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>VBLK QT060</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;T4435</u>	DATE ANALYZED	<u>06/04/92</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	2.9 J	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 100. is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

AA LABS INC.  
VOLATILE ORGANIC ANALYSIS DATA

LAB ID VBLK  
CLIENT NAME \_\_\_\_\_  
CLIENT ID VBLK 6-5  
DATA FILE >T4448

MATRIX Soil  
DILUTION FACTOR 1.00  
QA BATCH \_\_\_\_\_  
DATE ANALYZED 06/05/92

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Chloromethane	ND	10	Trichloroethene	ND	5
Bromomethane	ND	10	Dibromochloromethane	ND	5
Vinyl Chloride	ND	10	1,1,2-Trichloroethane	ND	5
Chloroethane	ND	10	Benzene	ND	5
Methylene Chloride	2.6 J	5	2-Chloroethyl vinyl ether	ND	10
Acrolein	ND	50	Trans-1,3-Dichloropropene	ND	5
Acrylonitrile	ND	50	Ethylene Dibromide	ND	5
tert-Butyl alcohol	ND	50	Diisopropylether	ND	5
Trichlorofluoromethane	ND	5	Bromoform	ND	5
1,1-Dichloroethene	ND	5	2-Hexanone	ND	5
1,1-Dichloroethane	ND	5	4-Methyl-2-pentanone	ND	5
trans-1,2-Dichloroethene	ND	5	Tetrachloroethene	ND	5
Chloroform	ND	5	1,1,2,2-Tetrachloroethane	ND	5
2-Butanone	ND	5	Toluene	ND	5
1,2-Dichloroethane	ND	5	Chlorobenzene	ND	5
tert-Butyl methyl ether	ND	5	Ethylbenzene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
1,4-Dioxane	ND	50	m-Xylene	ND	5
Carbon Tetrachloride	ND	5	o,p-Xylene	ND	5
Bromodichloromethane	ND	5	1,3-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	1,2-Dichlorobenzene	ND	5
cis-1,3-Dichloropropene	ND	5	1,4-Dichlorobenzene	ND	5

Percent Solid of 100. is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected



Serv-Air, Inc.  
A Subsidiary of E-Systems, Inc.  
Environmental and Energy Laboratory  
P.O. Box 369  
Fort Monmouth, NJ 07703  
908-532-6147

NJDEPE Certified Laboratory # 13461

# Report of Analysis

Analysis by: Sarah J. Hubbard

Project: MW Installation Bldg. # 750

Date Started: 10-30-92

Date Complete: 11-04-92

Reviewed: 11-09-92

Revised: NA

Released: 11-09-92

By: Brian K. McKee  
Brian K. McKee  
Environmental and Energy Chief

**Serv-Air, Inc.**  
 A Subsidiary of E-Systems, Inc.  
 Environmental and Energy Laboratory  
 P.O. Box 369  
 Fort Monmouth, NJ 07703  
 908-532-6147

NJDEPE Certified Laboratory # 13461

Project: MW Installation Bldg. 750

Date: 11-09-92

Sample Matrix: Soil

Parameter: Total Petroleum Hydrocarbon

Method: 418.1

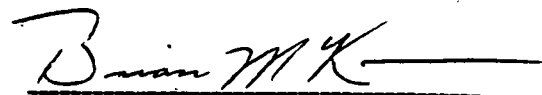
Sample ID	Rec'd	Extract	Analysis	Results (mg/Kg)	Detection Limit (mg/Kg)
C92-1028	10/30	11/02	11/02	177.0	3.3
C92-1029	10/30	11/02	11/02	ND	3.3
C92-1030	10/30	11/02	11/02	8.20	3.3
C92-1031	10/30	11/02	11/02	ND	3.3
C92-1032	11/02	11/03	11/03	ND	3.3
C92-1033	11/02	11/03	11/03	ND	3.3
C92-1034	11/02	11/03	11/03	ND	3.3
C92-1035	11/03	11/04	11/04	11.0	3.3
C92-1036	11/03	11/04	11/04	4.30	3.3
C92-1037	11/03	11/04	11/04	ND	3.3
Blank	0/00	11/02	11/02	nd	3.3
Blank	0/00	11/03	11/03	nd	3.3
Blank	0/00	11/04	11/04	nd	3.3

**Notes:** All results reported on a dry weight basis.  
 ND = not detected

C92-1028 = MW1-S1, 86% Solid  
 C92-1029 = MW1-S2, 78% Solid  
 C92-1030 = MW2-S3, 74% Solid  
 C92-1031 = MW2-S4, 77% Solid

C92-1035 = MW4-ss-5'-7', 81% Solid  
 C92-1036 = MW4-ss-10'-12', 79% Solid  
 C92-1037 = MW4-ss-15'-17', 78% Solid

C92-1032 = MW3-S5, 78% Solid  
 C92-1033 = MW3-S6, 79% Solid  
 C92-1034 = MW3-S7, 77% Solid



**Brian K. McKee**  
 Laboratory Director

ENCLOSURE 2 of Attachment E  
Tank and Piping Soil Analytical Reports

# 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: Bldg. 750

Bldg. 750/UST # 81533-191

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-191A-NE End	5008301	Soil	10-Feb-05 14:50	02/10/05
750-191B-NE End + 5 ft	5008302	Soil	10-Feb-05 14:35	02/10/05
750-191C-NE End + 10 ft	5008303	Soil	10-Feb-05 14:15	02/10/05
750-191D-NE End + 15 ft	5008304	Soil	10-Feb-05 13:50	02/10/05
750-191E-NE End + 20 ft	5008305	Soil	10-Feb-05 13:30	02/10/05
750-191F-NE End + 25 ft	5008306	Soil	10-Feb-05 13:10	02/10/05
750-191G-SW End	5008307	Soil	10-Feb-05 11:10	02/10/05
750-191H-Duplicate	5008308	Soil	10-Feb-05 14:50	02/10/05
Trip Blank	5008309	Methanol	10-Feb-05	02/10/05

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

  
3-7-05  
Daniel Wright  
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 OUG GVENTHER		Project No: 05-69570		Analysis Parameters				Comments:	
Phone: # X20986		Location: D, 750 (15K, 01E50)		* VOTIS		* VOTIS			
( ) DERA ( ) OMA ( ) Other:		VST # 81533-191		TPH		PID (PPM)		DEPTH (FT)	
Samplers Name / Company: FRANK ACCORSI TVS		Date		Time		Sample #		Remarks / Preservation Method	
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles				
02	750-191A - NE END	2-10-05	1450	SOIL	2	X	A	6574156	ICE
03	750-191B - " +5 FT		1435		2	X	8	6574155	
04	750-191C - " +10 FT		1415		2	X	7	6574157	
05	750-191D - " +15 FT		1350		2	X	11	6574158	
06	750-191E - " +20 FT		1330		2	X	6	6574159	
07	750-191F - " +25 FT		1310		2	X	7	6574160	
08	750-191G - SW END		1110		2	X	12	6574161	
09	750-191H - SW END		1450		2	X	4	6574162	
04	TRIP BLANK		-	AQ.	1	X	-	4163	

Relinquished by (signature): <i>Frank Accorsi</i>	Date/Time: 2-10-05 1350	Received by (signature): <i>[Signature]</i>	Date/Time:
Relinquished by (signature):	Date/Time:	Received by (signature):	Date/Time:

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

Remarks: \* VOTIS on 25% 7,1000 PPM TPH, on HIGHEST, MIN. ONE

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 -USTs #81533-191 & 81533-192  
SOIL SAMPLE GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

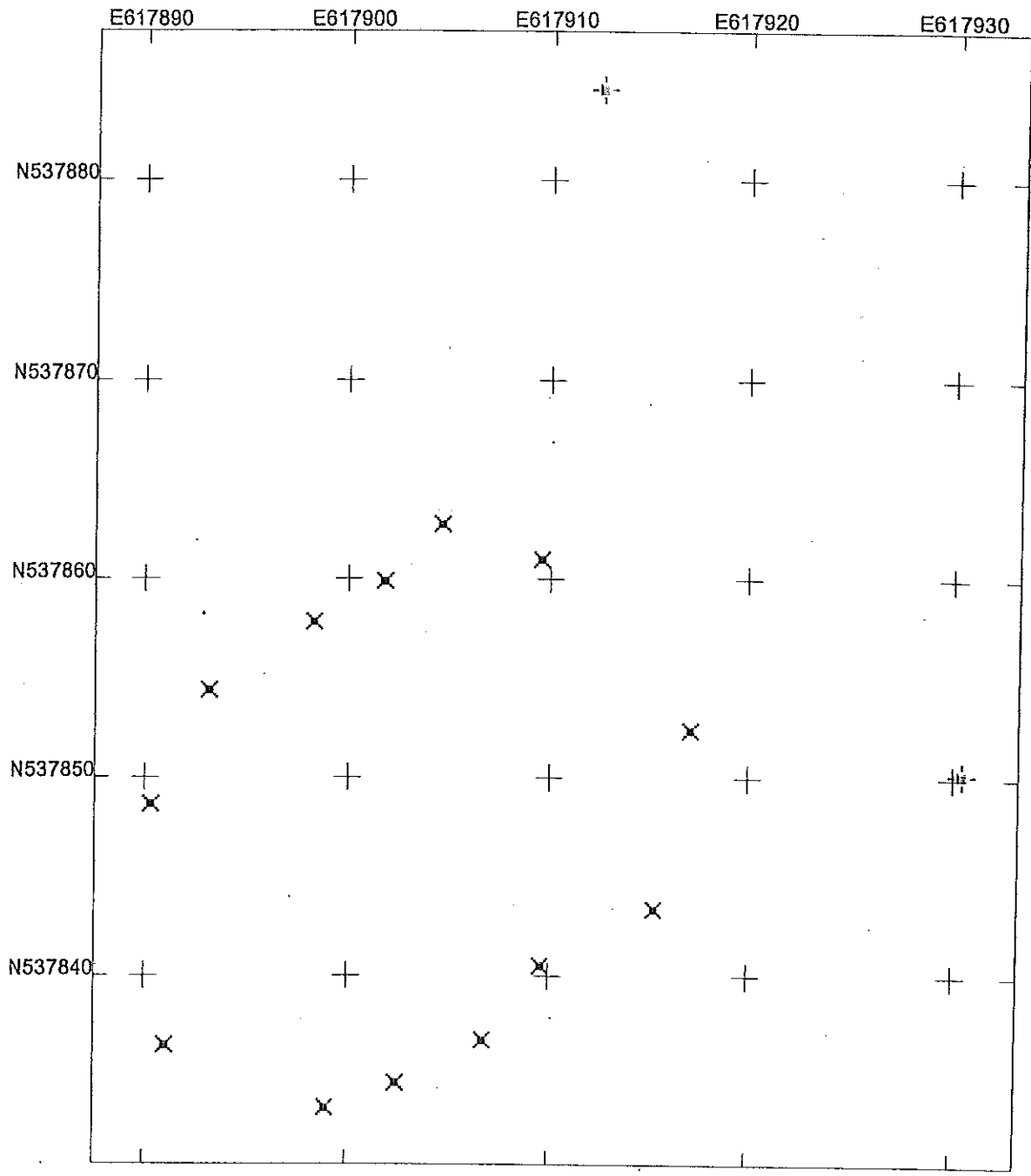
SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750-191A NE END UST	537852.447	617917.078
750-191B NE END PLUS 5 FT	537843.414	617915.272
750-191C NE END PLUS 10 FT	537840.562	617909.558
750-191D NE END PLUS 15 FT	537836.837	617906.68
750-191E NE END PLUS 20 FT	537834.694	617902.412
750-191F NE END PLUS 25 FT	537833.46	617898.947
750-191G SW END UST	537836.572	617891.013
750-192A NE END UST	537861.048	617909.515
750-192B NE END PLUS 5 FT	537862.824	617904.505
750-192C NE END PLUS 10 FT	537859.937	617901.738
750-192D NE END PLUS 15 FT	537857.879	617898.262
750-192E NE END PLUS 20 FT	537854.437	617893.098
750-192F SW END UST	537848.702	617890.268

REFERENCE POINTS

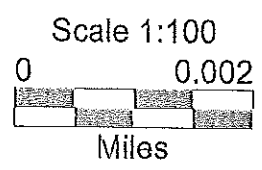
<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
BLDG 753 WEST CORNER	537884.494	617912.494
BLDG 753 SOUTH CORNER	537850.185	617930.448






# U.S. Army-Ft. Monmouth-Bldg. 750 USTs #81533-191,192 GPS Soil Sample Map

US State Plane 1983  
New Jersey 2900  
NAD 1983 (Conus)



BLDG750.cor  
3/7/2005  
GPS Pathfinder  
 Trimble

# METHOD SUMMARY

## Method Summary

### **NJDEP Method OQA-QAM-025 10/97 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 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 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 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: 5-7-05

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 50083

Site: Bldg. 750  
UST # 81533-191

	Date	Hold Time
Date Sampled	02/10/05	NA
Receipt/Refrigeration	02/10/05	NA
<b>Extraction</b>		
1. TPHC	02/11/05	14 days
<b>Analyses</b>		
1. TPHC	02/15/05	40 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 # :** 50083  
**Location :** Bldg.750  
**UST Reg. # :** 81533-191

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

**Date Received :** 10-Feb-05  
**Date Extracted :** 11-Feb-05  
**Extraction Method :** Shake  
**Analysis Complete :** 15-Feb-05  
**Analyst :** B.Patel

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL	TPHC Result (mg/kg)
5008301	750-191A	1.00	15.05	95.48	96	348	ND
5008302	750-191B	1.00	15.09	96.76	94	342	ND
5008303	750-191C	1.00	14.96	96.04	96	348	ND
5008304	750-191D	1.00	15.18	95.55	95	345	ND
5008305	750-191E	1.00	15.19	96.95	93	340	ND
5008306	750-191F	1.00	15.16	93.14	97	354	ND
5008307	750-191G	1.00	15.06	88.88	103	374	ND
5008308	750-191H	1.00	15.18	95.61	95	345	ND
METHOD BLANK	MB-021105-01	1.00	15.00	100.00	92	333	ND

ND = Not Detected

MDL = Method Detection Limit

RL = Reporting Limits

Note : The TPHC result between the MDL and RL are considered an estimated value

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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature  
Date: 3/7/05

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.

A handwritten signature in black ink, appearing to read 'DK Wright', written over a horizontal line.

Daniel K. Wright  
Laboratory Manager

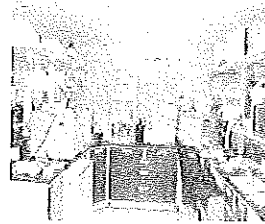
# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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: BLDG. 750

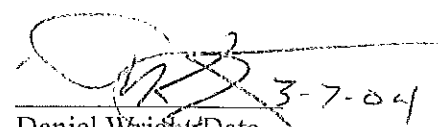
Bldg. 750/UST # 81533-192

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-192A-NE End	5008601	Soil	11-Feb-05 13:13	02/11/05
750-192B-NE End +5 ft	5008602	Soil	11-Feb-05 13:30	02/11/05
750-192C-NE End +10 ft	5008603	Soil	11-Feb-05 13:44	02/11/05
750-192D-NE End +15 ft	5008604	Soil	11-Feb-05 14:08	02/11/05
750-192E-NE End +20 ft	5008605	Soil	11-Feb-05 14:20	02/11/05
750-192F-SW End	5008606	Soil	11-Feb-05 14:45	02/11/05
Trip Blank	5008607	Methanol	11-Feb-05	02/11/05
750-192G-GW	5008608	Aqueous	11-Feb-05 15:00	02/11/05

ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB  
VOA+15, TPHC, % SOLIDS

ENCLOSURE:  
CHAIN OF CUSTODY  
RESULTS

  
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@mail.monmouth.army.mil

Chain of Custody Record

NJDEP Certification #13461

Customer: <u>DOUG GENTER</u>			Project No: <u>05-69570</u>			Analysis Parameters			Comments:		
Phone: # <u>20986</u>			Location: <u>B. 750 (B.K. 0152)</u>								
SAMPLERS Name / Company: <u>FRANK ACCORSI/TVS</u>			Date			PID (ppm)					
LIMS/Work Order #	Sample Location	Time	Sample #	Type	bottles	% SOLIDS	TRP	Received by (signature):	Date/Time:		
01	750-192A: NE END	1313	2	50/4	2	X	X	<u>W04</u>	4	55-69164	ICE
02	750-192B: " " 15FT	1330				X	X		7	55-69165	
03	750-192C: " " +10FT	1344				X	X		5	55-69166	
04	750-192D: " " +15FT	1408				X	X		8	55-69167	
05	750-192E: " " +20FT	1420				X	X		6	55-69168	
06	750-192F: SW END	1445				X	X		4	55-69169	
07	TRIP BLANK			A.Q.	1	X					
08	750-192G - CW	1500		A.Q.	1		X				

Relinquished by (signature): <u>Frank Accorsi</u>	Received by (signature): <u>[Signature]</u>
Date/Time: <u>2-11-05 1550</u>	Date/Time: _____
Relinquished by (signature): _____	Received by (signature): _____
Date/Time: _____	Date/Time: _____

Report Type:  Full,  Reduced,  Standard,  Screen / non-certified,  EDD  
 Turnaround time:  Standard 3 wks,  Rush 3 Days,  ASAP Verbal \_\_\_\_\_ Hrs.

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 -USTs #81533-191 & 81533-192  
SOIL SAMPLE GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

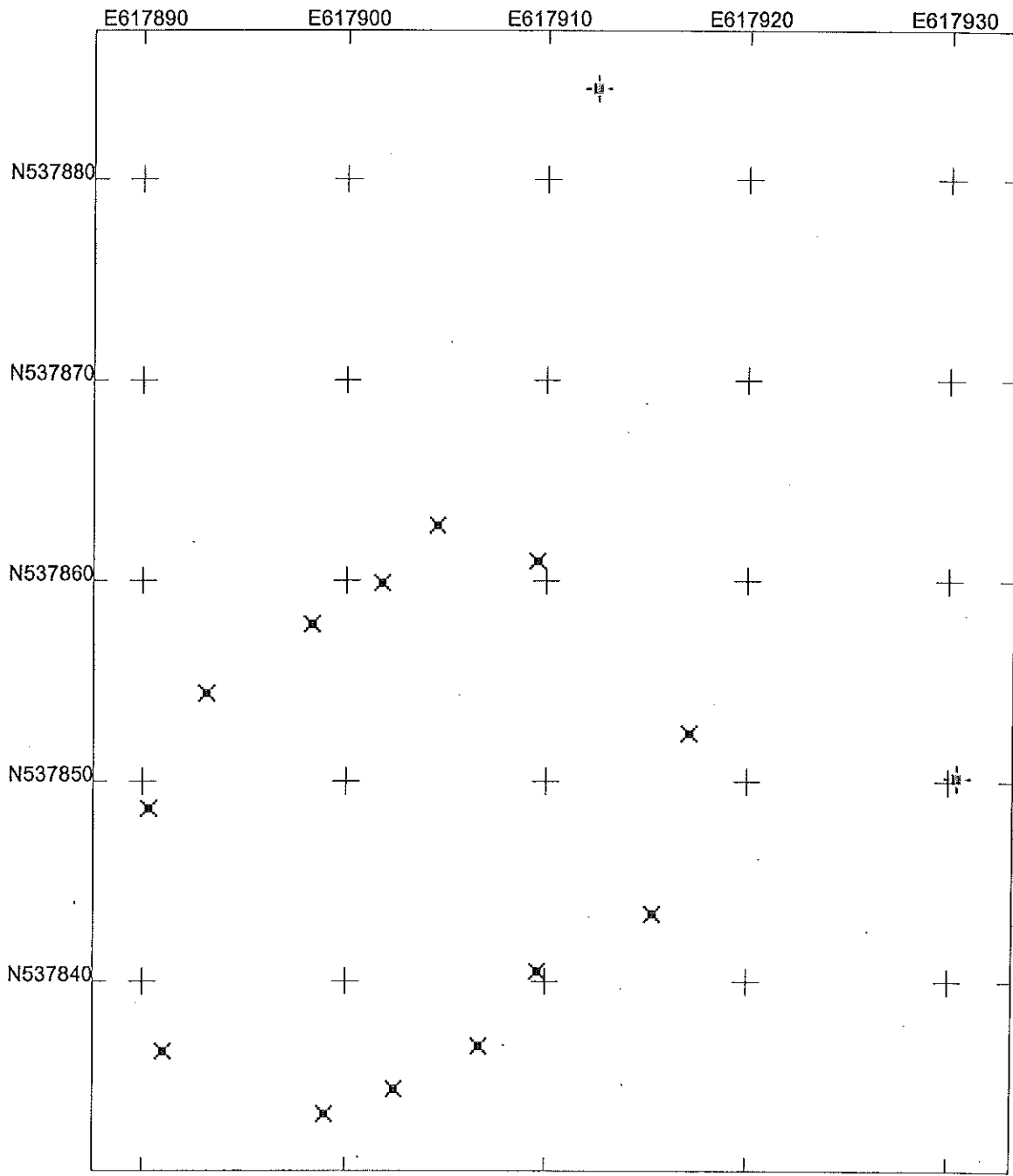
SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750-191A NE END UST	537852.447	617917.078
750-191B NE END PLUS 5 FT	537843.414	617915.272
750-191C NE END PLUS 10 FT	537840.562	617909.558
750-191D NE END PLUS 15 FT	537836.837	617906.68
750-191E NE END PLUS 20 FT	537834.694	617902.412
750-191F NE END PLUS 25 FT	537833.46	617898.947
750-191G SW END UST	537836.572	617891.013
750-192A NE END UST	537861.048	617909.515
750-192B NE END PLUS 5 FT	537862.824	617904.505
750-192C NE END PLUS 10 FT	537859.937	617901.738
750-192D NE END PLUS 15 FT	537857.879	617898.262
750-192E NE END PLUS 20 FT	537854.437	617893.098
750-192F SW END UST	537848.702	617890.268

REFERENCE POINTS

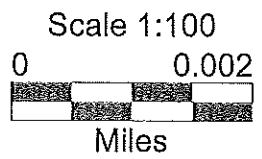
<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
BLDG 753 WEST CORNER	537884.494	617912.494
BLDG 753 SOUTH CORNER	537850.185	617930.448





# U.S. Army-Ft. Monmouth-Bldg. 750 USTs #81533-191,192 GPS Soil Sample Map

US State Plane 1983  
New Jersey 2900  
NAD 1983 (Conus)



BLDG750.cor  
3/7/2005  
GPS Pathfinder  
 Trimble

# METHOD SUMMARY

## Method Summary

### **EPA SW-846 Method 8260**

#### **Gas Chromatographic Determination of Volatiles in Methanol**

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

### **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.

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 50086

Site: Bldg. 750  
UST # 81533-192

	Date	Hold Time
Date Sampled	02/11/05	NA
Receipt/Refrigeration	02/11/05	NA
<b>Extraction</b>		
1. TPHC	02/15/05	7 days
<b>Analyses</b>		
1. VOA	02/17,18/05	40 days
2. TPHC	02/16/05	40 days

50086

**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 yes
  - b. DFTPP Meet Criteria NA
- 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 NA
  - 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 NA
  - 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 yes

(If not met, list those compounds and their recoveries, which fall outside the acceptable range)

  - a. VOA Fraction \_\_\_\_\_
  - b. B/N Fraction NA
  - 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  
(If not met, list those compounds, which fall outside the acceptable range)

yes

- a. VOA Fraction \_\_\_\_\_
- b. B/N Fraction NA
- c. Acid Fraction NA

11. Extraction Holding Time Met

NA

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

\_\_\_\_\_

12. Analysis Holding Time Met

yes

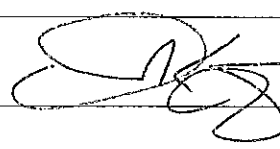
If not met, list the number of days exceeded for each sample: \_\_\_\_\_

\_\_\_\_\_

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager:



Date: 3-7-05

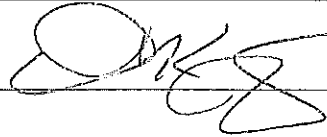


TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

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 yes
- 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: 3-7-05

# 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 MDL but greater than zero.
  - (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.

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

MB 17Feb05

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: MB 17Feb05  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018669.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 0 Date Analyzed: 2/17/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

MB 17Feb05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: MB 17Feb05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018669.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 0 Date Analyzed: 2/17/2005

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	CONCENTRATION UNITS:	
		(ug/L or ug/Kg)	UG/KG
1330-20-7	m+p-Xylenes	200	U
95-47-6	o-Xylene	100	U
100-42-5	Styrene	100	U
75-25-2	Bromoform	100	U
79-34-5	1,1,2,2-Tetrachloroethane	100	U
541-73-1	1,3-Dichlorobenzene	100	U
106-46-7	1,4-Dichlorobenzene	100	U
95-50-1	1,2-Dichlorobenzene	100	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

MB 17Feb05

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
Matrix: (soil/water) SOIL Lab Sample ID: MB 17Feb05  
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018669.D  
Level: (low/med) MED Date Received: 2/11/2005  
% Moisture: not dec. 0 Date Analyzed: 2/17/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 18Feb05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: MB 18Feb05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018682.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 0 Date Analyzed: 2/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 18Feb05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: MB 18Feb05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018682.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 0 Date Analyzed: 2/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U



1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

MB 18Feb05

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
Matrix: (soil/water) SOIL Lab Sample ID: MB 18Feb05  
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018682.D  
Level: (low/med) MED Date Received: 2/11/2005  
% Moisture: not dec. 0 Date Analyzed: 2/18/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
---------	---------------	----	------------	---

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-192A

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008601

Sample wt/vol: 11.0 (g/ml) G Lab File ID: VB018670.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 5.43 Date Analyzed: 2/17/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		960	U
107131	Acrylonitrile		960	U
75650	tert-Butyl alcohol		960	U
1634044	Methyl-tert-Butyl ether		96	U
108203	Di-isopropyl ether		96	U
75718	Dichlorodifluoromethane		96	U
74-87-3	Chloromethane		96	U
75-01-4	Vinyl Chloride		96	U
74-83-9	Bromomethane		96	U
75-00-3	Chloroethane		96	U
75-69-4	Trichlorofluoromethane		96	U
75-35-4	1,1-Dichloroethene		96	U
67-64-1	Acetone		96	U
75-15-0	Carbon Disulfide		96	U
75-09-2	Methylene Chloride		96	U
156-60-5	trans-1,2-Dichloroethene		96	U
75-34-3	1,1-Dichloroethane		96	U
108-05-4	Vinyl Acetate		96	U
78-93-3	2-Butanone		96	U
156-59-2	cis-1,2-Dichloroethene		96	U
67-66-3	Chloroform		96	U
71-55-6	1,1,1-Trichloroethane		96	U
56-23-5	Carbon Tetrachloride		96	U
71-43-2	Benzene		96	U
107-06-2	1,2-Dichloroethane		96	U
79-01-6	Trichloroethene		96	U
78-87-5	1,2-Dichloropropane		96	U
75-27-4	Bromodichloromethane		96	U
110-75-8	2-Chloroethyl vinyl ether		96	U
10061-01-5	cis-1,3-Dichloropropene		96	U
108-10-1	4-Methyl-2-Pentanone		96	U
108-88-3	Toluene		96	U
10061-02-6	trans-1,3-Dichloropropene		96	U
79-00-5	1,1,2-Trichloroethane		96	U
127-18-4	Tetrachloroethene		96	U
591-78-6	2-Hexanone		96	U
124-48-1	Dibromochloromethane		96	U
108-90-7	Chlorobenzene		96	U
100-41-4	Ethylbenzene		96	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-192A

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008601

Sample wt/vol: 11.0 (g/ml) G Lab File ID: VB018670.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 5.43 Date Analyzed: 2/17/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		190	U
95-47-6	o-Xylene		96	U
100-42-5	Styrene		96	U
75-25-2	Bromoform		96	U
79-34-5	1,1,2,2-Tetrachloroethane		96	U
541-73-1	1,3-Dichlorobenzene		96	U
106-46-7	1,4-Dichlorobenzene		96	U
95-50-1	1,2-Dichlorobenzene		96	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-192A

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
Matrix: (soil/water) SOIL Lab Sample ID: 5008601  
Sample wt/vol: 11.0 (g/ml) G Lab File ID: VB018670.D  
Level: (low/med) MED Date Received: 2/11/2005  
% Moisture: not dec. 5.43 Date Analyzed: 2/17/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-192B

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008602  
 Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018671.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 5.28 Date Analyzed: 2/17/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		950	U
107131	Acrylonitrile		950	U
75650	tert-Butyl alcohol		950	U
1634044	Methyl-tert-Butyl ether		95	U
108203	Di-isopropyl ether		95	U
75718	Dichlorodifluoromethane		95	U
74-87-3	Chloromethane		95	U
75-01-4	Vinyl Chloride		95	U
74-83-9	Bromomethane		95	U
75-00-3	Chloroethane		95	U
75-69-4	Trichlorofluoromethane		95	U
75-35-4	1,1-Dichloroethene		95	U
67-64-1	Acetone		95	U
75-15-0	Carbon Disulfide		95	U
75-09-2	Methylene Chloride		95	U
156-60-5	trans-1,2-Dichloroethene		95	U
75-34-3	1,1-Dichloroethane		95	U
108-05-4	Vinyl Acetate		95	U
78-93-3	2-Butanone		95	U
156-59-2	cis-1,2-Dichloroethene		95	U
67-66-3	Chloroform		95	U
71-55-6	1,1,1-Trichloroethane		95	U
56-23-5	Carbon Tetrachloride		95	U
71-43-2	Benzene		95	U
107-06-2	1,2-Dichloroethane		95	U
79-01-6	Trichloroethene		95	U
78-87-5	1,2-Dichloropropane		95	U
75-27-4	Bromodichloromethane		95	U
110-75-8	2-Chloroethyl vinyl ether		95	U
10061-01-5	cis-1,3-Dichloropropene		95	U
108-10-1	4-Methyl-2-Pentanone		95	U
108-88-3	Toluene		95	U
10061-02-6	trans-1,3-Dichloropropene		95	U
79-00-5	1,1,2-Trichloroethane		95	U
127-18-4	Tetrachloroethene		95	U
591-78-6	2-Hexanone		95	U
124-48-1	Dibromochloromethane		95	U
108-90-7	Chlorobenzene		95	U
100-41-4	Ethylbenzene		95	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-192B

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008602  
 Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018671.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 5.28 Date Analyzed: 2/17/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes		190	U
95-47-6	o-Xylene		95	U
100-42-5	Styrene		95	U
75-25-2	Bromoform		95	U
79-34-5	1,1,2,2-Tetrachloroethane		95	U
541-73-1	1,3-Dichlorobenzene		95	U
106-46-7	1,4-Dichlorobenzene		95	U
95-50-1	1,2-Dichlorobenzene		95	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-192B

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008602

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018671.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 5.28 Date Analyzed: 2/17/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-192C

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008603  
 Sample wt/vol: 11.4 (g/ml) G Lab File ID: VB018672.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 7.28 Date Analyzed: 2/17/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		950	U
107131	Acrylonitrile		950	U
75650	tert-Butyl alcohol		950	U
1634044	Methyl-tert-Butyl ether		95	U
108203	Di-isopropyl ether		95	U
75718	Dichlorodifluoromethane		95	U
74-87-3	Chloromethane		95	U
75-01-4	Vinyl Chloride		95	U
74-83-9	Bromomethane		95	U
75-00-3	Chloroethane		95	U
75-69-4	Trichlorofluoromethane		95	U
75-35-4	1,1-Dichloroethene		95	U
67-64-1	Acetone		95	U
75-15-0	Carbon Disulfide		95	U
75-09-2	Methylene Chloride		95	U
156-60-5	trans-1,2-Dichloroethene		95	U
75-34-3	1,1-Dichloroethane		95	U
108-05-4	Vinyl Acetate		95	U
78-93-3	2-Butanone		95	U
156-59-2	cis-1,2-Dichloroethene		95	U
67-66-3	Chloroform		95	U
71-55-6	1,1,1-Trichloroethane		95	U
58-23-5	Carbon Tetrachloride		95	U
71-43-2	Benzene		95	U
107-06-2	1,2-Dichloroethane		95	U
79-01-6	Trichloroethene		95	U
78-87-5	1,2-Dichloropropane		95	U
75-27-4	Bromodichloromethane		95	U
110-75-8	2-Chloroethyl vinyl ether		95	U
10061-01-5	cis-1,3-Dichloropropene		95	U
108-10-1	4-Methyl-2-Pentanone		95	U
108-88-3	Toluene		95	U
10061-02-6	trans-1,3-Dichloropropene		95	U
79-00-5	1,1,2-Trichloroethane		95	U
127-18-4	Tetrachloroethene		95	U
591-78-6	2-Hexanone		95	U
124-48-1	Dibromochloromethane		95	U
108-90-7	Chlorobenzene		95	U
100-41-4	Ethylbenzene		95	U



1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-192C

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008603  
 Sample wt/vol: 11.4 (g/ml) G Lab File ID: VB018672.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 7.28 Date Analyzed: 2/17/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes		190	U
95-47-6	o-Xylene		95	U
100-42-5	Styrene		95	U
75-25-2	Bromoform		95	U
79-34-5	1,1,2,2-Tetrachloroethane		95	U
541-73-1	1,3-Dichlorobenzene		95	U
106-46-7	1,4-Dichlorobenzene		95	U
95-50-1	1,2-Dichlorobenzene		95	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-192C

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
Matrix: (soil/water) SOIL Lab Sample ID: 5008603  
Sample wt/vol: 11.4 (g/ml) G Lab File ID: VB018672.D  
Level: (low/med) MED Date Received: 2/11/2005  
% Moisture: not dec. 7.28 Date Analyzed: 2/17/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-192D

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008604

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018673.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 4.38 Date Analyzed: 2/17/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		940	U
107131	Acrylonitrile		940	U
75650	tert-Butyl alcohol		940	U
1634044	Methyl-tert-Butyl ether		94	U
108203	Di-isopropyl ether		94	U
75718	Dichlorodifluoromethane		94	U
74-87-3	Chloromethane		94	U
75-01-4	Vinyl Chloride		94	U
74-83-9	Bromomethane		94	U
75-00-3	Chloroethane		94	U
75-69-4	Trichlorofluoromethane		94	U
75-35-4	1,1-Dichloroethene		94	U
67-64-1	Acetone		94	U
75-15-0	Carbon Disulfide		94	U
75-09-2	Methylene Chloride		94	U
156-60-5	trans-1,2-Dichloroethene		94	U
75-34-3	1,1-Dichloroethane		94	U
108-05-4	Vinyl Acetate		94	U
78-93-3	2-Butanone		94	U
156-59-2	cis-1,2-Dichloroethene		94	U
67-66-3	Chloroform		94	U
71-55-6	1,1,1-Trichloroethane		94	U
56-23-5	Carbon Tetrachloride		94	U
71-43-2	Benzene		94	U
107-06-2	1,2-Dichloroethane		94	U
79-01-6	Trichloroethene		94	U
78-87-5	1,2-Dichloropropane		94	U
75-27-4	Bromodichloromethane		94	U
110-75-8	2-Chloroethyl vinyl ether		94	U
10061-01-5	cis-1,3-Dichloropropene		94	U
108-10-1	4-Methyl-2-Pentanone		94	U
108-88-3	Toluene		94	U
10061-02-6	trans-1,3-Dichloropropene		94	U
79-00-5	1,1,2-Trichloroethane		94	U
127-18-4	Tetrachloroethene		94	U
591-78-6	2-Hexanone		94	U
124-48-1	Dibromochloromethane		94	U
108-90-7	Chlorobenzene		94	U
100-41-4	Ethylbenzene		94	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-192D

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008604

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018673.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 4.38 Date Analyzed: 2/17/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		190	U
95-47-6	o-Xylene		94	U
100-42-5	Styrene		94	U
75-25-2	Bromoform		94	U
79-34-5	1,1,2,2-Tetrachloroethane		94	U
541-73-1	1,3-Dichlorobenzene		94	U
106-46-7	1,4-Dichlorobenzene		94	U
95-50-1	1,2-Dichlorobenzene		94	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-192D

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
Matrix: (soil/water) SOIL Lab Sample ID: 5008604  
Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018673.D  
Level: (low/med) MED Date Received: 2/11/2005  
% Moisture: not dec. 4.38 Date Analyzed: 2/17/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-192E

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008605  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018674.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 6.28 Date Analyzed: 2/17/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1100	U
107131	Acrylonitrile		1100	U
75650	tert-Butyl alcohol		1100	U
1634044	Methyl-tert-Butyl ether		110	U
108203	Di-isopropyl ether		110	U
75718	Dichlorodifluoromethane		110	U
74-87-3	Chloromethane		110	U
75-01-4	Vinyl Chloride		110	U
74-83-9	Bromomethane		110	U
75-00-3	Chloroethane		110	U
75-69-4	Trichlorofluoromethane		110	U
75-35-4	1,1-Dichloroethene		110	U
67-64-1	Acetone		110	U
75-15-0	Carbon Disulfide		110	U
75-09-2	Methylene Chloride		110	U
156-60-5	trans-1,2-Dichloroethene		110	U
75-34-3	1,1-Dichloroethane		110	U
108-05-4	Vinyl Acetate		110	U
78-93-3	2-Butanone		110	U
156-59-2	cis-1,2-Dichloroethene		110	U
67-66-3	Chloroform		110	U
71-55-6	1,1,1-Trichloroethane		110	U
56-23-5	Carbon Tetrachloride		110	U
71-43-2	Benzene		110	U
107-06-2	1,2-Dichloroethane		110	U
79-01-6	Trichloroethene		110	U
78-87-5	1,2-Dichloropropane		110	U
75-27-4	Bromodichloromethane		110	U
110-75-8	2-Chloroethyl vinyl ether		110	U
10061-01-5	cis-1,3-Dichloropropene		110	U
108-10-1	4-Methyl-2-Pentanone		110	U
108-88-3	Toluene		110	U
10061-02-6	trans-1,3-Dichloropropene		110	U
79-00-5	1,1,2-Trichloroethane		110	U
127-18-4	Tetrachloroethene		110	U
591-78-6	2-Hexanone		110	U
124-48-1	Dibromochloromethane		110	U
108-90-7	Chlorobenzene		110	U
100-41-4	Ethylbenzene		110	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-192E

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008605  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018674.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 6.28 Date Analyzed: 2/17/2005  
 GC Column: RTX502, ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes		210	U
95-47-6	o-Xylene		110	U
100-42-5	Styrene		110	U
75-25-2	Bromoform		110	U
79-34-5	1,1,2,2-Tetrachloroethane		110	U
541-73-1	1,3-Dichlorobenzene		110	U
106-46-7	1,4-Dichlorobenzene		110	U
95-50-1	1,2-Dichlorobenzene		110	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-192E

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008605

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018674.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 6.28 Date Analyzed: 2/17/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-192F

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008606

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018683.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 4.98 Date Analyzed: 2/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		900	U
107131	Acrylonitrile		900	U
75650	tert-Butyl alcohol		900	U
1634044	Methyl-tert-Butyl ether		90	U
108203	Di-isopropyl ether		90	U
75718	Dichlorodifluoromethane		90	U
74-87-3	Chloromethane		90	U
75-01-4	Vinyl Chloride		90	U
74-83-9	Bromomethane		90	U
75-00-3	Chloroethane		90	U
75-69-4	Trichlorofluoromethane		90	U
75-35-4	1,1-Dichloroethene		90	U
67-64-1	Acetone		90	U
75-15-0	Carbon Disulfide		90	U
75-09-2	Methylene Chloride		90	U
156-60-5	trans-1,2-Dichloroethene		90	U
75-34-3	1,1-Dichloroethane		90	U
108-05-4	Vinyl Acetate		90	U
78-93-3	2-Butanone		90	U
156-59-2	cis-1,2-Dichloroethene		90	U
67-66-3	Chloroform		90	U
71-55-6	1,1,1-Trichloroethane		90	U
56-23-5	Carbon Tetrachloride		90	U
71-43-2	Benzene		90	U
107-06-2	1,2-Dichloroethane		90	U
79-01-6	Trichloroethene		90	U
78-87-5	1,2-Dichloropropane		90	U
75-27-4	Bromodichloromethane		90	U
110-75-8	2-Chloroethyl vinyl ether		90	U
10061-01-5	cis-1,3-Dichloropropene		90	U
108-10-1	4-Methyl-2-Pentanone		90	U
108-88-3	Toluene		90	U
10061-02-6	trans-1,3-Dichloropropene		90	U
79-00-5	1,1,2-Trichloroethane		90	U
127-18-4	Tetrachloroethene		90	U
591-78-6	2-Hexanone		90	U
124-48-1	Dibromochloromethane		90	U
108-90-7	Chlorobenzene		90	U
100-41-4	Ethylbenzene		90	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-192F

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008606

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018683.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 4.98 Date Analyzed: 2/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		180	U
95-47-6	o-Xylene		90	U
100-42-5	Styrene		90	U
75-25-2	Bromoform		90	U
79-34-5	1,1,2,2-Tetrachloroethane		90	U
541-73-1	1,3-Dichlorobenzene		90	U
106-46-7	1,4-Dichlorobenzene		90	U
95-50-1	1,2-Dichlorobenzene		90	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-192F

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
Matrix: (soil/water) SOIL Lab Sample ID: 5008606  
Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018683.D  
Level: (low/med) MED Date Received: 2/11/2005  
% Moisture: not dec. 4.98 Date Analyzed: 2/18/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

Trip Blank

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008607  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018686.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 0 Date Analyzed: 2/18/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank
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Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192

Matrix: (soil/water) SOIL Lab Sample ID: 5008607

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018686.D

Level: (low/med) MED Date Received: 2/11/2005

% Moisture: not dec. 0 Date Analyzed: 2/18/2005

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	UG/KG	
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

Trip Blank

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50086 Location: B.750 SDG No.: 81533-192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5008607  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018686.D  
 Level: (low/med) MED Date Received: 2/11/2005  
 % Moisture: not dec. 0 Date Analyzed: 2/18/2005  
 GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

TPHC

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

Client : US Army  
 DPW.SELFM-PW-EV  
 Bldg173  
 Ft. Monmouth, NJ 07703

Project # : 50086  
 Location : Bldg.750  
 UST Reg. # : 81533-192

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

Date Received : 11-Feb-05  
 Date Extracted : 15-Feb-05  
 Extraction Method : Sep.Funnel  
 Analysis Complete : 16-Feb-05  
 Analyst : B.Patel

Lab ID	Field ID	Dilution Factor	Initial Volume (ml)	Final Volume (ml)	MDL (mg/L)	RL	TPHC Result (mg/L)
5008608	750-192G-GW	1.00	1000	5.0	0.14	0.50	9.62
METHOD BLANK	MB-021505-01	1.00	1000.00	5.00	0.14	0.5	ND

ND = Not Detected  
 MDL = Method Detection Limit  
 RL = Reporting Limits  
 \* =Values between the MDL and RL(Reporting Limits) are an estimated value



LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

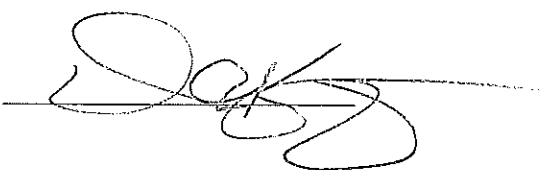
THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

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: 3/17/22

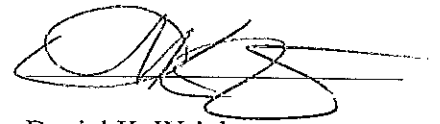


Laboratory Certification # 13461

\*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: BLDG. 750

Bldg. 750/UST #'s 191 & 192

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-P1, Piping + 10 ft	5012801	Soil	03-Mar-05 13:35	03/03/05
750-P2, Piping + 25 ft	5012802	Soil	03-Mar-05 13:50	03/03/05
750-P3, Piping + 40 ft	5012803	Soil	03-Mar-05 14:12	03/03/05
750-P4, Duplicate	5012804	Soil	03-Mar-05 13:35	03/03/05
750-P5, Piping + 55 ft	5012805	Soil	03-Mar-05 14:30	03/03/05
Trip Blank	5012806	Methanol	03-Mar-05	03/03/05

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

ENCLOSURE:  
CHAIN OF CUSTODY  
RESULTS

  
5-3-05  
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:wright@mail.monmouth.army.mil  
 NJDEP Certification #13461

## Chain of Custody Record

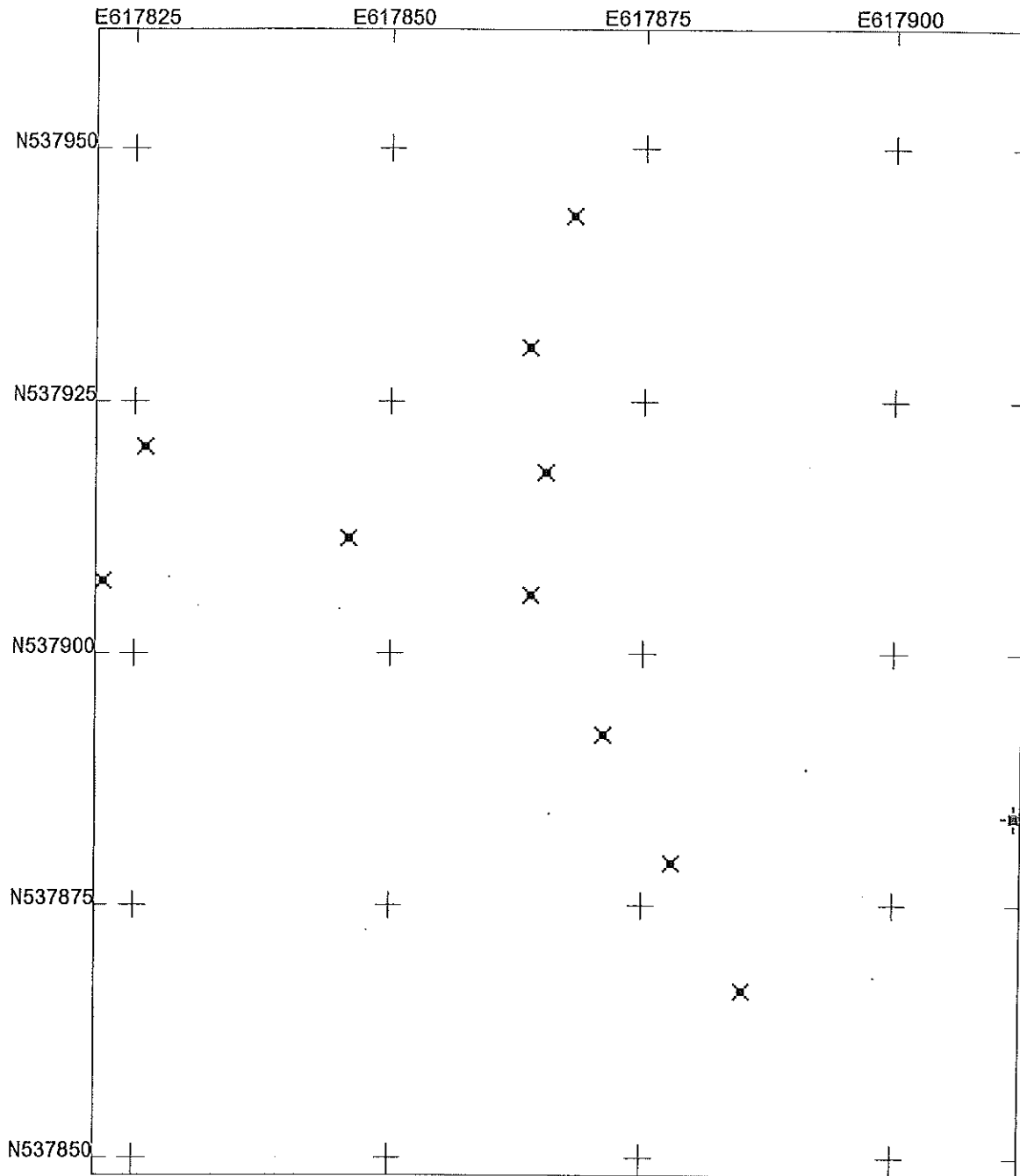
Customer: DAUC GENTHER		Project No: 05-69570		Analysis Parameters		Comments:	
Phone: # X20986		Location: B.750					
( ) DERA ( ) OMA (X) Other:		VST # 191,192		Date/Time		Received by (signature):	
Samplers Name / Company: FRANK ACOCKSI / TVS		Date		Relinquished by (signature):		Received by (signature):	
LIMS/Work Order #	Sample Location	Date	Time	Sample #	Type	# bottles	Remarks / Preservation Method
50128	750-P1 PIPING + 10M	3-3-05	1335	5012	Soil	2	ICE
62	750-P2 PIPING + 25M		1350				
83	750-P3 PIPING + 60M		1412				
14	750-P4 PIPING + 7E		1335				
85	750-P5 PIPING + 55M		1430				
86	TRIP BLANK		-		AQ.	1	

Relinquished by (signature): <i>Frank Acocksi</i>	Date/Time: 3-3-05 1540	Received by (signature): <i>[Signature]</i>	Date/Time: [ ]
Relinquished by (signature):	Date/Time:	Received by (signature):	Date/Time:

Report Type:  Full,  Reduced,  Standard,  Screen / non-certified,  EDD  
 Turnaround time:  Standard 3 wks,  Rush 2 Days,  ASAP Verbal Hrs.



# U.S. Army-Ft. Monmouth Bldg.750 UST #191,192 Piping and Dispenser Soil

US State Plane 1983  
New Jersey 2900  
NAD 1983 (Conus)

## Sample GPS Map



B750Pcombo.cor  
3/25/2005  
GPS Pathfinder  
 Trimble

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 -USTs #81533-191 & 81533-192 PIPING,  
DISPENSER SOIL SAMPLE GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750P1 PIPING PLUS 10 FT	537866.6	617884.918
750P2 PIPING PLUS 25 FT	537879.28	617877.845
750P3 PIPING PLUS 40 FT	537891.992	617871.095
750P5 PIPING PLUS 55 FT	537905.926	617863.942
750P6 PIPING PLUS 70 FT	537911.548	617845.715
750P7 PIPING AT NE ISLAND	537918.083	617865.355
750P9 NE DISPEN. GASOLINE	537943.46	617868.054
750P10 NE DISPEN. DIESEL	537930.474	617863.755
750P11 SW DISPEN. GASOLINE	537920.615	617825.932
750P12 SW DISPEN. DIESEL	537907.343	617821.917

REFERENCE POINT

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
BLDG753 WEST CORNER	537883.749	617911.846



# METHOD SUMMARY

# Method Summary

## **EPA SW-846 Method 8260**

### **Gas Chromatographic Determination of Volatiles in Methanol**

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

## **NJDEP Method OQA-QAM-025 10/97**

### **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 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 moisture, sample weight and concentration.

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 50128

Site: Bldg. 750  
UST # 191 & 192

	Date	Hold Time
Date Sampled	03/03/05	NA
Receipt/Refrigeration	03/03/05	NA
<b>Extraction</b>		
1. TPHC	03/04/05	14 days
<b>Analyses</b>		
1. VOA	03/08,10/05	14 days
2. TPHC	03/08/05	40 days

**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 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 N/A
  - c. Acid Fraction N/A
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 N/A
  - c. Acid Fraction N/A

If not met, were the calculations checked and the results qualified as "estimated"?

\_\_\_\_\_
9. Matrix Spike/Matrix Spike Duplicate 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 N/A
  - c. Acid Fraction N/A

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

Indicate  
Yes, No, N/A

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

Yes

- a. VOA Fraction \_\_\_\_\_
- b. B/N Fraction N/A
- c. Acid Fraction N/A

11. Extraction Holding Time Met

N/A

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

12. Analysis Holding Time Met

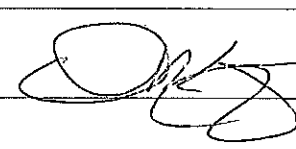
Yes

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

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: \_\_\_\_\_



Date: \_\_\_\_\_

5-3-05

TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

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

Additional comments: \_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager:  Date: 5-3-05



# 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 MDL but greater than zero.
  - (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.

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

MB 08Mar05

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
 Matrix: (soil/water) SOIL Lab Sample ID: MB 08Mar05  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018838.D  
 Level: (low/med) MED Date Received: 3/3/2005  
 % Moisture: not dec. 0 Date Analyzed: 3/8/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 08Mar05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Mar05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018838.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 0 Date Analyzed: 3/8/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

MB 08Mar05

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: MB 08Mar05  
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018838.D  
Level: (low/med) MED Date Received: 3/3/2005  
% Moisture: not dec. 0 Date Analyzed: 3/8/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 10Mar05

Lab Name: FMETLNJDEP#: 13461Project: 05-69570Case No.: 50128Location: B.750SDG No.: 191,192Matrix: (soil/water) SOILLab Sample ID: MB 10Mar05Sample wt/vol: 10.0 (g/ml) GLab File ID: VB018868.DLevel: (low/med) MEDDate Received: 3/3/2005% Moisture: not dec. 0Date Analyzed: 3/10/2005GC Column: RTX502 ID: 0.25 (mm)Dilution Factor: 1.0Soil Extract Volume: 25000 (uL)Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 10Mar05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: MB 10Mar05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018868.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 0 Date Analyzed: 3/10/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

MB 10Mar05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: MB 10Mar05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018868.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 0 Date Analyzed: 3/10/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q



## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P1

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012801

Sample wt/vol: 11.5 (g/ml) G Lab File ID: VB018845.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 3.96 Date Analyzed: 3/8/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		910	U
107131	Acrylonitrile		910	U
75650	tert-Butyl alcohol		910	U
1634044	Methyl-tert-Butyl ether		91	U
108203	Di-isopropyl ether		91	U
75718	Dichlorodifluoromethane		91	U
74-87-3	Chloromethane		91	U
75-01-4	Vinyl Chloride		91	U
74-83-9	Bromomethane		91	U
75-00-3	Chloroethane		91	U
75-69-4	Trichlorofluoromethane		91	U
75-35-4	1,1-Dichloroethene		91	U
67-64-1	Acetone		91	U
75-15-0	Carbon Disulfide		91	U
75-09-2	Methylene Chloride		91	U
156-60-5	trans-1,2-Dichloroethene		91	U
75-34-3	1,1-Dichloroethane		91	U
108-05-4	Vinyl Acetate		91	U
78-93-3	2-Butanone		91	U
156-59-2	cis-1,2-Dichloroethene		91	U
67-66-3	Chloroform		91	U
71-55-6	1,1,1-Trichloroethane		91	U
56-23-5	Carbon Tetrachloride		91	U
71-43-2	Benzene		91	U
107-06-2	1,2-Dichloroethane		91	U
79-01-6	Trichloroethene		91	U
78-87-5	1,2-Dichloropropane		91	U
75-27-4	Bromodichloromethane		91	U
110-75-8	2-Chloroethyl vinyl ether		91	U
10061-01-5	cis-1,3-Dichloropropene		91	U
108-10-1	4-Methyl-2-Pentanone		91	U
108-88-3	Toluene		91	U
10061-02-6	trans-1,3-Dichloropropene		91	U
79-00-5	1,1,2-Trichloroethane		91	U
127-18-4	Tetrachloroethene		91	U
591-78-6	2-Hexanone		91	U
124-48-1	Dibromochloromethane		91	U
108-90-7	Chlorobenzene		91	U
100-41-4	Ethylbenzene		91	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P1

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012801

Sample wt/vol: 11.5 (g/ml) G Lab File ID: VB018845.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 3.96 Date Analyzed: 3/8/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		180	U
95-47-6	o-Xylene		91	U
100-42-5	Styrene		91	U
75-25-2	Bromoform		91	U
79-34-5	1,1,2,2-Tetrachloroethane		91	U
541-73-1	1,3-Dichlorobenzene		91	U
106-46-7	1,4-Dichlorobenzene		91	U
95-50-1	1,2-Dichlorobenzene		91	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P1

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: 5012801  
Sample wt/vol: 11.5 (g/ml) G Lab File ID: VB018845.D  
Level: (low/med) MED Date Received: 3/3/2005  
% Moisture: not dec. 3.96 Date Analyzed: 3/8/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P2

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5012802  
 Sample wt/vol: 12.4 (g/ml) G Lab File ID: VB018846.D  
 Level: (low/med) MED Date Received: 3/3/2005  
 % Moisture: not dec. 4.14 Date Analyzed: 3/9/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		840	U
107131	Acrylonitrile		840	U
75650	tert-Butyl alcohol		840	U
1634044	Methyl-tert-Butyl ether		84	U
108203	Di-isopropyl ether		84	U
75718	Dichlorodifluoromethane		84	U
74-87-3	Chloromethane		84	U
75-01-4	Vinyl Chloride		84	U
74-83-9	Bromomethane		84	U
75-00-3	Chloroethane		84	U
75-69-4	Trichlorofluoromethane		84	U
75-35-4	1,1-Dichloroethene		84	U
67-64-1	Acetone		84	U
75-15-0	Carbon Disulfide		84	U
75-09-2	Methylene Chloride		84	U
156-60-5	trans-1,2-Dichloroethene		84	U
75-34-3	1,1-Dichloroethane		84	U
108-05-4	Vinyl Acetate		84	U
78-93-3	2-Butanone		84	U
156-59-2	cis-1,2-Dichloroethene		84	U
67-66-3	Chloroform		84	U
71-55-6	1,1,1-Trichloroethane		84	U
56-23-5	Carbon Tetrachloride		84	U
71-43-2	Benzene		84	U
107-06-2	1,2-Dichloroethane		84	U
79-01-6	Trichloroethene		84	U
78-87-5	1,2-Dichloropropane		84	U
75-27-4	Bromodichloromethane		84	U
110-75-8	2-Chloroethyl vinyl ether		84	U
10061-01-5	cis-1,3-Dichloropropene		84	U
108-10-1	4-Methyl-2-Pentanone		84	U
108-88-3	Toluene		84	U
10061-02-6	trans-1,3-Dichloropropene		84	U
79-00-5	1,1,2-Trichloroethane		84	U
127-18-4	Tetrachloroethene		84	U
591-78-6	2-Hexanone		84	U
124-48-1	Dibromochloromethane		84	U
108-90-7	Chlorobenzene		84	U
100-41-4	Ethylbenzene		84	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P2
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Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012802

Sample wt/vol: 12.4 (g/ml) G Lab File ID: VB018846.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 4.14 Date Analyzed: 3/9/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes		170	U
95-47-6	o-Xylene		84	U
100-42-5	Styrene		84	U
75-25-2	Bromoform		84	U
79-34-5	1,1,2,2-Tetrachloroethane		84	U
541-73-1	1,3-Dichlorobenzene		84	U
106-46-7	1,4-Dichlorobenzene		84	U
95-50-1	1,2-Dichlorobenzene		84	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P2

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012802

Sample wt/vol: 12.4 (g/ml) G Lab File ID: VB018846.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 4.14 Date Analyzed: 3/9/2005

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P3

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012803

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB018847.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 4.68 Date Analyzed: 3/9/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		990	U
107131	Acrylonitrile		990	U
75650	tert-Butyl alcohol		990	U
1634044	Methyl-tert-Butyl ether		99	U
108203	Di-isopropyl ether		99	U
75718	Dichlorodifluoromethane		99	U
74-87-3	Chloromethane		99	U
75-01-4	Vinyl Chloride		99	U
74-83-9	Bromomethane		99	U
75-00-3	Chloroethane		99	U
75-69-4	Trichlorofluoromethane		99	U
75-35-4	1,1-Dichloroethene		99	U
67-64-1	Acetone		99	U
75-15-0	Carbon Disulfide		99	U
75-09-2	Methylene Chloride		99	U
156-60-5	trans-1,2-Dichloroethene		99	U
75-34-3	1,1-Dichloroethane		99	U
108-05-4	Vinyl Acetate		99	U
78-93-3	2-Butanone		99	U
156-59-2	cis-1,2-Dichloroethene		99	U
67-66-3	Chloroform		99	U
71-55-6	1,1,1-Trichloroethane		99	U
56-23-5	Carbon Tetrachloride		99	U
71-43-2	Benzene		99	U
107-06-2	1,2-Dichloroethane		99	U
79-01-6	Trichloroethene		99	U
78-87-5	1,2-Dichloropropane		99	U
75-27-4	Bromodichloromethane		99	U
110-75-8	2-Chloroethyl vinyl ether		99	U
10061-01-5	cis-1,3-Dichloropropene		99	U
108-10-1	4-Methyl-2-Pentanone		99	U
108-88-3	Toluene		99	U
10061-02-6	trans-1,3-Dichloropropene		99	U
79-00-5	1,1,2-Trichloroethane		99	U
127-18-4	Tetrachloroethene		99	U
591-78-6	2-Hexanone		99	U
124-48-1	Dibromochloromethane		99	U
108-90-7	Chlorobenzene		99	U
100-41-4	Ethylbenzene		99	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P3

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012803

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB018847.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 4.68 Date Analyzed: 3/9/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		99	U
100-42-5	Styrene		99	U
75-25-2	Bromoform		99	U
79-34-5	1,1,2,2-Tetrachloroethane		99	U
541-73-1	1,3-Dichlorobenzene		99	U
106-46-7	1,4-Dichlorobenzene		99	U
95-50-1	1,2-Dichlorobenzene		99	U



1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P3

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: 5012803  
Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB018847.D  
Level: (low/med) MED Date Received: 3/3/2005  
% Moisture: not dec. 4.68 Date Analyzed: 3/9/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P4

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5012804  
 Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018848.D  
 Level: (low/med) MED Date Received: 3/3/2005  
 % Moisture: not dec. 4.19 Date Analyzed: 3/9/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		940	U
107131	Acrylonitrile		940	U
75650	tert-Butyl alcohol		940	U
1634044	Methyl-tert-Butyl ether		94	U
108203	Di-isopropyl ether		94	U
75718	Dichlorodifluoromethane		94	U
74-87-3	Chloromethane		94	U
75-01-4	Vinyl Chloride		94	U
74-83-9	Bromomethane		94	U
75-00-3	Chloroethane		94	U
75-69-4	Trichlorofluoromethane		94	U
75-35-4	1,1-Dichloroethene		94	U
67-64-1	Acetone		94	U
75-15-0	Carbon Disulfide		94	U
75-09-2	Methylene Chloride		94	U
156-60-5	trans-1,2-Dichloroethene		94	U
75-34-3	1,1-Dichloroethane		94	U
108-05-4	Vinyl Acetate		94	U
78-93-3	2-Butanone		94	U
156-59-2	cis-1,2-Dichloroethene		94	U
67-66-3	Chloroform		94	U
71-55-6	1,1,1-Trichloroethane		94	U
56-23-5	Carbon Tetrachloride		94	U
71-43-2	Benzene		94	U
107-06-2	1,2-Dichloroethane		94	U
79-01-6	Trichloroethene		94	U
78-87-5	1,2-Dichloropropane		94	U
75-27-4	Bromodichloromethane		94	U
110-75-8	2-Chloroethyl vinyl ether		94	U
10061-01-5	cis-1,3-Dichloropropene		94	U
108-10-1	4-Methyl-2-Pentanone		94	U
108-88-3	Toluene		94	U
10061-02-6	trans-1,3-Dichloropropene		94	U
79-00-5	1,1,2-Trichloroethane		94	U
127-18-4	Tetrachloroethene		94	U
591-78-6	2-Hexanone		94	U
124-48-1	Dibromochloromethane		94	U
108-90-7	Chlorobenzene		94	U
100-41-4	Ethylbenzene		94	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P4

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012804

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018848.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 4.19 Date Analyzed: 3/9/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		190	U
95-47-6	o-Xylene		94	U
100-42-5	Styrene		94	U
75-25-2	Bromoform		94	U
79-34-5	1,1,2,2-Tetrachloroethane		94	U
541-73-1	1,3-Dichlorobenzene		94	U
106-46-7	1,4-Dichlorobenzene		94	U
95-50-1	1,2-Dichlorobenzene		94	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P4

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: 5012804  
Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB018848.D  
Level: (low/med) MED Date Received: 3/3/2005  
% Moisture: not dec. 4.19 Date Analyzed: 3/9/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P5

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5012805  
 Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018870.D  
 Level: (low/med) MED Date Received: 3/3/2005  
 % Moisture: not dec. 3.57 Date Analyzed: 3/10/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		8900	U
107131	Acrylonitrile		8900	U
75650	tert-Butyl alcohol		8900	U
1634044	Methyl-tert-Butyl ether		1500	
108203	Di-isopropyl ether		890	U
75718	Dichlorodifluoromethane		890	U
74-87-3	Chloromethane		890	U
75-01-4	Vinyl Chloride		890	U
74-83-9	Bromomethane		890	U
75-00-3	Chloroethane		890	U
75-69-4	Trichlorofluoromethane		890	U
75-35-4	1,1-Dichloroethene		890	U
67-64-1	Acetone		890	U
75-15-0	Carbon Disulfide		890	U
75-09-2	Methylene Chloride		890	U
156-60-5	trans-1,2-Dichloroethene		890	U
75-34-3	1,1-Dichloroethane		890	U
108-05-4	Vinyl Acetate		890	U
78-93-3	2-Butanone		890	U
156-59-2	cis-1,2-Dichloroethene		890	U
67-66-3	Chloroform		890	U
71-55-6	1,1,1-Trichloroethane		890	U
56-23-5	Carbon Tetrachloride		890	U
71-43-2	Benzene		1600	
107-06-2	1,2-Dichloroethane		890	U
79-01-6	Trichloroethene		890	U
78-87-5	1,2-Dichloropropane		890	U
75-27-4	Bromodichloromethane		890	U
110-75-8	2-Chloroethyl vinyl ether		890	U
10061-01-5	cis-1,3-Dichloropropene		890	U
108-10-1	4-Methyl-2-Pentanone		890	U
108-88-3	Toluene		39000	
10061-02-6	trans-1,3-Dichloropropene		890	U
79-00-5	1,1,2-Trichloroethane		890	U
127-18-4	Tetrachloroethene		890	U
591-78-6	2-Hexanone		890	U
124-48-1	Dibromochloromethane		890	U
108-90-7	Chlorobenzene		890	U
100-41-4	Ethylbenzene		25000	

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P5

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012805

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018870.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 3.57 Date Analyzed: 3/10/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		130000	E
95-47-6	o-Xylene		65000	E
100-42-5	Styrene		890	U
75-25-2	Bromoform		890	U
79-34-5	1,1,2,2-Tetrachloroethane		890	U
541-73-1	1,3-Dichlorobenzene		890	U
106-46-7	1,4-Dichlorobenzene		890	U
95-50-1	1,2-Dichlorobenzene		890	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P5

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012805

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018870.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 3.57 Date Analyzed: 3/10/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 12.5 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000611-14-3	Benzene, 1-ethyl-2-methyl-	28.40	170000	JN
2. 000108-67-8	Benzene, 1,3,5-trimethyl-	28.59	73000	JN
3. 000108-67-8	Benzene, 1,3,5-trimethyl-	29.36	260000	JN
4. 000095-36-3	1,2,4-Trimethylbenzene	30.22	63000	JN
5.	unknown	30.48	100000	J
6. 001758-88-9	Benzene, 2-ethyl-1,4-dimethyl-	30.56	90000	JN
7. 000535-77-3	Benzene, 1-methyl-3-(1-methylet	31.32	78000	JN
8. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	32.24	100000	JN
9. 000767-58-8	Indan, 1-methyl-	32.69	61000	JN
10. 027133-93-3	2,3-Dihydro-1-methylindene	33.08	93000	JN

## VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP#: 13461 750-P5 DI

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012805

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018871.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 3.57 Date Analyzed: 3/10/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 1.25 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		89000	U
107131	Acrylonitrile		89000	U
75650	tert-Butyl alcohol		89000	U
1634044	Methyl-tert-Butyl ether		8900	U
108203	Di-isopropyl ether		8900	U
75718	Dichlorodifluoromethane		8900	U
74-87-3	Chloromethane		8900	U
75-01-4	Vinyl Chloride		8900	U
74-83-9	Bromomethane		8900	U
75-00-3	Chloroethane		8900	U
75-69-4	Trichlorofluoromethane		8900	U
75-35-4	1,1-Dichloroethene		8900	U
67-64-1	Acetone		8900	U
75-15-0	Carbon Disulfide		8900	U
75-09-2	Methylene Chloride		8900	U
156-60-5	trans-1,2-Dichloroethene		8900	U
75-34-3	1,1-Dichloroethane		8900	U
108-05-4	Vinyl Acetate		8900	U
78-93-3	2-Butanone		8900	U
156-59-2	cis-1,2-Dichloroethene		8900	U
67-66-3	Chloroform		8900	U
71-55-6	1,1,1-Trichloroethane		8900	U
56-23-5	Carbon Tetrachloride		8900	U
71-43-2	Benzene		2000	J
107-06-2	1,2-Dichloroethane		8900	U
79-01-6	Trichloroethene		8900	U
78-87-5	1,2-Dichloropropane		8900	U
75-27-4	Bromodichloromethane		8900	U
110-75-8	2-Chloroethyl vinyl ether		8900	U
10061-01-5	cis-1,3-Dichloropropene		8900	U
108-10-1	4-Methyl-2-Pentanone		8900	U
108-88-3	Toluene		38000	
10061-02-6	trans-1,3-Dichloropropene		8900	U
79-00-5	1,1,2-Trichloroethane		8900	U
127-18-4	Tetrachloroethene		8900	U
591-78-6	2-Hexanone		8900	U
124-48-1	Dibromochloromethane		8900	U
108-90-7	Chlorobenzene		8900	U
100-41-4	Ethylbenzene		24000	



1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P5 DI

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5012805  
 Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018871.D  
 Level: (low/med) MED Date Received: 3/3/2005  
 % Moisture: not dec. 3.57 Date Analyzed: 3/10/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 1.25 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes		110000	
95-47-6	o-Xylene		57000	
100-42-5	Styrene		8900	U
75-25-2	Bromoform		8900	U
79-34-5	1,1,2,2-Tetrachloroethane		8900	U
541-73-1	1,3-Dichlorobenzene		8900	U
106-46-7	1,4-Dichlorobenzene		8900	U
95-50-1	1,2-Dichlorobenzene		8900	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P5 DI

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012805

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB018871.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 3.57 Date Analyzed: 3/10/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 1.25 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

**Trip Blank**

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5012806  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018869.D  
 Level: (low/med) MED Date Received: 3/3/2005  
 % Moisture: not dec. 0 Date Analyzed: 3/10/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

**Trip Blank**

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192  
 Matrix: (soil/water) SOIL Lab Sample ID: 5012806  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018869.D  
 Level: (low/med) MED Date Received: 3/3/2005  
 % Moisture: not dec. 0 Date Analyzed: 3/10/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

**Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50128 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5012806

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018869.D

Level: (low/med) MED Date Received: 3/3/2005

% Moisture: not dec. 0 Date Analyzed: 3/10/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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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 # :** 50128  
**Location :** Bldg.750  
**UST Reg. # :**

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

**Date Received :** 03-Mar-05  
**Date Extracted :** 04-Mar-05  
**Extraction Method :** Shake  
**Analysis Complete :** 08-Mar-05  
**Analyst :** B.Patel

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL	TPHC Result (ug/kg)
5012801	750-P1	1.00	15.07	96.04	95	345	ND
5012802	750-P2	1.00	15.06	95.86	95	346	ND
5012803	750-P3	1.00	15.05	95.32	96	349	ND
5012804	750-P4	1.00	15.07	95.81	95	346	ND
5012805	750-P5	1.00	15.06	96.43	95	344	240.11
METHOD BLANK	MB-030405-01	1.00	15.00	100.00	92	333	ND

ND = Not Detected  
 MDL = Method Detection Limit  
 RL = Reporting Limits

**Note :** The TPHC result between the MDL and RL are considered an estimated value

**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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature  
Date: \_\_\_/\_\_\_/\_\_\_



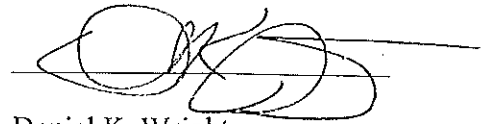
Laboratory Certification # 13461

\*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.

A handwritten signature in black ink, appearing to read 'DK Wright', is written over a horizontal line.

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: Bldg. 750

Bldg. 750/UST#81533-191,192

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time Of Collection	Date Received
750-P6/Piping+70 Ft.	5013401	Soil	07-Mar-05 13:30	03/07/05
750-P7/Piping NE Island	5013402	Soil	07-Mar-05 13:48	03/07/05
750-P8/Duplicate	5013403	Soil	07-Mar-05 13:30	03/07/05
Trip Blank	5013404	Methanol	07-Mar-05	03/07/05

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

ENCLOSURE:  
CHAIN OF CUSTODY  
RESULTS

  
Daniel Wright/Date  
Laboratory Director

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**CHAIN  
OF  
CUSTODY**

# Fort Monmouth Environmental Testing Laboratory

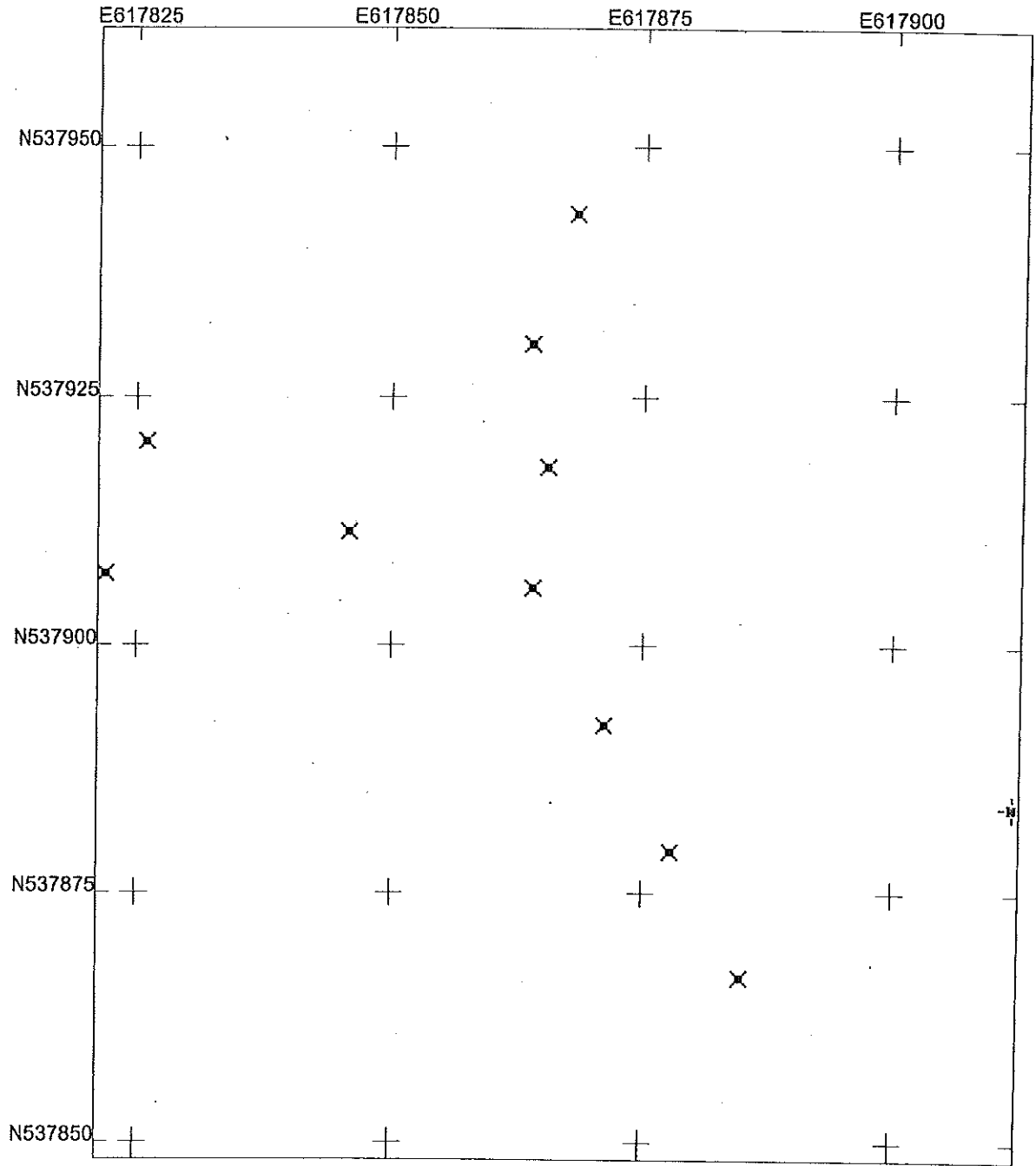
Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461

## Chain of Custody Record

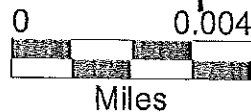
<b>Customer:</b> <u>DOUG GENTHER</u>		<b>Project No:</b> <u>05-69570</u>			<b>Comments:</b>							
<b>Phone #:</b> <u>X20986</u>		<b>Location:</b> <u>BLDG. 750 - VETS # 81537 - 191, 192</u>										
<b>( ) DERA ( ) OMA (X) Other:</b>												
<b>Samplers Name / Company:</b> <u>FRANK ACCORSI / TVS</u>												
<b>LIMS/Work Order #</b>	<b>Sample Location</b>	<b>Date</b>	<b>Time</b>	<b>Sample #</b>	<b>Type</b>	<b>bottles</b>	<b>Analysis Parameters</b>			<b>Remarks / Preservation Method</b>		
<u>5E134</u>	<u>750-P6, PRINCIPAL</u>	<u>3-7-05</u>	<u>1330</u>	<u>2</u>	<u>SOIL</u>	<u>2</u>	<u>VOA-15</u>	<u>TPH</u>	<u>8</u>	<u>4218</u>	<u>7-25</u>	<u>ICF</u>
<u>62</u>	<u>750-P7, PRINCIPAL</u>	<u>3-7-05</u>	<u>1348</u>	<u>2</u>	<u>SOIL</u>	<u>2</u>	<u>VOA-15</u>	<u>TPH</u>	<u>5</u>	<u>4219</u>	<u>7-25</u>	
<u>63</u>	<u>750-P8, DUPLICATE</u>	<u>3-7-05</u>	<u>1330</u>	<u>2</u>	<u>SOIL</u>	<u>2</u>	<u>VOA-15</u>	<u>TPH</u>	<u>6</u>	<u>4220</u>	<u>7-25</u>	
<u>64</u>	<u>TRIP BLANK</u>	<u>3-7-05</u>	<u>1420</u>	<u>1</u>	<u>AQ</u>	<u>1</u>	<u>VOA-15</u>	<u>TPH</u>	<u>1</u>	<u>4215</u>	<u>7-25</u>	<u>✓</u>
<b>Relinquished by (signature):</b> <u>Frank Accorsi</u>	<b>Date/Time:</b> <u>3-7-05 1420</u>	<b>Received by (signature):</b> <u>[Signature]</u>		<b>Relinquished by (signature):</b>		<b>Date/Time:</b>		<b>Received by (signature):</b>				
<b>Relinquished by (signature):</b>	<b>Date/Time:</b>	<b>Received by (signature):</b>		<b>Relinquished by (signature):</b>		<b>Date/Time:</b>		<b>Received by (signature):</b>				
<b>Report Type:</b> ( ) Full, (X) Reduced, ( ) Standard, ( ) Screen / non-certified, ( ) EDD		<b>Turnaround time:</b> ( ) Standard 3 wks, (X) Rush 3 days, ( ) ASAP Verbal Hrs.		<b>Remarks:</b>								



**U.S. Army-Ft. Monmouth Bldg.750 UST  
#191,192 Piping and Dispenser Soil**

US State Plane 1983  
New Jersey 2900  
NAD 1983 (Conus)

**Sample GPS Map**



B750Pcombo.cor  
3/25/2005  
GPS Pathfinder  
 Trimble

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 -USTs #81533-191 & 81533-192 PIPING,  
DISPENSER SOIL SAMPLE GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750P1 PIPING PLUS 10 FT	537866.6	617884.918
750P2 PIPING PLUS 25 FT	537879.28	617877.845
750P3 PIPING PLUS 40 FT	537891.992	617871.095
750P5 PIPING PLUS 55 FT	537905.926	617863.942
750P6 PIPING PLUS 70 FT	537911.548	617845.715
750P7 PIPING AT NE ISLAND	537918.083	617865.355
750P9 NE DISPEN. GASOLINE	537943.46	617868.054
750P10 NE DISPEN. DIESEL	537930.474	617863.755
750P11 SW DISPEN. GASOLINE	537920.615	617825.932
750P12 SW DISPEN. DIESEL	537907.343	617821.917

REFERENCE POINT

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
BLDG753 WEST CORNER	537883.749	617911.846

# METHOD SUMMARY



## Method Summary

### **EPA SW-846 Method 8260**

#### **Gas Chromatographic Determination of Volatiles in Methanol**

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

### **NJDEP Method OQA-QAM-025 10/97**

#### **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 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 moisture, sample weight and concentration.

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 50134

Site: Bldg. 750  
UST # 191 & 192

	Date	Hold Time
Date Sampled	03/07/05	NA
Receipt/Refrigeration	03/07/05	NA
<b>Extraction</b>		
1. TPHC	03/10/05	14 days
<b>Analyses</b>		
1. VOA	03/11/05	14 days
2. TPHC	03/11/05	40 days

**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 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 N/A
  - c. Acid Fraction N/A
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 N/A
  - c. Acid Fraction N/A

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 N/A
  - c. Acid Fraction N/A

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

Indicate  
Yes, No, N/A

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

Yes

- a. VOA Fraction \_\_\_\_\_
- b. B/N Fraction NA
- c. Acid Fraction NA

11. Extraction Holding Time Met

NA

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:

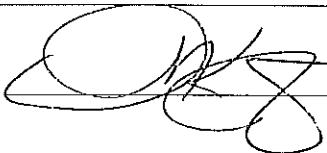
5-3-05

# 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: 5-3-05

# 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 MDL but greater than zero.
  - (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 ORGANICS ANALYSIS DATA SHEET

MB 11Mar05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: MB 11Mar05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018904.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 0 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 11Mar05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: MB 11Mar05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018904.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 0 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

MB 11Mar05

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: MB 11Mar05  
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018904.D  
Level: (low/med) MED Date Received: 3/7/2005  
% Moisture: not dec. 0 Date Analyzed: 3/11/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P6

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013401

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018908.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 2.65 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		870	U
107131	Acrylonitrile		870	U
75650	tert-Butyl alcohol		870	U
1634044	Methyl-tert-Butyl ether		87	U
108203	Di-isopropyl ether		87	U
75718	Dichlorodifluoromethane		87	U
74-87-3	Chloromethane		87	U
75-01-4	Vinyl Chloride		87	U
74-83-9	Bromomethane		87	U
75-00-3	Chloroethane		87	U
75-69-4	Trichlorofluoromethane		87	U
75-35-4	1,1-Dichloroethene		87	U
67-64-1	Acetone		230	
75-15-0	Carbon Disulfide		87	U
75-09-2	Methylene Chloride		87	U
156-60-5	trans-1,2-Dichloroethene		87	U
75-34-3	1,1-Dichloroethane		87	U
108-05-4	Vinyl Acetate		87	U
78-93-3	2-Butanone		87	U
156-59-2	cis-1,2-Dichloroethene		87	U
67-66-3	Chloroform		87	U
71-55-6	1,1,1-Trichloroethane		87	U
56-23-5	Carbon Tetrachloride		87	U
71-43-2	Benzene		87	U
107-06-2	1,2-Dichloroethane		87	U
79-01-6	Trichloroethene		87	U
78-87-5	1,2-Dichloropropane		87	U
75-27-4	Bromodichloromethane		87	U
110-75-8	2-Chloroethyl vinyl ether		87	U
10061-01-5	cis-1,3-Dichloropropene		87	U
108-10-1	4-Methyl-2-Pentanone		87	U
108-88-3	Toluene		33	J
10061-02-6	trans-1,3-Dichloropropene		87	U
79-00-5	1,1,2-Trichloroethane		87	U
127-18-4	Tetrachloroethene		87	U
591-78-6	2-Hexanone		87	U
124-48-1	Dibromochloromethane		87	U
108-90-7	Chlorobenzene		87	U
100-41-4	Ethylbenzene		87	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P6

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013401

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018908.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 2.65 Date Analyzed: 3/11/2005

GC Column: RTX502, ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		170	U
95-47-6	o-Xylene		87	U
100-42-5	Styrene		87	U
75-25-2	Bromoform		87	U
79-34-5	1,1,2,2-Tetrachloroethane		87	U
541-73-1	1,3-Dichlorobenzene		87	U
106-46-7	1,4-Dichlorobenzene		31	J
95-50-1	1,2-Dichlorobenzene		87	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

**750-P6**

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: 5013401  
Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018908.D  
Level: (low/med) MED Date Received: 3/7/2005  
% Moisture: not dec. 2.65 Date Analyzed: 3/11/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P7

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013402

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB018909.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 3.01 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		990	U
107131	Acrylonitrile		990	U
75650	tert-Butyl alcohol		990	U
1634044	Methyl-tert-Butyl ether		99	U
108203	Di-isopropyl ether		99	U
75718	Dichlorodifluoromethane		99	U
74-87-3	Chloromethane		99	U
75-01-4	Vinyl Chloride		99	U
74-83-9	Bromomethane		99	U
75-00-3	Chloroethane		99	U
75-69-4	Trichlorofluoromethane		99	U
75-35-4	1,1-Dichloroethene		99	U
67-64-1	Acetone		270	
75-15-0	Carbon Disulfide		99	U
75-09-2	Methylene Chloride		99	U
156-60-5	trans-1,2-Dichloroethene		99	U
75-34-3	1,1-Dichloroethane		99	U
108-05-4	Vinyl Acetate		99	U
78-93-3	2-Butanone		99	U
156-59-2	cis-1,2-Dichloroethene		99	U
67-66-3	Chloroform		99	U
71-55-6	1,1,1-Trichloroethane		99	U
56-23-5	Carbon Tetrachloride		99	U
71-43-2	Benzene		99	U
107-06-2	1,2-Dichloroethane		99	U
79-01-6	Trichloroethene		99	U
78-87-5	1,2-Dichloropropane		99	U
75-27-4	Bromodichloromethane		99	U
110-75-8	2-Chloroethyl vinyl ether		99	U
10061-01-5	cis-1,3-Dichloropropene		99	U
108-10-1	4-Methyl-2-Pentanone		99	U
108-88-3	Toluene		100	
10061-02-6	trans-1,3-Dichloropropene		99	U
79-00-5	1,1,2-Trichloroethane		99	U
127-18-4	Tetrachloroethene		99	U
591-78-6	2-Hexanone		99	U
124-48-1	Dibromochloromethane		99	U
108-90-7	Chlorobenzene		99	U
100-41-4	Ethylbenzene		61	J



## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P7

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013402

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB018909.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 3.01 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		270	
95-47-6	o-Xylene		130	
100-42-5	Styrene		99	U
75-25-2	Bromoform		99	U
79-34-5	1,1,2,2-Tetrachloroethane		99	U
541-73-1	1,3-Dichlorobenzene		99	U
106-46-7	1,4-Dichlorobenzene		40	J
95-50-1	1,2-Dichlorobenzene		99	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P7

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013402

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB018909.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 3.01 Date Analyzed: 3/11/2005

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 2

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000611-14-3	Benzene, 1-ethyl-2-methyl-	28.40	300	JN
2. 000526-73-8	Benzene, 1,2,3-trimethyl-	29.36	420	JN

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P8

Lab Name: FMETLNJDEP#: 13461Project: 05-69570Case No.: 50134Location: B.750SDG No.: 191,192Matrix: (soil/water) SOILLab Sample ID: 5013403Sample wt/vol: 11.9 (g/ml) GLab File ID: VB018910.DLevel: (low/med) MEDDate Received: 3/7/2005% Moisture: not dec. 2.24Date Analyzed: 3/11/2005GC Column: RTX502 ID: 0.25 (mm)Dilution Factor: 1.0Soil Extract Volume: 25000 (uL)Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		860	U
107131	Acrylonitrile		860	U
75650	tert-Butyl alcohol		860	U
1634044	Methyl-tert-Butyl ether		86	U
108203	Di-isopropyl ether		86	U
75718	Dichlorodifluoromethane		86	U
74-87-3	Chloromethane		86	U
75-01-4	Vinyl Chloride		86	U
74-83-9	Bromomethane		86	U
75-00-3	Chloroethane		86	U
75-69-4	Trichlorofluoromethane		86	U
75-35-4	1,1-Dichloroethene		86	U
67-64-1	Acetone		220	
75-15-0	Carbon Disulfide		86	U
75-09-2	Methylene Chloride		86	U
156-60-5	trans-1,2-Dichloroethene		86	U
75-34-3	1,1-Dichloroethane		86	U
108-05-4	Vinyl Acetate		86	U
78-93-3	2-Butanone		86	U
156-59-2	cis-1,2-Dichloroethene		86	U
67-66-3	Chloroform		86	U
71-55-6	1,1,1-Trichloroethane		86	U
56-23-5	Carbon Tetrachloride		86	U
71-43-2	Benzene		29	J
107-06-2	1,2-Dichloroethane		86	U
79-01-6	Trichloroethene		86	U
78-87-5	1,2-Dichloropropane		86	U
75-27-4	Bromodichloromethane		86	U
110-75-8	2-Chloroethyl vinyl ether		86	U
10061-01-5	cis-1,3-Dichloropropene		86	U
108-10-1	4-Methyl-2-Pentanone		86	U
108-88-3	Toluene		130	
10061-02-6	trans-1,3-Dichloropropene		86	U
79-00-5	1,1,2-Trichloroethane		86	U
127-18-4	Tetrachloroethene		86	U
591-78-6	2-Hexanone		86	U
124-48-1	Dibromochloromethane		86	U
108-90-7	Chlorobenzene		86	U
100-41-4	Ethylbenzene		28	J

## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P8

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013403

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018910.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 2.24 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		95	J
95-47-6	o-Xylene		46	J
100-42-5	Styrene		86	U
75-25-2	Bromoform		86	U
79-34-5	1,1,2,2-Tetrachloroethane		86	U
541-73-1	1,3-Dichlorobenzene		86	U
106-46-7	1,4-Dichlorobenzene		34	J
95-50-1	1,2-Dichlorobenzene		86	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P8

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: 5013403  
Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018910.D  
Level: (low/med) MED Date Received: 3/7/2005  
% Moisture: not dec. 2.24 Date Analyzed: 3/11/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013404

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018911.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 0 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		270	
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank
------------

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192

Matrix: (soil/water) SOIL Lab Sample ID: 5013404

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018911.D

Level: (low/med) MED Date Received: 3/7/2005

% Moisture: not dec. 0 Date Analyzed: 3/11/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		38	J
95-50-1	1,2-Dichlorobenzene		100	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

**Trip Blank**

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50134 Location: B.750 SDG No.: 191,192  
Matrix: (soil/water) SOIL Lab Sample ID: 5013404  
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018911.D  
Level: (low/med) MED Date Received: 3/7/2005  
% Moisture: not dec. 0 Date Analyzed: 3/11/2005  
GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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**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 # : 50134  
 Location : Bldg.750  
 UST Reg. # :

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

Date Received : 07-Mar-05  
 Date Extracted : 10-Mar-05  
 Extraction Method : Shake  
 Analysis Complete : 11-Mar-05  
 Analyst : B.Patel

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL	TPHC Result (mg/kg)
5013401	750-P6	1.00	15.00	97.35	94	342	ND
5013402	750-P7	1.00	15.09	96.99	94	342	ND
5013403	750-P8	1.00	15.00	97.76	94	341	ND
METHOD BLANK	MB-031005-01	1.00	15.00	100.00	92	333	ND

ND = Not Detected

MDL = Method Detection Limit

RL = Reporting Limits

Note : The TPHC result between the MDL and RL are considered an estimated value

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 5/3/05



Laboratory Certification # 13461

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

000067

## 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

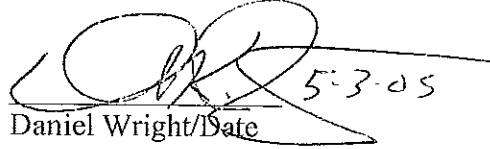


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: Bldg. 750

### Bldg. 750/Pump Island Dispensers

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-P9-NE Dispenser Gasoline	5015301	Soil	14-Mar-05 13:30	03/14/05
750-P10-NE Dispenser Diesel	5015302	Soil	14-Mar-05 14:00	03/14/05
750-P11-SW Dispenser Gasoline	5015303	Soil	14-Mar-05 14:20	03/14/05
750-P12-SW Dispenser Diesel	5015304	Soil	14-Mar-05 15:00	03/14/05
Trip Blank	5015305	Methanol	14-Mar-05	03/14/05

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

  
5-3-05  
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: <b>NOUG &amp; QUENTHER</b>		Project No: <b>05-69570</b>		Analysis Parameters				Comments:						
Phone: # <b>X20986</b>		Location: <b>B.750</b>												
( ) DERA ( ) OMA (X) Other: _____		PUMP ISLAND DISPENSERS		TPH		VO+15		VO+15		DEPTH (FT)		VOA#		
Samplers Name / Company: <b>FRANK ACCORSI IVS</b>		Sample #	Type	bottles										
LIMS/Work Order #	Sample Location	Date	Time											Remarks / Preservation Method
<b>02</b>	<b>750-P10 - NE DISPENSER</b>	<b>3-14-05</b>	<b>1400</b>	<b>5014</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<b>ICE</b>
<b>03</b>	<b>750-P11 - SW DISPENSER</b>		<b>1430</b>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>04</b>	<b>750-P12 - SW DISPENSER</b>		<b>1500</b>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
<b>05</b>	<b>TRIP BLANK</b>			<b>AQ</b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	

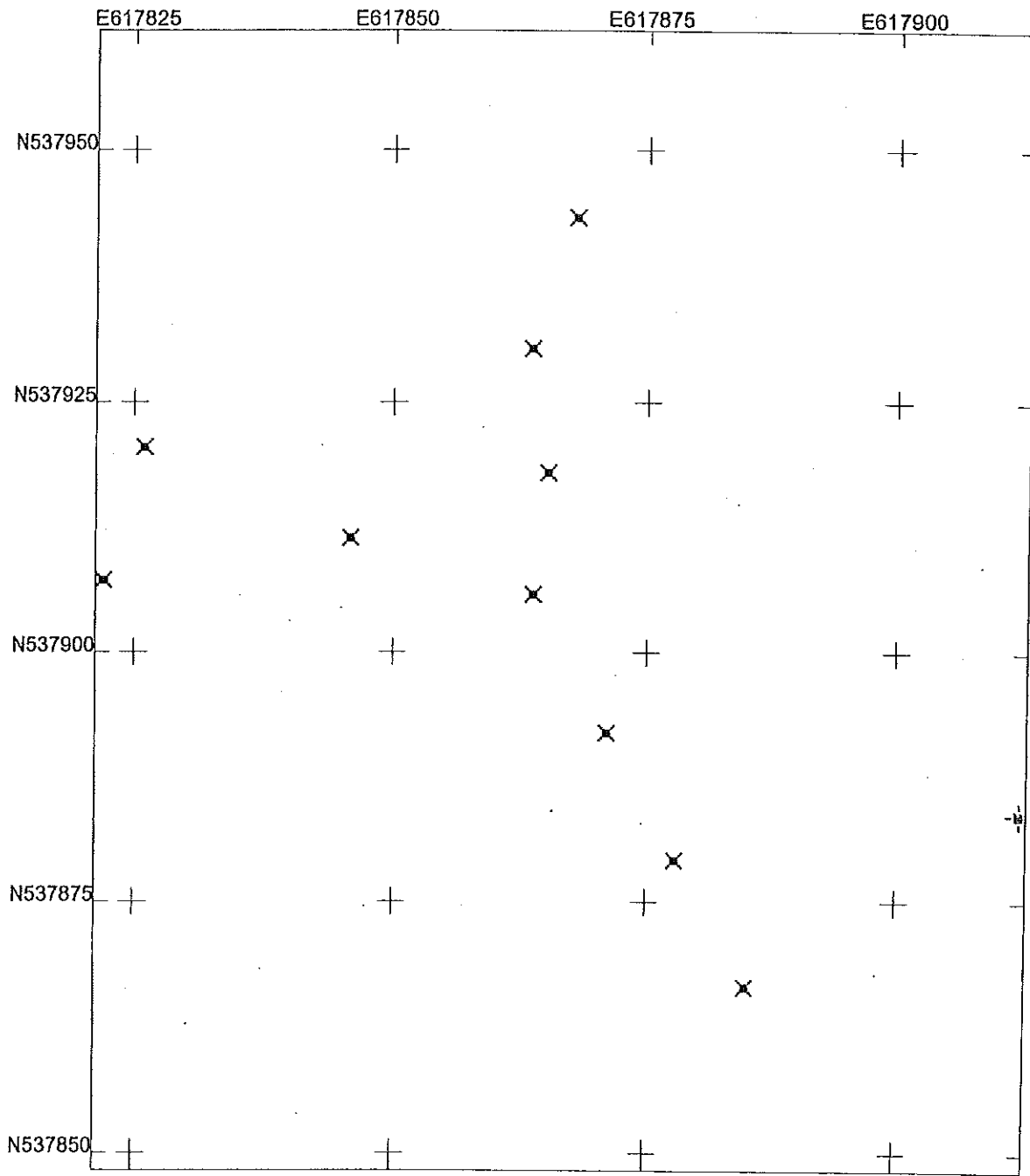
  

Relinquished by (signature): _____	Date/Time: <b>3-14-05 1100</b>	Received by (signature): _____	Date/Time:
Relinquished by (signature): _____	Date/Time:	Received by (signature): _____	Date/Time:

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

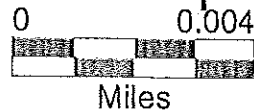
Remarks: **VO+15; CONTINGENT IF TPH > 1000 ppm**





U.S. Army-Ft. Monmouth Bldg.750 UST  
 #191,192 Piping and Dispenser Soil

US State Plane 1983 Sample GPS Map  
 New Jersey 2900  
 NAD 1983 (Conus)



B750Pcombo.cor  
 3/25/2005  
 GPS Pathfinder  
 Trimble

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 -USTs #81533-191 & 81533-192 PIPING,  
DISPENSER SOIL SAMPLE GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750P1 PIPING PLUS 10 FT	537866.6	617884.918
750P2 PIPING PLUS 25 FT	537879.28	617877.845
750P3 PIPING PLUS 40 FT	537891.992	617871.095
750P5 PIPING PLUS 55 FT	537905.926	617863.942
750P6 PIPING PLUS 70 FT	537911.548	617845.715
750P7 PIPING AT NE ISLAND	537918.083	617865.355
750P9 NE DISPEN. GASOLINE	537943.46	617868.054
750P10 NE DISPEN. DIESEL	537930.474	617863.755
750P11 SW DISPEN. GASOLINE	537920.615	617825.932
750P12 SW DISPEN. DIESEL	537907.343	617821.917

REFERENCE POINT

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
BLDG753 WEST CORNER	537883.749	617911.846

# METHOD SUMMARY

## Method Summary

### **EPA SW-846 Method 8260**

#### **Gas Chromatographic Determination of Volatiles in Methanol**

A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is calculated using soil weight, percent moisture and concentration.

### **NJDEP Method OQA-QAM-025 10/97**

#### **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 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 moisture, sample weight and concentration.

# LABORATORY CHRONICLE

# Laboratory Chronicle

Lab ID: 50153

Site: Bldg. 750  
Pump Island Dispensers

	Date	Hold Time
Date Sampled	03/14/05	NA
Receipt/Refrigeration	03/14/05	NA
<b>Extraction</b>		
1. TPHC	03/15/05	14 days
<b>Analyses</b>		
1. VOA	03/18/05	14 days
2. TPHC	03/16/05	40 days

800008

**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 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 N/A
  - c. Acid Fraction N/A
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 N/A
  - c. Acid Fraction N/A

If not met, were the calculations checked and the results qualified as "estimated"?

\_\_\_\_\_
9. Matrix Spike/Matrix Spike Duplicate 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 N/A
  - c. Acid Fraction N/A



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

Indicate  
Yes, No, N/A

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

Yes

- a. VOA Fraction \_\_\_\_\_
- b. B/N Fraction N/A
- c. Acid Fraction N/A

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

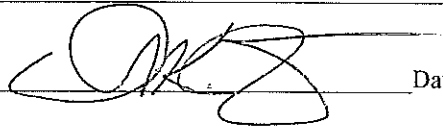
If not met, list the number of days exceeded for each sample: \_\_\_\_\_

\_\_\_\_\_

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager:




Date: 5-3-05

# 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: 5-3-05

# VOLATILE ORGANICS

100013

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 MDL but greater than zero.
  - (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.

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

MB 18Mar05

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID

Matrix: (soil/water) SOIL Lab Sample ID: MB 18Mar05

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018982.D

Level: (low/med) MED Date Received: 3/14/2005

% Moisture: not dec. 0 Date Analyzed: 3/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		100	U
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

## VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 18Mar05

Lab Name: FMETLNJDEP#: 13461Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PIDMatrix: (soil/water) SOIL Lab Sample ID: MB 18Mar05Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018982.DLevel: (low/med) MED Date Received: 3/14/2005% Moisture: not dec. 0 Date Analyzed: 3/18/2005GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	CONCENTRATION UNITS:		Q
		(ug/L or ug/Kg)	<u>UG/KG</u>	
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

MB 18Mar05

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID  
Matrix: (soil/water) SOIL Lab Sample ID: MB 18Mar05  
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018982.D  
Level: (low/med) MED Date Received: 3/14/2005  
% Moisture: not dec. 0 Date Analyzed: 3/18/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P9

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID

Matrix: (soil/water) SOIL Lab Sample ID: 5015301

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018990.D

Level: (low/med) MED Date Received: 3/14/2005

% Moisture: not dec. 12.7 Date Analyzed: 3/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/KG Q

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		970	U
107131	Acrylonitrile		970	U
75650	tert-Butyl alcohol		970	U
1634044	Methyl-tert-Butyl ether		97	U
108203	Di-isopropyl ether		97	U
75718	Dichlorodifluoromethane		97	U
74-87-3	Chloromethane		97	U
75-01-4	Vinyl Chloride		97	U
74-83-9	Bromomethane		97	U
75-00-3	Chloroethane		97	U
75-69-4	Trichlorofluoromethane		97	U
75-35-4	1,1-Dichloroethene		97	U
67-64-1	Acetone		380	
75-15-0	Carbon Disulfide		97	U
75-09-2	Methylene Chloride		97	U
156-60-5	trans-1,2-Dichloroethene		97	U
75-34-3	1,1-Dichloroethane		97	U
108-05-4	Vinyl Acetate		97	U
78-93-3	2-Butanone		97	U
156-59-2	cis-1,2-Dichloroethene		97	U
67-66-3	Chloroform		97	U
71-55-6	1,1,1-Trichloroethane		97	U
56-23-5	Carbon Tetrachloride		97	U
71-43-2	Benzene		97	U
107-06-2	1,2-Dichloroethane		97	U
79-01-6	Trichloroethene		97	U
78-87-5	1,2-Dichloropropane		97	U
75-27-4	Bromodichloromethane		97	U
110-75-8	2-Chloroethyl vinyl ether		97	U
10061-01-5	cis-1,3-Dichloropropene		97	U
108-10-1	4-Methyl-2-Pentanone		97	U
108-88-3	Toluene		97	U
10061-02-6	trans-1,3-Dichloropropene		97	U
79-00-5	1,1,2-Trichloroethane		97	U
127-18-4	Tetrachloroethene		97	U
591-78-6	2-Hexanone		97	U
124-48-1	Dibromochloromethane		97	U
108-90-7	Chlorobenzene		97	U
100-41-4	Ethylbenzene		97	U



## VOLATILE ORGANICS ANALYSIS DATA SHEET

750-P9

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID

Matrix: (soil/water) SOIL Lab Sample ID: 5015301

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018990.D

Level: (low/med) MED Date Received: 3/14/2005

% Moisture: not dec. 12.7 Date Analyzed: 3/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		190	U
95-47-6	o-Xylene		97	U
100-42-5	Styrene		97	U
75-25-2	Bromoform		97	U
79-34-5	1,1,2,2-Tetrachloroethane		97	U
541-73-1	1,3-Dichlorobenzene		97	U
106-46-7	1,4-Dichlorobenzene		97	U
95-50-1	1,2-Dichlorobenzene		97	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P9

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID

Matrix: (soil/water) SOIL Lab Sample ID: 5015301

Sample wt/vol: 11.9 (g/ml) G Lab File ID: VB018990.D

Level: (low/med) MED Date Received: 3/14/2005

% Moisture: not dec. 12.7 Date Analyzed: 3/18/2005

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P11

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID  
 Matrix: (soil/water) SOIL Lab Sample ID: 5015303  
 Sample wt/vol: 11.4 (g/ml) G Lab File ID: VB018991.D  
 Level: (low/med) MED Date Received: 3/14/2005  
 % Moisture: not dec. 13.25 Date Analyzed: 3/18/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		380	
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

750-P11

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID  
 Matrix: (soil/water) SOIL Lab Sample ID: 5015303  
 Sample wt/vol: 11.4 (g/ml) G Lab File ID: VB018991.D  
 Level: (low/med) MED Date Received: 3/14/2005  
 % Moisture: not dec. 13.25 Date Analyzed: 3/18/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

750-P11

Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID

Matrix: (soil/water) SOIL Lab Sample ID: 5015303

Sample wt/vol: 11.4 (g/ml) G Lab File ID: VB018991.D

Level: (low/med) MED Date Received: 3/14/2005

% Moisture: not dec. 13.25 Date Analyzed: 3/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KGNumber TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

## VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank
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Lab Name: FMETL NJDEP#: 13461

Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID

Matrix: (soil/water) SOIL Lab Sample ID: 5015305

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018992.D

Level: (low/med) MED Date Received: 3/14/2005

% Moisture: not dec. 0 Date Analyzed: 3/18/2005

GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/KG	Q
107028	Acrolein		1000	U
107131	Acrylonitrile		1000	U
75650	tert-Butyl alcohol		1000	U
1634044	Methyl-tert-Butyl ether		100	U
108203	Di-isopropyl ether		100	U
75718	Dichlorodifluoromethane		100	U
74-87-3	Chloromethane		100	U
75-01-4	Vinyl Chloride		100	U
74-83-9	Bromomethane		100	U
75-00-3	Chloroethane		100	U
75-69-4	Trichlorofluoromethane		100	U
75-35-4	1,1-Dichloroethene		100	U
67-64-1	Acetone		370	
75-15-0	Carbon Disulfide		100	U
75-09-2	Methylene Chloride		100	U
156-60-5	trans-1,2-Dichloroethene		100	U
75-34-3	1,1-Dichloroethane		100	U
108-05-4	Vinyl Acetate		100	U
78-93-3	2-Butanone		100	U
156-59-2	cis-1,2-Dichloroethene		100	U
67-66-3	Chloroform		100	U
71-55-6	1,1,1-Trichloroethane		100	U
56-23-5	Carbon Tetrachloride		100	U
71-43-2	Benzene		100	U
107-06-2	1,2-Dichloroethane		100	U
79-01-6	Trichloroethene		100	U
78-87-5	1,2-Dichloropropane		100	U
75-27-4	Bromodichloromethane		100	U
110-75-8	2-Chloroethyl vinyl ether		100	U
10061-01-5	cis-1,3-Dichloropropene		100	U
108-10-1	4-Methyl-2-Pentanone		100	U
108-88-3	Toluene		100	U
10061-02-6	trans-1,3-Dichloropropene		100	U
79-00-5	1,1,2-Trichloroethane		100	U
127-18-4	Tetrachloroethene		100	U
591-78-6	2-Hexanone		100	U
124-48-1	Dibromochloromethane		100	U
108-90-7	Chlorobenzene		100	U
100-41-4	Ethylbenzene		100	U

1A  
VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID:

**Trip Blank**

Lab Name: FMETL NJDEP#: 13461  
 Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID  
 Matrix: (soil/water) SOIL Lab Sample ID: 5015305  
 Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018992.D  
 Level: (low/med) MED Date Received: 3/14/2005  
 % Moisture: not dec. 0 Date Analyzed: 3/18/2005  
 GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
 Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	<u>UG/KG</u>	Q
1330-20-7	m+p-Xylenes		200	U
95-47-6	o-Xylene		100	U
100-42-5	Styrene		100	U
75-25-2	Bromoform		100	U
79-34-5	1,1,2,2-Tetrachloroethane		100	U
541-73-1	1,3-Dichlorobenzene		100	U
106-46-7	1,4-Dichlorobenzene		100	U
95-50-1	1,2-Dichlorobenzene		100	U

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID:

**Trip Blank**

Lab Name: FMETL NJDEP#: 13461  
Project: 05-69570 Case No.: 50153 Location: B.750 SDG No.: PID  
Matrix: (soil/water) SOIL Lab Sample ID: 5015305  
Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB018992.D  
Level: (low/med) MED Date Received: 3/14/2005  
% Moisture: not dec. 0 Date Analyzed: 3/18/2005  
GC Column: RTX502 ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) UG/KG

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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**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 # : 50153  
 Location : Bldg.750  
 UST Reg. # :

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

Date Received : 14-Mar-05  
 Date Extracted : 15-Mar-05  
 Extraction Method : Shake  
 Analysis Complete : 16-Mar-05  
 Analyst : B.Patel

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL	TPHC Result (mg/kg)
5015302	750-P10	1.00	15.05	86.06	106	386	ND
5015304	750-P12	1.00	15.00	90.07	102	370	ND
METHOD BLANK	MB-031505-01	1.00	15.00	100.00	92	333	ND

ND = Not Detected  
 MDL = Method Detection Limit  
 RL = Reporting Limits  
**Note :** The TPHC result between the MDL and RL are considered an estimated value

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 5/3/05



Laboratory Certification # 13461

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

000059

## 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.

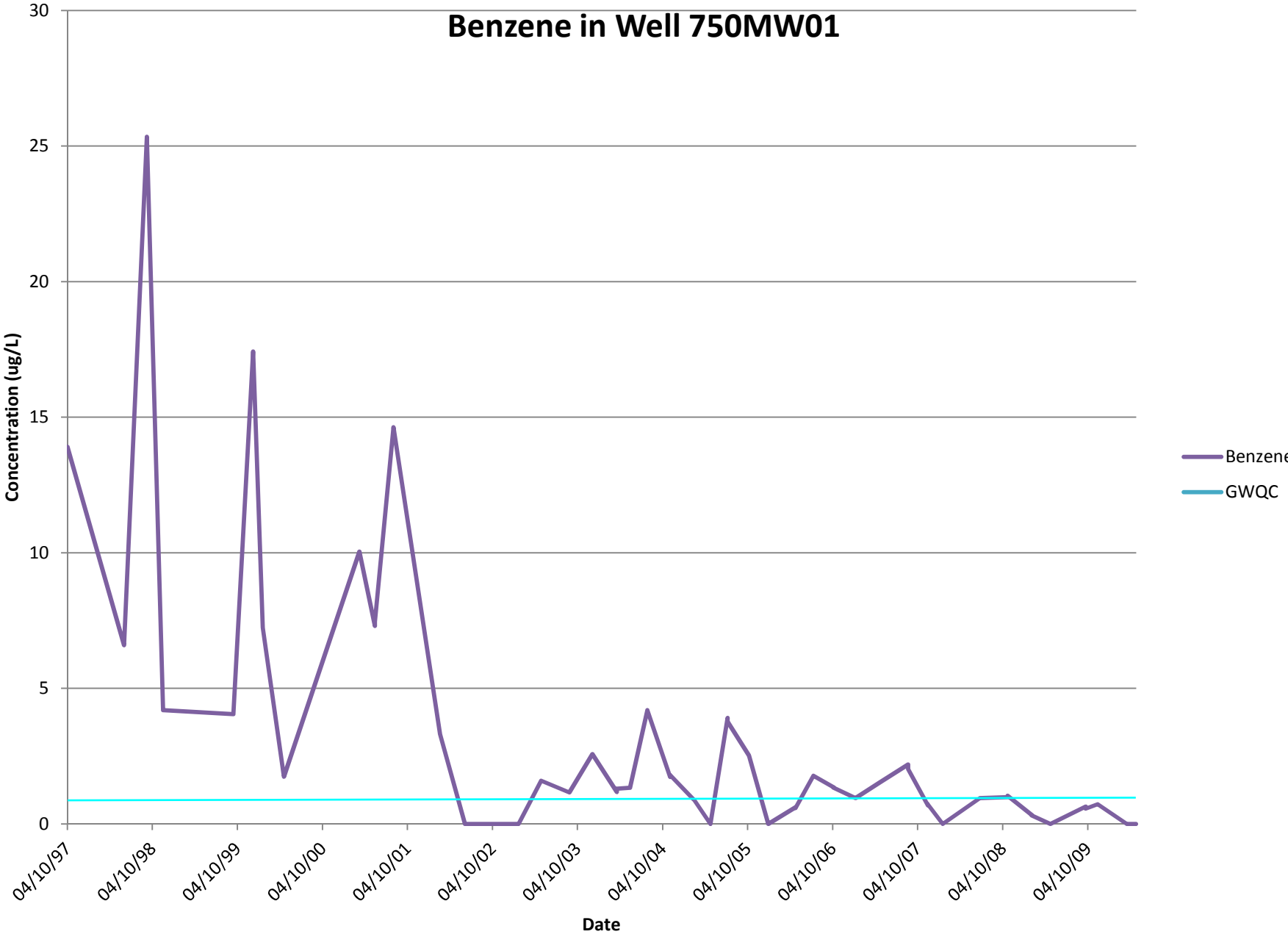


Daniel K. Wright  
Laboratory Manager

ENCLOSURE 3 of Attachment E

Benzene in Well 750MW01 Graph, and Tabulated Groundwater Monitoring Data  
from 1997 to 2009

# Benzene in Well 750MW01



**Table 5-4  
Groundwater Sampling Results  
Site 750 MW01 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	1	2	3	4	5	6	7	8	9	10	10	11	
WELL ID			750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	MW01 Duplicate	750MW01
Date Collected			04/10/97	12/09/97	03/17/98	05/26/98	03/24/99	06/17/99	07/28/99	10/27/99	09/15/00	11/21/00	11/21/00	02/08/01	
ANALYTE / Lab ID			2445.06	3205.05	3415.03	3592.06	4369.06	4555.06	4659.07	4889.07	5690.04	5872.06	5872.03	667.03	

<b>VOCs</b>														
Benzene	1	µg/L	<b>13.91</b>	<b>6.59</b>	<b>25.34</b>	<b>4.20</b>	<b>4.05</b>	<b>17.42</b>	<b>7.24</b>	<b>1.74</b>	<b>10.04</b>	<b>7.30</b>	<b>7.46</b>	<b>14.63</b>
Carbon tetrachloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	µg/L	5.36	ND	5.31	ND	ND	1.38	ND	ND	ND	ND	ND	1.14
Methyl <i>tert</i> -butyl ether	NLE	µg/L	ND	4.55	6.74	ND	1.68	5.27	2.97	2.20	ND	ND	ND	2.07
Methylene chloride	3	µg/L	<b>3.48</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1000	µg/L	ND	ND	1.08	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>m+p</i> -Xylenes	NLE	µg/L	10.90	ND	20.98	5.08	1.76	ND	ND	ND	1.38	ND	ND	3.29
<i>o</i> -Xylene	NLE	µg/L	3.03	ND	15.24	2.60	2.17	3.14	ND	ND	1.66	ND	ND	2.40
Xylenes (Total)	1000	µg/L	13.93	ND	36.22	7.68	3.93	ND	ND	ND	3.04	ND	ND	5.69
TICs*	500	µg/L	434	34	205	ND	ND	48	ND	ND	6	ND	ND	ND

<b>Metals</b>														
Antimony	20	µg/L	NA	ND	ND	ND	3.58	ND	ND	3.41	ND	ND	ND	ND
Arsenic	8	µg/L	NA	ND	ND	ND	ND	ND	6.74	4.49	3.52	3.84	3.72	4.29
Barium	2000	µg/L	NA	31.0	54.6	27.7	61.7	52.9	78.1	115	229	229	232	234
Beryllium	20	µg/L	NA	ND	ND	ND	ND	ND	ND	ND	1.28	1.11	1.13	1.09
Cadmium	4	µg/L	NA	1.4	1.1	1.2	<b>8.94</b>	2.29	0.773	ND	1.13	<b>9.33</b>	2.76	ND
Chromium	100	µg/L	NA	27.4	ND	ND	8.24	4.34	15.7	16.5	ND	2.21	3.33	0.6
Copper	1000	µg/L	NA	19.0	9.4	ND	306	ND	14.1	14.6	27.9	ND	ND	ND
Lead	10	µg/L	2.3	<b>12.0</b>	5.0	ND	3.55	ND	3.01	ND	<b>31.2</b>	ND	ND	ND
Mercury	2	µg/L	NA	0.9	ND	0.2	ND	0.27	0.1	0.2	ND	ND	ND	ND
Nickel	100	µg/L	NA	7.3	3.7	1.8	7.84	ND	4.54	4.53	4.87	6.58	6.57	6.84
Selenium	50	µg/L	NA	ND	ND	5	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	10	µg/L	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**  
 \*TICs - Tentatively identified compounds, cannot exceed 500 ppb for  
 VOCs and SVOCs. No individual compound can exceed 100 ppb.  
 \*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)  
 Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold  
 ER - Estimated result  
 J - Estimated concentration exceeds the MDL and is less than the RL  
 NA - Not analyzed  
 ND - Not detected  
 NLE - No limit established  
 Total Xylenes - Σ of *o*-Xylene and *m+p*-Xylenes

**Table 5-4  
Groundwater Sampling Results  
Site 750 MW01 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	12	13	14	15	16	17	18	19	20	20	21	22
WELL ID			750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	750MW01	MW01 Duplicate	750MW01	750MW01
Date Collected			08/27/01	12/12/01	03/15/02	05/17/02	07/31/02	11/05/02	03/06/03	06/13/03	09/26/03	09/26/03	11/21/03	02/04/04
ANALYTE / Lab ID			16385.03	16646.03	20156.06	20304.06	20492.06	20789.06	30100.06	30287.06	30611.04	30611.03	30752.01	40099.01

<b>VOCs</b>														
Benzene	1	µg/L	<b>3.31</b>	ND	ND	ND	ND	<b>1.59</b>	<b>1.16 J</b>	<b>2.57</b>	<b>1.18 J</b>	<b>1.30 J</b>	<b>1.33 J</b>	<b>4.20</b>
Carbon tetrachloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.35 J
Methyl <i>tert</i> -butyl ether	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	1.22 J	1.12 J	1.25 J	1.54 J
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
<i>m+p</i> -Xylenes	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	1.26 J	ND	ND	ND	2.51 J
<i>o</i> -Xylene	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	1.44 J	0.69 J	0.68 J	ND	2.15
Xylenes (Total)	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	1.70	0.69	0.68	ND	4.66
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	ND	16	10	4	3	60

<b>Metals</b>														
Antimony	20	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	8	µg/L	3.99	2.65	ND	<b>24.0</b>	5.87	ND	ND	ND	4.12 ER	5.66	4.83 ER	ND
Barium	2000	µg/L	194	239	173	139	151	127	67.4	106	93.2	94.4	79.8	89.2
Beryllium	20	µg/L	ND	1.19	1.05	0.751	ND	0.868	ND	0.698	0.498 ER	0.499 ER	0.465 ER	ND
Cadmium	4	µg/L	0.780	0.631	ND	1.60	ND	1.63	1.79 ER	ND	0.474 ER	0.567 ER	ND	ND
Chromium	100	µg/L	2.61	2.15	1.01	1.83	4.28	1.35	ND	ND	1.87 ER	2.05 ER	1.08 ER	ND
Copper	1000	µg/L	9.11	3.25	5.26	6.25	ND	ND	2.86 ER	2.66 ER	2.13 ER	2.38 ER	ND	ND
Lead	10	µg/L	1.67	2.41	1.70	ND	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	2	µg/L	0.1	ND	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	6.36	7.63	6.99	4.84	6.16	4.40	2.92 ER	2.91 ER	2.28 ER	2.19 ER	1.84 ER	ND
Selenium	50	µg/L	ND	ND	ND	9.20	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	10	µg/L	5.67	6.38	ND	ND	ND	ND	ND	ND	ND	ND	1.99 ER	ND

**Notes:**  
 \*TICs - Tentatively identified compounds, cannot exceed 500 ppb for  
 VOCs and SVOCs. No individual compound can exceed 100 ppb.  
 \*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)  
 Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold  
 ER - Estimated result  
 J - Estimated concentration exceeds the MDL and is less than the RL  
 NA - Not analyzed  
 ND - Not detected  
 NLE - No limit established  
 Total Xylenes - Σ of *o*-Xylene and *m+p*-Xylenes



**Table 5-4  
Groundwater Sampling Results  
Site 750 MW01 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	23	23	24	25	26	26	27	28	29	29
WELL ID			750MW01	MW01 Duplicate	750MW01	750MW01	750MW01	MW01 Duplicate	750MW01	750MW01	750MW01	MW01 Duplicate
Date Collected			05/12/04	05/12/04	08/23/04	11/01/04	01/13/05	01/13/05	04/15/05	07/07/05	11/01/05	11/01/05
ANALYTE / Lab ID			40355.04	40355.03	40618.01	40759.01	50023.04	50023.03	50203.04	50339.04	50571.04	50571.03

**VOCs**

Benzene	1	µg/L	<b>1.73 J</b>	<b>1.8 J</b>	0.88 J	ND	<b>3.91</b>	<b>3.77</b>	<b>2.52</b>	ND	0.61 J	0.59 J
Carbon tetrachloride	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	µg/L	0.47 J	0.48 J	ND	ND	1.58	1.50 J	1.45 J	ND	ND	ND
Methyl <i>tert</i> -butyl ether	NLE	µg/L	0.63 J	0.65 J	0.42 J	ND	ND	ND	ND	1.46 J	ND	ND
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1000	µg/L	ND	ND	ND	ND	ND	ND	0.53 J	ND	ND	ND
<i>m+p</i> -Xylenes	NLE	µg/L	0.7 J	0.8 J	ND	ND	2.66	2.56 J	3.47 J	ND	ND	ND
<i>o</i> -Xylene	NLE	µg/L	0.58 J	0.62 J	0.49 J	ND	2.13	2.10	4.01	ND	ND	ND
Xylenes (Total)	1000	µg/L	1.28	1.42	0.49	ND	4.79	4.66	7.48	ND	ND	ND
TICs*	500	µg/L	15	16	6	5	76	67	86	ND	11	8

**Metals**

Antimony	20	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	8	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Barium	2000	µg/L	78.3	81.4	127	118	108	106	102	236	183	183
Beryllium	20	µg/L	ND	ND	0.796	ND	0.650	0.665	0.585	1.5	1.00	0.974
Cadmium	4	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	100	µg/L	ND	ND	ND	7.72	ND	ND	ND	ND	ND	ND
Copper	1000	µg/L	ND	ND	5.75	5.37	ND	ND	ND	ND	ND	ND
Lead	10	µg/L	<b>20.5</b>	<b>26.4</b>	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	5.18	5.21
Selenium	50	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed

ND - Not detected

NLE - No limit established

Total Xylenes -  $\Sigma$  of *o*-Xylene and *m+p*-Xylenes

**Table 5-4  
Groundwater Sampling Results  
Site 750 MW01 (Jan06-Jul07)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	30	31	31	32	33	34	34	35	35	36	36	37
WELL ID			750MW01	750MW01	MW01 Duplicate	750MW01	750MW01	750MW01	MW01 Duplicate	750MW01	MW01 Duplicate	750MW01	MW01 Duplicate	750MW01
Date Collected			01/17/06	04/14/06	04/14/06	07/17/06	10/30/06	02/28/07	02/28/07	05/24/07	05/24/07	07/26/07	07/26/07	
ANALYTE / Lab ID			60032.04	60155.04	60155.03	60320.04	60471.04	70077.04	70077.03	70191.04	70191.03	70282.04	70282.03	
<b>VOCs</b>														
Benzene	1	µg/L	<b>1.78 J</b>	<b>1.35 J</b>	<b>1.33 J</b>	0.95 J	<b>1.53 J</b>	<b>2.19</b>	<b>2.02</b>	0.68 J	0.72 J	ND	ND	NS
Carbon tetrachloride	1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	700	µg/L	0.39 J	0.69 J	0.72 J	ND	0.22	1.12 J	1.17 J	0.83 J	0.67 J	ND	ND	NS
Methyl <i>tert</i> -butyl ether	70	µg/L	0.51 J	ND	ND	ND	0.29 J	ND	ND	ND	ND	ND	ND	NS
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
<i>m+p</i> -Xylenes	NLE	µg/L	ND	1.41 J	1.44 J	0.68 J	ND	1.01 J	1.12 J	1.07 J	0.87 J	ND	ND	NS
<i>o</i> -Xylene	NLE	µg/L	ND	1.19 J	1.17 J	0.55 J	0.07	1.09 J	1.26 J	1.26 J	1.10 J	ND	ND	NS
Xylenes (Total)	1000	µg/L	ND	2.60	2.61	1.23	0.07	2.10	2.38	2.33	1.97	ND	ND	NS
TICs*	500	µg/L	4	20	17	15	4	24	37	83	79	46	37	NS
<b>Metals</b>														
Antimony	6	µg/L	ND	5.09 ER	4.22 ER	<b>6.74 ER</b>	ND	ND	ND	ND	ND	ND	0.776 ER	NS
Arsenic	3	µg/L	ND	ND	ND	2.26 ER	ND	ND	ND	ND	<b>3.42 ER</b>	ND	ND	NS
Barium	2000	µg/L	111	128	129	138	111	59.1	59.2	80.5	81.7	114	114	NS
Beryllium	1	µg/L	0.785	0.695	0.679	0.511	0.743	0.311 ER	0.366 ER	0.342 ER	0.318 ER	0.796	0.770	NS
Cadmium	4	µg/L	ND	ND	ND	ND	0.623 ER	ND	ND	0.442 ER	0.484 ER	0.414 ER	0.353 ER	NS
Chromium	70	µg/L	ND	0.993 ER	ND	ND	ND	ND	ND	0.611 ER	0.972 ER	0.204 ER	0.550 ER	NS
Copper	1300	µg/L	ND	ND	ND	2.80 ER	ND	ND	0.685 ER	0.718 ER	1.14 ER	ND	ND	NS
Lead	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Nickel	100	µg/L	ND	3.80 ER	2.95 ER	3.11 ER	2.07 ER	ND	ND	2.11 ER	2.10 ER	2.17 ER	2.06 ER	NS
Selenium	40	µg/L	ND	ND	ND	ND	5.13 ER	4.13 ER	4.76 ER	6.44 ER	6.42 ER	3.71 ER	ND	NS
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (November 7, 2005)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

NLE- No limit established

NS - Not sampled

Total Xylenes - Σ of *o*-Xylene and *m+p*-Xylenes

**Table 5-4  
Groundwater Sampling Results  
Site 750 MW01 (Jan08-Nov09)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	38	39	39	40	40	41	41	42	42	43	43	44
WELL ID			750MW01	750MW01	MW01 Duplicate	750MW01	MW01 Duplicate	750MW01	MW01 Duplicate	750MW01	MW01 Duplicate	750MW01	MW01 Duplicate	750MW01
Date Collected			01/02/08	04/30/08	04/30/08	08/12/08	08/12/08	10/31/08	10/31/08	03/31/09	03/31/09	05/22/09	05/22/09	08/28/09
ANALYTE / Lab ID			80001.04	80143.04	80143.03	80292.04	80292.03	80396.04	80396.03	90135.04	90135.03	90210.04	90210.03	90361.04

<b>VOCs</b>														
Benzene	1	µg/L	0.95 J	0.99 J	<b>1.04 J</b>	0.33 J	0.31 J	ND	ND	0.64 J	0.56 J	0.73 J	0.73 J	NA
Carbon tetrachloride	1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Ethylbenzene	700	µg/L	ND	0.71 J	0.75 J	ND	ND	ND	ND	0.87 J	0.82 J	0.67 J	0.68 J	NA
Methyl <i>tert</i> -butyl ether	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Methylene Chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
Toluene	600	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	NA
<i>m+p</i> -Xylenes	NLE	µg/L	ND	0.68 J	0.75 J	ND	ND	ND	ND	0.49 J	0.44 J	0.47 J	0.43 J	NA
<i>o</i> -Xylene	NLE	µg/L	ND	0.62 J	0.60 J	ND	ND	ND	ND	0.24 J	0.21 J	ND	ND	NA
Xylenes (Total)	1000	µg/L	ND	1.30	1.35	ND	ND	ND	ND	0.73	0.65	0.47	0.43	NA
TICs*	500	µg/L	6	71	73	130	124	3	4	17	14	89	105	NA

<b>Metals</b>														
Antimony	6	µg/L	ND	ND	ND	ND	ND	ND	ND	<b>7.19 ER</b>	<b>6.60 ER</b>	ND	ND	ND
Arsenic	3	µg/L	ND	ND	2.97 ER	ND	2.50 ER	<b>4.34 ER</b>	<b>6.19</b>	<b>15.6</b>	<b>17.3</b>	<b>6.97</b>	<b>5.89</b>	<b>11.0</b>
Barium	6000	µg/L	113	152	151	138	135	120	125	94.5	96.0	63.1	65.6	84.2
Beryllium	1	µg/L	0.732	0.664	0.675	0.505	0.513	0.701	0.768	0.342 ER	0.368 ER	0.318 ER	0.327 ER	0.289 ER
Cadmium	4	µg/L	0.309 ER	0.301 ER	0.212 ER	0.373 ER	0.489 ER	0.317 ER	0.288 ER	ND	ND	ND	ND	3.30
Chromium	70	µg/L	ND	0.355 ER	0.367 ER	0.410 ER	0.407 ER	10.7	15.1	1.18 ER	2.21 ER	ND	ND	ND
Copper	1300	µg/L	0.686 ER	ND	ND	ND	ND	2.52 ER	3.52 ER	ND	ND	ND	0.839 ER	ND
Lead	5	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.75 ER	ND	ND
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	1.63 ER	4.98 ER	4.43 ER	2.97 ER	3.05 ER	3.52 ER	4.08 ER	2.25 ER	1.90 ER	2.02 ER	2.42 ER	2.50 ER
Selenium	40	µg/L	4.40 ER	ND	ND	ND	ND	ND	4.79 ER	28.9	27.3	ND	ND	17.2
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**  
 \*TICs - Tentatively identified compounds, cannot exceed 500 ppb for  
 VOCs and SVOCs. No individual compound can exceed 100 ppb.  
 \*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (July 27, 2007)  
 Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold  
 ER - Estimated result  
 J - Estimated concentration exceeds the MDL and is less than the RL  
 ND - Not detected  
 NLE- No limit established  
 Total Xylenes - Σ of *o*-Xylene and *m+p*-Xylenes

**Table 5-4  
Groundwater Sampling Results  
Site 750 MW01 (Jan08-Nov09)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	44	44	44	45	45
WELL ID			MW01 Duplicate	750MW01	MW01 Duplicate	750MW01	MW01 Duplicate
Date Collected			08/28/09	09/24/09	09/24/09	11/03/09	11/03/09
ANALYTE / Lab ID			90361.03	90397.04	90397.03	90434.04	90434.03

**VOCs**

Benzene	1	µg/L	NA	ND	ND	ND	ND
Carbon tetrachloride	1	µg/L	NA	ND	ND	ND	ND
Ethylbenzene	700	µg/L	NA	ND	ND	ND	ND
Methyl <i>tert</i> -butyl ether	70	µg/L	NA	ND	ND	ND	ND
Methylene Chloride	3	µg/L	NA	ND	ND	ND	ND
Toluene	600	µg/L	NA	ND	ND	ND	ND
<i>m+p</i> -Xylenes	NLE	µg/L	NA	ND	ND	ND	ND
<i>o</i> -Xylene	NLE	µg/L	NA	ND	ND	ND	ND
Xylenes (Total)	1000	µg/L	NA	ND	ND	ND	ND
TICs*	500	µg/L	NA	ND	ND	7	8

**Metals**

Antimony	6	µg/L	ND	NA	NA	ND	ND
Arsenic	3	µg/L	<b>11.1</b>	NA	NA	1.66 ER	2.22 ER
Barium	6000	µg/L	77.7	NA	NA	97.1	97.2
Beryllium	1	µg/L	0.251 ER	NA	NA	0.497 ER	0.408 ER
Cadmium	4	µg/L	2.36	NA	NA	ND	ND
Chromium	70	µg/L	ND	NA	NA	4.97 ER	3.10 ER
Copper	1300	µg/L	ND	NA	NA	ND	ND
Lead	5	µg/L	ND	NA	NA	ND	ND
Mercury	2	µg/L	ND	NA	NA	ND	ND
Nickel	100	µg/L	3.20 ER	NA	NA	5.59	4.94 ER
Selenium	40	µg/L	24.1	NA	NA	ND	ND
Thallium	2	µg/L	ND	NA	NA	ND	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

NLE- No limit established

Total Xylenes -  $\Sigma$  of *o*-Xylene and *m+p*-Xylenes

**Table 5-5  
Groundwater Sampling Results  
Site 750 MW02 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	1	2	3	4	5	5	6	7	8	9	10	11	
WELL ID			750MW02	750MW02	750MW02	750MW02	750MW02	MW02 Duplicate	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02
Date Collected			04/10/97	12/09/97	03/17/98	05/26/98	03/24/99	03/24/99	06/17/99	07/28/99	10/27/99	09/15/00	11/21/00	02/08/01	
ANALYTE / Lab ID			2445.05	3205.06	3415.04	3592.07	4369.07	4369.10	4555.07	4659.08	4889.08	5690.05	5872.07	668.04	

<b>VOCs</b>														
2-Butanone	300	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	700	µg/L	ND	ND	ND	ND	ND	ND	19.92	5.00	ND	ND	ND	ND
Methyl <i>tert</i> -butyl ether	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	µg/L	<b>3.41</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	3	11	ND	5	ND	ND	8	ND	ND	ND	ND	ND

<b>Metals</b>														
Antimony	20	µg/L	NA	ND	ND	ND	7.63	5.49	ND	ND	5.06	3.01	ND	ND
Arsenic	8	µg/L	NA	ND	ND	ND	<b>10.8</b>	<b>16.4</b>	<b>55.1</b>	<b>10.2</b>	<b>10.5</b>	<b>17.0</b>	<b>25.2</b>	<b>13.1</b>
Barium	2000	µg/L	NA	46.2	51.2	17.6	373	419	1270	49.6	57.6	209	264	112
Beryllium	20	µg/L	NA	ND	ND	ND	1.16	1.34	4.74	1.27	1.06	4.19	4.35	1.28
Cadmium	4	µg/L	NA	ND	ND	0.6	<b>10.3</b>	<b>8.24</b>	<b>41.9</b>	1.33	2.32	ND	1.40	ND
Chromium	100	µg/L	NA	16.0	ND	ND	<b>132</b>	<b>149</b>	<b>557</b>	<b>186</b>	<b>148</b>	<b>192</b>	<b>102</b>	16.6
Copper	1000	µg/L	NA	24.0	13.9	ND	808	294	<b>1110</b>	28.5	39.7	238	129	104
Lead	10	µg/L	3.0	7.0	ND	ND	<b>111</b>	<b>165</b>	<b>612</b>	7.84	<b>14.3</b>	<b>114</b>	<b>68.4</b>	ND
Mercury	2	µg/L	NA	0.9	ND	ND	0.65	0.33	1.03	0.6	0.1	0.2	0.1	ND
Nickel	100	µg/L	NA	3.7	6.0	1.4	52.8	79.6	<b>221</b>	12.0	11.6	22.0	22.7	13.3
Selenium	50	µg/L	NA	ND	ND	3.7	5.04	5.57	20.2	ND	4.49	ND	ND	ND
Thallium	10	µg/L	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**  
 \*TICs - Tentatively identified compounds, cannot exceed 500 ppb for VOCs and SVOCs. No individual compound can exceed 100 ppb.  
 \*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)  
 Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold  
 ER - Estimated result  
 NA - Not analyzed  
 ND - Not detected  
 NLE- No limit established

**Table 5-5  
Groundwater Sampling Results  
Site 750 MW02 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	12	13	14	15	15	16	17	17	18	19	20	21
WELL ID			750MW02	750MW02	750MW02	750MW02	MW02 Duplicate	750MW02	750MW02	MW02 Duplicate	750MW02	750MW02	750MW02	750MW02
Date Collected			08/27/01	12/12/01	03/15/02	05/17/02	05/17/02	07/31/02	11/05/02	11/05/02	03/06/03	06/13/03	09/26/03	11/21/03
ANALYTE / Lab ID			16385.04	16646.04	20156.07	20304.07	20304.03	20492.07	20789.07	20789.03	30100.07	30287.07	30611.05	30752.02

**VOCs**

2-Butanone	300	µg/L	6.73	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	700	µg/L	9.97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl <i>tert</i> -butyl ether	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.27
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	10.60	24.62	24.86	ND	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Metals**

Antimony	20	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	8	µg/L	<b>8.53</b>	<b>8.99</b>	<b>19.3</b>	<b>27.1</b>	<b>30.9</b>	<b>13.0</b>	<b>15.1</b>	7.82	ND	ND	<b>8.34</b>	4.63 ER
Barium	2000	µg/L	44.6	139	94.8	48.2	45.8	364	389	368	188	126	302	59.1
Beryllium	20	µg/L	0.860	0.979	1.89	ND	ND	1.55	ND	ND	ND	0.207 ER	ND	0.049 ER
Cadmium	4	µg/L	0.993	1.74	2.07	0.959	1.08	<b>4.25</b>	1.96	1.67	3.31	<b>0.893 ER</b>	1.05 ER	1.23 ER
Chromium	100	µg/L	36.1	85.7	<b>103</b>	36.3	21.1	12.7	26.0	4.56	1.47 ER	12.8	2.20 ER	2.47 ER
Copper	1000	µg/L	31.7	43.4	56.1	49.8	26.3	17.6	16.1	10.6	13.4	6.03	7.74	2.80 ER
Lead	10	µg/L	<b>13.7</b>	<b>25.1</b>	<b>37.1</b>	5.41	6.78	<b>44.8</b>	9.25	<b>13.1</b>	7.60	4.23 ER	ND	ND
Mercury	2	µg/L	ND	ND	0.11	0.12	0.15	0.17	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	8.21	15.5	15.5	6.49	6.31	19.9	24.6	23.3	15.8	9.54	16.8	5.59
Selenium	50	µg/L	ND	ND	3.67	7.83	7.60	ND	5.09	ND	ND	5.27 ER	ND	ND
Thallium	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

NA - Not analyzed

ND - Not detected

NLE- No limit established

**Table 5-5  
Groundwater Sampling Results  
Site 750 MW02 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	22	23	24	25	26	27	28	29
WELL ID			750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02
Date Collected			02/04/04	05/12/04	08/23/04	11/01/04	01/13/05	04/15/05	07/07/05	11/01/05
ANALYTE / Lab ID			40099.02	40355.05	40618.02	40759.02	50023.05	50203.05	50339.05	50571.05
<b>VOCs</b>										
2-Butanone	300	µg/L	ND	ND	2.73	ND	ND	ND	ND	ND
Acetone	700	µg/L	ND	ND	8.49	ND	ND	ND	ND	ND
Methyl <i>tert</i> -butyl ether	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	29	ND	ND	ND	ND	10	ND	ND
<b>Metals</b>										
Antimony	20	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	8	µg/L	ND	ND	ND	6.00	<b>21.8</b>	5.37	ND	ND
Barium	2000	µg/L	166	184	39.7	67.7	441	75.3	49	86.4
Beryllium	20	µg/L	ND	ND	ND	0.50	4.83	0.697	ND	ND
Cadmium	4	µg/L	ND	2.20	ND	2.40	<b>5.43</b>	ND	ND	ND
Chromium	100	µg/L	9.36	38.8	6.86	50.6	551	77.6	ND	ND
Copper	1000	µg/L	20.2	19.4	21.4	26.0	106	15.0	16	12.3
Lead	10	µg/L	ND	<b>20.1</b>	6.18	7.00	<b>59.2</b>	ND	ND	ND
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	9.70	13.0	ND	ND	36.6	6.30	ND	ND
Selenium	50	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Thallium	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

NA - Not analyzed

ND - Not detected

NLE- No limit established

**Table 5-5  
Groundwater Sampling Results  
Site 750 MW02 (Jan06-Jul07)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	30	31	32	33	34	35	36	37
WELL ID			750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02
Date Collected			01/17/06	04/14/06	07/17/06	10/30/06	02/28/07	05/24/07	07/26/07	
ANALYTE / Lab ID			60032.05	60155.05	60320.05	60471.05	70077.05	70191.05	70282.05	
<b>VOCs</b>										
2-Butanone	300	µg/L	ND	ND	ND	ND	ND	ND	ND	NS
Acetone	6000	µg/L	ND	ND	ND	ND	ND	ND	ND	NS
Methyl <i>tert</i> -butyl ether	70	µg/L	0.66 J	ND	ND	0.47 J	ND	ND	ND	NS
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	NS
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	ND	NS
<b>Metals</b>										
Antimony	6	µg/L	ND	2.63 ER	<b>8.26 ER</b>	ND	ND	ND	ND	NS
Arsenic	3	µg/L	<b>12.6</b>	ND	<b>7.25</b>	<b>21.3</b>	ND	<b>3.82 ER</b>	ND	NS
Barium	2000	µg/L	647	13.4	197	275	264	207	13.0	NS
Beryllium	1	µg/L	<b>3.04</b>	0.356 ER	ND	0.346 ER	0.859	0.752	ND	NS
Cadmium	4	µg/L	<b>5.97</b>	0.378 ER	0.779 ER	<b>9.55</b>	2.94	2.30	1.17 ER	NS
Chromium	70	µg/L	8.59	31.3	3.46 ER	12.6	1.70 ER	1.05 ER	1.68 ER	NS
Copper	1300	µg/L	ND	36.5	30.8	11.2	22.7	17.9	3.90 ER	NS
Lead	5	µg/L	<b>45.0</b>	<b>7.09</b>	ND	ND	1.74 ER	2.05 ER	1.01 ER	NS
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	NS
Nickel	100	µg/L	21.4	5.21	23.0	57.0	40.6	32.7	0.726 ER	NS
Selenium	40	µg/L	ND	ND	ND	10.9 ER	8.91 ER	7.41 ER	ND	NS
Thallium	2	µg/L	ND	ND	ND	<b>5.70 ER</b>	ND	ND	ND	NS

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (November 7, 2005)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

NS - Not sampled



**Table 5-5  
Groundwater Sampling Results  
Site 750 MW02 (Jan08-Nov09)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	38	39	40	41	42	43	44	44	45
WELL ID			750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02	750MW02
Date Collected			01/02/08	04/30/08	08/12/08	10/31/08	03/31/09	05/22/09	08/28/09	09/24/09	11/03/09
ANALYTE / Lab ID			80001.05	80143.05	80292.05	80396.05	90135.05	90210.05	90361.05	90397.05	90434.05
<b>VOCs</b>											
2-Butanone	300	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
Acetone	6000	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
Methyl <i>tert</i> -butyl ether	70	µg/L	ND	ND	ND	0.51 J	0.26 J	ND	NA	ND	ND
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
<b>Metals</b>											
Antimony	6	µg/L	ND	ND	ND	<b>10.5</b>	1.82 ER	2.82 ER	ND	NA	ND
Arsenic	3	µg/L	ND	ND	ND	<b>18.2</b>	<b>8.63</b>	<b>8.11</b>	<b>11.4</b>	NA	<b>3.84 ER</b>
Barium	6000	µg/L	77.7	82.3	54.8	845	39.8	74.9	74.0	NA	67.8
Beryllium	1	µg/L	0.228 ER	0.228 ER	ND	<b>12.9</b>	ND	0.200 ER	0.192 ER	NA	0.620
Cadmium	4	µg/L	0.680 ER	0.671 ER	0.678 ER	<b>13.6</b>	ND	0.314 ER	<b>9.21</b>	NA	2.22
Chromium	70	µg/L	ND	1.88 ER	0.569 ER	<b>367</b>	5.31	2.04 ER	14.7	NA	<b>80.1</b>
Copper	1300	µg/L	9.31	60.1	1.44 ER	522	6.42	12.1	6.86	NA	17.3
Lead	5	µg/L	ND	ND	ND	<b>232</b>	2.03 ER	3.67 ER	ND	NA	<b>5.5</b>
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	NA	ND
Nickel	100	µg/L	11.7	11.4	6.09	<b>110</b>	3.16 ER	7.62	7.83	NA	10.9
Selenium	40	µg/L	ND	4.45 ER	ND	ND	26.8	ND	16.2	NA	ND
Thallium	2	µg/L	ND	ND	ND	ND	ND	1.54 ER	ND	NA	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

**Table 5-6  
Groundwater Sampling Results  
Site 750 MW03 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	1	2	3	4	5	6	6	7	8	9	10	11	
WELL ID			750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	MW03 Duplicate	750MW03	750MW03	750MW03	750MW03	750MW03
Date Collected			04/10/97	12/09/97	03/17/98	05/26/98	03/24/99	06/17/99	06/17/99	07/28/99	10/27/99	09/15/00	11/21/00	02/08/01	
ANALYTE / Lab ID			2445.03	3205.03	3415.05	3592.08	4369.08	4555.08	4555.10	4659.09	4889.09	5690.06	5872.08	669.05	
<b>VOCs</b>															
1,1,1-Trichloroethane	30	µg/L	6.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Acetone	700	µg/L	ND	ND	ND	ND	ND	ND	ND	5.15	ND	ND	ND	ND	
Benzene	1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Methyl <i>tert</i> -butyl ether	NLE	µg/L	ND	44.19	ND	ND	ND	ND	ND	ND	5.83	5.26	ND	ND	
Methylene chloride	3	µg/L	<b>3.39</b>	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
TICs*	500	µg/L	6	5	ND	5	ND	9	10	ND	ND	ND	ND	ND	
<b>Metals</b>															
Antimony	20	µg/L	NA	ND	ND	ND	4.12	ND	ND	ND	2.30	ND	ND	ND	
Arsenic	8	µg/L	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.28	
Barium	2000	µg/L	NA	47.0	27.9	44.1	88.2	30.5	31.2	33.5	27.7	28.7	30.1	40.1	
Beryllium	20	µg/L	NA	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Cadmium	4	µg/L	NA	ND	ND	ND	1.26	ND	ND	ND	ND	ND	ND	ND	
Chromium	100	µg/L	NA	12.0	ND	ND	19.4	26.8	23.7	16.3	9.44	17.6	13.1	20.6	
Copper	1000	µg/L	NA	14.0	10.3	5.2	103	ND	ND	8.05	10.7	ND	ND	9.88	
Lead	10	µg/L	2.1	7.0	ND	ND	<b>17.3</b>	ND	ND	ND	ND	1.24	ND	ND	
Mercury	2	µg/L	NA	0.7	ND	ND	ND	0.35	ND	ND	0.1	ND	ND	ND	
Nickel	100	µg/L	NA	3.4	3.3	4.6	4.42	<b>13900</b>	ND	2.51	1.65	ND	1.25	2.14	
Selenium	50	µg/L	NA	ND	ND	ND	4.24	ND	ND	ND	ND	ND	ND	ND	
Thallium	10	µg/L	NA	ND	ND	ND	ND	ND	5.37	ND	ND	ND	ND	ND	

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed

ND - Not detected

NLE- No limit established

**Table 5-6  
Groundwater Sampling Results  
Site 750 MW03 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	12	13	14	15	16	17	18	19	20	21	22	23	
WELL ID			750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03
Date Collected			08/27/01	12/12/01	03/15/02	5/17/2002	7/31/2002	11/05/02	03/06/03	06/13/03	09/26/03	11/21/03	02/04/04	05/12/04	
ANALYTE / Lab ID			16385.05	16646.05	20156.08	20304.08	20492.08	20789.08	30100.08	30287.08	30611.06	30752.03	40099.03	40355.06	

<b>VOCs</b>														
1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl <i>tert</i> -butyl ether	NLE	µg/L	ND	ND	ND	ND	ND	19.19	ND	46.33	16.48	32.60	2.14	7.28
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	3	ND	ND

<b>Metals</b>														
Antimony	20	µg/L	5.57	ND	ND	ND	ND	ND	12.6 ER	ND	ND	ND	ND	ND
Arsenic	8	µg/L	3.25	ND	ND	<b>22.7</b>	5.32	ND	4.53 ER	3.84 ER	<b>12.2</b>	6.94	<b>11.0</b>	ND
Barium	2000	µg/L	30.2	47.5	35.8	29.5	39.8	19.3	8.18	14.5	9.26	9.34	7.53	19.3
Beryllium	20	µg/L	ND	ND	ND	ND	ND	ND	ND	0.077 ER	ND	0.071	ND	ND
Cadmium	4	µg/L	ND	ND	ND	ND	ND	ND	0.708 ER	ND	ND	ND	ND	ND
Chromium	100	µg/L	14.4	8.5	3.58	10.2	5.02	16.5	5.84	46.8	39.0	34.3	19.7	42.9
Copper	1000	µg/L	10.3	4	6.31	17.4	4.08	ND	3.22 ER	1.77 ER	4.15 ER	1.03 ER	ND	ND
Lead	10	µg/L	4.54	3	1.71	ND	ND	ND	ND	ND	ND	ND	ND	7.88
Mercury	2	µg/L	ND	ND	ND	0.13	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	3.92	2	ND	ND	2.08	1.20	5.56	5.46	1.18 ER	1.69 ER	ND	ND
Selenium	50	µg/L	ND	ND	ND	7.64	ND	ND	ND	7.20 ER	10.9 ER	ND	ND	ND
Thallium	10	µg/L	3.70	ND	ND	ND	ND	ND	ND	ND	ND	2.00 ER	ND	ND

**Notes:**  
 \*TICs - Tentatively identified compounds, cannot exceed 500 ppb for VOCs and SVOCs. No individual compound can exceed 100 ppb.  
 \*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)  
 Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold  
 ER - Estimated result  
 J - Estimated concentration exceeds the MDL and is less than the RL  
 NA - Not analyzed  
 ND - Not detected  
 NLE- No limit established

**Table 5-6  
Groundwater Sampling Results  
Site 750 MW03 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	24	25	26	27	28	29
WELL ID			750MW03	750MW03	750MW03	750MW03	750MW03	750MW03
Date Collected			08/23/04	11/01/04	01/13/05	04/15/05	07/07/05	11/01/05
ANALYTE / Lab ID			40618.03	40759.03	50023.06	50203.06	50339.06	50571.06

**VOCs**

1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND
Acetone	700	µg/L	ND	ND	ND	ND	ND	ND
Benzene	1	µg/L	ND	ND	ND	ND	ND	0.23 J
Methyl <i>tert</i> -butyl ether	NLE	µg/L	42.25	12.84	1.24 J	4.46	ND	2.91
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	3	ND	ND	ND	ND	6

**Metals**

Antimony	20	µg/L	ND	ND	ND	ND	ND	ND
Arsenic	8	µg/L	6.12	ND	ND	<b>14.6</b>	<b>12</b>	ND
Barium	2000	µg/L	11.3	12.8	12.6	53.8	13	28.7
Beryllium	20	µg/L	ND	ND	ND	0.868	ND	ND
Cadmium	4	µg/L	ND	ND	ND	ND	ND	ND
Chromium	100	µg/L	27.2	13.9	21.4	<b>126</b>	28.4	ND
Copper	1000	µg/L	ND	ND	ND	13.6	ND	ND
Lead	10	µg/L	ND	ND	ND	<b>22.7</b>	ND	ND
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	ND	ND	ND	7.06	ND	ND
Selenium	50	µg/L	ND	ND	ND	ND	ND	ND
Thallium	10	µg/L	ND	ND	ND	ND	ND	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7-9-6 (January 7, 1993)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed

ND - Not detected

NLE- No limit established

**Table 5-6  
Groundwater Sampling Results  
Site 750 MW03 (Jan06-Jul07)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	30	31	32	32	33	34	35	36	37
WELL ID			750MW03	750MW03	750MW03	MW03 Duplicate	750MW03	750MW03	750MW03	750MW03	750MW03
Date Collected			01/17/06	04/14/06	07/17/06	07/17/06	10/30/06	02/28/07	05/24/07	07/26/07	
ANALYTE / Lab ID			60032.06	60155.06	60320.06	60320.03	60471.06	70077.06	70191.06	70282.06	
<b>VOCs</b>											
1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS
Acetone	6000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS
Benzene	1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS
Methyl <i>tert</i> -butyl ether	70	µg/L	1.25 J	ND	ND	ND	0.40 J	ND	ND	ND	NS
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS
<b>Metals</b>											
Antimony	6	µg/L	ND	ND	2.86 ER	4.78 ER	ND	ND	ND	ND	NS
Arsenic	3	µg/L	ND	<b>5.73</b>	<b>6.00</b>	ND	2.41 ER	ND	<b>8.51</b>	ND	NS
Barium	2000	µg/L	19.7	10.5	14.4	14.2	17.5	13.1	16.9	122	NS
Beryllium	1	µg/L	ND	ND	ND	ND	0.247 ER	ND	ND	0.467 ER	NS
Cadmium	4	µg/L	ND	ND	ND	ND	0.457 ER	ND	0.412 ER	1.42 ER	NS
Chromium	70	µg/L	31.8	44.1	19.4	19.2	14.6	14.9	27.9	0.942 ER	NS
Copper	1300	µg/L	ND	ND	3.71 ER	3.78 ER	ND	2.36 ER	12.3	7.60	NS
Lead	5	µg/L	ND	ND	ND	ND	ND	ND	ND	0.712 ER	NS
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS
Nickel	100	µg/L	ND	ND	ND	ND	1.21 ER	ND	0.743 ER	20.3	NS
Selenium	40	µg/L	ND	ND	ND	ND	11.9 ER	8.76 ER	7.78 ER	5.60 ER	NS
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	NS

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (November 7, 2005)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

NS - Not sampled

**Table 5-6  
Groundwater Sampling Results  
Site 750 MW03 (Jan08-Nov09)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	38	39	40	41	42	43	44	44	45
WELL ID			750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03	750MW03
Date Collected			01/02/08	04/30/08	08/12/08	10/31/08	03/31/09	05/22/09	08/28/09	09/24/09	11/03/09
ANALYTE / Lab ID			80001.06	80143.06	80292.06	80396.06	90135.06	90210.06	90361.06	90397.06	90434.06
<b>VOCs</b>											
1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
Acetone	6000	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
Benzene	1	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
Methyl <i>tert</i> -butyl ether	70	µg/L	ND	ND	ND	0.31 J	ND	ND	NA	ND	ND
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND
<b>Metals</b>											
Antimony	6	µg/L	ND	ND	ND	ND	<b>21.1</b>	1.43 ER	<b>7.72 ER</b>	NA	5.68 ER
Arsenic	3	µg/L	ND	<b>4.26 ER</b>	<b>6.54</b>	<b>3.71 ER</b>	<b>73.0</b>	<b>18.8</b>	<b>25.7</b>	NA	1.99
Barium	6000	µg/L	18.6	11.4	6.21	8.88	16.7	15.5	19.5	NA	11.4
	1	µg/L	ND	ND	ND	ND	ND	ND	ND	NA	ND
Cadmium	4	µg/L	0.403 ER	ND	ND	0.333 ER	ND	ND	ND	NA	ND
Chromium	70	µg/L	3.22 ER	38.5	32.6	20.0	9.83	38.2	5.16	NA	8.55
Copper	1300	µg/L	3.08 ER	2.60 ER	0.978 ER	1.53 ER	19.7	5.49	1.29 ER	NA	2.03 ER
Lead	5	µg/L	ND	ND	ND	ND	<b>6.68</b>	ND	ND	NA	ND
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	NA	ND
Nickel	100	µg/L	1.22 ER	2.04 ER	ND	2.12 ER	ND	2.05 ER	2.06 ER	NA	1.20 ER
Selenium	40	µg/L	4.55 ER	7.32 ER	4.43 ER	7.82 ER	<b>99.3</b>	6.10 ER	<b>74.4</b>	NA	14.0 ER
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	NA	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

**Table 5-7  
Groundwater Sampling Results  
Site 750 MW04 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	1	2	3	4	4	5	6	7	8	9	10	11	
WELL ID			750MW04	750MW04	750MW04	750MW04	MW04 Duplicate	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04
Date Collected			04/10/97	12/09/97	03/17/98	05/26/98	05/26/98	05/28/98	03/24/99	06/17/99	07/28/99	10/27/99	09/15/00	11/21/00	
ANALYTE / Lab ID			2445.04	3205.04	3415.06	3592.09	3592.10	3599.01	4369.09	4555.09	4659.10	4889.10	5690.07	5872.09	

<b>VOCs</b>														
1,1,1-Trichloroethane	30	µg/L	7.31	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Acetone	700	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	4.25	ND	ND	ND
Benzene	1	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Chloroform	6	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	NLE	µg/L	ND	50.94	10.76	3.66	3.09	NA	3.65	1.95	1.76	2.96	ND	ND
Methylene chloride	3	µg/L	<b>3.36</b>	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Toluene	1000	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
<i>m+p</i> -Xylenes	NLE	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
<i>o</i> -Xylene	NLE	µg/L	ND	ND	ND	ND	ND	NA	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	40	10	ND	9	ND	NA	ND	ND	ND	ND	ND	ND

<b>Metals</b>														
Antimony	20	µg/L	NA	ND	ND	NA	3.3	ND	2.26	ND	ND	ND	ND	4.27
Arsenic	8	µg/L	NA	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Barium	2000	µg/L	NA	75.6	30.7	NA	20.2	19.4	53.1	38.2	51.1	39.3	47.8	47.5
Beryllium	20	µg/L	NA	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	4	µg/L	NA	ND	ND	NA	ND	ND	1.27	ND	ND	ND	ND	0.641
Chromium	100	µg/L	NA	8.8	ND	NA	10.2	1.9	10.4	12.0	11.5	9.77	ND	14.4
Copper	1000	µg/L	NA	14.0	7.1	NA	ND	ND	ND	ND	6.28	10.0	ND	ND
Lead	10	µg/L	3.1	9.0	ND	NA	ND	ND	ND	ND	2.33	ND	ND	5.58
Mercury	2	µg/L	NA	0.9	ND	NA	<b>5.0</b>	ND	ND	0.13	ND	0.2	0.1	ND
Nickel	100	µg/L	NA	5.4	1.8	NA	1.7	1.0	1.53	2.65	2.19	2.75	ND	2.32
Selenium	50	µg/L	NA	ND	ND	NA	4.8	ND	ND	ND	ND	5.25	4.61	ND
Thallium	10	µg/L	NA	ND	ND	NA	ND	ND	ND	ND	ND	ND	ND	8.71

**Notes:**  
 \*TICs - Tentatively identified compounds, cannot exceed 500 ppb for  
 VOCs and SVOCs. No individual compound can exceed 100 ppb.  
 \*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)  
 Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold  
 ER - Estimated result  
 J - Estimated concentration exceeds the MDL and is less than the RL  
 NA - Not analyzed  
 ND - Not detected  
 NLE - No limit established  
 Total Xylenes - Σ of o-Xylene and m+p-Xylenes

**Table 5-7  
Groundwater Sampling Results  
Site 750 MW04 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	12	13	14	15	16	17	18	19	20	21	22	23	
WELL ID			750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04
Date Collected			02/08/01	08/27/01	12/12/01	03/15/02	05/17/02	07/31/02	11/05/02	03/06/03	06/13/03	09/26/03	11/21/03	02/04/04	
ANALYTE / Lab ID			670.06	16385.06	16646.06	20156.09	20304.09	20492.09	20789.09	30100.09	30287.09	30611.07	30752.04	40099.04	

<b>VOCs</b>														
1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	<b>1.08 J</b>	0.47 J	ND
Chloroform	6	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.83 J	ND
Ethylbenzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Methyl tert-butyl ether	NLE	µg/L	ND	ND	ND	ND	ND	ND	57.74	11.65	159.47	96.05	52.95	20.99
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m+p-Xylenes	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
o-Xylene	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (Total)	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	25	6	ND

<b>Metals</b>														
Antimony	20	µg/L	2.60	3.37	ND	2.28	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	8	µg/L	4.90	ND	3.79	2.48	<b>26.0</b>	5.37	ND	ND	ND	3.36 ER	4.63 ER	<b>12.0</b>
Barium	2000	µg/L	48.3	48.3	95.3	75.2	32.0	42.1	34.2	35.8	12.3	17.7	23.1	9.8
Beryllium	20	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	0.066 ER	ND	0.058 ER	ND
Cadmium	4	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	100	µg/L	6.78	8.45	15.9	20.1	12.0	4.13	17.8	17.6	40.3	21.2	9.53	22.6
Copper	1000	µg/L	ND	9.14	6.18	9.94	8.24	10.8	ND	3.51 ER	1.22 ER	3.73 ER	0.500 ER	ND
Lead	10	µg/L	ND	2.92	ND	3.07	ND	ND	ND	ND	ND	ND	ND	ND
Mercury	2	µg/L	ND	ND	ND	ND	0.12	ND	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	1.18	2.96	1.49	1.41	ND	ND	2.84	2.53 ER	39.6	ND	ND	ND
Selenium	50	µg/L	ND	ND	ND	ND	14.2	5.33	6.97	9.79 ER	7.78 ER	9.55 ER	ND	ND
Thallium	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**  
 \*TICs - Tentatively identified compounds, cannot exceed 500 ppb for  
 VOCs and SVOCs. No individual compound can exceed 100 ppb.  
 \*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)  
 Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold  
 ER - Estimated result  
 J - Estimated concentration exceeds the MDL and is less than the RL  
 NA - Not analyzed  
 ND - Not detected  
 NLE - No limit established  
 Total Xylenes - Σ of o-Xylene and m+p-Xylenes



**Table 5-7  
Groundwater Sampling Results  
Site 750 MW04 (Apr97-Nov05)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	24	25	26	27	28	29	29	30
WELL ID			750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	MW04 Duplicate	750MW04
Date Collected			05/12/04	08/23/04	11/01/04	01/13/05	04/15/05	07/07/05	07/07/05	11/01/05
ANALYTE / Lab ID			40355.07	40618.04	40759.04	50023.07	50203.07	50339.07	50339.03	50571.07
<b>VOCs</b>										
1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	1	µg/L	ND	ND	ND	ND	<b>1.51 J</b>	ND	ND	ND
Chloroform	6	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	700	µg/L	ND	ND	ND	ND	0.65 J	ND	ND	ND
Methyl <i>tert</i> -butyl ether	NLE	µg/L	12.86	5.06	12.97	23.44	86.94	1.83 J	ND	0.62 J
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	100	µg/L	ND	ND	ND	ND	0.53 J	ND	ND	ND
Toluene	1000	µg/L	ND	ND	ND	ND	1.90 J	ND	ND	ND
<i>m+p</i> -Xylenes	NLE	µg/L	ND	ND	ND	ND	2.49 J	ND	ND	ND
<i>o</i> -Xylene	NLE	µg/L	ND	ND	ND	ND	11.14	ND	ND	ND
Xylenes (Total)	1000	µg/L	ND	ND	ND	ND	13.63	ND	ND	ND
TICs*	500	µg/L	ND	ND	ND	ND	114	ND	16	5
<b>Metals</b>										
Antimony	20	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Arsenic	8	µg/L	ND	<b>8.42</b>	5.30	ND	<b>16.1</b>	ND	ND	ND
Barium	2000	µg/L	37.0	5.86	7.82	13.0	83.6	27.1	28.6	24.9
Beryllium	20	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Cadmium	4	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Chromium	100	µg/L	34.0	29.5	17.3	13.1	91.4	18.4	19.2	ND
Copper	1000	µg/L	ND	ND	5.08	ND	20.1	6	7	7.31
Lead	10	µg/L	5.96	ND	ND	ND	<b>33.4</b>	ND	ND	ND
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND
Nickel	100	µg/L	ND	ND	ND	ND	7.20	ND	ND	ND
Selenium	50	µg/L	22.2	ND	ND	ND	ND	ND	ND	ND
Thallium	10	µg/L	ND	ND	ND	ND	ND	ND	ND	ND

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (January 7, 1993)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

NA - Not analyzed

ND - Not detected

NLE - No limit established

Total Xylenes - Σ of *o*-Xylene and *m+p*-Xylenes

**Table 5-7  
Groundwater Sampling Results  
Site 750 MW04 (Jan06-Jul07)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	31	31	32	33	34	34	35	36	37	38
WELL ID			750MW04	MW04 Duplicate	750MW04	750MW04	750MW04	MW04 Duplicate	750MW04	750MW04	750MW04	750MW04
Date Collected			01/17/06	01/17/06	04/14/06	07/17/06	10/30/06	10/30/06	02/28/07	05/24/07	07/26/07	
ANALYTE / Lab ID			60032.07	60032.03	60155.07	60320.07	60471.07	60471.03	70077.07	70191.07	70282.07	
<b>VOCs</b>												
1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Acetone	6000	µg/L	ND	ND	ND	ND	ND	0.62 J	ND	ND	ND	NS
Benzene	1	µg/L	0.35 J	0.34 J	ND	ND	ND	ND	ND	ND	ND	NS
Chloroform	70	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Ethylbenzene	700	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Methyl <i>tert</i> -butyl ether	70	µg/L	6.20	5.94	ND	ND	0.17	0.18	ND	ND	ND	NS
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Toluene	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
<i>m+p</i> -Xylenes	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
<i>o</i> -Xylene	NLE	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Xylenes (Total)	1000	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	ND	17	ND	NS
<b>Metals</b>												
Antimony	6	µg/L	ND	ND	3.03 ER	5.75 ER	ND	ND	ND	ND	ND	NS
Arsenic	3	µg/L	ND	ND	ND	2.06 ER	ND	ND	ND	<b>5.74</b>	ND	NS
Barium	2000	µg/L	38.8	39.7	27.3	28.1	23.0	24.3	25.9	24.0	24.6	NS
Beryllium	1	µg/L	ND	ND	ND	ND	0.241 ER	0.201 ER	ND	ND	ND	NS
Cadmium	4	µg/L	ND	ND	ND	ND	0.515 ER	ND	ND	ND	ND	NS
Chromium	70	µg/L	ND	ND	24.9	13.7	4.98 ER	5.30	11.1	9.86	17.7	NS
Copper	1300	µg/L	ND	ND	124	7.53	3.06 ER	3.12 ER	6.10	3.02 ER	6.43	NS
Lead	5	µg/L	ND	ND	<b>14.4</b>	ND	ND	ND	ND	ND	ND	NS
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS
Nickel	100	µg/L	ND	ND	ND	ND	1.38 ER	ND	4.96 ER	ND	ND	NS
Selenium	40	µg/L	ND	ND	ND	ND	13.2 ER	9.44 ER	9.95 ER	11.5	10.7	NS
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	NS

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (November 7, 2005)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

NS - Not sampled

Total Xylenes -  $\Sigma$  of *o*-Xylene and *m+p*-Xylenes

**Table 5-7  
Groundwater Sampling Results  
Site 750 MW04 (Jan08-Nov09)  
Fort Monmouth, New Jersey**

Round No.	** NJDEP Criteria	Units	39	40	41	42	43	44	44	45	46	
WELL ID			750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04	750MW04
Date Collected			01/02/08	04/30/08	08/12/08	10/31/08	03/31/09	05/22/09	08/28/09	09/24/09	11/03/09	
ANALYTE / Lab ID			80001.07	80143.07	80292.07	80396.07	90135.07	90210.07	90361.07	90397.07	90434.07	
<b>VOCs</b>												
1,1,1-Trichloroethane	30	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Acetone	6000	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Benzene	1	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Chloroform	70	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Ethylbenzene	700	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Methyl <i>tert</i> -butyl ether	70	µg/L	ND	0.41 J	ND	1.46 J	ND	ND	NA	ND	ND	
Methylene chloride	3	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Styrene	100	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Toluene	600	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
<i>m+p</i> -Xylenes	NLE	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
<i>o</i> -Xylene	NLE	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
Xylenes (Total)	1000	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
TICs*	500	µg/L	ND	ND	ND	ND	ND	ND	NA	ND	ND	
<b>Metals</b>												
	6	µg/L	ND	ND	ND	ND	<b>16.8</b>	ND	<b>6.94 ER</b>	NA	ND	
Arsenic	3	µg/L	ND	ND	<b>5.23</b>	ND	<b>79.3</b>	<b>22.4</b>	<b>28.0</b>	NA	1.31	
Barium	6000	µg/L	24.6	22.0	17.7	28.8	31.9	28.3	20.9	NA	21.0	
Cadmium	4	µg/L	0.337 ER	ND	ND	0.418 ER	ND	ND	ND	NA	ND	
Chromium	70	µg/L	4.23 ER	9.59	19.9	3.93 ER	2.73 ER	9.17	10.2	NA	6.38	
Copper	1300	µg/L	9.01	4.64 ER	1.45 ER	2.43 ER	6.32	6.02	1.39 ER	NA	1.22 ER	
Lead	5	µg/L	ND	ND	ND	ND	ND	1.93 ER	ND	NA	ND	
Mercury	2	µg/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	
Nickel	100	µg/L	6.55	2.17 ER	ND	0.864 ER	ND	0.897 ER	ND	NA	1.46 ER	
Selenium	40	µg/L	4.16 ER	10.5	6.55 ER	7.04 ER	<b>89.6</b>	8.84 ER	<b>63.7</b>	NA	21.1	
Thallium	2	µg/L	ND	ND	ND	ND	ND	ND	ND	NA	ND	

**Notes:**

\*TICs - Tentatively identified compounds, cannot exceed 500 ppb for

VOCs and SVOCs. No individual compound can exceed 100 ppb.

\*\*NJDEP Groundwater quality criteria as per N.J.A.C. 7:9-6 (July 27, 2007)

Exceedances of NJDEP Groundwater Quality Criteria are shaded and bold

ER - Estimated result

J - Estimated concentration exceeds the MDL and is less than the RL

ND - Not detected

NLE - No limit established

Total Xylenes - Σ of *o*-Xylene and *m+p*-Xylenes

ENCLOSURE 4 of Attachment E

11/03/09 Analytical Data Package for Groundwater

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING



## ANALYTICAL DATA REPORT FOR

Excerpts for 750MW01, 750MW02,  
750MW03, and 750MW04 only

Directorate of Public Works  
Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

### SAMPLE LOCATION AND IDENTIFICATION

SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9043404	750MW01**	29-28992	11/03/09
9043405	750MW02	29-28993	11/03/09
9043406	750MW03	29-28994	11/03/09
9043407	750MW04	29-28995	11/03/09
9043408	750MW01A***	-----	11/03/09
9043409	750MW02A*	-----	11/03/09
9043410	750MW03A*	-----	11/03/09
9043411	750MW04A*	-----	11/03/09

\*New Wells Round I

\*\*Duplicate Sample for VOA and TAL Metals is 9043404.

\*\*\* Duplicate Sample for BN is 9043408.

NJDEP Laboratory Certification # 13461

  
Dean Tardiff/Date: 11/20/10  
Laboratory Manager

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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

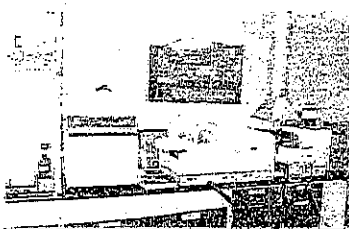
Deanturd 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**





# 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

200000

Customer: <b>JOE FALLON</b>		Project No:		Analysis Parameters							Comments:	
Phone #: <b>732-532-6223</b>		Location: <b>4TH QUARTER</b>		VOATIS	METALS	BNTIS						
( )DERA ( )OMA ( )Other: _____		<b>MONITOR WELL SAMPLING</b>										
Samplers Name / Company: <b>WALTER FUNK / TVS</b>				Sample #								Remarks / Preservation Method
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles							
<b>90494.01</b>	<b>750 TRIP BLANK</b>	<b>11-3-09</b>	<b>9:00</b>	<b>AQ</b>	<b>2</b>	X						
<b>.02</b>	<b>750 FIELD BLANK</b>	<b>11-3-09</b>	<b>12:20</b>	<b>AQ</b>	<b>4</b>	X	X	X				
<b>.03</b>	<b>750 DUP.</b>	<b>11-3-09</b>	<b>---</b>	<b>AQ</b>	<b>3</b>	X	X	X				
<b>.04</b>	<b>750 MW#01</b>	<b>11-3-09</b>	<b>15:30</b>	<b>AQ</b>	<b>3</b>	X	X					<b>29-28992</b>
<b>.05</b>	<b>750 MW#02</b>	<b>11-3-09</b>	<b>15:00</b>	<b>AQ</b>	<b>3</b>	X	X					<b>29-28993</b>
<b>.06</b>	<b>750 MW#03</b>	<b>11-3-09</b>	<b>15:10</b>	<b>AQ</b>	<b>3</b>	X	X					<b>29-28994</b>
<b>.07</b>	<b>750 MW#04</b>	<b>11-3-09</b>	<b>15:20</b>	<b>AQ</b>	<b>3</b>	X	X					<b>29-28995</b>
<b>.08</b>	<b>750 MW#01A</b>	<b>11-3-09</b>	<b>12:30</b>	<b>AQ</b>	<b>4</b>	X		X				
<b>.09</b>	<b>750 MW#02A</b>	<b>11-3-09</b>	<b>12:50</b>	<b>AQ</b>	<b>3</b>	X		X				
<b>.10</b>	<b>750 MW#03A</b>	<b>11-3-09</b>	<b>13:00</b>	<b>AQ</b>	<b>3</b>	X		X				
<b>.11</b>	<b>750 MW#04A</b>	<b>11-3-09</b>	<b>13:20</b>	<b>AQ</b>	<b>3</b>	X		X				
<b>.12</b>	<b>750 MW#01ADUP</b>	<b>11-3-09</b>	<b>12:30</b>	<b>AQ</b>	<b>1</b>			X				
Relinquished by (signature): <i>Walter Funk</i>		Date/Time: <b>11/03/09 15:55</b>	Received by (signature): <i>[Signature]</i>		Relinquished by (signature):		Date/Time:	Received by (signature):				
Relinquished by (signature):		Date/Time:	Received by (signature):		Relinquished by (signature):		Date/Time:	Received by (signature):				
Report Type: <input type="radio"/> Full, <input type="radio"/> Reduced, <input checked="" type="radio"/> Standard, <input type="radio"/> Screen / non-certified, <input type="radio"/> EDD					Comments:							
Turnaround time: <input checked="" type="radio"/> Standard 3 wks, <input type="radio"/> Rush Wk., <input type="radio"/> ASAP Verbal _____ Hrs.												

## SAMPLE RECEIPT FORM

Date Received: 11-11-09

Work Order ID#: 90434

Site/Proj. Name: 750 / LTRM / 144 QTR-09

Cooler Temp (°C): 3.0a

Received By: J. Veriquia  
(Print name)

Sign: [Signature]

**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
<u>90434/1-11</u>	<u>N/A</u>	<u>HCL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# 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

000004

<b>Customer: Jacqueline Hamer</b>				Project No:		Analysis Parameters						Comments:	
Phone #: (732)532-4359				Location: 750		BN+IS							
( ) DERA ( ) OMA ( ) Other: _____													
Samplers Name / Company:				Sample #									
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles							Remarks / Preservation Method	
9043402	Field Blank	11/3/2009	12:20	AQ	1	X							
9043408	750MW01A	11/3/2009	12:30	AQ	1	X							
9043408DUP.	750MW01A	11/3/2009	12:30	AQ	1	X							
9043409	750MW02A	11/3/2009	12:50	AQ	1	X							
9043410	750MW03A	11/3/2009	13:00	AQ	1	X							
9043411	750MW04A	11/3/2009	13:20	AQ	1	X							
Relinquished by (signature): <i>[Signature]</i>	Date/Time: 11-4-09 1440	Received by (signature): <i>[Signature]</i>	Relinquished by (signature):	Date/Time:	Received by (signature):								
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):								
Report Type: <input type="checkbox"/> Full, <input type="checkbox"/> Reduced, <input checked="" type="checkbox"/> Standard, <input type="checkbox"/> Screen / non-certified, <input type="checkbox"/> EDD						Comments: DK9/2009-389 (PO C09-20650)							
Turnaround time: <input checked="" type="checkbox"/> Standard 3 wks, <input type="checkbox"/> Rush Wk., <input type="checkbox"/> ASAP Verbal ___ Hrs.													

*No Seal*

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750

MW #:01

NJDEP ID # 29-28992

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/03/09

WEATHER: Sunny and cool.

TIDE: N/A

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

TDOW-13.41

**Initial Readings:**

Elevation of Casing Survey Mark:

5.73 ft

Depth of Well:

13.41 ft

Height of Water in Well:

7.68 ft

PID/FID Reading:

0.00 ppm

Gallons of Water to be Purged:

15 Gal.

Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = 14.97

Purge Method: Peristaltic Pump/Other (Specify)

Purge Rate: Not to Exceed Well Draw Down of 0.5'                      15/65      Gal/Min.

**Purge Data:**

Start Time of Purging: 14:10

End Time of Purging: 15:15

	Initial Value	Pre-Sample	Post-Sample
pH:	5.84 su	6.52 su	5.22 su
Temperature:	20.60 ( °C)	20.46 ( °C)	20.46 ( °C)
Specific Conductivity:	3084 us/cm	3020 us/cm	2959 us/cm
ORP:	5 mv	-41 mv	-78 mv
DO:	2.65 mg/L	1.86 mg/L	2.02 mg/L
Depth to Water Post Purge:	9.36 ft		
Depth to Water Post Sampling:	9.44 ft		
Sampling Start Time:	15:30		
Sampling End Time:	15:35		

Comments: DUP. here.

000005

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750 MW #:02 NJDEP ID # 29-28993 NJDEP CERT. # 13461 SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES SAMPLER: WALTER FUNK DATE: 11/03/09 WEATHER: Sunny and cool. TIDE: N/A	Sampling Conducted in Accordance with TVS SOP SAM-0205
--	--

<b>Initial Readings:</b>	TDOW-11.55
Elevation of Casing Survey Mark:	5.98 ft
Depth of Well:	11.55 ft
Height of Water in Well:	5.57 ft
PID/FID Reading:	0.00 ppm
Gallons of Water to be Purged:	11 Gal.
Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 =	10.86
Purge Method: Peristaltic Pump/Other (Specify)	
Purge Rate: Not to Exceed Well Draw Down of 0.5'	11/48 Gal/Min.

**Purge Data:**  
 Start Time of Purging: 14:03  
 End Time of Purging: 14:58

	Initial Value	Pre-Sample	Post-Sample
pH:	5.89 su	5.71 su	5.62 su
Temperature:	20.39 ( °C)	21.16 ( °C)	20.91 ( °C)
Specific Conductivity:	7184 us/cm	7717 us/cm	7416 us/cm
ORP:	34 mv	16 mv	12 mv
DO:	2.44 mg/L	2.21 mg/L	2.06 mg/L
Depth to Water Post Purge:	10.16 ft		
Depth to Water Post Sampling:	10.28 ft		
Sampling Start Time:	15:00		
Sampling End Time:	15:04		

<b>Comments:</b>

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750

MW #:03

NJDEP ID # 29-28994

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/03/09

WEATHER: Sunny and cool.

TIDE: N/A

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

TDOW-17.28

**Initial Readings:**

Elevation of Casing Survey Mark:

9.96 ft

Depth of Well:

17.28 ft

Height of Water in Well:

7.32 ft

PID/FID Reading:

0.00 ppm

Gallons of Water to be Purged:

15 Gal.

Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = 14.27

Purge Method: Peristaltic Pump/Other (Specify)

Purge Rate: Not to Exceed Well Draw Down of 0.5'                      15/65      Gal/Min.

**Purge Data:**

Start Time of Purging: 14:00

End Time of Purging: 15:05

	Initial Value	Pre-Sample	Post-Sample
pH:	6.68 su	6.88 su	7.28 su
Temperature:	16.60 ( °C)	16.33 ( °C)	16.43 ( °C)
Specific Conductivity:	5217 us/cm	5108 us/cm	5161 us/cm
ORP:	21 mv	-40 mv	-59 mv
DO:	1.70 mg/L	1.08 mg/L	1.05 mg/L
Depth to Water Post Purge:	10.03 ft		
Depth to Water Post Sampling:	10.06 ft		
Sampling Start Time:	15:10		
Sampling End Time:	15:15		

Comments:


000007

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750

MW #:04

NJDEP ID # 29-28995

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/03/09

WEATHER: Sunny and cool.

TIDE: N/A

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

TDOW-18.21

**Initial Readings:**

Elevation of Casing Survey Mark:

9.73 ft

Depth of Well:

18.21 ft

Height of Water in Well:

8.48 ft

PID/FID Reading:

0.00 ppm

Gallons of Water to be Purged:

17 Gal.

Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 =

16.53

Purge Method: Peristaltic Pump/Other (Specify)

Purge Rate: Not to Exceed Well Draw Down of 0.5'

17/74 Gal/Min.

**Purge Data:**

Start Time of Purging: 13:54

End Time of Purging: 15:08

	Initial Value	Pre-Sample	Post-Sample
pH:	6.39 su	7.28 su	7.27 su
Temperature:	16.55 ( °C)	16.17 ( °C)	16.11 ( °C)
Specific Conductivity:	4839 us/cm	5104 us/cm	5067 us/cm
ORP:	25 mv	-45 mv	-65 mv
DO:	1.76 mg/L	1.19 mg/L	1.12 mg/L
Depth to Water Post Purge:	9.82 ft		
Depth to Water Post Sampling:	9.86 ft		
Sampling Start Time:	15:20		
Sampling End Time:	15:25		

Comments:


000008

**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)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DFTPP Meet Criteria	<u>NA</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
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).	<u>No</u>
a. VOA Fraction: <u>Several compounds have high recoveries, see summary form.</u>	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	

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

Indicate  
Yes, No, N/A

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

Yes

a. VOA Fraction \_\_\_\_\_  
b. B/N Fraction NA  
c. Acid Fraction NA

11. Extraction Holding Time Met

NA

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: Scantaraig Date: 1/20/10

000015



**ACCUTEST**  
Laboratories

2

**CASE NARRATIVE / CONFORMANCE SUMMARY**

Client: Fort Monmouth Environmental Testing Lab.

Job No JA33317

Site: 750

Report Date 12/6/2009 6:26:47 PM

On 11/18/2009, 5 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.5 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA33317 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: OP41049
-----------	-------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS, JA33267-2MSD were used as the QC samples indicated.
- ☐ Blank Spike Recovery(s) for Atrazine are outside control limits.
- ☐ Matrix Spike Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Matrix Spike Duplicate Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Sample(s) OP41049-MSD have surrogates outside control limits. Probable cause due to matrix interference.

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

Matrix AQ	Batch ID: OP41049A
-----------	--------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS 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

**METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT**

Lab ID: 90434

Indicate  
Yes, No, N/A

1. Initial and Continuing Calibration Verifications Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

2. ICP Interference Check Sample Results Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

3. Serial Dilutions Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

4. Laboratory Control Samples Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

5. Preparation, Method and Calibration Blank Contamination No  
If yes, list compounds and concentrations in each blank

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Spike Sample Recoveries Meet Criteria Yes  
9043103: AI = 55.9%

\_\_\_\_\_

7. Duplicates Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

8. Analysis Holding Time Met Yes  
If not met, list number of days exceeded for each sample

\_\_\_\_\_  
\_\_\_\_\_

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Dean Tardiff Date: 1/20/10

**000017**

# **METHOD SUMMARY**

000018

## Method Summary

### **EPA Method 624 – Aqueous Gas Chromatographic Determination of Volatiles in Water**

A 5 ml volume of sample is added to 5 ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 3510/8270 Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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.

### **EPA SW-846 Method 3115B, 3<sup>rd</sup> Edition base manual with final Updates I, II, IIA, IIB and III: Digestion of TAL Metals**

Milestone MLS 1200 MEGA

A representative sample of 45ml is digested in 4 ml of concentrated nitric acid and 1 ml concentrated hydrochloric acid for 10 minutes heating with a suitable laboratory microwave unit. The sample and acid are placed in a fluorocarbon (TFM) microvessel. This vessel is capped and heated in the microwave unit. After cooling the vessel contents are filtered and then diluted to a 50 ml volume and analyzed by ICP.

### **Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition, Method 3120B: ICP TAL Metals**

Perkin Elmer OPTIMA 3000 DV

The method measures element-emitted light by optical spectrometry. Samples are nebulized and the resulting aerosol is transported to the plasma torch. Radio-frequency inductively coupled plasma produces element-specific atomic-line emission spectra. The spectra are dispersed by a grating spectrometer and a Segmented-array Charged-coupled-device Detector (SCD) monitors the intensities of the lines. Background and interelemental correction is used for trace element determinations.

### **EPA SW-846 Method 7470A, 3<sup>rd</sup> Edition Base Manual with Final Updates I, II, IIA, IIB and III: Mercury**

Varian SpectrAA-640, VGA-77

The flameless AA procedure is a physical method based on the absorption of radiation at 253.7 nm by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrometer. Absorbency (peak height) is measured as a function of mercury concentration and recorded in the usual manner.

000019

# **LABORATORY CHRONICLE**

000020

# Laboratory Chronicle

Lab ID: 90447

Site: 750 LTM

	<b>Date</b>	<b>Hold Time</b>
<b>Date Sampled</b>	11/03/09	NA
<b>Receipt/Refrigeration</b>	11/03/09	NA

## Analyses

1. Volatiles	11/14,15/09	14 Days
2. Base Neutral	11/11,17/09	7 Days
3. TAL Metals	11/10/09	6 Months
4. Arsenic	11/17/09	6 Months
5. Mercury	11/13/09	28 Days
6. Thallium	11/16/09	6 Months

000021



# **VOLATILE ORGANICS**

**000022**

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.

000023

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

Data File VA4841.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 7:26 pm

Sample Name MB11040902  
 Field ID METHOD 624 11/04/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*		Qualifiers
					MDL	RL	
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11040902**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: MB11040902  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4841.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4843.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 8:28 pm

Sample Name 9043401  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

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

J = Estimated concentration, value falls between R.L. and M.D.L.

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 TRIP BLANK**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043401  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4843.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4844.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 8:59 pm

Sample Name 9043402  
 Field ID 750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 FIELD BLANK**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043402  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4844.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4845.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 9:30 pm

Sample Name 9043403  
 Field ID 750 DUP  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethane			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 DUP

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043403  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4845.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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.	Alkane: Branched	10.48	4	J
2.	1H-Indene-dihydro-dimethyl-	23.87	4	J

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

Data File VA4846.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 10:01 pm

Sample Name 9043404  
 Field ID 750 MW#01  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrofein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#01

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043404  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4846.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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.	Alkane: Branched	10.47	3	J
2.	1H-Indene-dihydro-dimethyl-	23.87	4	J

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

Data File VA4847.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 10:32 pm

Sample Name 9043405  
 Field ID 750 MW#02  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*			Qualifiers
					MDL	RL		
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#02

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043405  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4847.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      **VA4848.D**  
 Operator       **ROBERTS**  
 Date Acquired   **4 Nov 2009 11:03 pm**

Sample Name     **9043406**  
 Field ID        **750 MW#03**  
 Sample Multiplier   **1**

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#03

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043406  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4848.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      VA4849.D  
 Operator        ROBERTS  
 Date Acquired   4 Nov 2009 11:35 pm

Sample Name     9043407  
 Field ID        750 MW#04  
 Sample Multiplier   1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#04

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043407  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4849.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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# **TAL METALS**

**000226**

**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

Lab ID #: 90434  
 Sample Prepared: 11/06/09  
 Sample Matrix: Aqueous

Site: 750 Wells

Field ID#: Method Blank

Method of Analysis: Std. Methods 18th, Method 3120B, 3113B & 3112B  
 EPA Method 279.2

**TAL-METALS RESULTS SUMMARY (ug/L)**

Element	Date of Analysis	Result (ug/L)	Regulatory Level (ug/L)*	R.L. (ug/L)	MDL (ug/L)
Aluminum	11/10/09	ND	200	100	7.60
Antimony	11/10/09	ND	6	10.00	4.80
Arsenic	11/17/09	ND	3	5.00	2.40
Barium	11/10/09	ND	2000	5.00	1.00
Beryllium	11/10/09	ND	1	0.500	0.04
Cadmium	11/10/09	ND	4	2.00	0.500
Calcium	11/10/09	46.4	NLE	1000	21.0
Chromium	11/10/09	ND	70	5.00	1.00
Cobalt	11/10/09	ND	NLE	2.00	0.400
Copper	11/10/09	ND	1300	5.00	1.00
Iron	11/10/09	ND	300	500	43.0
Lead	11/10/09	ND	5	5.00	2.40
Magnesium	11/10/09	ND	NLE	1000	19.0
Manganese	11/10/09	ND	50	5.00	0.300
Mercury	11/13/09	ND	2	0.500	0.050
Nickel	11/10/09	0.683	100	5.00	0.400
Potassium	11/10/09	58.5	NLE	1000	32.0
Selenium	11/10/09	ND	40	20.0	7.00
Silver	11/10/09	ND	40	5.00	0.500
Sodium	11/10/09	1420	50000	5000	530
Thallium	11/16/09	ND	2	5.00	1.30
Vanadium	11/10/09	ND	NLE	5.00	0.600
Zinc	11/10/09	4.25	2000	50.00	1.20

ND = Not Detected NLE = No Limit Established

\* Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 11/07/05

R.L. = Reporting limit. MDL = Method Detection Limit

Estimated results between MDL & R.L

**000227**

**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

Lab ID #: 9043402  
 Sample Received: 11/03/09  
 Sample Matrix: Aqueous

Site: 750 Wells

Field ID#: Field Blank

Method of Analysis: Std. Methods 18th, Method 3120B, 3113B & 3112B  
 EPA Method 279.2

**TAL-METALS RESULTS SUMMARY (ug/L)**

Element	Date of Analysis	Result (ug/L)	Regulatory Level (ug/L)*	R.L. (ug/L)	MDL (ug/L)
Aluminum	11/10/09	ND	200	100	7.60
Antimony	11/10/09	ND	6	10.00	4.80
Arsenic	11/17/09	ND	3	5.00	2.40
Barium	11/10/09	ND	2000	5.00	1.00
Beryllium	11/10/09	ND	1	0.500	0.04
Cadmium	11/10/09	ND	4	2.00	0.500
Calcium	11/10/09	ND	NLE	1000	21.0
Chromium	11/10/09	ND	70	5.00	1.00
Cobalt	11/10/09	ND	NLE	2.00	0.400
Copper	11/10/09	ND	1300	5.00	1.00
Iron	11/10/09	ND	300	500	43.0
Lead	11/10/09	ND	5	5.00	2.40
Magnesium	11/10/09	ND	NLE	1000	19.0
Manganese	11/10/09	0.559	50	5.00	0.300
Mercury	11/13/09	ND	2	0.500	0.050
Nickel	11/10/09	1.21	100	5.00	0.400
Potassium	11/10/09	ND	NLE	1000	32.0
Selenium	11/10/09	ND	40	20.0	7.00
Silver	11/10/09	ND	40	5.00	0.500
Thallium	11/16/09	ND	2	5000	1.30
Sodium	11/10/09	1470	50000	5.00	530
Vanadium	11/10/09	ND	NLE	5.00	0.600
Zinc	11/10/09	ND	2000	50.00	1.20

ND = Not Detected NLE = No Limit Established

\* Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 11/07/05

R.L. = Reporting limit. MDL = Method Detection Limit

Estimated results between MDL & R.L

**000228**

**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

Lab ID #: 9043403  
 Sample Received: 11/03/09  
 Sample Matrix: Aqueous

Site: 750 Wells

Field ID#: Duplicate

Method of Analysis: Std. Methods 18th, Method 3120B, 3113B & 3112B  
 EPA Method 279.2

**TAL-METALS RESULTS SUMMARY (ug/L)**

Element	Date of Analysis	Result (ug/L)	Regulatory Level (ug/L)*	R.L. (ug/L)	MDL (ug/L)
Aluminum	11/10/09	413	200	100	7.60
Antimony	11/10/09	ND	6	10.00	4.80
Arsenic	11/17/09	2.22	3	5.00	2.40
Barium	11/10/09	97.2	2000	5.00	1.00
Beryllium	11/10/09	0.408	1	0.500	0.04
Cadmium	11/10/09	ND	4	2.00	0.500
Calcium	11/10/09	8320	NLE	1000	21.0
Chromium	11/10/09	3.10	70	5.00	1.00
Cobalt	11/10/09	0.403	NLE	2.00	0.400
Copper	11/10/09	ND	1300	5.00	1.00
Iron	11/10/09	1550	300	500	43.0
Lead	11/10/09	ND	5	5.00	2.40
Magnesium	11/10/09	3250	NLE	1000	19.0
Manganese	11/10/09	77.9	50	5.00	0.300
Mercury	11/13/09	ND	2	0.500	0.050
Nickel	11/10/09	4.94	100	5.00	0.400
Potassium	11/10/09	2130	NLE	1000	32.0
Selenium	11/10/09	ND	40	20.0	7.00
Silver	11/10/09	ND	40	5.00	0.500
Sodium	11/10/09	61200	50000	5000	530
Thallium	11/16/09	ND	2	5.00	1.30
Vanadium	11/10/09	1.95	NLE	5.00	0.600
Zinc	11/10/09	27.0	2000	50.00	1.20

ND = Not Detected NLE = No Limit Established

\* Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 11/07/05

R.L. = Reporting limit. MDL = Method Detection Limit

Estimated results between MDL & R.L

000229

**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

Lab ID #: 9043404  
 Sample Received: 11/03/09  
 Sample Matrix: Aqueous

Site: 750 Wells

Field ID#: MW01

Method of Analysis: Std. Methods 18th, Method 3120B, 3113B & 3112B  
 EPA Method 279.2

**TAL-METALS RESULTS SUMMARY (ug/L)**

Element	Date of Analysis	Result (ug/L)	Regulatory Level (ug/L)*	R.L. (ug/L)	MDL (ug/L)
Aluminum	11/10/09	568	200	100	7.60
Antimony	11/10/09	ND	6	10.00	4.80
Arsenic	11/17/09	1.66	3	5.00	2.40
Barium	11/10/09	97.1	2000	5.00	1.00
Beryllium	11/10/09	0.497	1	0.500	0.04
Cadmium	11/10/09	ND	4	2.00	0.500
Calcium	11/10/09	7680	NLE	1000	21.0
Chromium	11/10/09	4.97	70	5.00	1.00
Cobalt	11/10/09	0.621	NLE	2.00	0.400
Copper	11/10/09	ND	1300	5.00	1.00
Iron	11/10/09	1810	300	500	43.0
Lead	11/10/09	ND	5	5.00	2.40
Magnesium	11/10/09	3270	NLE	1000	19.0
Manganese	11/10/09	79.2	50	5.00	0.300
Mercury	11/13/09	ND	2	0.500	0.050
Nickel	11/10/09	5.59	100	5.00	0.400
Potassium	11/10/09	2110	NLE	1000	32.0
Selenium	11/10/09	ND	40	20.0	7.00
Silver	11/10/09	ND	40	5.00	0.500
Sodium	11/10/09	59300	50000	5000	530
Thallium	11/16/09	ND	2	5.00	1.30
Vanadium	11/10/09	2.76	NLE	5.00	0.600
Zinc	11/10/09	26.9	2000	50.00	1.20

ND = Not Detected NLE = No Limit Established

\* Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 11/07/05

R.L. = Reporting limit. MDL = Method Detection Limit

Estimated results between MDL & R.L.

000230

**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

Lab ID #: 9043405  
 Sample Received: 11/03/09  
 Sample Matrix: Aqueous

Site: 750 Wells

Field ID#: MW02

Method of Analysis: Std. Methods 18th, Method 3120B, 3113B & 3112B  
 EPA Method 279.2

**TAL-METALS RESULTS SUMMARY (ug/L)**

Element	Date of Analysis	Result (ug/L)	Regulatory Level (ug/L)*	R.L. (ug/L)	MDL (ug/L)
Aluminum	11/10/09	8030	200	100	7.60
Antimony	11/10/09	ND	6	10.00	4.80
Arsenic	11/17/09	3.84	3	5.00	2.40
Barium	11/10/09	67.8	2000	5.00	1.00
Beryllium	11/10/09	0.620	1	0.500	0.04
Cadmium	11/10/09	2.22	4	2.00	0.500
Calcium	11/10/09	7480	NLE	1000	21.0
Chromium	11/10/09	80.1	70	5.00	1.00
Cobalt	11/10/09	1.05	NLE	2.00	0.400
Copper	11/10/09	17.3	1300	5.00	1.00
Iron	11/10/09	13800	300	500	43.0
Lead	11/10/09	5.50	5	5.00	2.40
Magnesium	11/10/09	4590	NLE	1000	19.0
Manganese	11/10/09	81.6	50	5.00	0.300
Mercury	11/13/09	ND	2	0.500	0.050
Nickel	11/10/09	10.9	100	5.00	0.400
Potassium	11/10/09	7070	NLE	1000	32.0
Selenium	11/10/09	ND	40	20.0	7.00
Silver	11/10/09	ND	40	5.00	0.500
Sodium	11/10/09	225000	50000	5000	530
Thallium	11/16/09	ND	2	5.00	1.30
Vanadium	11/10/09	35.5	NLE	5.00	0.600
Zinc	11/10/09	146	2000	50.00	1.20

ND = Not Detected NLE = No Limit Established

\* Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 11/07/05

R.L. = Reporting limit. MDL = Method Detection Limit

Estimated results between MDL & R.L

**000231**



**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

Lab ID #: 9043406  
 Sample Received: 11/03/09  
 Sample Matrix: Aqueous

Site: 750 Wells

Field ID#: MW03

Method of Analysis: Std. Methods 18th, Method 3120B, 3113B & 3112B  
 EPA Method 279.2

**TAL-METALS RESULTS SUMMARY (ug/L)**

Element	Date of Analysis	Result (ug/L)	Regulatory Level (ug/L)*	R.L. (ug/L)	MDL (ug/L)
Aluminum	11/10/09	210	200	100	7.60
Antimony	11/10/09	5.68	6	10.00	4.80
Arsenic	11/17/09	1.99	3	5.00	2.40
Barium	11/10/09	11.4	2000	5.00	1.00
Beryllium	11/10/09	ND	1	0.500	0.04
Cadmium	11/10/09	ND	4	2.00	0.500
Calcium	11/10/09	30700	NLE	1000	21.0
Chromium	11/10/09	8.55	70	5.00	1.00
Cobalt	11/10/09	ND	NLE	2.00	0.400
Copper	11/10/09	2.03	1300	5.00	1.00
Iron	11/10/09	280	300	500	43.0
Lead	11/10/09	ND	5	5.00	2.40
Magnesium	11/10/09	2690	NLE	1000	19.0
Manganese	11/10/09	9.56	50	5.00	0.300
Mercury	11/13/09	ND	2	0.500	0.050
Nickel	11/10/09	1.20	100	5.00	0.400
Potassium	11/10/09	4610	NLE	1000	32.0
Selenium	11/10/09	14.0	40	20.0	7.00
Silver	11/10/09	0.947	40	5.00	0.500
Sodium	11/10/09	119000	50000	5000	530
Thallium	11/16/09	ND	2	5.00	1.30
Vanadium	11/10/09	17.3	NLE	5.00	0.600
Zinc	11/10/09	6.00	2000	50.00	1.20

ND = Not Detected NLE = No Limit Established

\* Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 11/07/05

R.L. = Reporting limit. MDL = Method Detection Limit

Estimated results between MDL & R.L

000232

**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

Lab ID #: 9043407  
 Sample Received: 11/03/09  
 Sample Matrix: Aqueous

Site: 750 Wells

Field ID#: MW04

Method of Analysis: Std. Methods 18th, Method 3120B, 3113B & 3112B  
 EPA Method 279.2

**TAL-METALS RESULTS SUMMARY (ug/L)**

Element	Date of Analysis	Result (ug/L)	Regulatory Level (ug/L)*	R.L. (ug/L)	MDL (ug/L)
Aluminum	11/10/09	ND	200	100	7.60
Antimony	11/10/09	ND	6	10.00	4.80
Arsenic	11/17/09	1.31	3	5.00	2.40
Barium	11/10/09	21.0	2000	5.00	1.00
Beryllium	11/10/09	ND	1	0.500	0.04
Cadmium	11/10/09	ND	4	2.00	0.500
Calcium	11/10/09	50200	NLE	1000	21.0
Chromium	11/10/09	6.38	70	5.00	1.00
Cobalt	11/10/09	ND	NLE	2.00	0.400
Copper	11/10/09	1.22	1300	5.00	1.00
Iron	11/10/09	ND	300	500	43.0
Lead	11/10/09	ND	5	5.00	2.40
Magnesium	11/10/09	5460	NLE	1000	19.0
Manganese	11/10/09	1.99	50	5.00	0.300
Mercury	11/13/09	ND	2	0.500	0.050
Nickel	11/10/09	1.46	100	5.00	0.400
Potassium	11/10/09	4480	NLE	1000	32.0
Selenium	11/10/09	21.1	40	20.0	7.00
Silver	11/10/09	2.05	40	5.00	0.500
Sodium	11/10/09	103000	50000	5000	530
Thallium	11/16/09	ND	2	5.00	1.30
Vanadium	11/10/09	5.91	NLE	5.00	0.600
Zinc	11/10/09	2.10	2000	50.00	1.20

ND = Not Detected NLE = No Limit Established

\* Higher of PQL's and Interim Criteria as per N.J.A.C. 7:9C 11/07/05

R.L. = Reporting limit. MDL = Method Detection Limit

Estimated results between MDL & R.L.

000233

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 1/1/10

Dean Tarajji

Laboratory Certification # 13461

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

000309

## 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

000310

ATTACHMENT F

UST 750C Report

UNDERGROUND STORAGE TANK FILE REVIEW  
FORT MONMOUTH BRAC 05 FACILITY  
OCEANPORT, NEW JERSEY

Date: September 6, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750C**

Registration ID: 81533-198

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release? [ ] Yes [X] No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [X] No [ ] Not Applicable

Tank Description: [ ] Steel [X] Fiberglass Size: 1000 gallon Contents: Waste oil

[ ] Residential [X] Commercial/Industrial

Tank Removed? [X] Yes [ ] No If "yes," removal date: 3/11/1998

Were closure soil samples taken? [X] Yes [ ] No Analyses: TPH; PP+40

Comparison criteria: RDCSRS


Were closure soil sample results less than comparison criteria? [X] Yes [ ] No

**Brief Narrative**

The closure and site assessment of UST 750C is presented in the attached Weston report. However, clarification on the location of this UST is provided herein.

UST 750C was located just north of the central portion of Building 750. It was located in the same grassed area as the oil-water separator for the covered wash rack area. This location was confirmed by historic engineering drawings (Attachment C), photographs of the removed tank and excavation during closure (attached), and discussions with Mr. Kevin Courtney (who formerly managed the Building 750 Motor Pool area).

Figure 2-1 of the attached Weston report showing the tank excavation as 16 feet from the northeast corner of Building 750 is correct, considering that the referenced Building 750 corner is for the central office area, and not the eastern Wash Rack wing (which is generally considered as a covered outdoor structure, rather than the building).

Signed:   
Kent A. Friesen, Parsons





**UNDERGROUND STORAGE TANK  
CLOSURE AND SITE INVESTIGATION REPORT  
BUILDING 750  
NJDEPE UST REGISTRATION NO. 81533-198**

October 28, 1993

W.O. No.: 03886-088-001

Prepared For:

**UNITED STATES ARMY, FORT MONMOUTH NEW JERSEY  
DIRECTORATE OF PUBLIC WORKS  
BUILDING 167  
FORT MONMOUTH, NJ 07703**

Prepared by:

**ROY F. WESTON, INC.  
Raritan Plaza I, 4th Floor  
Edison, New Jersey 08837**





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## **EXECUTIVE SUMMARY**

On 11 March 1993, one underground storage tank (UST) was closed at U.S. Army Fort Monmouth, Fort Monmouth, New Jersey. The UST, New Jersey Department of Environmental Protection and Energy (NJDEPE) Registration Number 81533-198, was located immediately adjacent to Building 750 in the Main Post area of Fort Monmouth. UST No. 81533-198 was a single wall fiberglass, 1,000-gallon waste oil UST which was installed in 1986. Mr. Douglas Greenfield of the NJDEPE Division of Hazardous Waste Management (NJDEPE-DHWM) was onsite for the duration of the closure activities. The UST closure was performed by All Service Environmental, Inc. and Casie Protank Environmental Services.

Soils surrounding UST No. 81533-198 were screened visually and with air monitoring instruments for evidence of contamination. The UST was inspected following removal for cracks and puncture holes for indications of historical leakage. No cracks or puncture holes were noted and no potentially contaminated soils were identified surrounding the tank.

Following removal of UST No. 81533-198 and associated piping, six (6) post-excavation samples were collected. Three (3) were collected from the sidewalls of the UST excavation and three (3) were collected from the base of the excavation. These samples were analyzed for total petroleum hydrocarbons (TPHC) and priority pollutants plus forty tentatively identified compounds (PP+40). All samples contained either non-detectable concentrations of contaminants or concentrations below proposed NJDEPE subsurface cleanup criteria.

No further action is proposed at this site in reference to UST No. 81533-198 since no soils were identified during closure with concentrations of contaminants exceeding proposed NJDEPE subsurface cleanup criteria.



## SECTION 1.0

### UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

#### 1.1 Overview:

One underground storage tank (UST), New Jersey Department of Environmental Protection and Energy (NJDEPE) Registration No. 81533-198, was closed at Building 750 at U.S. Army Fort Monmouth, New Jersey on 11 March 1993. This Underground Storage Tank Closure and Site Investigation Report was prepared by Roy F. Weston Inc. (WESTON®), to assist the United States Army Directorate of Public Works (DPW) in complying with the NJDEPE Bureau of Underground Storage Tanks (NJDEPE-BUST) regulations. The applicable NJDEPE-BUST regulations at the date of closure were the "Technical Requirements for Site Remediation-Proposed New Rules" (NJAC 7:26E-1 et seq., May 1992). This report presents the results of the DPW's implementation of the UST Decommissioning/Closure Plan submitted to the NJDEPE on 12 July 1991. UST No. 81533-198 was a 1,000-gallon capacity, single wall fiberglass, waste oil UST.

All activities associated with the decommissioning of UST No. 81533-198 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: NJAC 7:14B-1 et seq., NJAC 5:23-1 et seq., NJAC 7:26E-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. All permits including but not limited to the NJDEPE-approved Closure/Decommissioning Plan were posted on site for inspection. All Service Environmental Inc. and Casie Protank Environmental Services, the contractors that conducted the decommissioning activities, are registered and certified by the NJDEPE for performing UST closure activities. Closure of UST No. 81533-198 was conducted under approval and onsite oversight of the NJDEPE Division of Hazardous Waste Management (NJDEPE-DHWM). The NJDEPE-DHWM conditional closure approval letter and the UST Site Assessment Summary Form for UST No. 81533-198 have been included in Appendices A and B, respectively.

Section 1 of this UST Closure and Site Investigation Report provides a summary of the UST decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations are presented in the final section of this report, including the results of the soil sampling investigation.

## 1.2 Site Description

Building 750 is located on Alexander Avenue within the northeastern portion of the Main Post area of U.S. Army Fort Monmouth, New Jersey. A site location map is provided in Figure 1-1. Building 750 is an active military vehicle repair and maintenance facility which was constructed in 1986. No groundwater monitoring wells were installed as part of the closure of this tank and no soils were identified with concentrations of contaminants exceeding proposed NJDEPE subsurface soil cleanup criteria.

Two additional USTs, New Jersey Registration Nos. 81533-191 and 81533-192, (TMS # S-91-2881) are present approximately 100 yards north of UST No. 81533-198. UST No. 81533-191 is a 15,000-gallon capacity diesel UST and UST No. 81533-192 is a 8,000-gallon gasoline UST. Four monitoring wells have been installed as part of closure of the product distribution system associated with these USTs. The monitoring wells were installed to assess impacts, if any, to groundwater from historical discharges from the product distribution system (Case #92-5-7-1600-23). Closure of UST No. 81533-198 is being conducted separately from the closure of the product distribution system associated with UST Nos. 81533-191 and 81533-192.

### 1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the area surrounding Building 750. Included is a description of the regional geology of the area as well as descriptions of the local geology and hydrogeology of the Main Post area.

#### Regional Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post, Charles Wood, and the Evans areas are located in what may be referred to as the Outer Coastal Plain subprovince, or the Outer Lowlands.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, sand, and gravel. These formations typically strike northeast-southwest with a dip ranging from 10 to 60 feet per mile and were deposited on Precambrian and lower Paleozoic rocks (Zapeczka, 1989). These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units which 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). The individual thicknesses for these units vary greatly (i.e., from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast from the Fall Line to greater than 6,500 feet in Cape May County (Brown and Zapecza, 1990).

### Local Geology

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 (Jablonski). The lower member (Sandy Hook) is a dark grey 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).

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities by the military. Topographic elevations for the Main Post area range from five feet above mean sea level (MSL) to 31 feet above MSL.

### Hydrogeology

The water table aquifer at 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.

Based on records from wells drilled at the Main Post area, groundwater is typically encountered at depths of two to nine feet below ground surface (BGS). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce from 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Shallow groundwater is locally influenced within the Main Post area by the following factors:

- tidal-influence (based on proximity to the Atlantic Ocean),
- topography,
- nature of fill material within the Main Post,
- presence of clay and silt lenses in the natural overburden deposits, and
- local groundwater recharge areas (i.e. stream, lakes).

Due to the fluvial nature of the overburden deposits (i.e. sand and clay lenses), shallow groundwater flow direction is best determined on a case-by-case basis. This is consistent with lithologies observed in borings installed within the Main Post area, which primarily consisted of fine-to-medium grained sands, with occasional lenses or laminations of silt and/or clay.

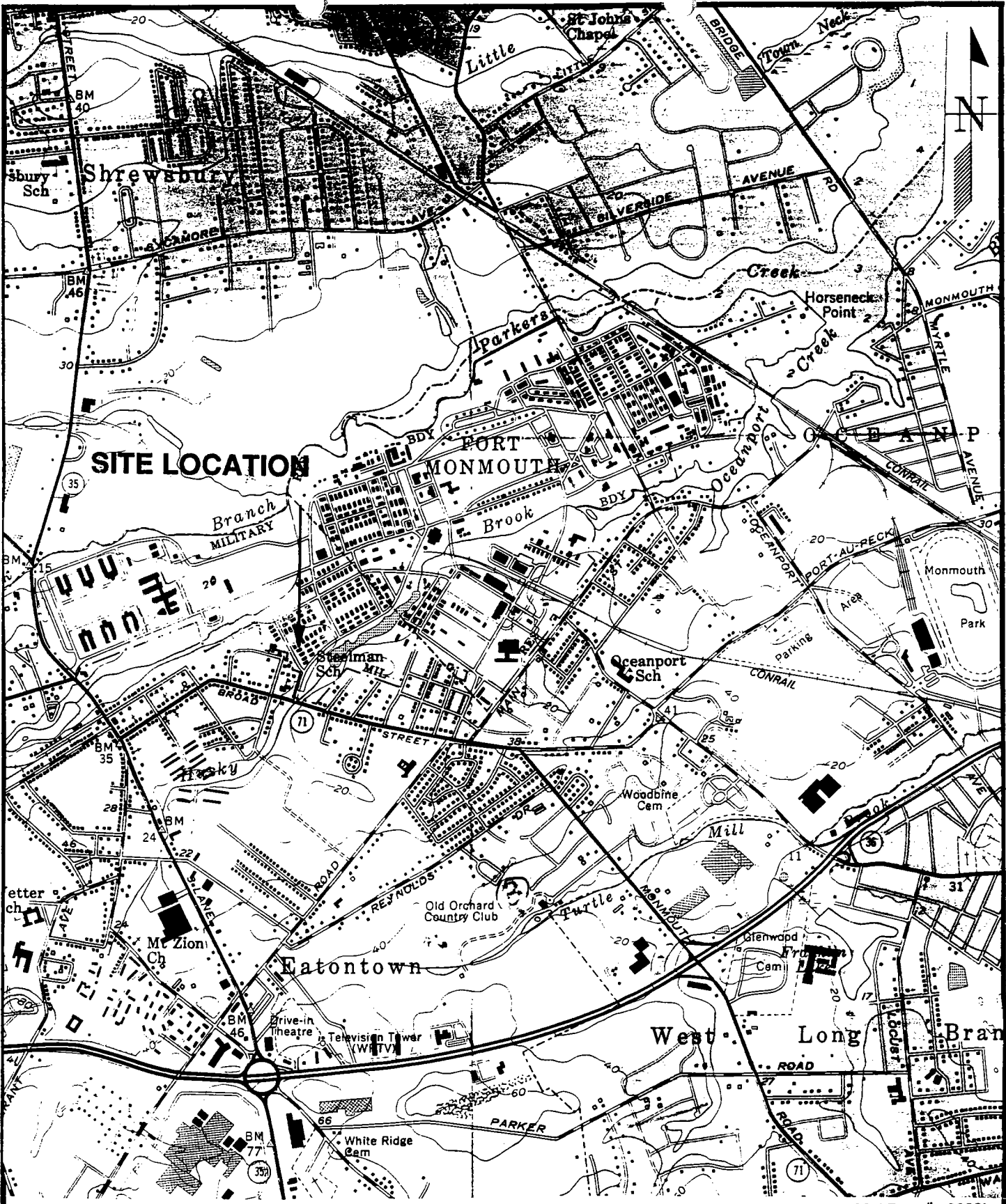
### **1.3 Health and Safety**

Before, during, and after all activities, hazards at the work site which may have posed a threat to the health and safety of all personnel who were involved with, or were affected by, the decommissioning of the UST system were minimized. All areas which posed, or may have been suspected to pose a vapor hazard were monitored by a qualified individual utilizing approved equipment. The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA.

### **1.4 Removal of Underground Storage Tanks**

#### **1.4.1 General Procedures**

- All underground obstructions (utilities, . etc.) were marked out by the contractor performing the closure prior to excavation activities.
- All activities were carried out with the greatest regard to safety and health and the safeguarding of the environment.
- All excavated soils were screened visually and with a flame ionization detector (FID) for evidence of contamination. No potentially contaminated soils were identified during closure activities.
- Surface materials (i.e, asphalt, concrete, etc..) were excavated and staged separate from all soils and were recycled in accordance with all applicable regulations and laws.
- A Sub-Surface Evaluator from the DPW was present during all closure activities.



SOURCE: U.S.G.S. LONG BRANCH NJ, QUADRANGLE, MONMOUTH COUNTY, 1954 (PHOTOREVISED 1981)

SCALE: 1"=2000'

REVISION #: 0000 DATE: 10-19-93 PLOT NAME:  
 FILE NAME: BLDG-750.DWG DRAWN BY: A.MANSUIT



PROJECT NAME:  
**UNDERGROUND STORAGE TANK CLOSURE  
 AND SITE INVESTIGATION REPORT  
 BUILDING 750 - TANK NO. 198**  
 FORT MONMOUTH, NEW JERSEY  
 CLIENT NAME:  
**U.S. ARMY-DEH  
 FORT MONMOUTH**

**SITE LOCATION MAP**

DATE:  
 10-22-93

FIGURE #:  
 1-1



#### 1.4.2 **Underground Storage Tank Excavation and Cleaning**

Soil was excavated to expose the UST and associated piping. The piping was not removed/disturbed until all free product was drained into the UST. The UST was rendered vapor free by purging prior to any cutting or access. After the removal of the associated piping, a manway was made in the UST to allow for proper cleaning. The UST was completely emptied of all product prior to removal from the ground. Approximately 110 gallons of waste oil was removed from UST No. 81533-198. This waste oil was transported and disposed of by L and L Oil Service, Incorporated. A hazardous waste manifest was completed and can be found in Appendix C. All of the openings in the tanks were plugged except for one hole (manway).

After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for cracks and puncture holes. The presence or absence of cracks and puncture holes was documented by the Sub-Surface Evaluator. No holes were observed upon the inspection of the UST. Soils surrounding the UST were screened visually and with a FID for evidence of contamination. No evidence of contamination was noted.

The UST was cleaned in accordance with all applicable regulations. Following cleaning of the UST, two rinsate samples were collected and analyzed for total petroleum hydrocarbons (TPHC). Rinsate samples were analyzed by the U.S. Army, Fort Monmouth Environmental Laboratory, a NJDEPE certified testing laboratory. The rinsate samples indicated concentrations of 334 milligrams per liter (mg/L) and 107 mg/L. The analytical data package is presented in Appendix D.

#### 1.5 **Underground Storage Tank Transportation and Disposal:**

The tank was transported to the Monmouth County Reclamation Center located in Tinton Falls, New Jersey for disposal in compliance with all applicable regulations and laws. The tank reclamation certificate for UST No. 81533-198 is presented in Appendix E.

The Subsurface Evaluator labelled each tank prior to transport with the following information:

- site of origin,
- contact person,
- NJDEPE UST Facility ID number,
- name of transporter/contact person, and
- destination site/contact person.



### 1.6 Management of Excavated Soils:

No potentially contaminated soils were excavated as part of the removal of UST No. 81533-198. All soils were free of evidence of contamination and were backfilled into the excavation following removal of the UST.



## SECTION 2.0

### SITE INVESTIGATION ACTIVITIES

#### 2.1 Overview:

The Site Investigation was managed and carried out by U.S ARMY DPW personnel. All analyses were performed and reported by 21st Century Environmental and the U.S. Army Fort Monmouth Environmental Laboratory, which are NJDEPE-certified testing laboratories. All sampling was performed under the direct supervision of a NJDEPE Certified Sub-Surface Evaluator according to the methods described in the NJDEPE Field Sampling Procedures Manual (June 1992). Sampling frequency and parameters analyzed complied with the NJDEPE document "Technical Requirements for Site Remediation-Proposed New Rules" (NJAC 7:26E-1 et seq. May 1992) which was the applicable regulation at the date of the closure. All records of the Site Investigation activities are maintained by Fort Monmouth DPW: Environmental Office.

The following Parties participated in Closure and Site Investigation activities.

- Closure Contractor No 1: All Service Environmental, Inc.  
Contact Person: Mark Turoff  
Phone Number: (914) 365-0800  
NJDEPE Company Certification No.: 3100194
- Closure Contractor No. 2: Casie Protank Environmental Services  
Contact Person: Greg Call  
Phone Number: (609) 696-4401  
NJDEPE Company Certification No.: NJD045995693
- Subsurface Evaluator: Charles Appleby  
Employer: U.S. Army, Fort Monmouth  
Phone Number: (908) 532-1475  
NJDEPE Certification No.: 2056
- Analytical Laboratory No. 1: U.S. Army, Fort Monmouth Environmental Laboratory  
Contact Person: Brian McKee  
Phone Number: (908) 532-4359  
NJDEPE Company Certification No.: 13461

- Analytical Laboratory No 2: 21st Century Environmental, Inc.  
Contact Person: Richard W. Lynch  
Phone Number: (609) 467-9521  
NJDEPE Company Certification No.: 08031
- NJDEPE On-site Representative: DOUG GREENFIELD  
DIVISION OF HAZARDOUS WASTE MANAGEMENT  
Phone Number: (609) 584-4200

## **2.2 Field Screening/Monitoring**

All soils that were excavated as part of the removal of the UST were screened using a FID for evidence of contamination. Soils were also visually screened for evidence of contamination (staining, free product, etc.). No evidence of contamination was noted during excavation of soils surrounding UST No. 81533-198.

Soils on the sidewalls and base of the excavation were screened with a FID by an individual under the direct supervision of a NJDEPE Certified Sub-Surface Evaluator. No evidence of contamination was noted within soils on the sidewalls or base of the excavation.

## **2.3 Soil Sampling**

Following removal of UST No. 81533-198, six post-excavation soil samples (samples A-F) were collected in accordance with NJDEPE procedure. These samples were analyzed for TPHC and for priority pollutants plus 40 tentatively identified compounds (PP+40). Four samples (samples A,B,C and D) were collected from the area of UST No. 81533-198, in accordance with the approved closure plan. Samples E and F were collected from the former area of piping associated with UST No. 81533-198 to assess impacts, if any, from historical leakage from the piping if any. A summary of sampling activities including parameters analyzed is provided in Table 2-1. Figure 2-1 depicts the location of the post-excavation samples. The samples were collected along the base and sidewalls of the excavation using decontaminated stainless steel scoops. Following soil sampling activities, samples were chilled and delivered to the U.S. Army Fort Monmouth Environmental Laboratory for TPHC analysis, and to 21st Century Environmental, Inc. located in Bridgeport, New Jersey for PP+40 analysis.

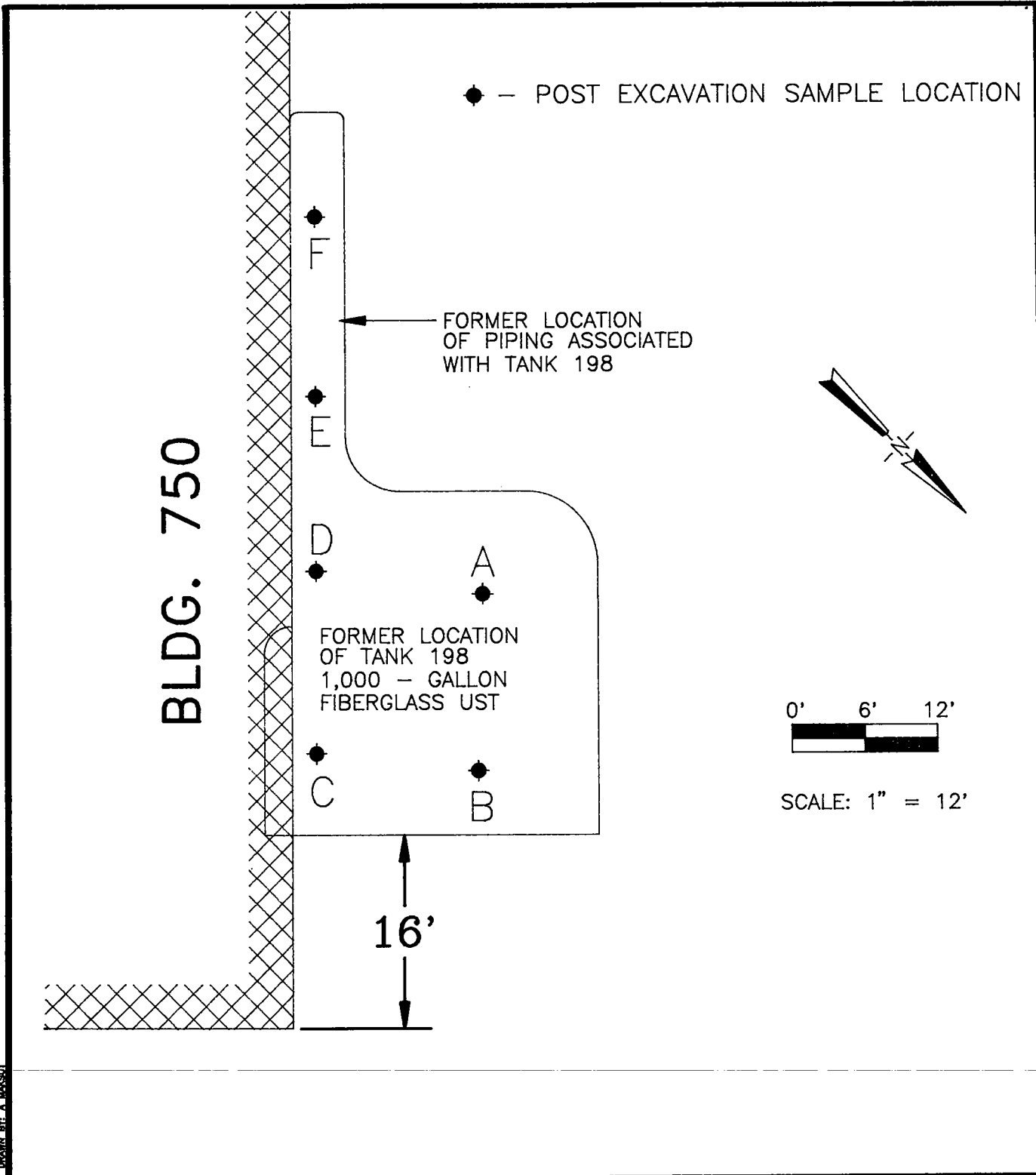
**TABLE 2-1**

**SUMMARY OF POST-EXCAVATION SAMPLING  
UST REGISTRATION NO. 81533-198  
BUILDING NO. 750  
FORT MONMOUTH, NEW JERSEY**

Sample I.D	Date Collected	Matrix	Sample Type	Analytical Parameters	Sampling Method
A	3/11/93	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
B	3/11/93	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
C	3/11/93	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
D	3/11/93	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
E	3/11/93	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop
F	3/11/93	Soil	Post-Excavation	TPHC, PP+40	Stainless Steel Scoop

TPHC - Total Petroleum Hydrocarbons.

PP +40 - Priority pollutant plus 40 - The priority pollutant list of 126 compounds and elements developed by EPA pursuant to Section 307(a)(1) of the Clean Water Act and 40 non-targeted organic compounds detected by gas chromatography/mass spectroscopy (GC/MS) analysis.



REVISION #: DATE: 10-28-93  
 FILE NAME: DEH-750.DWG DRAWN BY: A. MANSHT

	PROJECT NAME: <b>UNDERGROUND STORAGE TANK CLOSURE          AND SITE INVESTIGATION REPORT          BUILDING 750 - TANK 198          FORT MONMOUTH, NEW JERSEY</b>	<b>POST-EXCAVATION          SAMPLE LOCATIONS</b>	
	CLIENT NAME: <b>U.S. ARMY-DEH          FORT MONMOUTH</b>	FACILITY REGISTRATION NO's 0081533-198	DATE: <b>10-07-93</b>

## SECTION 3.0

### CONCLUSIONS AND RECOMMENDATIONS

#### 3.1 Soil Sampling Results

To evaluate soil conditions following removal of the UST and associated piping, six post-excavation samples were collected and analyzed for TPHC and PP+40. Analytical results for the post-excavation samples were compared to proposed NJDEPE subsurface cleanup criteria (NJAC 7:26D and revisions dated 8 March 1993). A summary of analytical results and comparison to proposed NJDEPE subsurface cleanup criteria is provided in Table 3-1. A summary of analytical methods and quality assurance information is provided in Table 3-2. The analytical data package summary is provided in Appendix D. The full data package, including associated quality control and chromatograph data is on file at the U.S. Army Fort Monmouth DPW.

TPHC was detected in samples A through F at concentrations ranging from 5.9 milligrams per kilogram (mg/kg) to 27 mg/kg. No subsurface cleanup criterion has been proposed for TPHC by the NJDEPE; however, the proposed NJDEPE subsurface cleanup criterion for total organic compounds is 10,000 mg/kg. All samples contained concentrations of total organic compounds below the NJDEPE criterion of 10,000 mg/kg. Several volatile organic and base neutral compounds were detected in the samples; however at concentration below the proposed NJDEPE subsurface cleanup criteria. Several metals were detected in the post-excavation samples; however, no cleanup criteria has been proposed by NJDEPE for metals in subsurface soils.

#### 3.2 Conclusions and Recommendations:

DPW removed one (1) UST at Building 750 in the Main Post area of U.S. Army Fort Monmouth. Based on visual inspection of the UST and field screening of the soils adjacent to the UST, it was determined that no discharges had historically occurred from the UST. Analytical results of the post-excavation samples confirm that no soils are present with concentrations of contaminants exceeding proposed NJDEPE subsurface cleanup criteria.

No further action is proposed at Building 750 in reference to UST No. 81533-198.

TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS  
 UST REGISTRATION NO. 81533-198  
 BUILDING NO. 750  
 FORT MONMOUTH, NEW JERSEY

SAMPLE ID NO.	A	B	C	D	E	F	PROPOSED NIDEPE SUBSURFACE CLEANUP CRITERIA
LAB ID NO.	1161.1	1161.2	1161.3	1161.4	1161.5	1161.6	
MATRIX	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	
SAMPLE TYPE	PE	PE	PE	PE	PE	PE	
DATE OF COLLECTION	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93	3/11/93	
ANALYTICAL PARAMETER	UNITS						mg/kg
TPHC	23.7	5.9	18.0	13.8	10.2	27.0	NC*
BN + 25							
BIS(2-ETHYLHEXYL) PHTHALATE	ND	0.061JB	0.053JB	0.047JB	ND	ND	100
CHRYSENE	0.05J	ND	ND	ND	ND	ND	NC
BENZO(A)PYRENE	0.11J	ND	ND	ND	ND	ND	100
INDENO(1,2,3-cd)PYRENE	0.097J	ND	ND	ND	ND	ND	500
BENZO(g,h,i)PERYLENE	0.12J	ND	ND	ND	ND	ND	500



**TABLE 3-1  
SUMMARY OF ANALYTICAL RESULTS (CONTINUED)  
UST REGISTRATION NO. 81533-198  
BUILDING NO. 750  
FORT MONMOUTH, NEW JERSEY**

SAMPLE ID NO.	A		B		C		D		E		F		PROPOSED NIDEPE SUBSURFACE CLEANUP CRITERIA
	LAB ID NO.	MATRIX	SOIL	PE	SOIL	PE	SOIL	PE	SOIL	PE	SOIL	PE	
	1161.1	SOIL	1161.2	PE	1161.3	SOIL	1161.4	PE	1161.5	SOIL	1161.6	PE	
DATE OF COLLECTION	3/11/93		3/11/93		3/11/93		3/11/93		3/11/93		3/11/93		
ANALYTICAL PARAMETER													mg/kg
VO+15													
ACETONE	0.012		0.014		0.012		0.014		0.010J		0.0072J		50
METHYLENE CHLORIDE	0.0062		0.0052J		0.0047J		0.0039J		0.006		0.0068J		10
TOLUENE	0.0038J		0.0028J		0.0036J		0.0016J		0.004J		ND		500
ETHYLBENZENE	0.012J		ND		ND		ND		0.0018J		ND		100
M & P XYLENES	0.0056J		0.005J		0.0049J		ND		0.0089J		ND		NC
O-XYLENE	0.0018J		0.0018J		0.0016J		ND		0.0029J		ND		NC
CYANIDE	0.26		0.27		0.17		0.14		0.16		0.20		NC
PHENOLS	ND		ND		ND		ND		ND		ND		NC

**TABLE 3-1  
SUMMARY OF ANALYTICAL RESULTS (CONTINUED)  
UST REGISTRATION NO. 81533-198  
BUILDING NO. 750  
FORT MONMOUTH, NEW JERSEY**

SAMPLE ID NO.	A		B		C		D		E		F		PROPOSED NJDEPE SUBSURFACE CLEANUP CRITERIA						
	LAB ID NO.	MATRIX	SOIL	PE	SOIL	PE	SOIL	PE	SOIL	PE	SOIL	PE							
	1161.1		SOIL	PE	1161.2	SOIL	PE	1161.3	SOIL	PE	1161.4	SOIL	PE	1161.5	SOIL	PE	1161.6	SOIL	PE
DATE OF COLLECTION	3/11/93		3/11/93		3/11/93		3/11/93		3/11/93		3/11/93		3/11/93		3/11/93		3/11/93		
ANALYTICAL PARAMETER	UNITS		UNITS		UNITS		UNITS		UNITS		UNITS		UNITS		UNITS		UNITS		
PRIORITY POLLUTANT METALS	mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		mg/kg		
ANTIMONY	ND		ND		ND		5.64		ND		ND		ND		ND		ND		
ARSENIC	1.00		1.86		1.60		1.60		1.40		1.40		1.41		1.49		1.49		
CHROMIUM	14.6		24.3		20.0		20.0		35.7		35.7		20.8		22.5		22.5		
COPPER	2.02		1.79		6.82		6.82		2.16		2.16		1.40		4.27		4.27		
LEAD	10.9		7.13		22.3		22.3		18.1		18.1		8.27		18.0		18.0		
NICKEL	ND		ND		ND		ND		ND		ND		3.11		ND		ND		
SELENIUM	ND		ND		ND		ND		ND		ND		ND		0.52		0.52		
ZINC	16.2		16.5		22.9		22.9		20.8		20.8		18.4		20.2		20.2		

Notes:  
 NC\*: No cleanup criterion has been proposed for TPHC by NJDEPE; however, the proposed NJDEPE subsurface cleanup criterion for total organic compounds is 10,000 mg/kg.  
 NC: No subsurface cleanup criterion has been proposed for this analyte by NJDEPE.  
 J: Indicates an estimated value.  
 ND: Indicates compound not detected.  
 TPHC: Total Petroleum Hydrocarbons.  
 PE: Post-Excavation.  
 B: Indicates also present in blank.  
 mg/kg: Milligrams per Kilogram.

TABLE 3-2

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE  
 UST REGISTRATION NO. 81533-198  
 BUILDING NO. 750  
 FORT MONMOUTH, NEW JERSEY

Analytical Parameter	No. of Samples Collected	Matrix	Date Collected	Date Analysis Completed	Preservation Method	USEPA SW-486 Analytical Method
TPHC	6	S	3/11/93	3/12/93	Cool to 4°C	418.1
VOCs	6	S	3/11/93	3/16/93	Cool to 4°C	8240
BNAs	6	S	3/11/93	3/16/93	Cool to 4°C	8270
PCBs	6	S	3/11/93	3/17/93	Cool to 4°C	8080
PP Metals	6	S	3/11/93	3/16/93	Cool to 4°C	6010, 7060, 7470, 7740, 7841

- Notes:
- Total Petroleum Hydrocarbons.
  - Volatile Organic Compounds.
  - Base Neutral Acid Extractable Compounds.
  - Polychlorinated Biphenyls.
  - Priority Pollutant Metals.
  - Soil.
  - Water.

**APPENDIX A**  
**NJDEPE CONDITIONAL APPROVAL LETTER**



750

State of New Jersey  
Department of Environmental Protection and Energy  
Office of Enforcement Policy  
CENTRAL BUREAU OF WATER AND HAZARDOUS WASTE ENFORCEMENT  
FIELD OPERATIONS

Scott A. Weiner  
Commissioner

Edward M. Neafsey  
Director

September 20, 1991

James Ott, Deputy Director  
Directorate of Engineering and Housing  
U.S. Army Communications-Electronic Command  
Building 167 SELHI-FE  
Fort Monmouth, NJ 07003

Dear Mr. Ott

The Department of Environmental Protection & Energy has completed its review of your submitted closure plans for six underground waste oil tanks. It has been determined that the plan is acceptable conditioned on the following revision/modifications:

1. In addition to the total petroleum hydrocarbon (TPHC) analysis for each sample taken, the total priority pollutant analysis (PP+40 or TCL) should be utilized for an initial screening. These analyses would be helpful for the remediation of tank number 68 which is known to contain 1000 ppm of hydrogenated chlorides.
2. A detailed description of the steps needed to decontaminate the tanks should be included.
3. An indication of whether the tanks will be disposed off-site as hazardous waste. If not the tanks must be decontaminated and a final rinse water sample and a washwater blank sample must be analyzed for total petroleum hydrocarbons (TPHC) concentration to determine the adequacy of decontamination. The decontamination procedure may have to be repeated to achieve a concentration acceptable to the Department or until the TPHC results of two consecutive samples do not show an appreciable change.

Please Respond To:  
CN 407  
TRENTON, NJ 08625

Tel. # (609) 584-4200

New Jersey Is an Equal Opportunity Employer  
Recycled Paper

Please submit these changes in an addendum to your submitted closure plans prior to beginning any closure activities. This writer should be notified 2 weeks in advance of initiation of closure activities.

If you have any questions regarding these requirements, please contact me at (609) 584-4200.

Yours truly,

Douglas Greenfield  
Sr. Environmental Engineer  
Hazardous Waste Enforcement  
CBW&HWEFO

**APPENDIX B**  
**NJDEPE UST ASSESSMENT SUMMARY FORM**

STATE OF NEW JERSEY  
DEPARTMENT OF ENVIRONMENTAL PROTECTION

DIVISION OF WATER RESOURCES  
BUREAU OF UNDERGROUND STORAGE TANKS  
TANK MANAGEMENT SECTION

CN 029, 401 EAST STATE STREET  
TRENTON, N.J. 08625-0029

UST #	_____
Date Rec'd	_____
TMS #	_____
State	_____

**UNDERGROUND STORAGE TANK  
SITE ASSESSMENT SUMMARY**

*Under the provisions of the Underground Storage  
of Hazardous Substances Act  
in accordance with N.J.A.C. 7:14B*

This Summary form shall be used by all owners and operators of Underground Storage Tank Systems (USTS) who have either reported a release and are subject to the site assessment requirements of N.J.A.C. 7:14B-8.2 or who have closed USTS pursuant to N.J.A.C. 7:14B-9.1 et seq. and are subject to the site assessment requirements of N.J.A.C. 7:14B-9.2 and 9.3.

**INSTRUCTIONS:**

- Please print legibly or type.
- Fill in all applicable blanks. This form will require various attachments in order to complete the Summary. The technical guidance document, Interim Closure Requirements for UST's, explains the regulatory (and technical) requirements for closure and the Scope of Work, Investigation and Corrective Action Requirements for Discharges from Underground Storage Tanks and Piping Systems explains the regulatory (and technical) requirements for corrective action.
- Return one original of the form and all required attachments to the above address.
- Attach a scaled site diagram of the subject facility which shows the information specified in Item IV B of this form.
- Explain any "No" or "N/A" response on a separate sheet.

Date of Submission \_\_\_\_\_

0081533-198

**FACILITY REGISTRATION #**

**I. FACILITY NAME AND ADDRESS**

U.S. Army Fort Monmouth  
 \_\_\_\_\_  
 D.E.H. Building 167 Attn: Charles Appleby  
 \_\_\_\_\_  
 Fort Monmouth New Jersey \_\_\_\_\_ County Monmouth  
 Telephone No. 908-532-6224

**OWNER'S NAME AND ADDRESS, if different from above**

\_\_\_\_\_  
 \_\_\_\_\_  
 Telephone No. \_\_\_\_\_



II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found?  Yes  No If Yes, Case No. \_\_\_\_\_  
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) N/A

C. Have any vapor hazards been mitigated?  Yes  No  N/A

III. DECOMMISSIONING OF TANK SYSTEMS

Closure Approval No. N/A

The site assessment requirements associated with tank decommissioning are explained in the Technical Guidance Document, Interim Closure Requirements for UST's, Section V. A-D. Attach complete documentation of the methods used and the results obtained for each of the steps of tank decommissioning used. Please include a site map which shows the locations of all samples and borings, the location of all tanks and piping runs at the facility at the beginning of the tank closure operation and annotated to differentiate the status of all tanks and piping (e.g., removed, abandoned, temporarily closed, etc.). The same site map can be used to document other parts of the site assessment requirements, if it is properly and legibly annotated.

IV. SITE ASSESSMENT REQUIREMENTS

A. Excavated Soil

Any evidence of contamination in excavated soil will require that the soil be classified as either Hazardous Waste or Non-Hazardous Waste. Please include all required documentation of compliance with the requirements for handling contaminated excavated soil (if any was present) as explained in the technical guidance documents for closure and corrective action. Describe amount of soil removed, its classification, and disposal location.

B. Scaled Site Diagrams

1. Scaled site diagrams must be attached which include the following information:

- a. North arrow and scale
- b. The locations of the ground water monitoring wells
- c. Location and depth of each soil sample and boring
- d. All major surface and sub-surface structures and utilities
- e. Approximate property boundaries
- f. All existing or closed underground storage tank systems, including appurtenant piping
- g. A cross-sectional view indicating depth of tank, stratigraphy and location of water table
- h. Locations of surface water bodies

C. Soil samples and borings (check appropriate answer)

1. Were soil samples taken from the excavation as prescribed?  Yes  No  N/A

2. Were soil borings taken at the tank system closure site as prescribed?  Yes  No  N/A

3. Attach the analytical results in tabular form and include the following information about each sample:

- a. Customer sample number (keyed to the site map)
- b. The depth of the soil sample
- c. Soil boring logs
- d. Method detection limit of the method used
- e. QA/QC Information as required

D. Ground Water Monitoring

1. Number of ground water monitoring wells installed 0
2. Attach the analytical results of the ground water samples in tabular form. Include the following information for each sample from each well:
  - a. Site diagram number for each well installed
  - b. Depth of ground water surface
  - c. Depth of screened interval
  - d. Method detection limit of the method used
  - e. Well logs
  - f. Well permit numbers
  - g. QA/QC Information as required

V. SOIL CONTAMINATION

- A. Was soil contamination found?  Yes  No  
If "Yes", please answer Question B-E  
If "No", please answer Question B
- B. The highest soil contamination still remaining in the ground has been determined to be:
1. 23.6 ppb total BTEX, N/A ppb total non-targeted VOC
  2. 674.0 ppb total B/N, N/A ppb total non-targeted B/N
  3. 27.0 ppm TPHC
  4. N/A ppb N/A (for non-petroleum substance)
- C. Remediation of free product contaminated soils
1. All free product contaminated soil on the property boundaries and above the water table are believed to have been removed from the subsurface  Yes  No
  2. Free product contaminated soils are suspected to exist below the water table  Yes  No
  3. Free product contaminated soils are suspected to exist off the property boundaries.  Yes  No
- D. Was the vertical and horizontal extent of contamination determined?  Yes  No  N/A
- E. Does soil contamination intersect ground water?  Yes  No  N/A

VI. GROUND WATER CONTAMINATION

- A. Was ground water contamination found?  Yes  No  
If "Yes", please answer Questions B-G.  
If "No", please answer only Question B.
- B. The highest ground water contamination at any 1 sampling location and at any 1 sampling event to date has been determined to be:
1. N/A ppb total BTEX, N/A ppb total non-targeted VOC
  2. N/A ppb total B/N, N/A ppb total non-targeted B/N
  3. N/A ppb total MTBE, N/A ppb total TBA
  4. N/A ppb N/A (for non-petroleum substance)
  5. greatest thickness of separate phase product found N/A
  6. separate phase product has been delineated  Yes  No  N/A
- C. Result(s) of well search
1. A well search (including a review of manual well records) indicates that private, municipal or commercial wells do exist within the distances specified in the Scope of Work.  Yes  No  N/A
  2. The number of these wells identified is N/A

D. Proximity of wells and contaminant plume

1. The shallowest depth of any well noted in the well search which may be in the horizontal or vertical potential path(s) of the contaminant plume(s) is N/A feet below grade (consideration has been given for the effects of pumping, subsurface structures, etc. on the direction(s) of contaminant migration). This well is N/A feet from the source and its screening begins at a depth of N/A feet.
2. The shallowest depth to the top of the well screen for any well in the potential path of the plume(s) (as described in D1 above) is N/A feet below grade. This well is located N/A feet from the source.
3. The closest horizontal distance of a private, commercial or municipal well in the potential path of the plume (as determined in D1) is N/A feet from the source. This well is N/A feet deep and screening begins at a depth of N/A feet.

E. A plan for separate phase product recovery has been included.  Yes  No N/A

F. A ground water contour map has been submitted which includes the ground water elevations for each well.  Yes  No  N/A

G. Delineation of contamination

1. The ground water contaminants have been delineated to MCLs or lower values at the property boundaries.  Yes  No N/A
2. The plume is suspected to continue off the property at concentrations greater than MCLs.  Yes  No N/A
3. Off property access (circle one):  is being sought  has been approved  has been denied N/A

VII. SITE ASSESSMENT CERTIFICATION [preparer of site assessment plan - N.J.A.C. 7:14B-6.3(b) & 9.5(a)3]

The person signing this certification as the "Qualified Ground Water Consultant" (as defined in N.J.A.C.7:14B-1.6) responsible for the design and implementation of the site assessment plan as specified in N.J.A.C. 7:14B-8.3(a) & 9.2(b)2, must supply the name of the certifying organization and certification number.

*"I certify under penalty of law that the information provided in this document is true, accurate, and complete and was obtained by procedures in compliance with N.J.A.C. 7:14B-8 and 9. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) Charles Appleby SIGNATURE 

COMPANY NAME U.S. Army Fort Monmouth DATE 10/29/93  
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEPE CERTIFICATION NUMBER 2056

VIII. TANK DECOMMISSIONING CERTIFICATION [person performing tank decommissioning portion of closure plan - N.J.A.C. 7:14B-9.5(a)4]

*"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. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) ALL SERVICE ENVIRONMENTAL, INC. SIGNATURE [Signature]

COMPANY NAME 523 Route 303 DATE 9-30-93  
Greeneburg, NY 10902  
(Performer of Tank Decommissioning)

IX. CERTIFICATIONS BY THE RESPONSIBLE PARTY(IES) OF THE FACILITY

A. The following certification shall be signed by the highest ranking individual with overall responsibility for that facility [N.J.A.C. 7:14B-2.3(c)1].

*"I certify under penalty of law that the information provided in this document is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) James Ott, P.E. SIGNATURE [Signature]

COMPANY NAME U.S. Army Fort Monmouth DATE 10/29/93

B. The following certification shall be signed as follows [according to the requirements of N.J.A.C. 7:14B-2.3(C)2]:

1. For a corporation, by a principal executive officer of at least the level of vice president.
2. For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or
3. For a municipality, State, Federal or other public agency by either the principal executive officer or ranking elected official.
4. In cases where the highest ranking corporate partnership, governmental officer or official at the facility as required in A above is the same person as the official required to certify in B, only the certification in A need to be made. In all other cases, the certifications of A and B shall be made.

*"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attached documents, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment."*

NAME (Print or Type) \_\_\_\_\_ SIGNATURE \_\_\_\_\_

COMPANY NAME \_\_\_\_\_ DATE \_\_\_\_\_

## ATTACHMENT I

### NO/NA RESPONSE EXPLANATION

<u>SAS QUESTION #</u>	<u>RESPONSE</u>	<u>EXPLANATION</u>
IIA.	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
IIIB.	N/A	Same as above.
IIIC.	N/A	Same as above.
III.	N/A	Closure of Facility Registration No. 0081533-198 was conducted under approval and from onsite supervision the NJDEPE Division of Hazardous Waste Management.
IV.C.2	N/A	No soil borings were proposed in the closure plan.
V.A	No	No contaminants were identified in soil samples at concentrations exceeding proposed NJDEPE cleanup criteria.
V.B.1-4	N/A	Same as above.
V.C.1-3	N/A	Same as above.
V.D	N/A	Same as above.
V.E	N/A	Same as above.
VI.A	No	No groundwater monitoring wells were installed as part of closure of Facility Registration No. 0081533-198; therefore, no groundwater samples were collected.

**ATTACHMENT I**

**NO/NA RESPONSE EXPLANATION**

<b><u>SAS QUESTION #</u></b>	<b><u>RESPONSE</u></b>	<b><u>EXPLANATION</u></b>
VI.B.1-6	N/A	Same as above.
VI.C.1-3	N/A	No release to groundwater has occurred from Facility Registration No. 0081533-198; therefore, no well search was performed as part of the site assessment.
VI.E	N/A	Same as above.
VI.F	N/A	Same as above.
VI.G.1-3	N/A	No groundwater contamination resulting from a release from Facility Registration No. 0081533-198 has been identified.

**APPENDIX C**  
**HAZARDOUS WASTE MANIFEST**

**CASIE PROTANK**

April 15, 1993

U.S. Army Communications Electronics Command  
c/o James Shirghio, Bldg #2504  
Attn: SELFN-DL-EH-MS  
Fort Monmouth, N.J. 07703

RE: Manifest #NJA1307870

Gentlemen:

Please be advised that in reference to the above mentioned manifest, we were advised that the words "Waste" and "Petroleum distillates" were to be X'd out of any manifests that the truckers used from their briefcases.

Our state inspector told us that in view of the cost of said manifests the X'ing out of these words was preferable to destroying them.

If you have any further questions please do not hesitate to call me.

Sincerely,



Anne J. Giacomoni  
Environmental Co-ordinator

cc: All Service Environmental, Inc.  
Attn: Susan O'Brien

Encl.





State of New Jersey  
 Department of Environmental Protection  
 Division of Hazardous Waste Management  
 Manifest Section  
 CN 028, Trenton, NJ 08625

Form Approved. OMB No. 2050-0039. Expires 9-30-

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

In case of an emergency or spill immediately call the state emergency number and the N.J. Dept. of Environmental Protection. (609) 292-5560 (Day) (609) 292-7172 (Night)

UNIFORM HAZARDOUS WASTE MANIFEST		1. Generator's US EPA ID No. NJ3210020597	Manifest Document No. 2-27	2. Page 1 of	Information in the shaded area is not required by Federal law.
3. Generator's Name and Mailing Address H.S. KRUMHOLTZ COMMUNICATIONS ELECTRONICS COMPANY MAIN POST OFFICE, CP TIMES SQUARE BLDG 2750 ATTN: J. EM-DL-EM-MS, FORT MIDDLETOWN NJ.		4. Generator's Phone (908) 532-9911		A. State Manifest Document Number	
5. Transporter 1 Company Name Casta/Protenk		6. US EPA ID Number NJ1204599549		B. State Generator's ID	
7. Transporter 2 Company Name		8. US EPA ID Number		C. State Trans. ID	
9. Designated Facility Name and Site Address Caste Ecology Oil Salvage 1209 N. Mill Rd Vineland, NJ 08360		10. US EPA ID Number NJ1204599549		D. Transporter's Phone E. State Trans. ID F. Transporter's Phone G. State Facility's ID H. Facility's Phone	
11. US DOT Description (Including Proper Shipping Name, Hazard Class, and ID Number) HM			12. Containers No. Type	13. Total Quantity	14. Unit Wt/Vol
GENERATOR	a.	Waste Combustible Liquid, F.O.S. (flammable liquid, NAL92)	10	10	10
	b.	<del>Waste Combustible Liquid, F.O.S. (flammable liquid, NAL92)</del>	<del>10</del>	<del>10</del>	<del>10</del>
	c.				
	d.				
J. Additional Descriptions for Materials Listed Above			K. Handling Codes for Wastes		
15. Special Handling Instructions and Additional Information 24 hour emergency response phone 908-532-9911 JAMES SHIRGHI CITE 0092F2 I.L.C. #27 Bldg 750 (combined w/ hot waste)					
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations. If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.					
Printed/Typed Name James M. Fallon		Signature James M. Fallon		Month Day Year 03 25 99	
TRANSPORTER	17. Transporter 1 Acknowledgement of Receipt of Materials				
	Printed/Typed Name Toni KRASOY		Signature Toni KRASOY		Month Day Year 03 25 99
	18. Transporter 2 Acknowledgement of Receipt of Materials				
Printed/Typed Name		Signature		Month Day Year	
FACILITY	19. Discrepancy Indication Space				
	20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19.				
Printed/Typed Name		Signature		Month Day Year	

**CASIE/PROTANK**

ENVIRONMENTAL SERVICES

P.O. Box 92  
Franklinville, NJ 08322  
696-4401

No 24816

Deliver From U S ARMY

Address MAIN POST

Tank Truck Salesman 46520 Time \_\_\_\_\_ am  
pm

Approval \_\_\_\_\_ CFI# \_\_\_\_\_

Sale  Disposal  Purchase

<p><b>OILS LAB</b></p> <p>CHLORINATED CONTENT _____ PPM</p> <p>BS&amp;W _____ %</p> <p>FLASH _____ °F</p> <p>PHC _____ PPM</p>	<p><b>MANIFEST #</b></p> <p><u>NJA1307870</u></p> <p><b>PLANT DATA</b></p> <p><input type="checkbox"/> TANK _____</p>
--	---

Product	Gals.	Price	Amount
<u>X 722</u>	<u>850</u>		

**Generator Certification**

I hereby certify that the above and attached description is complete and accurate to the best of my knowledge and ability to determine, that no deliberate or willful omissions of compositions or properties exists, and that all known or suspected hazards have been disclosed.

Generator's Authorized Signatory:

X Joe Fallon

TITLE Chief DATE 3-25-93

Submitted By: [Signature]

**APPENDIX D**  
**ANALYTICAL DATA PACKAGE**

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

Client: U.S. Army  
 DEH, SELFM-EH-EV  
 Bldg. 167  
 Ft. Monmouth, NJ 07703

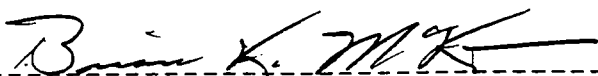
Lab. ID #: 1161.1-.6  
 Sample Rec'd: 03/11/93  
 Analysis Start: 03/12/93  
 Analysis Comp: 03/12/93

Analysis: 418.1 (TPH)  
 Matrix: Soil  
 Analyst: S. Hubbard

NJDEPE UST Reg. #: XXXXXXX-XX,XX,XX,XX  
 Closure Approval #: X-XX-XXXX/XX  
 NJDEPE Case #: XX-XX-XX-XXXX  
 Building #: 750

Lab ID.	Description	%Solid	Result (mg/Kg)	MDL
1161.1	S #A	90	23.7	3.3
1161.2	S #B	91	5.9	3.3
1161.3	S #C	89	18.0	3.3
1161.4	S #D	83	13.8	3.3
1161.5	S #E	88	10.2	3.3
1161.6	S #F	88	27.0	3.3
M Bl.	Method Blank	--	ND	3.3

Notes: ND = Not Detected, MDL = Method Detection Limit  
 % Duplication (Batch) = 99%  
 % Spike Recovery (Batch) = 64%

  
 -----  
 Brian K. McKee  
 Laboratory Director



SERV-AIR, INC.  
An E-SYSTEMS Company

CHAIN OF CUSTODY RECORD

CLIENT: (1) S. Army

PROJECT ID: 8750

ADDRESS: \_\_\_\_\_

SAMPLER: Radzko, Bky

CITY/STATE: \_\_\_\_\_

PHONE #: \_\_\_\_\_

LAB ID #	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	GRAB	SAMPLE TYPE		NO. OF BOTTLES	ANALYSIS REQUESTED
					SOIL	COMP		
1	5A HUU-MB	3/11	1350		X		1	16.965 1 PHC 15.365
2	5A3 HUU-MB	3/11	1400		X		1	16.980 15.491
3	5A0 HUU-MB		1407		X		1	16.098 14.440
4	5AD HUU-MB		1412		X		1	<del>15.260</del> 13.493
5	5AE HUU-MB		1423		X		1	16.780
6	5AF HUU-MB		1419		X		1	20.873 14.564 18.531
	<del>5AG HUU-MB</del>							
SAMPLE COLLECTED BY: <u>Radzko, Bky</u>		DATE	TIME	PRESERVED WITH:				
RELINQUISHED BY: <u>Radzko, Bky</u>		3/11	1441	NaOH	H2SO4	HNO3	NONE	OTHER
				RECEIVED BY: <u>S. Hubbard</u>				

93%  
91%  
89%  
83%  
88%  
88%

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

Client: U.S. Army  
 DEH, SELFM-EH-EV  
 Bldg. 167  
 Ft. Monmouth, NJ 07703

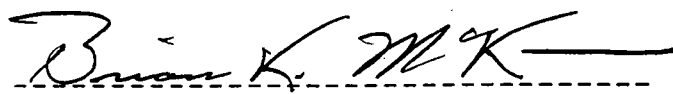
Lab. ID #: 1159.1+.2  
 Sample Rec'd: 03/11/93  
 Analysis Start: 03/12/93  
 Analysis Comp: 03/12/93

Analysis: 418.1 (TPH)  
 Matrix: Aqueous  
 Analyst: S. Hubbard

NJDEPE UST Reg. #: XXXXXXX-XX,XX,XX,XX  
 Closure Approval #: X-XX-XXXX/XX  
 NJDEPE Case #: XX-XX-XX-XXXX  
 Building #: 750

Lab ID.	Description		Result (mg/L)	MDL
1159.1	Rinse #1		334.	1.0
1159.2	Rinse #2		107.	1.0
M Bl.	Method Blank		ND	1.0

Notes: ND = Not Detected, MDL = Method Detection Limit



-----  
 Brian K. McKee  
 Laboratory Director

**CHAIN OF CUSTODY RECORD**

CLIENT: U.S. Army DETH PROJECT ID: Blk 750 Waste oil wt Risk Unit  
 ADDRESS: \_\_\_\_\_ SAMPLER: Charles Appleby  
 CITY/STATE: \_\_\_\_\_ PHONE #: 901 532-6224

LAB ID #	SAMPLE ID	SAMPLE DATE	SAMPLE TIME	GRAB	SAMPLE TYPE		NO. OF BOTTLES	ANALYSIS REQUESTED
					SOIL	COMP		
1159.1	Risk #1	3/11/93	1335	x			16	TPHC
1159.2	Risk #2	3/11/93	1345	x			16	TPHC

SAMPLE COLLECTED BY: C. Appleby PRESERVED WITH: NaOH H2SO4 HNO3 NONE OTHER  
 RELINQUISHED BY: Charles DETH RECEIVED BY: Samuel J. Hubbard  
 DATE: 3/11/93 TIME: 1600



618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489 • 609-467-9521

**E-SYSTEMS**

**PROJECT: UST-BLG 750**

**US ARMY FORT MONMOUTH, NJ**

ANALYSIS NO:

CLIENT ID:

A 1254	Site A
A 1255	Site B
A 1256	Site C
A 1257	Site D
A 1258	Site E
A 1259	Site F
A 1260	Trip Blank
A 1265	Field Blank

DATE RECEIVED: MARCH 15, 1993

TWENTY FIRST CENTURY  
ENVIRONMENTAL, INC.

RICHARD W. LYNCH  
LABORATORY MANAGER



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NARRATIVE

All extractions and analysis were completed within proper hold times for this batch of samples (A1254 to A1260 and A1265). Please note that 1,1,2,2-Tetrachloroethane and 1,1,2-Trichloroethane were found in several semi-volatile searches. We believe this is a breakdown byproduct of methylene chloride caused during sonication.

CLIENT: E-Systems  
 ADDRESS: \_\_\_\_\_  
 CITY: \_\_\_\_\_  
 STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_  
 ATTN: \_\_\_\_\_

CHAIN OF CUSTODY

A1254 to A1260

00002

PROJECT DESCRIPTION:  
VST - B1g 750  
 P.O.# \_\_\_\_\_

ANALYSES REQUESTED

*Priority Release (15)  
 Vost (15)*

SAMPLE IDENTIFICATION	MATRIX	SAMPLE DATE	SAMPLE TIME	TYPE GR C	PRESERV.	# OF CONT.	REMARKS
Site A	soil	3/11/93	1350	✓	4°C	5	
Site B			1400	✓			
Site C			1407	✓			
Site D			1412	✓			
Site E			1423	✓			
Site F			1414	✓			
Trip Blank	water	N/A	N/A	✓		2	
<i>(Same TB as B1g161)</i>							

SAMPLED BY:	DATE/TIME	RECEIVED BY:	DATE/TIME	RELINQUISHED BY:	DATE/TIME	RECEIVED BY:
<i>[Signature]</i>	3/11/93	<i>[Signature]</i>	3/15/93	<i>[Signature]</i>	3/15/93	
PRINT: <i>Charles D. Parry</i>	(Seal)	<i>[Signature]</i>	1600	<i>[Signature]</i>	1730	
COMPANY: <i>US Army</i>	(Seal)	<i>[Signature]</i>	21st Cent Env	<i>[Signature]</i>	21st Cent Env	

RELINQUISHED BY: \_\_\_\_\_ DATE/TIME: \_\_\_\_\_ RECEIVED FOR LAB: \_\_\_\_\_  
 SIG: \_\_\_\_\_  
 PRINT: *R. Lynch*  
 COMPANY: *21st Cent Env*

DATA DELIVERABLES  
 Tier II  
 Results only  
 Other \_\_\_\_\_

TURNOVER TIME  
 STANDARD (2-3 wks.)  
 The following need prior lab authorization:  
 1 wk. [ ] 72 hrs.  
 48 hrs. [ ] 24 hrs.  
 AUTHORIZED BY: \_\_\_\_\_

DELIVERY METHOD:  
 In Person. [ ] UPS. [ ] Fed Ex. [ ] Other \_\_\_\_\_

*PR ELEM  
 RESULTS*

Acid Extractables  
Base Neutrals

U.S.E.P.S. Method 625 - This method covers the determination of a number of organic compounds that are partitioned in an organic solvent and amenable to gas chromatography. This is a gas chromatography/mass spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

A HP5970 was used with a DB-5 FSCC.

Method detection limits are as stated.

Soil samples were prepared for analysis as prescribed in Method 3550 and analyzed as prescribed in Method 8270 from SW846.

Cyanide

Analysis performed according to U.S.E.P.A. 335.2 (Spectrophotometric with distillation). Sample is reacted with Chloramine-T to produce Cyanogen, Chloride, CNCl. Red color develops when combined with Pyridine/Barbituric Acid Reagent; which is read at 578nm.

Soil samples are prepared for analysis as prescribed in Method 9010 from SW846.

Phenols

Analysis performed according to U.S.E.P.A. 420.1 (Spectrophotometric, Manual 4AAP with distillation). Phenolic materials react with four (4) Aminoantipyrine and Potassium Ferricyanide at pH 10. Red color is read at 510 nm.

Soil samples are prepared for analysis as prescribed in Method 9067 from SW846.

00003

## Metals

Soil samples for metal analysis were run in accordance with the methods prescribed in SW846. This includes a nitric acid digestion followed by either Furnace, Flame Atomic Absorption, or Inductively Coupled Plasma analysis.

Aqueous samples for metals analysis were run in accordance with the methods prescribed in Methods for Chemical Analysis of Water and Wastes, EPA-600/4-79-020 March 1983.

## Pesticides/PCB's

U.S.E.P.A. Method 608 - This method covers the determination of pesticides and PCB's in samples by extraction/concentration with organic solvents and subsequent qualification/quantification by Gas Chromatography. The gas chromatograph utilized an electron capture detector (ECD) which is applicable for the determination of the compounds listed for the method in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

Soil samples were prepared as prescribed in Method 3550 and analyzed as prescribed in Method 8080 from SW846.

## Purgeables

U.S.E.P.A. Method 624 - This is a purge and trap Gas Chromatograph/Mass Spectrometer (GC/MS) method applicable to the determination of the compounds listed in the U.S.E.P.A. Manual entitled "Test Procedures for the Analysis of Organic Pollutants".

An HP5996 GC/MS was used with a capillary column.

Method detection limits are as stated.

Soil samples are prepared for analysis as prescribed in Method 8240 from SW846.

LABORATORY CHRONICLE

RECEIPT/REFRIGERATION \_\_\_\_\_

3/15/93

ORGANICS  
EXTRACTION

1. Acids \_\_\_\_\_ 3/15/93 - 3/19/93
2. Base/Neutrals \_\_\_\_\_ 3/15/93 - 3/19/93
3. Pesticides/PCB's/Herbicides \_\_\_\_\_ 3/15/93
4. Petroleum Hydrocarbons/Oil & Grease NA

ANALYSIS

1. Volatiles \_\_\_\_\_ 3/16/93 - 3/24/93
2. Acids \_\_\_\_\_ 3/16/93 - 3/25/93
3. Base/Neutrals \_\_\_\_\_ 3/16/93 - 3/25/93
4. Pesticides/PCB's/Herbicides \_\_\_\_\_ 3/17/93
5. Petroleum Hydrocarbons/Oil & Grease NA
6. Total Organic Carbon \_\_\_\_\_ NA

Section Supervisor  
Review & Approval \_\_\_\_\_

*Jeffrey A. Martin*

INORGANICS

1. Metals \_\_\_\_\_ 3/16/93 - 3/23/93
2. Cyanides \_\_\_\_\_ 3/17/93
3. Phenols \_\_\_\_\_ 3/17/93

OTHER ANALYTES

Section Supervisor  
Review & Approval \_\_\_\_\_

*Maria Linnell*

Quality Control Supervisor  
Review & Approval \_\_\_\_\_

*John Lee*

Laboratory Director  
Review & Approval \_\_\_\_\_

*Robert W. Lynd*

If fractions are re-extracted and re-analyzed because initial endeavors did not meet quality control acceptance criteria, include dates for both.

00005

RESULT SUMMARY



618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489 • 609-467-9521

US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

ANALYSIS NO: A 1254

CLIENT ID: Site A

<u>PARAMETER</u>	<u>MDL (mg/kg)</u>	<u>RESULT (mg/kg)</u>
CYANIDE	0.10	0.26
PHENOL	0.50	N.D.

00007



US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

PRIORITY POLLUTANT LIST

ANALYSIS NO: A 1254

CLIENT ID: Site A

<u>METALS</u>	<u>MDL (mg/Kg)</u>	<u>RESULT (mg/Kg)</u>
ANTIMONY	5.00	N.D.
ARSENIC	0.25	1.00
BERYLLIUM	1.00	N.D.
CADMIUM	1.00	N.D.
CHROMIUM	1.00	14.6
COPPER	1.00	2.02
LEAD	5.00	10.9
MERCURY	0.10	N.D.
NICKEL	5.00	N.D.
SELENIUM	0.25	N.D.
SILVER	1.00	N.D.
THALLIUM	1.00	N.D.
ZINC	1.00	16.2

00008

21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1254</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>SITE A BLDG 750</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;A1061</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	55	Bromodichloromethane	ND	5
Acrylonitrile	ND	55	2-Chloroethylvinylether	ND	11
Chloromethane	ND	11	2-Hexanone	ND	11
Bromomethane	ND	11	trans-1,3-Dichloropropene	ND	5
Vinyl Chloride	ND	11	Toluene	3.8 J	5
Chloroethane	ND	11	cis-1,3-Dichloropropene	ND	5
Acetone	12 B	11	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	11	4-Methyl-2-pentanone	ND	11
Methylene Chloride	6.2	5	Tetrachloroethene	ND	5
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5	Chlorobenzene	ND	5
Vinyl Acetate	ND	5	Ethylbenzene	1.2 J	5
2-Butanone	ND	11	m,p-Xylenes	5.6	5
Chloroform	ND	5	o-Xylene	1.8 J	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
Carbon Tetrachloride	ND	5	Bromoform	ND	5
1,2-Dichloroethane	ND	5	m-Dichlorobenzene	ND	5
Benzene	ND	5	p-Dichlorobenzene	ND	5
Trichloroethene	ND	5	o-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	109	70 - 121	OK
Toluene-d8	102	81 - 117	OK
Bromofluorobenzene	97.4	74 - 121	OK

Percent Solid of 91.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

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21ST CENTURY Environmental  
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	<u>US ARMY, FT. MONMOUTH, NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1254</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>BLDG 750, SITE A</u>	QA BATCH	
DATA FILE	<u>&gt;C0822</u>	DATE ANALYZED	<u>03/25/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-Nitrosodimethylamine	ND	360	Acenaphthene	ND	360
Phenol	ND	360	2,4-Dinitrophenol	ND	1800
bis(-2-Chloroethyl)Ether	ND	360	4-Nitrophenol	ND	1800
2-Chlorophenol	ND	360	Dibenzofuran	ND	360
1,3-Dichlorobenzene	ND	360	2,4-Dinitrotoluene	ND	360
1,4-Dichlorobenzene	ND	360	2,6-Dinitrotoluene	ND	360
Benzyl Alcohol	ND	360	Diethylphthalate	ND	360
1,2-Dichlorobenzene	ND	360	4-Chlorophenyl-phenylether	ND	360
2-Methylphenol	ND	360	Fluorene	ND	360
bis(2-chloroisopropyl)Ether	ND	360	4-Nitroaniline	ND	1800
4-Methylphenol	ND	360	4,6-Dinitro-2-Methylphenol	ND	1800
N-Nitroso-Di-n-Propylamine	ND	360	N-Nitrosodiphenylamine	ND	360
Hexachloroethane	ND	360	4-Bromophenyl-phenylether	ND	360
Nitrobenzene	ND	360	Hexachlorobenzene	ND	360
Isophorone	ND	360	Pentachlorophenol	ND	1800
2-Nitrophenol	ND	360	Phenanthrene	ND	360
2,4-Dimethylphenol	ND	360	Anthracene	ND	360
Benzoic Acid	ND	1800	Di-n-Butylphthalate	ND	360
bis(-2-Chloroethoxy)Methane	ND	360	Fluoranthene	36 J	360
2,4-Dichlorophenol	ND	360	Pyrene	40 J	360
1,2,4-Trichlorobenzene	ND	360	Butylbenzylphthalate	ND	360
Naphthalene	ND	360	3,3'-Dichlorobenzidine	ND	720
4-Chloroaniline	ND	360	Benzo(a)Anthracene	36 J	360
Hexachlorobutadiene	ND	360	Bis(2-Ethylhexyl)Phthalate	55 JB	360
4-Chloro-3-Methylphenol	ND	360	Chrysene	67 J	360
2-Methylnaphthalene	ND	360	Di-n-Octyl Phthalate	ND	360
Hexachlorocyclopentadiene	ND	360	Benzo(b)Fluoranthene	ND	360
2,4,6-Trichlorophenol	ND	360	Benzo(k)Fluoranthene	ND	360
2,4,5-Trichlorophenol	ND	1800	Benzo(a)Pyrene	130 J	360
2-Chloronaphthalene	ND	360	Indeno(1,2,3-cd)Pyrene	160 J	360
2-Nitroaniline	ND	1800	Dibenzo(a,h)Anthracene	ND	360
Dimethyl Phthalate	ND	360	Benzo(g,h,i)Perylene	150 J	360
Acenaphthylene	ND	360	Benzidine	ND	720
3-Nitroaniline	ND	1800			

Percent Solid of 91.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

Lab Name : 21ST CENTURY ENVIRONMENTAL  
 Client ID: US ARMY FORT MONMOUTH, NJ UST-BLG 750  
 SITE A

-----+  
 | Lab Sample ID: |  
 | A1254 |  
 -----+

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Pesticides/PCBs

Concentration: Low Medium ( Circle One )      GPC Cleanup    Yes    No  
 Date Extracted/Prepared: 03/15/93      Separatory Funnel Extraction    Yes  
 Date Analyzed: 03/16/93 18:34      Continuous Liquid-Liquid Extraction    Yes  
 Conc/Dil Factor: 10.00g/10ml  
 Percent Moisture: 9

C.A.S. Number		ug/L or ug/Kg	
319-84-6	Alpha-BHC . . . . .	5.5	U
319-87-7	Beta-BHC . . . . .	5.5	U
319-86-8	Delta-BHC . . . . .	5.5	U
58-89-9	Gamma-BHC (Lindane). . . . .	5.5	U
76-44-8	Heptachlor . . . . .	5.5	U
309-00-2	Aldrin . . . . .	5.5	U
1024-57-3	Heptachlor Epoxide . . . . .	5.5	U
959-98-8	Endosulfan I . . . . .	5.5	U
60-57-1	Dieldrin . . . . .	5.5	U
72-55-9	4,4'-DDE . . . . .	5.5	U
72-20-8	Endrin . . . . .	5.5	U
33213-65-9	Endosulfan II. . . . .	11	U
72-54-8	4,4'-DDD . . . . .	11	U
1031-07-8	Endosulfan Sulfate . . . . .	11	U
50-29-3	4,4'-DDT . . . . .	11	U
72-43-5	Methoxychlor . . . . .	270	U
7421-93-4	Endrin Aldehyde. . . . .	11	U
57-74-9	Chlordane. . . . .	270	U
8001-35-2	Toxaphene. . . . .	550	U
12674-11-2	Arochlor-1016. . . . .	270	U
11104-28-2	Arochlor-1221. . . . .	270	U
11141-16-5	Arochlor-1272. . . . .	270	U
53469-21-9	Arochlor-1242. . . . .	270	U
12672-29-6	Arochlor-1245. . . . .	270	U
11097-49-1	Arochlor-1254. . . . .	270	U
11096-82-5	Arochlor-1260. . . . .	270	U

U Undetected      U Estimated value below detection level

1E  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SITE A

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Matrix: (soil/water) SOIL

Lab Sample ID: A1254

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A1061

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: 9

Date Analyzed: 03/16/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:  
 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			

E1  
 semi-VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE A
--------

Matrix: (soil/water) SOIL  
 Client Name: US Army, Ft. Monmouth, NJ  
 Sample wt/vol: 30 (g/mL) GM  
 Level: LOW  
 % Moisture: 9  
 Extraction: (Sepf/Cont/Sonc) SONC  
 GPC ( Y or N ): N  
 Column: DB-5

Lab Sample ID: A1254  
 Client ID: Bldg 750  
 Lab File ID: >C0822  
 Date Received: NA  
 Date Analyzed 03/25/93  
 Date Extracted 03/15/93  
 Dilution Factor: 1

Number TICs Found 5

CONCENTRATION UNITS  
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	UNKNOWN	4.27	150
2	79345 Ethane, 1,1,2,2-tetrachloro- (8CI9CI)	8.21	440
3	UNKNOWN	30.44	260
4	UNKNOWN	30.79	370
5	UNKNOWN	31.16	180



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US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

ANALYSIS NO: A 1255

CLIENT ID: Site B

<u>PARAMETER</u>	<u>MDL (mg/kg)</u>	<u>RESULT (mg/kg)</u>
CYANIDE	0.10	0.27
PHENOL	0.50	N.D.

00014

US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

PRIORITY POLLUTANT LIST

ANALYSIS NO: A 1255

CLIENT ID: Site B

<u>METALS</u>	<u>MDL (mg/Kg)</u>	<u>RESULT (mg/Kg)</u>
ANTIMONY	5.00	N.D.
ARSENIC	0.25	3.05
BERYLLIUM	1.00	N.D.
CADMIUM	1.00	N.D.
CHROMIUM	1.00	24.3
COPPER	1.00	1.79
LEAD	5.00	7.13
MERCURY	0.10	N.D.
NICKEL	5.00	N.D.
SELENIUM	0.25	N.D.
SILVER	1.00	N.D.
THALLIUM	1.00	N.D.
ZINC	1.00	16.5

00015



21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1255</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>SITE B BLDG 750</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;A1062</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	55	Bromodichloromethane	ND	5
Acrylonitrile	ND	55	2-Chloroethylvinylether	ND	11
Chloromethane	ND	11	2-Hexanone	ND	11
Bromomethane	ND	11	trans-1,3-Dichloropropene	ND	5
Vinyl Chloride	ND	11	Toluene	2.8 J	5
Chloroethane	ND	11	cis-1,3-Dichloropropene	ND	5
Acetone	14 B	11	1,1,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	11	4-Methyl-2-pentanone	ND	11
Methylene Chloride	5.2 J	5	Tetrachloroethene	ND	5
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5	Chlorobenzene	ND	5
Vinyl Acetate	ND	5	Ethylbenzene	ND	5
2-Butanone	ND	11	m&p-Xylenes	5.0 J	5
Chloroform	ND	5	o-Xylene	1.8 J	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
Carbon Tetrachloride	ND	5	Bromoform	ND	5
1,2-Dichloroethane	ND	5	m-Dichlorobenzene	ND	5
Benzene	ND	5	p-Dichlorobenzene	ND	5
Trichloroethene	ND	5	o-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	110	70 - 121	OK
Toluene-d8	102	81 - 117	OK
Bromofluorobenzene	101	74 - 121	OK

Percent Solid of .91.0 is used for all Target compounds.

(J) Indicates detected below MDL

(B) Indicates also present in blank

(ND) Indicates compound not detected

21ST CENTURY Environmental  
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ  
 SAMPLE NUMBER A1255  
 CLIENT ID BLDG 750, SITE 8  
 DATA FILE >C0734

MATRIX Soil  
 DILUTION FACTOR 1.00  
 QA BATCH \_\_\_\_\_  
 DATE ANALYZED 03/16/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-Nitrosodimethylamine	ND	360	Acenaphthene	ND	360
Phenol	ND	360	2,4-Dinitrophenol	ND	1800
bis(-2-Chloroethyl)Ether	ND	360	4-Nitrophenol	ND	1800
2-Chlorophenol	ND	360	Dibenzofuran	ND	360
1,3-Dichlorobenzene	ND	360	2,4-Dinitrotoluene	ND	360
1,4-Dichlorobenzene	ND	360	2,6-Dinitrotoluene	ND	360
Benzyl Alcohol	ND	360	Diethylphthalate	ND	360
1,2-Dichlorobenzene	ND	360	4-Chlorophenyl-phenylether	ND	360
2-Methylphenol	ND	360	Fluorene	ND	360
bis(2-chloroisopropyl)Ether	ND	360	4-Nitroaniline	ND	1800
4-Methylphenol	ND	360	4,6-Dinitro-2-Methylphenol	ND	1800
N-Nitroso-Di-n-Propylamine	ND	360	N-Nitrosodiphenylamine	ND	360
Hexachloroethane	ND	360	4-Bromophenyl-phenylether	ND	360
Nitrobenzene	ND	360	Hexachlorobenzene	ND	360
Isophorone	ND	360	Pentachlorophenol	ND	1800
2-Nitrophenol	ND	360	Phenanthrene	ND	360
2,4-Dimethylphenol	ND	360	Anthracene	ND	360
Benzoic Acid	ND	1800	Di-n-Butylphthalate	ND	360
bis(-2-Chloroethoxy)Methane	ND	360	Fluoranthene	ND	360
2,4-Dichlorophenol	ND	360	Pyrene	ND	360
1,2,4-Trichlorobenzene	ND	360	Butylbenzylphthalate	ND	360
Naphthalene	ND	360	3,3'-Dichlorobenzidine	ND	720
4-Chloroaniline	ND	360	Benzo(a)Anthracene	ND	360
Hexachlorobutadiene	ND	360	Bis(2-Ethylhexyl)Phthalate	61 JB	360
4-Chloro-3-Methylphenol	ND	360	Chrysene	ND	360
2-Methylnaphthalene	ND	360	Di-n-Octyl Phthalate	ND	360
Hexachlorocyclopentadiene	ND	360	Benzo(b)Fluoranthene	ND	360
2,4,6-Trichlorophenol	ND	360	Benzo(k)Fluoranthene	ND	360
2,4,5-Trichlorophenol	ND	1800	Benzo(a)Pyrene	ND	360
2-Chloronaphthalene	ND	360	Indeno(1,2,3-cd)Pyrene	ND	360
2-Nitroaniline	ND	1800	Dibenzo(a,h)Anthracene	ND	360
Dimethyl Phthalate	ND	360	Benzo(g,h,i)Perylene	ND	360
Acenaphthylene	ND	360	Benzidine	ND	720
3-Nitroaniline	ND	1800			

Percent Solid of 91.0 is used for all Target compounds.

(J) Indicates detected below MDL  
 (B) Indicates also present in blank  
 (ND) Indicates compound not detected

00017

Lab Name : 21ST CENTURY ENVIRONMENTAL  
 Client ID: US ARMY FORT MONMOUTH, NJ UST-BLG 750  
 SITE B

-----+  
 | Lab Sample ID: |  
 | A1255 |  
 -----+

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Pesticides/PCBs

Concentration: Low Medium ( Circle One )      GPC Cleanup  Yes  No  
 Date Extracted/Prepared: 03/15/93      Separatory Funnel Extraction  Yes  
 Date Analyzed: 03/16/93 19:17      Continuous Liquid-Liquid Extraction  Yes  
 Conc/Dil Factor: 10.02g/10ml  
 Percent Moisture: 9

C.A.S. Number		ug/L or ug/Kg	
319-84-6	Alpha-BHC. . . . .	5.5	U
319-87-7	Beta-BHC . . . . .	5.5	U
319-86-8	Delta-BHC. . . . .	5.5	U
58-89-9	Gamma-BHC (Lindane). . .	5.5	U
76-44-8	Heptachlor . . . . .	5.5	U
369-00-2	Aldrin . . . . .	5.5	U
1024-57-3	Heptachlor Epoxide . . .	5.5	U
959-98-8	Endosulfan I . . . . .	5.5	U
60-57-1	Dieldrin . . . . .	5.5	U
72-55-9	4,4'-DDE . . . . .	5.5	U
72-20-8	Endrin . . . . .	5.5	U
33213-65-9	Endosulfan II. . . . .	11	U
72-84-8	4,4'-DDD . . . . .	11	U
1031-07-8	Endosulfen Sulfate . . .	11	U
50-29-3	4,4'-DDT . . . . .	11	U
72-43-5	Methoxychlor . . . . .	270	U
7421-93-4	Endrin Aldenylde. . . . .	11	U
57-74-9	Chlordane. . . . .	270	U
8001-35-2	Toxaphene. . . . .	550	U
11174-11-0	Archlor-1016. . . . .	270	U
11104-28-0	Archlor-1201. . . . .	270	U
11141-16-5	Archlor-1231. . . . .	270	U
55469-21-3	Archlor-1242. . . . .	270	U
11173-09-1	Archlor-1248. . . . .	270	U
11097-69-1	Archlor-1254. . . . .	270	U
11896-82-5	Archlor-1260. . . . .	270	U

U Undetected      ) Estimated value below detection level

1

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SITE B

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Matrix: (soil/water) SOIL

Lab Sample ID: A1255

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A1062

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: 9

Date Analyzed: 03/16/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS  
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
	No Unknowns			

E1  
semi-VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE B

Matrix: (soil/water) SOIL

Lab Sample ID: A1255

Client: US Army, Ft. Monmouth, NJ

Client ID: Bldg 750

Sample wt/vol: 30 (g/mL) GM

Lab File ID: >C0734

Level: LOW

Date Received: NA

% Moisture: 9

Date Analyzed 03/16/93

Extraction: (Sepf/Cont/Sonc) SONC

Date Extracted 03/15/93

GPC ( Y or N ): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 1

CONCENTRATION UNITS  
(ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1 79005	Ethane, 1,1,2-trichloro- (8CI9CI)	5.35	180



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US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

ANALYSIS NO: A 1256

CLIENT ID: Site C

<u>PARAMETER</u>	<u>MDL (mg/kg)</u>	<u>RESULT (mg/kg)</u>
CYANIDE	0.10	0.17
PHENOL	0.50	N.D.

00021

US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

PRIORITY POLLUTANT LIST

ANALYSIS NO: A 1256

CLIENT ID: Site C

<u>METALS</u>	<u>MDL (mg/Kg)</u>	<u>RESULT (mg/Kg)</u>
ANTIMONY	5.00	5.64
ARSENIC	0.25	1.60
BERYLLIUM	1.00	N.D.
CADMIUM	1.00	N.D.
CHROMIUM	1.00	20.0
COPPER	1.00	6.82
LEAD	5.00	22.3
MERCURY	0.10	N.D.
NICKEL	5.00	N.D.
SELENIUM	0.25	0.47
SILVER	1.00	N.D.
THALLIUM	1.00	N.D.
ZINC	1.00	22.9

00022

21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1256</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>SITE C BLDG 750</u>	QA BATCH	
DATA FILE	<u>&gt;A1063</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	56	Bromodichloromethane	ND	6
Acrylonitrile	ND	56	2-Chloroethylvinylether	ND	11
Chloromethane	ND	11	2-Hexanone	ND	11
Vinyl Chloride	ND	11	Toluene	3.6 J	6
Chloroethane	ND	11	cis-1,3-Dichloropropene	ND	6
Acetone	12 B	11	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	11	4-Methyl-2-pentanone	ND	11
Methylene Chloride	4.7 J	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	ND	6
2-Butanone	ND	11	m,p-Xylenes	4.9 J	6
Chloroform	ND	6	o-Xylene	1.6 J	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	111	70 - 121	OK
Toluene-d8	102	81 - 117	OK
Bromofluorobenzene	99.9	74 - 121	OK

Percent Solid of 90.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected



21ST CENTURY Environmental  
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	<u>US ARMY, FT. MONMOUTH, NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1256</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>BLDG 750, SITE C</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;C0735</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-Nitrosodimethylamine	ND	370	Acenaphthene	ND	370
Phenol	ND	370	2,4-Dinitrophenol	ND	1800
bis(-2-Chloroethyl)Ether	ND	370	4-Nitrophenol	ND	1800
2-Chlorophenol	ND	370	Dibenzofuran	ND	370
1,3-Dichlorobenzene	ND	370	2,4-Dinitrotoluene	ND	370
1,4-Dichlorobenzene	ND	370	2,6-Dinitrotoluene	ND	370
Benzyl Alcohol	ND	370	Diethylphthalate	ND	370
1,2-Dichlorobenzene	ND	370	4-Chlorophenyl-phenylether	ND	370
2-Methylphenol	ND	370	Fluorene	ND	370
bis(2-chloroisopropyl)Ether	ND	370	4-Nitroaniline	ND	1800
4-Methylphenol	ND	370	4,6-Dinitro-2-Methylphenol	ND	1800
N-Nitroso-Di-n-Propylamine	ND	370	N-Nitrosodiphenylamine	ND	370
Hexachloroethane	ND	370	4-Bromophenyl-phenylether	ND	370
Nitrobenzene	ND	370	Hexachlorobenzene	ND	370
Isophorone	ND	370	Pentachlorophenol	ND	1800
2-Nitrophenol	ND	370	Phenanthrene	ND	370
2,4-Dimethylphenol	ND	370	Anthracene	ND	370
Benzoic Acid	ND	1800	Di-n-Butylphthalate	ND	370
bis(-2-Chloroethoxy)Methane	ND	370	Fluoranthene	ND	370
2,4-Dichlorophenol	ND	370	Pyrene	ND	370
1,2,4-Trichlorobenzene	ND	370	Butylbenzylphthalate	ND	370
Naphthalene	ND	370	3,3'-Dichlorobenzidine	ND	730
4-Chloroaniline	ND	370	Benzo(a)Anthracene	ND	370
Hexachlorobutadiene	ND	370	Bis(2-Ethylhexyl)Phthalate	52 JB	370
4-Chloro-3-Methylphenol	ND	370	Chrysene	ND	370
2-Methylnaphthalene	ND	370	Di-n-Octyl Phthalate	ND	370
Hexachlorocyclopentadiene	ND	370	Benzo(b)Fluoranthene	ND	370
2,4,6-Trichlorophenol	ND	370	Benzo(k)Fluoranthene	ND	370
2,4,5-Trichlorophenol	ND	1800	Benzo(a)Pyrene	ND	370
2-Chloronaphthalene	ND	370	Indeno(1,2,3-cd)Pyrene	ND	370
2-Nitroaniline	ND	1800	Dibenzo(a,h)Anthracene	ND	370
Dimethyl Phthalate	ND	370	Benzo(g,h,i)Perylene	ND	370
Acenaphthylene	ND	370	Benzidine	ND	730
3-Nitroaniline	ND	1800			

Percent Solid of 90.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

Lab Name : 21ST CENTURY ENVIRONMENTAL  
 Client ID: US ARMY FORT MONMOUTH, NJ UST-BLG 750  
 SITE C

Lab Sample ID: A1256

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Pesticides/PCBs

Concentration: Low Medium ( Circle One ) GPC Cleanup  Yes  No  
 Date Extracted/Prepared: 03/15/93 Separatory Funnel Extraction  Yes  
 Date Analyzed: 03/16/93 19:59 Continuous Liquid-Liquid Extraction  Yes  
 Conc/Dil Factor: 10.06g/10ml  
 Percent Moisture: 10

C.A.S. Number		ug/L or ug/Kg
319-84-6	Alpha-BHC . . . . .	5.6 U
319-87-7	Beta-BHC . . . . .	5.6 U
319-86-8	Delta-BHC . . . . .	5.6 U
58-89-9	Gamma-BHC (Lindane) . . . . .	5.6 U
76-44-8	Heptachlor . . . . .	5.6 U
309-00-2	Aldrin . . . . .	5.6 U
1024-57-3	Heptachlor Epoxide . . . . .	5.6 U
959-98-8	Endosulfan I . . . . .	5.6 U
60-57-1	Dieldrin . . . . .	5.6 U
72-55-9	4,4'-DDE . . . . .	5.6 U
72-20-8	Endrin . . . . .	5.6 U
33213-65-9	Endosulfan II . . . . .	11 U
72-54-8	4,4'-DDD . . . . .	11 U
1071-97-8	Endosulfan Sulfate . . . . .	11 U
50-29-3	4,4'-DDT . . . . .	11 U
72-43-5	Methoxychlor . . . . .	290 U
7421-93-4	Endrin Aldehyde . . . . .	11 U
57-74-9	Chlordane . . . . .	290 U
8001-35-2	Toxaphene . . . . .	560 U
12674-11-2	Arochlor-1016 . . . . .	290 U
11104-28-2	Arochlor-1221 . . . . .	290 U
11141-16-5	Arochlor-1232 . . . . .	290 U
53469-21-9	Arochlor-1242 . . . . .	290 U
12672-29-6	Arochlor-1246 . . . . .	290 U
11097-69-1	Arochlor-1254 . . . . .	290 U
11096-82-5	Arochlor-1260 . . . . .	290 U

U Undetected J Estimated value below detection level

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SITE C
--------

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Matrix: (soil/water) SOIL

Lab Sample ID: A1256

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A1063

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: 10

Date Analyzed: 03/16/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			

E1  
 semi-VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE C

Matrix: (soil/water) SOIL

Lab Sample ID: A1256

Client: US Army, Ft. Monmouth, NJ

Client ID: Bldg 750

Sample wt/vol: 30 (g/mL) GM

Lab File ID: >C0735

Level: LOW

Date Received: NA

% Moisture: 10

Date Analyzed 03/16/93

Extraction: (Sepf/Cont/Sonc) SONC

Date Extracted 03/15/93

GPC ( Y or N ): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 3

CONCENTRATION UNITS  
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1 79005	Ethane, 1,1,2-trichloro- (8CI9CI)	5.34	410
2 79345	Ethane, 1,1,2,2-tetrachloro- (8CI9CI)	8.81	1100
3	UNKNOWN	27.83	300



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US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

ANALYSIS NO: A 1257

CLIENT ID: Site D

<u>PARAMETER</u>	<u>MDL (mg/kg)</u>	<u>RESULT (mg/kg)</u>
CYANIDE	0.10	0.14
PHENOL	0.50	N.D.

00038

US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

PRIORITY POLLUTANT LIST

ANALYSIS NO: A 1257

CLIENT ID: Site D

<u>METALS</u>	<u>MDL (mg/Kg)</u>	<u>RESULT (mg/Kg)</u>
ANTIMONY	5.00	N.D.
ARSENIC	0.25	1.40
BERYLLIUM	1.00	N.D.
CADMIUM	1.00	N.D.
CHROMIUM	1.00	35.7
COPPER	1.00	2.16
LEAD	5.00	18.1
MERCURY	0.10	N.D.
NICKEL	5.00	N.D.
SELENIUM	0.25	N.D.
SILVER	1.00	N.D.
THALLIUM	1.00	N.D.
ZINC	1.00	20.8

00029

21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1257</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>SITE D BLDG 750</u>	QA BATCH	
DATA FILE	<u>&gt;A1064</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	56	Bromodichloromethane	ND	6
Acrylonitrile	ND	56	2-Chloroethylvinylether	ND	11
Chloromethane	ND	11	2-Hexanone	ND	11
Bromomethane	ND	11	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND	11	Toluene	1.6 J	6
Chloroethane	ND	11	cis-1,3-Dichloropropene	ND	6
Acetone	14 B	11	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	11	4-Methyl-2-pentanone	ND	11
Methylene Chloride	3.9 J	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	ND	6
2-Butanone	ND	11	m&p-Xylenes	ND	6
Chloroform	ND	6	o-Xylene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	109	70 - 121	OK
Toluene-d8	102	81 - 117	OK
Bromofluorobenzene	99.3	74 - 121	OK

Percent Solid of 90.0 is used for all Target compounds.

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

21ST CENTURY Environmental  
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	<u>US ARMY, FT. MONMOUTH, NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1257</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>BLDG 750, SITE D</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;C0736</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-Nitrosodimethylamine	ND	370	Acenaphthene	ND	370
Phenol	ND	370	2,4-Dinitrophenol	ND	1800
bis(-2-Chloroethyl)Ether	ND	370	4-Nitrophenol	ND	1800
2-Cholorophenol	ND	370	Dibenzofuran	ND	370
1,3-Dichlorobenzene	ND	370	2,4-Dinitrotoluene	ND	370
1,4-Dichlorobenzene	ND	370	2,6-Dinitrotoluene	ND	370
Benzyl Alcohol	ND	370	Diethylphthalate	ND	370
1,2-Dichlorobenzene	ND	370	4-Chlorophenyl-phenylether	ND	370
2-Methylphenol	ND	370	Fluorene	ND	370
bis(2-chloroisopropyl)Ether	ND	370	4-Nitroaniline	ND	1800
4-Methylphenol	ND	370	4,6-Dinitro-2-Methylphenol	ND	1800
N-Nitroso-Di-n-Propylamine	ND	370	N-Nitrosodiphenylamine	ND	370
Hexachloroethane	ND	370	4-Bromophenyl-phenylether	ND	370
Nitrobenzene	ND	370	Hexachlorobenzene	ND	370
Isophorone	ND	370	Pentachlorophenol	ND	1800
2-Nitrophenol	ND	370	Phenanthrene	ND	370
2,4-Dimethylphenol	ND	370	Anthracene	ND	370
Benzoic Acid	ND	1800	Di-n-Butylphthalate	ND	370
bis(-2-Chloroethoxy)Methane	ND	370	Fluoranthene	ND	370
2,4-Dichlorophenol	ND	370	Pyrene	ND	370
1,2,4-Trichlorobenzene	ND	370	Butylbenzylphthalate	ND	370
Naphthalene	ND	370	3,3'-Dichlorobenzidine	ND	730
4-Chloroaniline	ND	370	Benzo(a)Anthracene	ND	370
Hexachlorobutadiene	ND	370	Bis(2-Ethylhexyl)Phthalate	49 JB	370
4-Chloro-3-Methylphenol	ND	370	Chrysene	ND	370
2-Methylnaphthalene	ND	370	Di-n-Octyl Phthalate	ND	370
Hexachlorocyclopentadiene	ND	370	Benzo(b)Fluoranthene	ND	370
2,4,6-Trichlorophenol	ND	370	Benzo(k)Fluoranthene	ND	370
2,4,5-Trichlorophenol	ND	1800	Benzo(a)Pyrene	ND	370
2-Chloronaphthalene	ND	370	Indeno(1,2,3-cd)Pyrene	ND	370
2-Nitroaniline	ND	1800	Dibenzo(a,h)Anthracene	ND	370
Dimethyl Phthalate	ND	370	Benzo(g,h,i)Perylene	ND	370
Acenaphthylene	ND	370	Benzidine	ND	730
3-Nitroaniline	ND	1800			

Percent Solid of 90.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected



Lab Name : 21ST CENTURY ENVIRONMENTAL  
 Client ID: US ARMY FORT MONMOUTH, NJ UST-BLG 750  
 SITE D

-----+  
 Lab Sample ID: |  
 A1257 |  
 -----+

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Pesticides/PCBs

Concentration: Low Medium ( Circle One ) GPC Cleanup  Yes  No  
 Date Extracted/Prepared: 03/15/93 Separatory Funnel Extraction  Yes  
 Date Analyzed: 03/16/93 20:41 Continuous Liquid-Liquid Extraction  Yes  
 Conc/Dil Factor: 10.00g/10ml  
 Percent Moisture: 10

C.A.S. Number		ug/L or ug/Kg	
319-84-6	Alpha-BHC . . . . .	5.6	U
319-87-7	Beta-BHC . . . . .	5.6	U
719-86-8	Delta-BHC . . . . .	5.6	U
58-89-9	Gamma-BHC (Lindane) . . . . .	5.6	U
76-44-8	Heptachlor . . . . .	5.6	U
309-90-2	Aldrin . . . . .	5.6	U
1024-57-3	Heptachlor Epoxide . . . . .	5.6	U
959-98-8	Endosulfan I . . . . .	5.6	U
60-57-1	Dieldrin . . . . .	5.6	U
72-55-9	4,4'-DDE . . . . .	5.6	U
72-20-8	Endrin . . . . .	5.6	U
33213-65-9	Endosulfan II . . . . .	11	U
72-54-8	4,4'-DDD . . . . .	11	U
1071-07-8	Endosulfan Sulfate . . . . .	11	U
60-29-3	4,4'-DDT . . . . .	11	U
72-43-5	Methoxychlor . . . . .	280	U
7401-93-4	Endrin Aldehyde . . . . .	11	U
57-74-9	Chlordane . . . . .	280	U
3001-35-2	Toxaphene . . . . .	560	U
12674-11-3	Archlor-1016 . . . . .	280	U
11104-28-2	Archlor-1221 . . . . .	280	U
11141-16-5	Archlor-1232 . . . . .	280	U
5349-21-9	Archlor-1242 . . . . .	280	U
11671-29-6	Archlor-1248 . . . . .	280	U
11097-69-1	Archlor-1254 . . . . .	280	U
11096-82-5	Archlor-1260 . . . . .	280	U

U Undetected      U Estimated value below detection level

1E  
 VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SITE D

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Matrix: (soil/water) SOIL

Lab Sample ID: A1257

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A1064

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: 10

Date Analyzed: 03/16/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:  
 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
	No Unknowns			

E1  
 semi-VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE D

Matrix: (soil/water) SOIL  
 Client: US Army, Ft. Monmouth, NJ  
 Sample wt/vol: 30 (g/mL) GM  
 Level: LOW  
 % Moisture: 10  
 Extraction: (Sepf/Cont/Sonc) SONC  
 GPC ( Y or N ): N  
 Column: DB-5

Lab Sample ID: A1257  
 Client ID: Bldg 750  
 Lab File ID: >C0736  
 Date Received: NA  
 Date Analyzed 03/16/93  
 Date Extracted 03/15/93

Dilution Factor: 1

Number TICs Found 3

CONCENTRATION UNITS  
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	TEST CONC
1 79005	Ethane, 1,1,2-trichloro- (8CI9CI)	5.34	300
2 79345	Ethane, 1,1,2,2-tetrachloro- (8CI9CI)	8.81	810
3	UNKNOWN	31.26	330



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US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

ANALYSIS NO: A 1258

CLIENT ID: Site E

<u>PARAMETER</u>	<u>MDL (mg/kg)</u>	<u>RESULT (mg/kg)</u>
CYANIDE	0.10	0.16
PHENOL	0.50	N.D.

US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

PRIORITY POLLUTANT LIST

ANALYSIS NO: A 1258

CLIENT ID: Site E

<u>METALS</u>	<u>MDL (mg/Kg)</u>	<u>RESULT (mg/Kg)</u>
ANTIMONY	5.00	N.D.
ARSENIC	0.25	1.43
BERYLLIUM	1.00	N.D.
CADMIUM	1.00	N.D.
CHROMIUM	1.00	20.8
COPPER	1.00	1.40
LEAD	5.00	8.27
MERCURY	0.10	N.D.
NICKEL	5.00	3.11
SELENIUM	0.25	N.D.
SILVER	1.00	N.D.
THALLIUM	1.00	N.D.
ZINC	1.00	18.4

00036

21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1258</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>SITE E BLDG 750</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;A1065</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	57	Bromodichloromethane	ND	6
Acrylonitrile	ND	57	2-Chloroethylvinylether	ND	11
Chloromethane	ND	11	2-Hexanone	ND	11
Bromomethane	ND	11	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND	11	Toluene	4.0 J	6
Chloroethane	ND	11	cis-1,3-Dichloropropene	ND	6
Acetone	10 JB	11	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	11	4-Methyl-2-pentanone	ND	11
Methylene Chloride	6.0	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	1.8 J	6
2-Butanone	ND	11	m&p-Xylenes	8.9	6
Chloroform	ND	6	o-Xylene	2.9 J	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	111	70 - 121	OK
Toluene-d8	101	81 - 117	OK
Bromofluorobenzene	99.7	74 - 121	OK

Percent Solid of 87.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

21ST CENTURY Environmental  
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER	<u>US ARMY, FT. MONMOUTH, NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1258</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>BLDG 750, SITE E</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;C0737</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-Nitrosodimethylamine	ND	380	Acenaphthene	ND	380
Phenol	ND	380	2,4-Dinitrophenol	ND	1900
bis(-2-Chloroethyl)Ether	ND	380	4-Nitrophenol	ND	1900
2-Chlorophenol	ND	380	Dibenzofuran	ND	380
1,3-Dichlorobenzene	ND	380	2,4-Dinitrotoluene	ND	380
1,4-Dichlorobenzene	ND	380	2,6-Dinitrotoluene	ND	380
Benzyl Alcohol	ND	380	Diethylphthalate	ND	380
1,2-Dichlorobenzene	ND	380	4-Chlorophenyl-phenylether	ND	380
2-Methylphenol	ND	380	Fluorene	ND	380
bis(2-chloroisopropyl)Ether	ND	380	4-Nitroaniline	ND	1900
4-Methylphenol	ND	380	4,6-Dinitro-2-Methylphenol	ND	1900
N-Nitroso-Di-n-Propylamine	ND	380	N-Nitrosodiphenylamine	ND	380
Hexachloroethane	ND	380	4-Bromophenyl-phenylether	ND	380
Nitrobenzene	ND	380	Hexachlorobenzene	ND	380
Isophorone	ND	380	Pentachlorophenol	ND	1900
2-Nitrophenol	ND	380	Phenanthrene	ND	380
2,4-Dimethylphenol	ND	380	Anthracene	ND	380
Benzoic Acid	ND	1900	Di-n-Butylphthalate	ND	380
bis(-2-Chloroethoxy)Methane	ND	380	Fluoranthene	ND	380
2,4-Dichlorophenol	ND	380	Pyrene	ND	380
1,2,4-Trichlorobenzene	ND	380	Butylbenzylphthalate	ND	380
Naphthalene	ND	380	3,3'-Dichlorobenzidine	ND	760
4-Chloroaniline	ND	380	Benzo(a)Anthracene	ND	380
Hexachlorobutadiene	ND	380	Bis(2-Ethylhexyl)Phthalate	ND	380
4-Chloro-3-Methylphenol	ND	380	Chrysene	ND	380
2-Methylnaphthalene	ND	380	Di-n-Octyl Phthalate	ND	380
Hexachlorocyclopentadiene	ND	380	Benzo(b)Fluoranthene	ND	380
2,4,6-Trichlorophenol	ND	380	Benzo(k)Fluoranthene	ND	380
2,4,5-Trichlorophenol	ND	1900	Benzo(a)Pyrene	ND	380
2-Chloronaphthalene	ND	380	Indeno(1,2,3-cd)Pyrene	ND	380
2-Nitroaniline	ND	1900	Dibenzo(a,h)Anthracene	ND	380
Dimethyl Phthalate	ND	380	Benzo(g,h,i)Perylene	ND	380
Acenaphthylene	ND	380	Benzidine	ND	760
3-Nitroaniline	ND	1900			

Percent Solid of 87.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

Lab Name : 21ST CENTURY ENVIRONMENTAL  
 Client ID: US ARMY FORT MONMOUTH, NJ UST-BLG 750  
 SITE E

-----+  
 Lab Sample ID: 1  
 A1258  
 -----+

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Pesticides/PCBs

Concentration: Low Medium ( Circle One )      GPC Cleanup  Yes  No  
 Date Extracted/Prepared: 03/15/93      Separatory Funnel Extraction  Yes  
 Date Analyzed: 03/16/93 21:23      Continuous Liquid-Liquid Extraction  Yes  
 Conc/Dil Factor: 10.05g/10ml  
 Percent Moisture: 13

C.A.S. Number		ug/L or ug/Kg	
319-84-6	Alpha-BHC . . . . .	5.8	U
319-87-7	Beta-BHC . . . . .	5.8	U
319-86-8	Delta-BHC . . . . .	5.8	U
58-89-9	Gamma-BHC (Lindane). . .	5.8	U
76-44-8	Heptachlor . . . . .	5.8	U
309-00-2	Aldrin . . . . .	5.8	U
1024-57-3	Heptachlor Epoxide . . .	5.8	U
959-98-8	Endosulfan I . . . . .	5.8	U
60-57-1	Dieldrin . . . . .	5.8	U
72-55-9	4,4'-DDE . . . . .	5.8	U
72-28-8	Endrin . . . . .	5.8	U
33213-65-9	Endosulfan II. . . . .	12	U
72-54-8	4,4'-DDD . . . . .	12	U
1031-07-8	Endosulfan Sulfate . . .	12	U
50-29-3	4,4'-DDT . . . . .	12	U
72-43-5	Methoxychlor . . . . .	290	U
7421-93-4	Endrin Aldehyde. . . . .	12	U
57-74-9	Chlordane. . . . .	290	U
8001-35-2	Toxaphene. . . . .	570	U
12674-11-2	Arochlor-1016. . . . .	290	U
11104-28-2	Arochlor-1221. . . . .	290	U
11141-16-5	Arochlor-1232. . . . .	290	U
53469-21-9	Arochlor-1242. . . . .	290	U
12672-29-6	Arochlor-1248. . . . .	290	U
11097-69-1	Arochlor-1254. . . . .	290	U
11096-82-5	Arochlor-1260. . . . .	290	U

U Undetected      J Estimated value below detection level



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SITE E

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Matrix: (soil/water) SOIL

Lab Sample ID: A1258

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A1065

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: 13

Date Analyzed: 03/16/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
=====	=====	=====	=====	=====
	No Unknowns			

E1  
 semi-VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE E
--------

Matrix: (soil/water) SOIL  
 Client: US Army, Ft. Monmouth, NJ  
 Sample wt/vol: 30 (g/mL) GM  
 Level: LOW  
 % Moisture: 13  
 Extraction: (Sepf/Cont/Sonc) SONC  
 GPC ( Y or N ): N  
 Column: DB-5

Lab Sample ID: A1258  
 Client ID: Bldg 750  
 Lab File ID: >C0737  
 Date Received: NA  
 Date Analyzed 03/16/93  
 Date Extracted 03/15/93

Dilution Factor: 1

Number TICs Found 3

CONCENTRATION UNITS  
 (ug/L or ug/kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	79005 Ethane, 1,1,2-trichloro- (8CI9CI)	5.35	190
2	79345 Ethane, 1,1,2,2-tetrachloro- (8CI9CI)	8.81	540
3	UNKNOWN	31.26	230



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US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

ANALYSIS NO: A 1259

CLIENT ID: Site F

<u>PARAMETER</u>	<u>MDL (mg/kg)</u>	<u>RESULT (mg/kg)</u>
CYANIDE	0.10	0.20
PHENOL	0.50	N.D.

US ARMY FORT MONMOUTH, NJ UST-BLDG 750

CERTIFICATE OF ANALYSIS

PRIORITY POLLUTANT LIST

ANALYSIS NO: A 1259

CLIENT ID: Site F

<u>METALS</u>	<u>MDL (mg/Kg)</u>	<u>RESULT (mg/Kg)</u>
ANTIMONY	5.00	N.D.
ARSENIC	0.25	2.00
BERYLLIUM	1.00	N.D.
CADMIUM	1.00	N.D.
CHROMIUM	1.00	22.5
COPPER	1.00	4.27
LEAD	5.00	18.0
MERCURY	0.10	N.D.
NICKEL	5.00	N.D.
SELENIUM	0.25	0.52
SILVER	1.00	N.D.
THALLIUM	1.00	N.D.
ZINC	1.00	20.2

00043

21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Soil</u>
SAMPLE NUMBER	<u>A1259</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>SITE F BLDG 750</u>	QA BATCH	<u></u>
DATA FILE	<u>&gt;A1107</u>	DATE ANALYZED	<u>03/24/93</u>

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
Acrolein	ND	56	Bromodichloromethane	ND	6
Acrylonitrile	ND	56	2-Chloroethylvinylether	ND	11
Chloromethane	ND	11	2-Hexanone	ND	11
Bromomethane	ND	11	trans-1,3-Dichloropropene	ND	6
Vinyl Chloride	ND	11	Toluene	ND	6
Chloroethane	ND	11	cis-1,3-Dichloropropene	ND	6
Acetone	9.8 JB	11	1,1,2,2-Tetrachloroethane	ND	6
1,1-Dichloroethene	ND	6	1,1,2-Trichloroethane	ND	6
Carbon Disulfide	ND	11	4-Methyl-2-pentanone	ND	11
Methylene Chloride	ND B	6	Tetrachloroethene	ND	6
1,2-Dichloroethene(trans)	ND	6	Dibromochloromethane	ND	6
1,1-Dichloroethane	ND	6	Chlorobenzene	ND	6
Vinyl Acetate	ND	6	Ethylbenzene	ND	6
2-Butanone	ND	11	m&p-Xylenes	ND	6
Chloroform	ND	6	o-Xylene	ND	6
1,1,1-Trichloroethane	ND	6	Styrene	ND	6
Carbon Tetrachloride	ND	6	Bromoform	ND	6
1,2-Dichloroethane	ND	6	m-Dichlorobenzene	ND	6
Benzene	ND	6	p-Dichlorobenzene	ND	6
Trichloroethene	ND	6	o-Dichlorobenzene	ND	6
1,2-Dichloropropane	ND	6			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	107	70 - 121	OK
Toluene-d8	98.3	81 - 117	OK
Bromofluorobenzene	97.9	74 - 121	OK

Percent Solid of 89.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

21ST CENTURY Environmental  
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ  
 SAMPLE NUMBER A1259  
 CLIENT ID BLDG 750, SITE F  
 DATA FILE >C0769

MATRIX Soil  
 DILUTION FACTOR 1.00  
 QA BATCH \_\_\_\_\_  
 DATE ANALYZED 03/22/93

COMPOUND	UG/KG	MDL	COMPOUND	UG/KG	MDL
N-Nitrosodimethylamine	ND	370	Acenaphthene	ND	370
Phenol	ND	370	2,4-Dinitrophenol	ND	1800
bis(-2-Chloroethyl)Ether	ND	370	4-Nitrophenol	ND	1800
2-Chlorophenol	ND	370	Dibenzofuran	ND	370
1,3-Dichlorobenzene	ND	370	2,4-Dinitrotoluene	ND	370
1,4-Dichlorobenzene	ND	370	2,6-Dinitrotoluene	ND	370
Benzyl Alcohol	ND	370	Diethylphthalate	ND	370
1,2-Dichlorobenzene	ND	370	4-Chlorophenyl-phenylether	ND	370
2-Methylphenol	ND	370	Fluorene	ND	370
bis(2-chloroisopropyl)Ether	ND	370	4-Nitroaniline	ND	1800
4-Methylphenol	ND	370	4,6-Dinitro-2-Methylphenol	ND	1800
N-Nitroso-Di-n-Propylamine	ND	370	N-Nitrosodiphenylamine	ND	370
Hexachloroethane	ND	370	4-Bromophenyl-phenylether	ND	370
Nitrobenzene	ND	370	Hexachlorobenzene	ND	370
Isophorone	ND	370	Pentachlorophenol	ND	1800
2-Nitrophenol	ND	370	Phenanthrene	ND	370
2,4-Dimethylphenol	ND	370	Anthracene	ND	370
Benzoic Acid	ND	1800	Di-n-Butylphthalate	ND	370
bis(-2-Chloroethoxy)Methane	ND	370	Fluoranthene	ND	370
2,4-Dichlorophenol	ND	370	Pyrene	39 J	370
1,2,4-Trichlorobenzene	ND	370	Butylbenzylphthalate	ND	370
Naphthalene	ND	370	3,3'-Dichlorobenzidine	ND	740
4-Chloroaniline	ND	370	Benzo(a)Anthracene	ND	370
Hexachlorobutadiene	ND	370	Bis(2-Ethylhexyl)Phthalate	49 J	370
4-Chloro-3-Methylphenol	ND	370	Chrysene	ND	370
2-Methylnaphthalene	ND	370	Di-n-Octyl Phthalate	ND	370
Hexachlorocyclopentadiene	ND	370	Benzo(b)Fluoranthene	ND	370
2,4,6-Trichlorophenol	ND	370	Benzo(k)Fluoranthene	ND	370
2,4,5-Trichlorophenol	ND	1800	Benzo(a)Pyrene	ND	370
2-Chloronaphthalene	ND	370	Indeno(1,2,3-cd)Pyrene	ND	370
2-Nitroaniline	ND	1800	Dibenzo(a,h)Anthracene	ND	370
Dimethyl Phthalate	ND	370	Benzo(g,h,i)Perylene	ND	370
Acenaphthylene	ND	370	Benzidine	ND	740
3-Nitroaniline	ND	1800			

Percent Solid of 89.0 is used for all Target compounds.

- (J) Indicates detected below MDL
- (B) Indicates also present in blank
- (ND) Indicates compound not detected

Lab Name : 21ST CENTURY ENVIRONMENTAL  
 Client ID: US ARMY FORT MONMOUTH, NJ UST-BLG 750  
 SITE F

-----+  
 ! Lab Sample ID: !  
 | A1259 |  
 -----+

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Pesticides/PCBs

Concentration: Low Medium ( Circle One ) GPC Cleanup  Yes  No  
 Date Extracted/Prepared: 03/15/93 Separatory Funnel Extraction  Yes  
 Date Analyzed: 03/16/93 22:05 Continuous Liquid-Liquid Extraction  Yes  
 Conc/Dil Factor: 10.01g/10ml  
 Percent Moisture: 11

C.A.S. Number		ug/L or ug/Kg	
319-84-6	Alpha-BHC . . . . .	5.6	U
319-87-7	Beta-BHC . . . . .	5.6	U
319-86-8	Delta-BHC . . . . .	5.6	U
58-89-9	Gamma-BHC (Lindane). . .	5.6	U
76-44-8	Heptachlor . . . . .	5.6	U
309-00-2	Aldrin . . . . .	5.6	U
1024-57-3	Heptachlor Epoxide . . .	5.6	U
959-98-8	Endosulfan I . . . . .	5.6	U
60-57-1	Dieldrin . . . . .	5.6	U
72-55-9	4,4'-DDE . . . . .	5.6	U
72-20-8	Endrin . . . . .	5.6	U
33213-65-9	Endosulfan II. . . . .	11	U
72-54-8	4,4'-DDD . . . . .	11	U
1031-07-8	Endosulfan Sulfate . . .	11	U
50-29-3	4,4'-DDT . . . . .	11	U
72-43-5	Methoxychlor . . . . .	280	U
7421-93-4	Endrin Aldehyde. . . . .	11	U
57-74-9	Chlordane. . . . .	280	U
8001-35-2	Toxaphene. . . . .	560	U
12674-11-2	Arochlor-1016. . . . .	280	U
11104-28-2	Arochlor-1221. . . . .	280	U
11141-16-5	Arochlor-1232. . . . .	280	U
53469-21-9	Arochlor-1242. . . . .	280	U
12672-29-6	Arochlor-1248. . . . .	280	U
11097-69-1	Arochlor-1254. . . . .	280	U
11096-82-5	Arochlor-1260. . . . .	280	U

U Undetected J Estimated value below detection level

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SITE F

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Matrix: (soil/water) Soil

Lab Sample ID: A1259

Sample wt/vol: 5 (g/mL) g

Lab File ID: >A1107

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: 11

Date Analyzed: 03/24/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			



E1  
 semi-VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

SITE F
--------

Matrix: (soil/water) SOIL  
 Client: US Army, Ft. Monmouth, NJ  
 Sample wt/vol: 30 (g/mL) GM  
 Level: LOW  
 % Moisture: 11  
 Extraction: (Sepf/Cont/Sonc) SONC  
 GPC ( Y or N ): N  
 Column: DB-5  
 Number TICs Found 7

Lab Sample ID: A1259  
 Client ID: Bldg 750  
 Lab File ID: >C0769  
 Date Received: NA  
 Date Analyzed 03/22/93  
 Date Extracted 03/19/93  
 Dilution Factor: 1

CONCENTRATION UNITS  
 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST CONC
1	79005 Ethane, 1,1,2-trichloro- (8CI9CI)	4.58	150
2	UNKNOWN	5.17	490
3	UNKNOWN	6.01	490
4	79345 Ethane, 1,1,2,2-tetrachloro- (8CI9CI)	8.13	450
5	UNKNOWN	27.09	220
6	UNKNOWN	29.28	410
7	UNKNOWN	30.60	190

21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Water</u>
SAMPLE NUMBER	<u>A1260</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>TRIP BLANK BLDG 750</u>	QA BATCH	
DATA FILE	<u>&gt;A1058</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	Bromodichloromethane	ND	5
Acrylonitrile	ND	50	2-Chloroethylvinylether	ND	10
Chloromethane	ND	10	2-Hexanone	ND	10
Bromomethane	ND	10	trans-1,3-Dichloropropene	ND	5
Vinyl Chloride	ND	10	Toluene	ND	5
Chloroethane	ND	10	cis-1,3-Dichloropropene	ND	5
Acetone	6.3 JB	10	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	10	4-Methyl-2-pentanone	ND	10
Methylene Chloride	3.4 J	5	Tetrachloroethene	ND	5
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5	Chlorobenzene	ND	5
Vinyl Acetate	ND	5	Ethylbenzene	ND	5
2-Butanone	ND	10	m&p-Xylenes	ND	5
Chloroform	ND	5	o-Xylene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
Carbon Tetrachloride	ND	5	Bromoform	ND	5
1,2-Dichloroethane	ND	5	m-Dichlorobenzene	ND	5
Benzene	ND	5	p-Dichlorobenzene	ND	5
Trichloroethene	ND	5	o-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	100	88 - 110	OK
Bromofluorobenzene	99.1	86 - 115	OK

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

1

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

TRIP BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 750

Matrix: (soil/water) Water

Lab Sample ID: A1260

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1058

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: NA

Date Analyzed: 03/16/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----
	No Unknowns			



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US ARMY FORT MONMOUTH, NJ UST-BLDG 161

CERTIFICATE OF ANALYSIS

ANALYSIS NO: A 1265

CLIENT ID: Field Blank

<u>PARAMETER</u>	<u>MDL (mg/L)</u>	<u>RESULT (mg/L)</u>
CYANIDE	0.01	N.D.
PHENOL	0.05	N.D.

US ARMY FORT MONMOUTH, NJ UST-BLDG 161

CERTIFICATE OF ANALYSIS

PRIORITY POLLUTANT LIST

ANALYSIS NO: A 1265

CLIENT ID: Field Blank

<u>METALS</u>	<u>MDL (mg/L)</u>	<u>RESULT (mg/L)</u>
ANTIMONY	0.005	N.D.
ARSENIC	0.005	N.D.
BERYLLIUM	0.01	N.D.
CADMIUM	0.01	N.D.
CHROMIUM	0.01	N.D.
COPPER	0.01	N.D.
LEAD	0.05	N.D.
MERCURY	0.0005	N.D.
NICKEL	0.05	N.D.
SELENIUM	0.005	N.D.
SILVER	0.01	N.D.
THALLIUM	0.010	N.D.
ZINC	0.01	N.D.

00052

21st Century Environmental Inc.  
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	<u>US ARMY FT. MONMOUTH NJ</u>	MATRIX	<u>Water</u>
SAMPLE NUMBER	<u>A1265</u>	DILUTION FACTOR	<u>1.00</u>
CLIENT ID	<u>FIELD BLANK BLDG 161</u>	QA BATCH	<u></u>
DATA FILE	<u>A1059</u>	DATE ANALYZED	<u>03/16/93</u>

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	Bromodichloromethane	ND	5
Acrylonitrile	ND	50	2-Chloroethylvinylether	ND	10
Chloromethane	ND	10	2-Hexanone	ND	10
Bromomethane	ND	10	trans-1,3-Dichloropropene	ND	5
Vinyl Chloride	ND	10	Toluene	ND	5
Chloroethane	ND	10	cis-1,3-Dichloropropene	ND	5
Acetone	6.2 JB	10	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethene	ND	5	1,1,2-Trichloroethane	ND	5
Carbon Disulfide	ND	10	4-Methyl-2-pentanone	ND	10
Methylene Chloride	3.5 J	5	Tetrachloroethene	ND	5
1,2-Dichloroethene(trans)	ND	5	Dibromochloromethane	ND	5
1,1-Dichloroethane	ND	5	Chlorobenzene	ND	5
Vinyl Acetate	ND	5	Ethylbenzene	ND	5
2-Butanone	ND	10	m&p-Xylenes	ND	5
Chloroform	ND	5	o-Xylene	ND	5
1,1,1-Trichloroethane	ND	5	Styrene	ND	5
Carbon Tetrachloride	ND	5	Bromoform	ND	5
1,2-Dichloroethane	ND	5	m-Dichlorobenzene	ND	5
Benzene	ND	5	p-Dichlorobenzene	ND	5
Trichloroethene	ND	5	o-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5			

<u>SURROGATE COMPOUNDS</u>	<u>% RECOVERY</u>	<u>LIMITS</u>	<u>STATUS</u>
1,2-Dichloroethane-d4	110	76 - 114	OK
Toluene-d8	101	88 - 110	OK
Bromofluorobenzene	100	86 - 115	OK

(J) Indicates detected below MDL  
(B) Indicates also present in blank  
(ND) Indicates compound not detected

21ST CENTURY Environmental  
SEMIVOLATILE ANALYSIS DATA

JOB NUMBER US ARMY, FT. MONMOUTH, NJ  
 SAMPLE NUMBER A1265  
 CLIENT ID BLDG 750 FIELD BLANK  
 DATA FILE >C0733

MATRIX Water  
 DILUTION FACTOR 1.00  
 QA BATCH \_\_\_\_\_  
 DATE ANALYZED 03/16/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	Acenaphthene	ND	10
Phenol	ND	10	2,4-Dinitrophenol	ND	50
bis(-2-Chloroethyl)Ether	ND	10	4-Nitrophenol	ND	50
2-Chlorophenol	ND	10	Dibenzofuran	ND	10
1,3-Dichlorobenzene	ND	10	2,4-Dinitrotoluene	ND	10
1,4-Dichlorobenzene	ND	10	2,6-Dinitrotoluene	ND	10
Benzyl Alcohol	ND	10	Diethylphthalate	ND	10
1,2-Dichlorobenzene	ND	10	4-Chlorophenyl-phenylether	ND	10
2-Methylphenol	ND	10	Fluorene	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Nitroaniline	ND	50
4-Methylphenol	ND	10	4,6-Dinitro-2-Methylphenol	ND	50
N-Nitroso-Di-n-Propylamine	ND	10	N-Nitrosodiphenylamine	ND	10
Hexachloroethane	ND	10	4-Bromophenyl-phenylether	ND	10
Nitrobenzene	ND	10	Hexachlorobenzene	ND	10
Isophorone	ND	10	Pentachlorophenol	ND	50
2-Nitrophenol	ND	10	Phenanthrene	ND	10
2,4-Dimethylphenol	ND	10	Anthracene	ND	10
Benzoic Acid	ND	50	Di-n-Butylphthalate	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Fluoranthene	ND	10
2,4-Dichlorophenol	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	ND	10
Naphthalene	ND	10	3,3'-Dichlorobenzidine	ND	20
4-Chloroaniline	ND	10	Benzo(a)Anthracene	ND	10
Hexachlorobutadiene	ND	10	Bis(2-Ethylhexyl)Phthalate	ND	10
4-Chloro-3-Methylphenol	ND	10	Chrysene	ND	10
2-Methylnaphthalene	ND	10	Di-n-Octyl Phthalate	ND	10
Hexachlorocyclopentadiene	ND	10	Benzo(b)Fluoranthene	ND	10
2,4,6-Trichlorophenol	ND	10	Benzo(k)Fluoranthene	ND	10
2,4,5-Trichlorophenol	ND	50	Benzo(a)Pyrene	ND	10
2-Chloronaphthalene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
2-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Dimethyl Phthalate	ND	10	Benzo(g,h,i)Perylene	ND	10
Acenaphthylene	ND	10	Benzidine	ND	20
3-Nitroaniline	ND	50			

(J) Indicates detected below MDL  
 (B) Indicates also present in blank  
 (ND) Indicates compound not detected

-----+  
! Lab Sample ID: 1  
! A1265 !  
-----+

Lab Name: 21ST Century Environmental  
Client ID: US ARMY FORT MONMOUTH, NJ UST-BLG 1  
FIELD BLANK

PESTICIDE ORGANICS ANALYSIS DATA SHEET

Pesticides/PCBs

Concentration: Low Medium (Circle One) GPC Cleanup Yes  No  
Date Extracted/Prepared: 03/16/93 Sep. Funnel Extraction  Yes  
Date Analyzed: 03/17/93 03:42 Continuous Liq-Liq Ext.  Yes  
Conc/Dil Factor: 100mL/5mL  
Percent Moisture: N/A

C.A.S. Number		<u>ug/L</u> or ug/Kg
319-84-6	Alpha-BHC . . . . .	0.25 U
319-87-7	Beta-BHC . . . . .	0.25 U
319-86-8	Delta-BHC . . . . .	0.25 U
58-89-9	Gamma-BHC (Lindane) . . . . .	0.25 U
76-44-8	Heptachlor . . . . .	0.25 U
309-00-2	Aldrin . . . . .	0.25 U
1024-57-3	Heptachlor Epoxide . . . . .	0.25 U
959-98-8	Endosulfan I . . . . .	0.25 U
60-57-1	Dieldrin . . . . .	0.25 U
72-55-9	4,4'-DDE . . . . .	0.25 U
72-20-8	Endrin . . . . .	0.25 U
33213-65-9	Endosulfan II . . . . .	0.5 U
72-54-8	4,4'-DDD . . . . .	0.5 U
1031-07-8	Endosulfan Sulfate . . . . .	0.5 U
50-29-3	4,4'-DDT . . . . .	0.5 U
72-43-5	Methoxychlor . . . . .	13 U
7421-93-4	Endrin Aldehyde . . . . .	0.5 U
57-74-9	Chlordane . . . . .	13 U
8001-35-2	Toxaphene . . . . .	25 U
12674-11-2	Arochlor-1016 . . . . .	13 U
11104-28-2	Arochlor-1221 . . . . .	13 U
11141-16-5	Arochlor-1232 . . . . .	13 U
53469-21-0	Arochlor-1240 . . . . .	13 U
12672-29-6	Arochlor-1248 . . . . .	13 U
11097-69-1	Arochlor-1254 . . . . .	13 U
11096-82-5	Arochlor-1260 . . . . .	13 U

U Undetected J Estimated value below detection level



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

FIELD BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ

Client ID: BLDG 161

Matrix: (soil/water) Water

Lab Sample ID: A1265

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1059

Level: (low/med) LOW

Date Received: 03/15/93

% Moisture: NA

Date Analyzed: 03/16/93

Column: DB-624

Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:  
(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----				
	No Unknowns			

FORM I UOA-TIC

1/87 Rev.

00056

E1  
 semi-VOLATILE ORGANICS ANALYSIS DATA SHEET  
 TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

FIELD
BLANK

Matrix: (soil/water) SOIL

Lab Sample ID: A1265

Client: US Army, Ft. Monmouth, NJ

Client ID: Bldg 750

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C0733

Level: LOW

Date Received: NA

% Moisture: 100

Date Analyzed 03/16/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 03/15/93

GPC ( Y or N ): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 0

CONCENTRATION UNITS  
 (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
-----			
NO UNKNOWN COMPOUNDS IDENTIFIED			

**APPENDIX E**  
**TANK RECLAMATION CERTIFICATE**



**MONMOUTH COUNTY  
RECLAMATION CENTER**

TINTON FALLS, NJ  
MAILING ADDRESS: 6000 ASBURY AVE  
NEPTUNE, NJ 07753

FACILITY ID NO. 1336F1SP01  
**RECEIPT DOCUMENT NUMBER**

**PAID HERE**

NONCHARGE / JOHN Q. PUBLIC  
CASH AND CHECK CUSTOMERS  
WEIGHING IN AND OUT  
NJ

**RECEIVED**

TARE WEIGHT 01293656  
GROSS WEIGHT 3.8000 ( 7600 )  
4.2400 ( 8480 )

DATE	OPER	ENTRY TIME	REP. NO.	PLATE NO.	DESCRIPTION/ORIGIN	QUANTITY	CLASS	UNITS	UNIT PRICE	AMOUNT	DOCUMENT TOTAL
04/28/93	MED	12:12	GR7771	GR7771	Bulky Waste MONMOUTH COUNTY MIDDLETOWN BOROUGH	0.4400	13	Tons	95.65	42.09	42.09
<p style="text-align: center;"><i>Fiberlas Tank's Supplies 2 from Ridge 156-2161</i></p> <p style="text-align: center;"><b>RECEIVED APR 28 1993</b></p>											
<p>*** PAY TO THE ORDER OF *** TRANSPORTERS SIGNATURE: <i>JCC</i></p>											

CUSTOMER COPY

Aug. 100

ATTACHMENT G

UST 750D File Review and Analyses

UNDERGROUND STORAGE TANK FILE REVIEW  
FORT MONMOUTH BRAC 05 FACILITY  
OCEANPORT, NEW JERSEY

Date: August 26, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750D**

Registration ID: *None*

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release?  Yes  No

NJDEP Release No. or DICAR (If applicable): 09-06-11-1309-09

Did NJDEP approve No Further Action (NFA) for this site?  Yes  No  Not Applicable

Tank Description:  Steel  Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil  
 Residential  Commercial/Industrial

Tank Removed?  Yes  No If "yes," removal date: 6/11/2009

Were closure soil samples taken?  Yes  No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria?  Yes  No

### Brief Narrative

UST 750D was initially identified as anomaly P51\_47 in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_47 location, a steel tank was uncovered on 6/11/09 and fuel oil contamination was observed. Initial soil samples (750D N, 750D E, 750D S, and 750D W) were collected using a Geoprobe on 6/15/09, and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH), in an attempt to predict the extent of impacted soil prior to additional excavation. TPH in these initial soil samples ranged in concentration from not detected (ND) to 1,250 milligrams per kilogram (mg/kg), with the highest concentration encountered in the boring to the east of the tank.

The tank was subsequently removed along with approximately 4 cubic yards of contaminated soil. Multiple holes were observed in the tank, and an oily sheen was observed on the groundwater in the tank excavation (groundwater was observed at 6.5 feet below ground surface). Soil samples (750 D-1 through 750 D-4) were collected from the excavation side walls on 6/17/09; these results ranged from 888 mg/kg to 26,511 mg/kg for TPH. The highest concentrations of TPH were encountered in the south side wall.


An additional 60 cubic yards of petroleum contaminated soil was removed from the tank excavation, and post-excavation samples were collected on 6/23/09 and 6/25/09 from the four side walls and excavation bottom (750-D PX-1 through 750-D PX-5). These results ranged from ND to 227 J mg/kg. The final results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, soil remediation was completed, and no additional soil sampling or remedial action was warranted.

A field duplicate sample labeled as "750-D DUPLICATE" in Analytical Data Report 90265 was incorrectly assigned to 750D on the title page and TPH results sheet; instead this duplicate was associated with 750 E as stated on the Field Duplicate Identification page. This correction is also consistent with the sample times in the Chain of Custody, field PID results and resulting TPH concentrations.

Monitor well 750MW05 was installed in the vicinity of UST 750D on 10/15/09 to assess the potential for contamination of groundwater. This well was sampled on 11/3/09 and 11/17/09, and the samples were analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), plus VOC and SVOC tentatively identified compounds (TICs). As noted in the analytical data reports (see the sheet preceding the Chain of Custody Form), well 750MW05 was initially designated as "750MW01A". The VOCs 1,1-dichloroethene and methyl-*tert*-butyl ether (MTBE) were detected but at concentrations well below the respective Class IIA Ground Water Quality Criteria (GWQC). No SVOCs were detected in the primary samples, although bis(2-ethylhexyl)phthalate was detected at 3.2 ug/L (GWQC = 3 ug/L) in one field duplicate. Since phthalates are commonly encountered as field or laboratory contamination in environmental samples, and since this compound was not detected in the primary sample of either sampling round, bis(2-ethylhexyl)phthalate is not considered a contaminant of concern in UST 750D groundwater. Therefore, there is no indication of a release to groundwater at UST 750D.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed."

Recommendations (if any): Change to "Case Closed", request NFA from NJDEP

Signed:   
Kent A. Friesen, Parsons

# Fort Monmouth UST Status Summary Report

---

## UST REGISTRATION INFORMATION SUMMARY

*LOCATION:* 750 D *NJDEP REG ID:* -  
*RESIDENTIAL?* YES

---

## UST CONSTRUCTION INFORMATION SUMMARY

*SIZE (GALLONS):* 1000 *CONSTRUCTION:* STEEL  
*PRODUCT:* #2 FUEL OIL *YEAR INSTALLED:* 0

---

## UST REMOVAL/INVESTIGATION SUMMARY

*REMOVAL DATE:* 6/11/2009 *REMOVAL CONTRACTOR:* TVS Inc.

*SRF SEND DATE:* NA *TMS:* NA

*DICAR NO.* 090611130909 *LEAK DETECT:*

*REMEDICATION COMMENTS:* Need to assess cover material.

*REGISTRATION COMMENTS:* Not reg. as per BRAC Office determination, found in motorpool parking lot, GPR was done

*SAS DONE:* NO *CONSULTANT:*

*MW's NEEDED:* TBD *MONITORING WELLS:*

*SUB-SURFACE EVALUATOR:* C. Appleby

---

## CURRENT UST STATUS

*UST STATUS:* REMOVED RI ON-GOING *CASE STATUS:* Case Open

*SUBMITTAL DATE:* *APPROVAL DATE:*

---



**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG.#: 750-0 REG.#: N/A  
 DATE: \_\_\_\_\_ TOA: \_\_\_\_\_ TOD: \_\_\_\_\_  
 SSE: Accolsi NJDEP CERT.#: \_\_\_\_\_  
 REMOVAL CONTRACTOR: TVS Inc. PWS-007  
 CLOSURE SUPERVISOR: Accolsi NJDEP CERT.#: \_\_\_\_\_  
 WEATHER: WARM ~ 75 w/LT. RAIN

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	N/A
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337), CASE# <del>09-06-11-1309-09</del> <u>09-06-11-1309-09</u>	Y
PHOTOS HAVE UST#, BLDG.#, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	
GROUNDWATER WAS ENCOUNTERED AT <u>5</u> FEET BG, A SHEEN (WAS NOT) OBSERVED ON GW	Y
IF OVA WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	Y
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	Y
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 2005 August	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	Y
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) AND A BACKFILL AUTH. LTR. IS ATTACHED	
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, <u>DAILY-UST</u> CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS <sup>3</sup> ), 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.

Subsurface Evaluator (print Name): \_\_\_\_\_ Date: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_

- extensive soil/GW impacted
- Tank removed w/ multiple holes
- Tank excavation needs to be expanded.
- GW will be collected regionally  
~ 4 yds of soils along w/ tank removed from site

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG.#: 750 REG.#: D  
 DATE: 6-9-09 TO 6-30-09 TOA: \_\_\_\_\_ TOD: \_\_\_\_\_  
 SSE: FRANK ACCORSI NJDEP CERT.#: 0010092  
 REMOVAL CONTRACTOR: TVS Inc. PWS-007  
 CLOSURE SUPERVISOR: FRANK ACCORSI NJDEP CERT.#: 0010092  
 WEATHER: CLOUDY, HOT, LOW 80's

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (609-292-7172), CASE# _____	Y
PHOTOS HAVE UST#, BLDG.#, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT <u>6.5</u> FEET BG, A SHEEN (WAS WAS NOT) OBSERVED ON GW.	Y
IF OVA WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	Y
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	Y
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	Y
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) AND A BACKFILL AUTH. LTR. IS ATTACHED	NA
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	Y
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
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 <sup>3</sup> ), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	Y

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): FRANK ACCORSI Date: 6-29-09

SIGNATURE: Frank Accorsi

**US ARMY, FORT MONMOUTH  
DAILY UST CLOSURE LOG**

BLDG.#: 750 REG.#: - D  
 DATE: 6-11 to 6-30-09 TOA: \_\_\_\_\_ TOD: \_\_\_\_\_  
 CLOSURE TECH: FRANK ACCORSI NJDEP CERT.#: 0010042  
 PERSONNEL: FRANK ACCORSI, ANTHONY FORGIONE, MARC TAYLOR

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAVE CURRENT TRAINING IAW ALL SAFETY REQ. (E.G. 29CFR)	Y
ALL UTILITIES WERE MARKED OUT PRIOR TO ANY EXCAVATION (VISUAL CONFIRM. YES/NO)	Y
HAND EXCAVATION WAS DONE WHEN EXCAVATING WITHIN 4 FT OF ANY UTILITIES	NA
ALL UST PIPING WAS BLOWN BACK AND DRAINED PRIOR TO ANY EXCAVATION WITH BACKHOE	NA
ALL UST PIPING WAS REMOVED PRIOR TO UST EXCAVATION	NA
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS <del>CLEANED</del> <sup>PUMPED</sup> AND NO RESIDUAL LIQUIDS WERE LEFT IN THE TANK	Y
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
<u>5</u> DRUMS OF WASTE WERE GENERATED AT THIS SITE TODAY (ID CARDS COMPLETED)	Y
<u>5</u> DRUMS OF WASTE WERE TRANSPORTED TO THE <u>(M, CW, EV) HWSA B.482</u>	Y
_____ GALLONS OF _____ WASTE WERE REMOVED (MANIFEST#: _____)	Y
<u>60</u> CUBIC YARDS OF PETROL. CONT. SOIL WERE EXCAVATED+TRANS. TO <u>(70, 2624)</u>	Y
THE DPW WAS NOTIFIED OF ANY DISCHARGE TO THE ENVIRONMENT. (WHO) <u>C. APPLBY</u>	Y
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW AUTHORIZED BACKFILLING THE EXCAVATION. SSE INITIAL REQUIRED: _____	Y
THE UST WAS TRANSPORTED TO <u>108 YARD</u> FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
ADDITIONAL NOTES WERE TAKEN AND RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE GIVEN TO THE SSE TODAY: (CIRCLE EACH OR ADD ITEMS) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, _____	N

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. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

CLOSURE TECH (PRINT NAME): FRANK ACCORSI

SIGNATURE: Frank Accorsi DATE: 6-29-09

# 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

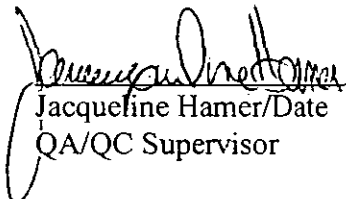


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

## Bldg. 750D (UST)

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750D N 6.5-7.0'	9023901	Soil	15-June-09 15:45	06/15/09
750D E 6.5-7.0'	9023902	Soil	15-June-09 15:50	06/15/09
750D S 6.5-7.0'	9023903	Soil	15-June-09 15:55	06/15/09
750D W 6.5-7.0'	9023904	Soil	15-June-09 16:00	06/15/09

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

  
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**

000001

# 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: <i>C. Appleby</i>		Project No:		Analysis Parameters							Comments:	
Phone #: <i>X22692</i>		Location: <i>750 D (UST)</i>		TPHC								
( ) DERA ( ) OMA ( ) Other: _____												
Samplers Name / Company:				Sample #							Remarks / Preservation Method	
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles							
<i>9023401</i>	<i>750 D W</i>	<i>6.5-7.0</i>	<i>6/15/09</i>	<i>1545</i>	<i>Soil</i>	<i>1</i>	<input checked="" type="checkbox"/>					
<i>02</i>	<i>750 D E</i>	<i>6.5-7.0</i>	<i>"</i>	<i>1550</i>	<i>"</i>	<i>1</i>	<input checked="" type="checkbox"/>					
<i>03</i>	<i>750 D S</i>	<i>6.5-7.0</i>	<i>"</i>	<i>1555</i>	<i>"</i>	<i>1</i>	<input checked="" type="checkbox"/>					
<i>04</i>	<i>750 D W</i>	<i>6.5-7.0</i>	<i>"</i>	<i>1600</i>	<i>"</i>	<i>1</i>	<input checked="" type="checkbox"/>					
Relinquished by (signature): <i>Henry Boyce</i>	Date/Time: <i>6/15/09 1600</i>	Received by (signature): <i>[Signature]</i>	Relinquished by (signature):	Date/Time:	Received by (signature):							
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):							
Report Type: <input type="checkbox"/> Full, <input type="checkbox"/> Reduced, <input type="checkbox"/> Standard, <input type="checkbox"/> Screen / non-certified, <input type="checkbox"/> EDD												
Turnaround time: <input type="checkbox"/> Standard 3 wks, <input checked="" type="checkbox"/> Rush Wk., <input type="checkbox"/> ASAP Verbal ___ Hrs.												

000002





# SAMPLE RECEIPT FORM

Date Received: 6-15-09

Work Order ID#: 90239

Site/Proj. Name: 750/USY

Cooler Temp (°C): ICE

Received By: J. Verquira  
(Print name)

Sign: J. Verquira

### 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

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# **GPS COORDINATED**

000004



U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'D'

SOIL SAMPLING/SOIL BORING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750D.1 NORTH WALL UST	538036.216	617707.165
750D.2 SOUTH WALL UST	538017.936	617720.277
750D.3 EAST WALL UST	538030.24	617717.602
750D.4 WEST WALL UST	538023.481	617706.854
750D NORTH BORING	538041.281	617703.508
750D SOUTH BORING	538011.721	617725.166
750D EAST BORING	538035.402	617722.038
750D WEST BORING	538014.124	617704.482
750 MP1	538060.456	617769.397
750 MP2	537917.165	617507.988

000005

35

# **METHOD SUMMARY**

000006

# 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.

000007

8 3

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

000008

00 3

### 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 yes  
(If not met, list the sample and corresponding recovery which falls outside the acceptable range)  
\_\_\_\_\_  
\_\_\_\_\_
- 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 yes  
(If not met, list number of days exceeded for each sample)  
\_\_\_\_\_  
\_\_\_\_\_

Additional comments: 9023902 (7500 E 6.5-7) over 1000 ppm  
no additional analyses performed.

Laboratory Manager: Jung, Susterma Date: 9/10/09

005

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000010



**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:** 750 D (UST)  
**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:** 15-Jun-09  
**Date Extracted:** 16-Jun-09  
**Extraction Method:** Shake  
**Analysis Complete:** 17-Jun-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB06160901	MB06160901	1.00	15.00	100.00	7	100	0.00	
LCS06160901	LCS06160901	1.00	15.00	100.00	7	100	793.13	
9023901	750 DN 6.5-7.0	1.00	16.00	84.15	8	111	0.00	
9023902	750 DE 6.5-7.0	1.00	15.94	81.92	8	115	1250.50	
9023903	750 DS 6.5-7.0	1.00	15.95	83.94	8	112	0.00	
9023904	750 DW 6.5-7.0	1.00	15.66	82.80	8	116	0.00	

**Qualifiers:**

*MDL = Method Detection Limit*

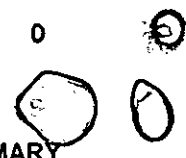
*RL = Reporting Limit*

*E = Exceeds calibration limit*

*J = Estimated value, concentration is between MDL and RL*

*D = Concentration from dilution*

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

Laboratory Manager or Environmental Consultant's Signature James J. Hemo  
Date: 9/10/09

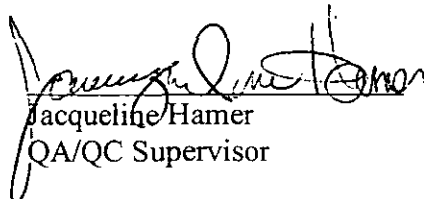
Laboratory Certification # 13461

\*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.



Jacqueline Hamer  
QA/QC Supervisor

000036

# 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

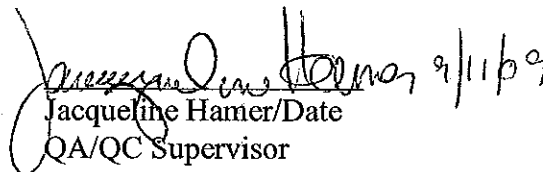


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 750D (Motor Pool)

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-D1, North Wall	9024301	Soil	17-June-09 14:40	06/17/09
750-D2, South Wall	9024302	Soil	17-June-09 15:00	06/17/09
750-D3, East Wall	9024303	Soil	17-June-09 15:15	06/17/09
750-D4, West Wall	9024304	Soil	17-June-09 15:35	06/17/09
750-D, Duplicate	9024305	Soil	17-June-09 15:00	06/17/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

  
Jacqueline Hamer/Date  
QA/QC Supervisor

## Table of Contents

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**CHAIN  
OF  
CUSTODY**

**000001**

# 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

<b>Customer:</b> CHUCK APPLEY			<b>Project No:</b>		<b>Analysis Parameters</b>				<b>Comments:</b>	
<b>Phone #:</b> X26292		<b>Location:</b> Bldg. 750								
<b>( ) DERA ( ) OMA (X) Other:</b>		<b>MOTOR POOL (OST 750-D)</b>								
<b>Samplers Name / Company:</b> FRANK ACCORSI / TVS		<b>Sample Type</b>		<b>bottles</b>						
<b>LIMS/Work Order #</b>	<b>Sample Location</b>	<b>Date</b>	<b>Time</b>							
016845	750-D1, NORTH WALL	6-17-09	1440	1	X			6-65 25		ICE
	02, 750-D2, SOUTH WALL		1500	1	X			6-65 206		
	03, 750-D3, EAST WALL		1515	1	X			6-65 40		
	04, 750-D4, WEST WALL		1535	1	X			6-65 22		
	05, 750-D, DUPLICATE		1500	1	X			6-65 160		

000002

## SAMPLE RECEIPT FORM

Date Received: 10-17-09

Work Order ID#: 90243

Site/Proj. Name: 750D/P.M.P.

Cooler Temp (°C): 4.0<sup>o</sup>

Received By: J. Venquana  
(Print name)

Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**GPS  
COORDINATED**

**000004**

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'D'

SOIL SAMPLING/SOIL BORING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750D.1 NORTH WALL UST	538036.216	617707.165
750D.2 SOUTH WALL UST	538017.936	617720.277
750D.3 EAST WALL UST	538030.24	617717.602
750D.4 WEST WALL UST	538023.481	617706.854
750D NORTH BORING	538041.281	617703.508
750D SOUTH BORING	538011.721	617725.166
750D EAST BORING	538035.402	617722.038
750D WEST BORING	538014.124	617704.482
750 MP1	538060.456	617769.397
750 MP2	537917.165	617507.988

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

**000006**

## Field Duplicate Identification

**Lab ID:** 90243

**Site:** Bldg. 750D  
Motor Pool

The Field Duplicate was performed on 750-D2, South Wall (Lab ID 9024302).

000007

# **METHOD SUMMARY**

000008

# **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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000010**

**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  
RFD @ 21.06  
\_\_\_\_\_ no
- 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: Samples 9024302, 04 and 05 71000 ppm  
No additional analyses performed

Laboratory Manager: James J. Hemen Date: 9/10/09



**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012

**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:** BLDG. 750 MOTOR POOL  
**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:** 17-Jun-09  
**Date Extracted:** 18-Jun-09  
**Extraction Method:** Shake  
**Analysis Complete:** 19-Jun-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB06180901	MB06180901	1.00	15.00	100.00	7	100	0.00	
LCS06180901	LCS06180901	1.00	15.00	100.00	7	100	823.14	
9024301	750 D-1 NORTH WALL	1.00	15.86	80.25	8	118	1574.08	
9024302	750 D-2 SOUTH WALL	1.00	16.20	79.23	8	117	20788.27	E
9024303	750 D-3 EAST WALL	1.00	15.58	77.60	9	124	888.84	
9024304	750 D-4 WEST WALL	1.00	15.76	81.00	8	118	1408.23	
9024305	750 D DUPLICATE	1.00	15.49	80.07	8	121	22568.48	E
9024302	750 D-2 SOUTH WALL	10.00	16.20	79.23	82	1169	26511.89	D
9024305	750 D DUPLICATE	10.00	15.49	80.07	85	1209	26425.15	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*

000013

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

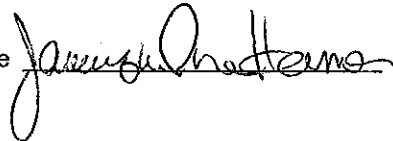
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/10/09



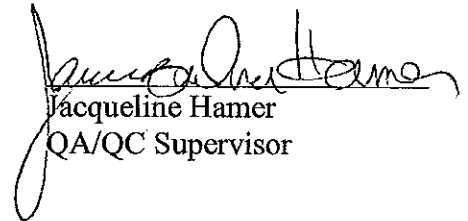
Laboratory Certification # 13461

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

000046

## 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.



Handwritten signature of Jacqueline Hamer in cursive script.

Jacqueline Hamer  
QA/QC Supervisor

000047

# 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

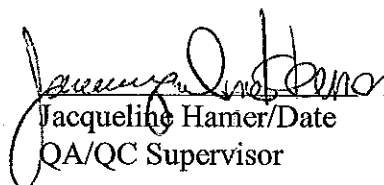


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 750D (Motor Pool)

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-D, PX-1, South Wall	9025801	Soil	23-June-09 09:00	06/23/09
750-D, PX-2 East Wall	9025802	Soil	23-June-09 13:30	06/23/09
750-D, PX-3 Bottom	9025803	Soil	23-June-09 14:40	06/23/09
750-D, PX Duplicate	9025804	Soil	23-June-09 13:30	06/23/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

 9/11/09  
Jacqueline Hamer/Date  
QA/QC Supervisor

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**CHAIN  
OF  
CUSTODY**

000081

# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:jaqueline.hamer@us.army.mil

NJDEP Certification #13461

## Chain of Custody Record

**Customer:** CHARLES APPELBY  
**Phone #:** X26292  
**( ) DERA ( ) OMA (X) Other:**  
**Samplers Name / Company:** FRANK ACCORSI / TVS  
**LIMS/Work Order #:** 750-0, PX-1, SOUTH WALL  
**Sample Location:** 750-0, PX-2, EAST WALL  
**Sample #:** 1  
**Time:** 0900  
**Date:** 6-23-09  
**Project No.:** BLDG. 750-MOTOR POOL, UST #750-0  
**Sample bottles:** 1  
**Time:** 1330  
**Date:** 6-23-09  
**Sample bottles:** 1  
**Time:** 1440  
**Date:** 6-23-09  
**Sample bottles:** 1  
**Time:** 1330  
**Date:** 6-23-09

Analysis Parameters					Comments: Remarks / Preservation Method
* HPL					
X				0 6.57	ICE
X				2.0 6.57	
X				0 7.58	
X				2.0 6.57	↓

**Relinquished by (signature):** *Frank Accorsi* **Date/Time:** 6-23-09 1555 **Received by (signature):** *Charles Appelby*  
**Relinquished by (signature):** **Date/Time:** **Received by (signature):**  
**Report Type:** ( ) Full, (X) Reduced, ( ) Standard, ( ) Screen / non-certified, ( ) JEDD  
**Turnaround time:** ( ) Standard 3 wks, (X) Rush 3 wks, ( ) ASAP Verbal \_\_\_\_\_ Hrs.

\* CONTINGENT BNA @ IF TPH > 1,000 PPM, ON HIGHTEST.

000002



## SAMPLE RECEIPT FORM

Date Received: 10-23-09

Work Order ID#: 90258

Site/Proj. Name: Bldg 450/M.P.

Cooler Temp (°C): 4.0°

Received By: J. Verjura  
(Print name)

Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# **GPS COORDINATED**

8143004

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'D'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750D PX1 SOUTH WALL	538007.026	617721.234
750D PX2 EAST WALL	538029.338	617728.036
750D PX3 BOTTOM	538020.697	617713.203
750D PX4 NORTH WALL	538039.11	617705.835
750D PX5 WEST WALL	538015.389	617703.925

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006

## Field Duplicate Identification

**Lab ID:** 90258

**Site:** Bldg. 750D  
Motor Pool

The Field Duplicate was performed on 750-D, PX-2, East Wall (Lab ID 9025802).

000007

# **METHOD SUMMARY**

000008

# 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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

000010

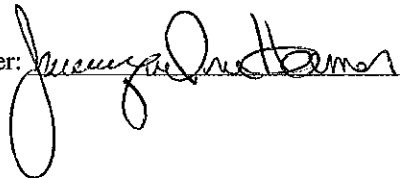


# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

Indicate  
Yes, No, N/A

- |    |   |            |
|----|---|------------|
| 1. | Method Detection Limits Provided  | <u>Yes</u> |
| 2. | Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank<br>_____<br>_____<br>_____                                | <u>NA</u>  |
| 3. | Matrix Spike Results Summary Meet Criteria<br>(If not met, list the sample and corresponding recovery which falls outside the acceptable range)<br>_____<br>_____ | <u>Yes</u> |
| 4. | Duplicate Results Summary Meet Criteria<br>_____<br>_____   | <u>Yes</u> |
| 5. | IR Spectra submitted for standards, blanks and samples  | <u>NA</u>  |
| 6. | Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted  | <u>Yes</u> |
| 7. | Analysis holding time met<br>(If not met, list number of days exceeded for each sample)<br>_____<br>_____   | <u>Yes</u> |

Additional comments: \_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager:  Date: 9/11/09

000011

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012

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: BLDG. 750 MOTOR POOL  
 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: 23-Jun-09  
 Date Extracted: 24-Jun-09  
 Extraction Method: Shake  
 Analysis Complete: 25-Jun-09  
 Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB06240901	MB06240901	1.00	15.04	100.00	23	332	0.00	
LCS06240901	LCS06240901	1.00	15.00	100.00	23	333	966.33	
9025801	750 D, PX-1 SOUTH WALL	1.00	15.92	82.64	27	380	0.00	
9025802	750 D, PX-2 EAST WALL	1.00	15.89	81.69	27	385	107.70	J
9025803	750 D, PX-3 BOTTOM	1.00	15.68	83.24	27	383	0.00	
9025804	750 D, DUPLICATE	1.00	15.44	81.82	28	396	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

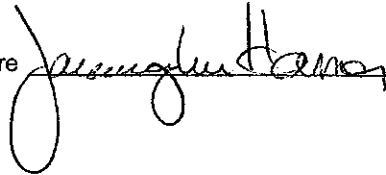
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/11/09



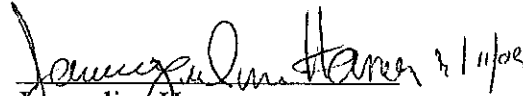
Laboratory Certification # 13461

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

000034

## 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.

  
Jacqueline Hamer 2/11/02  
QA/QC Supervisor

000035

# 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: 09-123690

### Bldg. 750 Motor Pool/UST E

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-E-1, North Wall	9026501	Soil	25-June-09 14:00	06/25/09
750-E-2, South Wall	9026502	Soil	25-June-09 14:20	06/25/09
750-E-3, East Wall	9026503	Soil	25-June-09 14:35	06/25/09
750-E-4, West Wall	9026504	Soil	25-June-09 14:55	06/25/09
750-D-PX4, North Wall	9026505	Soil	25-June-09 09:30	06/25/09
750-D-PX5, West Wall	9026506	Soil	25-June-09 11:00	06/25/09
750-D, Duplicate	9026507	Soil	25-June-09 14:55	06/25/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

*Jacqueline Hamer* 9/17/09  
Jacqueline Hamer/Date  
QA/QC Supervisor

# **Table of Contents**

<b>Section</b>	<b>Page No.</b>
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Result Summary	14
Calibration Summary	15-24
Surrogate Results Summary	25
MS/MSD Results Summary	26
LCS Results Summary	27
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**CHAIN  
OF  
CUSTODY**

**000001**





## SAMPLE RECEIPT FORM

Date Received: 11-25-09

Work Order ID#: 902105

Site/Proj. Name: Blay CD/M.Pool

Cooler Temp (°C): 3.0<sup>th</sup>

Received By: J. Vergara  
(Print name)

Sign: J. Vergara

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**GPS**  
**COORDINATED**

**000004**

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'E'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750E NORTH WALL	537999.109	617635.673
750E SOUTH WALL	537982.744	617644.25
750E EAST WALL	537992.64	617643.534
750E WEST WALL	537988.742	617634.674

000005

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

**BUILDING 750 - UST 'D'**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

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

**(IN US SURVEY FEET)**

**SAMPLE POINTS**

<b><u>POSITION/DESCRIPTION</u></b>	<b><u>Y COORDINATE (NORTHING)</u></b>	<b><u>X COORDINATE (EASTING)</u></b>
750D PX1 SOUTH WALL	538007.026	617721.234
750D PX2 EAST WALL	538029.338	617728.036
750D PX3 BOTTOM	538020.697	617713.203
750D PX4 NORTH WALL	538039.11	617705.835
750D PX5 WEST WALL	538015.389	617703.925

**000006**

**FIELD  
DUPLICATE  
IDENTIFICATION**

**000007**

## **Field Duplicate Identification**

**Lab ID:** 90265

**Site:** Bldg. 750  
Motor Pool

The Field Duplicate was performed on 750-E-4, West Wall (Lab ID 9026504).

**000008**

# **METHOD SUMMARY**

**000009**



# **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.

**000010**

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000011**

**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: TPHC only no additional analyses performed as per Chain of Custody

Laboratory Manager: Jawana Intanon Date: 9/16/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

**000013**

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 25-Jun-09  
**Date Extracted:** 26-Jun-09  
**Extraction Method:** Shake  
**Analysis Complete:** 1-Jul-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB06260901	MB06260901	1.00	15.00	100.00	23	333	0.00	
LCS06260901	LCS06260901	1.00	15.00	100.00	23	333	843.67	
9026501	750-E-1 NORTH WALL	1.00	15.53	83.50	27	386	128.33	J
9026502	750-E-2 SOUTH WALL	1.00	15.76	83.20	27	381	0.00	
9026503	750-E-3 EAST WALL	1.00	15.60	83.70	27	383	13089.23	E
9026503	750-E-3 EAST WALL	5.00	15.60	83.70	134	1915	14133.35	D
9026504	750-E-4 WEST WALL	1.00	15.83	82.70	27	382	3218.94	
9026505	750-D-PX4 NORTH WALL	1.00	15.73	81.10	27	392	0.00	
9026506	750-D-PX5 WEST WALL	1.00	15.67	83.20	27	384	227.02	J
9026507	750-D DUPLICATE	1.00	15.38	82.50	28	394	2824.77	

**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*

**000014**

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

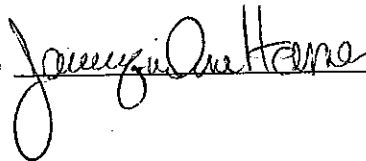
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <u>✓</u> |
| 2.  | Table of Contents submitted.   | <u>✓</u> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <u>✓</u> |
| 4.  | Document paginated and legible.  | <u>✓</u> |
| 5.  | Chain of Custody submitted.  | <u>✓</u> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <u>✓</u> |
| 7.  | Methodology Summary submitted.   | <u>✓</u> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <u>✓</u> |
| 9.  | Results submitted on a dry weight basis.   | <u>✓</u> |
| 10. | Method Detection Limits submitted.   | <u>✓</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/16/05



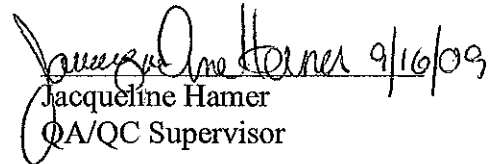
Laboratory Certification # 13461

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

000046

## 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.

 9/16/09  
Jacqueline Hamer  
QA/QC Supervisor

000047

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT  
 FOR  
 Directorate of Public Works  
 Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

SAMPLE LOCATION AND IDENTIFICATION

SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9043404	750MW01**	29-28992	11/03/09
9043405	750MW02	29-28993	11/03/09
9043406	750MW03	29-28994	11/03/09
9043407	750MW04	29-28995	11/03/09
9043408	750MW01A***	-----	11/03/09
9043409	750MW02A*	-----	11/03/09
9043410	750MW03A*	-----	11/03/09
9043411	750MW04A*	-----	11/03/09

\*New Wells Round I

\*\*Duplicate Sample for VOA and TAL Metals is 9043404.

\*\*\* Duplicate Sample for BN is 9043408.

NJDEP Laboratory Certification # 13461

*Dean Tardiff*  
 Dean Tardiff/Date: 11/20/10  
 Laboratory Manager



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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Deantard 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**

# 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

000002

Customer: JOE FALLON		Project No:		Analysis Parameters				Comments:
Phone #: 732-532-6223		Location: 4 <sup>TH</sup> QUARTER MONITOR WELL SAMPLING		VOATIS	METALS	BN+IS	Remarks / Preservation Method	
( ) DERA ( ) OMA ( ) Other:		Company: WATER FUNK / TVS		Sample #	Type	bottles		
LIMS/Work Order #	Sample Location	Date	Time					
90494.01	7SDTRIPBLANK	11-3-09	9:00	AQ	2			
102	7SDFIELD BLANK	11-3-09	12:20	AQ	4			
103	7SD DUP.	11-3-09	—	AQ	3			
104	7SD MW #01	11-3-09	15:30	AQ	3		29-28992	
105	7SD MW #02	11-3-09	15:00	AQ	3		29-28993	
106	7SD MW #03	11-3-09	15:10	AQ	3		29-28994	
107	7SD MW #04	11-3-09	15:20	AQ	3		29-28995	
108	7SD MW #01A	11-3-09	12:30	AQ	4			
109	7SD MW #02A	11-3-09	12:50	AQ	3			
110	7SD MW #03A	11-3-09	13:00	AQ	3			
111	7SD MW #04A	11-3-09	13:20	AQ	3			
112	7SD MW #01ADWP	11-3-09	12:30	AQ	1			
Relinquished by (signature): <i>Walter Ford</i>		Date/Time: 11/03/09 15:55	Received by (signature): <i>J. D. ...</i>	Relinquished by (signature):				Date/Time: Received by (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., ( ) ASAP Verbal ___ Hrs.								
Comments:								

## SAMPLE RECEIPT FORM

Date Received: 11-11-09

Work Order ID#: 90434

Site/Proj. Name: 750 / LTRM / 144 QTR-09

Cooler Temp (°C): 3.0a

Received By: J. Veriquia  
(Print name)

Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative
<u>90434/1-11</u>	<u>N/A</u>	<u>HCL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A MW #:01A NJDEP ID # NJDEP CERT. # 13461 SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES SAMPLER: WALTER FUNK DATE: 11/03/09 WEATHER: Sunny and cool. TIDE: N/A	Sampling Conducted in Accordance with TVS SOP SAM-0205
---	--

<b>Initial Readings:</b>	TDOW-21.38
Elevation of Casing Survey Mark:	8.87 ft
Depth of Well:	21.38 ft
Height of Water in Well:	12.51 ft
PID/FID Reading:	0.00 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 =	24.39
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: 10:37  
 End Time of Purging: 12:26

	Initial Value	Pre-Sample	Post-Sample
pH:	3.65 su	4.10 su	3.88 su
Temperature:	17.03 ( °C)	17.52 ( °C)	17.40 ( °C)
Specific Conductivity:	16939 us/cm	18333 us/cm	19969 us/cm
ORP:	244 mv	184 mv	211 mv
DO:	1.12 mg/L	1.63 mg/L	1.46 mg/L
Depth to Water Post Purge:	17.74 ft		
Depth to Water Post Sampling:	17.88 ft		
Sampling Start Time:	12:30		
Sampling End Time:	12:39		

Comments: DUP. here. For BN only.

000012

**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)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DFTPP Meet Criteria	<u>NA</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
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).	<u>No</u>
a. VOA Fraction: <u>Several compounds have high recoveries, see summary form.</u>	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	

000014

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

Indicate  
Yes, No, N/A

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

Yes

a. VOA Fraction \_\_\_\_\_  
b. B/N Fraction NA \_\_\_\_\_  
c. Acid Fraction NA \_\_\_\_\_

11. Extraction Holding Time Met

NA

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: Scantaraig Date: 1/20/10

000015



**ACCUTEST**  
Laboratories

2

**CASE NARRATIVE / CONFORMANCE SUMMARY**

Client: Fort Monmouth Environmental Testing Lab.

Job No JA33317

Site: 750

Report Date 12/6/2009 6:26:47 PM

On 11/18/2009, 5 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.5 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA33317 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: OP41049
-----------	-------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS, JA33267-2MSD were used as the QC samples indicated.
- ☐ Blank Spike Recovery(s) for Atrazine are outside control limits.
- ☐ Matrix Spike Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Matrix Spike Duplicate Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Sample(s) OP41049-MSD have surrogates outside control limits. Probable cause due to matrix interference.

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

Matrix AQ	Batch ID: OP41049A
-----------	--------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS 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

**METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT**

Lab ID: 90434

Indicate  
Yes, No, N/A

1. Initial and Continuing Calibration Verifications Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

2. ICP Interference Check Sample Results Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

3. Serial Dilutions Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

4. Laboratory Control Samples Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

5. Preparation, Method and Calibration Blank Contamination No  
If yes, list compounds and concentrations in each blank

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Spike Sample Recoveries Meet Criteria Yes  
9043103: AI = 55.9%

\_\_\_\_\_  
\_\_\_\_\_

7. Duplicates Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

8. Analysis Holding Time Met Yes  
If not met, list number of days exceeded for each sample

\_\_\_\_\_  
\_\_\_\_\_

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Dean Tardiff Date: 1/20/10

**000017**

# **METHOD SUMMARY**

000018

## Method Summary

### **EPA Method 624 – Aqueous Gas Chromatographic Determination of Volatiles in Water**

A 5 ml volume of sample is added to 5 ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 3510/8270 Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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.

### **EPA SW-846 Method 3115B, 3<sup>rd</sup> Edition base manual with final Updates I, II, IIA, IIB and III: Digestion of TAL Metals**

Milestone MLS 1200 MEGA

A representative sample of 45ml is digested in 4 ml of concentrated nitric acid and 1 ml concentrated hydrochloric acid for 10 minutes heating with a suitable laboratory microwave unit. The sample and acid are placed in a fluorocarbon (TFM) microvessel. This vessel is capped and heated in the microwave unit. After cooling the vessel contents are filtered and then diluted to a 50 ml volume and analyzed by ICP.

### **Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition, Method 3120B: ICP TAL Metals**

Perkin Elmer OPTIMA 3000 DV

The method measures element-emitted light by optical spectrometry. Samples are nebulized and the resulting aerosol is transported to the plasma torch. Radio-frequency inductively coupled plasma produces element-specific atomic-line emission spectra. The spectra are dispersed by a grating spectrometer and a Segmented-array Charged-coupled-device Detector (SCD) monitors the intensities of the lines. Background and interelemental correction is used for trace element determinations.

### **EPA SW-846 Method 7470A, 3<sup>rd</sup> Edition Base Manual with Final Updates I, II, IIA, IIB and III: Mercury**

Varian SpectrAA-640, VGA-77

The flameless AA procedure is a physical method based on the absorption of radiation at 253.7 nm by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrometer. Absorbency (peak height) is measured as a function of mercury concentration and recorded in the usual manner.

000019

# **LABORATORY CHRONICLE**

000020

# Laboratory Chronicle

Lab ID: 90447

Site: 750 LTM

	Date	Hold Time
Date Sampled	11/03/09	NA
Receipt/Refrigeration	11/03/09	NA

## Analyses

1. Volatiles	11/14,15/09	14 Days
2. Base Neutral	11/11,17/09	7 Days
3. TAL Metals	11/10/09	6 Months
4. Arsenic	11/17/09	6 Months
5. Mercury	11/13/09	28 Days
6. Thallium	11/16/09	6 Months

000021



# **VOLATILE ORGANICS**

**000022**

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.

000023

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

Data File VA4841.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 7:26 pm

Sample Name MB11040902  
 Field ID METHOD 624 11/04/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*		Qualifiers
					MDL	RL	
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11040902**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: MB11040902  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4841.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4843.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 8:28 pm

Sample Name 9043401  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043401  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4843.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      VA4844.D  
 Operator        ROBERTS  
 Date Acquired   4 Nov 2009 8:59 pm

Sample Name    9043402  
 Field ID        750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 FIELD BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043402  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4844.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4850.D  
 Operator ROBERTS  
 Date Acquired 5 Nov 2009 12:06 am

Sample Name 9043408  
 Field ID 750 MW#01A  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether	8.33	9805	0.34 ug/L	70	0.18 ug/L	0.50 ug/L	J
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane	9.01	7278	0.41 ug/L	50	0.19 ug/L	0.50 ug/L	J
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 MW#01A**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043408  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4850.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/5/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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# **SEMI-VOLATILE ORGANICS**

000090

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23002.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	2.0	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000091

Report of Analysis

3-1  
3

Client Sample ID: 9043402 FIELD BLANK	Date Sampled: 11/03/09
Lab Sample ID: JA32053-1	Date Received: 11/04/09
Matrix: AQ - Field Blank Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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	78%		31-106%		
1718-51-0	Terphenyl-d14	79%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.50	4.3	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

000092

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13243.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	77%		18-104%
1718-51-0	Terphenyl-d14	73%		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

000093

## Report of Analysis

Client Sample ID: 9043408 750MW01A  
 Lab Sample ID: JA32053-2  
 Matrix: AQ - Ground Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/03/09  
 Date Received: 11/04/09  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23003.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	2.0	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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**ACCUTEST**  
 JA32053 Laboratories

Report of Analysis

32  
3

Client Sample ID: 9043408 750MW01A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-2	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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	72%		25-112%
321-60-8	2-Fluorobiphenyl	72%		31-106%
1718-51-0	Terphenyl-d14	74%		14-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Internal standard added for SIM test	11.50	4.3	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

000095



## Report of Analysis

Client Sample ID:	9043408 750MW01A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-2	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13244.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	84%		18-119%
321-60-8	2-Fluorobiphenyl	71%		18-104%
1718-51-0	Terphenyl-d14	67%		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

000096

## Report of Analysis

Client Sample ID:	9043408 750MW01A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-2	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23003.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000097

Report of Analysis

3.2  


Client Sample ID:	9043408 750MW01A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-2	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

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	72%		25-112%		
321-60-8	2-Fluorobiphenyl	72%		31-106%		
1718-51-0	Terphenyl-d14	74%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.50	4.3	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

000098

Report of Analysis

3.2  
33

Client Sample ID:	9043408 750MW01A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-2	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13244.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	84%		18-119%
321-60-8	2-Fluorobiphenyl	71%		18-104%
1718-51-0	Terphenyl-d14	67%		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

000099

## Report of Analysis

Client Sample ID:	9043408DUP 750MW01A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-3	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23004.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	3.2	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000100

Report of Analysis

Client Sample ID: 9043408DUP 750MW01A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-3	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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	65%		25-112%
321-60-8	2-Fluorobiphenyl	65%		31-106%
1718-51-0	Terphenyl-d14	66%		14-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Internal standard added for SIM test	11.49	4.4	ug/l	J
	Internal standard added for SIM test	14.94	4.2	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

000101

Report of Analysis

Client Sample ID: 9043408DUP 750MW01A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-3	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C	
Project: 750	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13245.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	76%		18-119%
321-60-8	2-Fluorobiphenyl	66%		18-104%
1718-51-0	Terphenyl-d14	62%		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

000102

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 1/1/10

Dean Tarajo

Laboratory Certification # 13461

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

000309



## 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

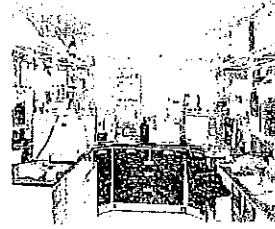
000310

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING



## ANALYTICAL DATA REPORT FOR

Directorate of Public Works  
Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program  
New Wells Round II

### SAMPLE LOCATION AND IDENTIFICATION

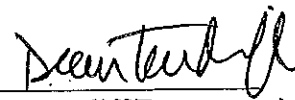
SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9044704	750MW01A**	-----	11/17/09
9044705	750MW02A	-----	11/17/09
9044706	750MW03A	-----	11/17/09
9044707	750MW04A	-----	11/17/09

\*New Wells Round II

\*\*DUP. Sample is 9044704.

NJDEP Laboratory Certification # 13461

  
Dean Tardiff/Date: 1/20/10  
Laboratory Manager

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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Dean Tardiff 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**

# 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: JOE FALLON			Project No:		Analysis Parameters				Comments:
Phone #: 732-532-6223			Location: 2ND ROUND		Remarks / Preservation Method				
( ) DERA ( ) OMA ( ) Other:			Sample #						
LIMS/Work Order #	Sample Location	Date	Time	Type	# bottles				
904447 .01	750 TRIP BLANK	11-17-09	8:00	AQ	2				
.02	750 FIELD BLANK	11-17-09	11:00	AQ	3				
.03	750 DUP.	11-17-09	11:00	AQ	3				
.04	750* MW#01A	11-17-09	11:10	AQ	3				
.05	750 MW#02A	11-17-09	11:20	AQ	3				
.06	750 MW#03A	11-17-09	11:30	AQ	3				
.07	750 MW#04A	11-17-09	11:50	AQ	3				
Relinquished by (signature): <i>[Signature]</i>					Date/Time: 11/17/09 13:00		Received by (signature): <i>[Signature]</i>		
Relinquished by (signature): <i>[Signature]</i>					Date/Time:		Received by (signature):		

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

## SAMPLE RECEIPT FORM

Date Received: 11-17-09

Work Order ID#: 90444

Site/Proj. Name: 750/AR 012-09

Cooler Temp (°C): 3.5°C

Received By: J. Venema  
(Print name)

Sign: J. Venema

### **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
<u>90444-1-N/A</u>	<u>N/A</u>	<u>ACL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Fort Monmouth Environmental Testing Laboratory

## Chain of Custody Record

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

Customer: Jacqueline Hamer		Project No:			Analysis Parameters					Comments:			
Phone #: (732)532-4359		Location: 750 New Wells Rd. II			<div style="text-align: center;">S + Z A</div>					Remarks / Preservation Method			
( ) DERA ( ) OMA ( ) Other:													
Samplers Name / Company:		Sample Location	Date	Time	Sample Type	# bottles							
9044702		Field Blank	11/17/2009	11:00	AQ	1	X						
9044703		DUP.	11/17/2009	11:10	AQ	1	X						
9044704		750MW01A	11/17/2009	11:10	AQ	1	X						
9044705		750MW02A	11/17/2009	11:20	AQ	1	X						
9044706		750MW03A	11/17/2009	11:30	AQ	1	X						
9044707		750MW04A	11/17/2009	0.80625	AQ	1	X						
Relinquished by (signature): <i>Jacqueline Hamer</i>		Date/Time: 11-18-09 10:35	Received by (signature): <i>Jacqueline Hamer</i>				Relinquished by (signature):	Date/Time:	Received by (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		Comments: C09-20650											
Turnaround time: (X) Standard 3 wks, ( ) Rush Wk., ( ) ASAP Verbal ___ Hrs.													

000004



# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A

MW #:01A

NJDEP ID #

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/17/09

WEATHER: Sunny and cool.

TIDE: High

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

TDOW-21.40

**Initial Readings:**

Elevation of Casing Survey Mark:

9.01 ft

Depth of Well:

21.40 ft

Height of Water in Well:

12.39 ft

PID/FID Reading:

0.00 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 = 24.16

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: 09:12

End Time of Purging: 11:01

	Initial Value	Pre-Sample	Post-Sample
pH:	3.83 su	3.73 su	3.64 su
Temperature:	16.14 ( °C)	17.00 ( °C)	16.82 ( °C)
Specific Conductivity:	14616 us/cm	17888 us/cm	19303 us/cm
ORP:	178 mv	154 mv	137 mv
DO:	2.06 mg/L	1.92 mg/L	1.44 mg/L
Depth to Water Post Purge:	16.45 ft		
Depth to Water Post Sampling:	16.58 ft		
Sampling Start Time:	11:10		
Sampling End Time:	11:16		

Comments: DUP. here.

000005

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

90447 VOA

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

	Indicate Yes, No, N/A
1. Chromatograms labeled/Compounds identified (Field samples and method blanks)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DF/TPP Meet Criteria	<u>N/A</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
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)	<u>No</u>
a. VOA Fraction <u>Several compounds have high recoveries due to matrix interference.</u>	
b. B/N Fraction _____	
c. Acid Fraction _____	

000010

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

Indicate  
Yes, No, N/A

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

Yes

- 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: pcuntardige

Date: 1/20/10

RAA 11/30/09

000011

# **METHOD SUMMARY**

## **Method Summary**

### **EPA Method 624 – Aqueous**

#### **Gas Chromatographic Determination of Volatiles in Water**

A 5-ml volume of sample is added to 5-ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 625**

#### **Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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 is concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

# **LABORATORY CHRONICLE**

# Laboratory Chronicle

Lab ID: 90447

Site: 750

	Date	Hold Time
Date Sampled	11/17/09	NA
Receipt/Refrigeration	11/17/09	NA

## Analyses

1. Volatiles	11/25/09	14 Days
2. Semi-Volatiles	11/24-12/02/09	7 Days

000015



# **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 VA4992.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 1:36 pm

Sample Name MB11250901  
 Field ID METHOD 624 11/25/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+tp-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11250901**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: MB11250901  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4992.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4998.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 5:45 pm

Sample Name 9044701  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nfe	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nfe	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nfe	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nfe	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nfe	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nfe	0.27 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nfe	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044701  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4998.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4999.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 6:16 pm

Sample Name 9044702  
 Field ID 750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l) <sup>a</sup>	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 FIELD BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044702  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4999.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA5000.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 6:47 pm

Sample Name 9044703  
 Field ID 750 DUP  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l) <sup>a</sup>	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether	8.34	20437	0.59 ug/L	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane	9.02	11515	0.53 ug/L	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	

<sup>a</sup>Results between MDL and RL are estimated values

<sup>a</sup>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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 DUP**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044703  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA5000.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4994.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 3:42 pm

Sample Name 9044704  
 Field ID 750 MW#01A  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether	8.34	25591	0.71 ug/L	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E .

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 MW#01A**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044704  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4994.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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# **SEMI-VOLATILE ORGANICS**

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## Report of Analysis

Page 1 of 2

Client Sample ID: 9044702 FIELD BLANK  
 Lab Sample ID: JA33317-1  
 Matrix: AQ - Field Blank Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75635.D	1	12/02/09	VN	11/20/09	OP41049	BR2857
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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Report of Analysis



Client Sample ID: 9044702 FIELD BLANK  
 Lab Sample ID: JA33317-1  
 Matrix: AQ - Field Blank Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

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	71%		31-106%		
1718-51-0	Terphenyl-d14	66%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	system artifact/aldol-condensation	4.53	4.1	ug/l	J	
	Internal standard added for SIM test	8.48	4.1	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

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## Report of Analysis

Page 1 of 1

Client Sample ID:	9044702 FIELD BLANK	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-1	Date Received:	11/18/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13629.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	88%		18-119%
321-60-8	2-Fluorobiphenyl	79%		18-104%
1718-51-0	Terphenyl-d14	74%		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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## Report of Analysis

Page 1 of 2

Client Sample ID: 9044703 DUP.	Date Sampled: 11/17/09
Lab Sample ID: JA33317-2	Date Received: 11/18/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75636.D	1	12/02/09	VN	11/20/09	OP41049	ER2857
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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Client Sample ID: 9044703 DUP.  
 Lab Sample ID: JA33317-2  
 Matrix: AQ - Ground Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

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	67%		31-106%		
1718-51-0	Terphenyl-d14	39%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	12.68	4.2	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

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## Report of Analysis

Page 1 of 1

Client Sample ID: 9044703 DUP.	Date Sampled: 11/17/09
Lab Sample ID: JA33317-2	Date Received: 11/18/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C	
Project: 750	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13630.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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(h)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	78%		18-104%
1718-51-0	Terphenyl-d14	45%		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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## Report of Analysis

Page 1 of 2

Client Sample ID: 9044704 750MW01A  
 Lab Sample ID: JA33317-3  
 Matrix: AQ - Ground Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75637.D	1	12/02/09	VN	11/20/09	OP41049	ER2857
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000075

Report of Analysis

Client Sample ID: 9044704 750MW01A	Date Sampled: 11/17/09
Lab Sample ID: JA33317-3	Date Received: 11/18/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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	78%		25-112%		
321-60-8	2-Fluorobiphenyl	71%		31-106%		
1718-51-0	Terphenyl-d14	40%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	system artifact/aldol-condensation	4.52	4.4	ug/l	J	
	Internal standard added for SIM test	12.68	4.2	ug/l	J	
	Internal standard added for SIM test	18.37	4	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

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Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	9044704 750MW01A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-3	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13631.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	89%		18-119%
321-60-8	2-Fluorobiphenyl	81%		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

000077

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature Dean Tardif  
Date: 1/20/10

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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## 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

000239



ATTACHMENT H

UST 750E File Review and Analyses

UNDERGROUND STORAGE TANK FILE REVIEW  
FORT MONMOUTH BRAC 05 FACILITY  
OCEANPORT, NEW JERSEY

Date: August 30, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750E**

Registration ID: *None*

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release?  Yes  No

NJDEP Release No. or DICAR (If applicable): 09-06-22-1402-58

Did NJDEP approve No Further Action (NFA) for this site?  Yes  No  Not Applicable

Tank Description:  Steel  Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil  
 Residential  Commercial/Industrial

Tank Removed?  Yes  No If "yes," removal date: 6/19/2009

Were closure soil samples taken?  Yes  No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria?  Yes  No

### Brief Narrative

UST 750E was initially identified as anomaly P51\_42 in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_42 location, a steel tank was located and removed on 6/19/09 and fuel oil contamination was observed. A hole was observed in the tank, and an oily sheen was observed on the groundwater in the tank excavation (groundwater was observed at 5.5 feet below ground surface). Initial soil samples (750-E-1 through 750-E-4) were collected from the excavation side walls on 6/25/09, and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). TPH in these initial soil samples ranged in concentration from not detected (ND) to 14,133 milligrams per kilogram (mg/kg), with the highest concentration encountered in the east side wall.


Petroleum contaminated soil was subsequently removed from the tank excavation, and initial post-excavation samples 750-E PX1 through PX3 were collected on 7/9/09 from the east and west side walls and excavation bottom. These results ranged from ND to 1232 mg/kg, with the slightly elevated TPH concentration located on the east side wall. Additional soil excavation was performed, and post-excavation samples 750-E PX4 through PX6 were collected from the east side wall on 7/14/09 and 7/16/09; TPH concentrations were all ND. In total, approximately 24 cubic yards of petroleum contaminated soil was removed from the tank excavation. The final results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, soil remediation was completed, and no additional soil sampling or remedial action was warranted.

Monitor well 750MW06 was installed in the vicinity of UST 750E on 10/14/09 to assess the potential for contamination of groundwater. This well was sampled on 11/3/09 and 11/17/09, and the samples were analyzed for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), plus VOC and SVOC tentatively identified compounds (TICs). As noted in the analytical data reports (see the sheet preceding the Chain of Custody Form), well 750MW06 was initially designated as "750MW02A". No VOCs or SVOCs were detected in the groundwater

samples from well 750MW06. Therefore, there is no indication of a release to groundwater at UST 750E.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed."

Recommendations (if any): Change to "Case Closed", request NFA from NJDEP

Signed:   
Kent A. Friesen, Parsons

# Fort Monmouth UST Status Summary Report

## UST REGISTRATION INFORMATION SUMMARY

**LOCATION** 750 E **NJDEP REG ID**  
**RESIDENTIAL** YES

## UST CONSTRUCTION INFORMATION SUMMARY

**SIZE (GALLONS)** 1000 **CONSTRUCTION** STEEL  
**PRODUCT** #2 FUEL OIL **YEAR INSTALLED**

## UST REMOVAL/INVESTIGATION SUMMARY

**REMOVAL DATE** 6/19/2009 **REMOVAL CONTRACTOR** TVS Inc

**SRF SEND DATE** **TMS** NA

**DICAR NO** 09-06221402-58 **LEAK DETECT**

**REMEDICATION COMMENTS** Visual observations indicate a discharge had occurred

**REGISTRATION COMMENTS** Not registered per BRAC. Office direction discharge reported 6-22-09 by Appleby

**SAS DONE** NO **CONSULTANT**

**MW's NEEDED** **MONITORING WELLS**

**SUB-SURFACE EVALUATOR** Accorsi

## CURRENT UST STATUS

**UST STATUS** REMOVED/RI ON-GOING **CASE STATUS** Case Open

**SUBMITTAL DATE** **APPROVAL DATE**

**US ARMY, SELFM-PW-EV**  
**DAILY UST-SUBSURFACE REMOVAL LOG**

BLDG # 750E REG # NA  
 DATE 6-22-09 TOA 11:30 TOD 1:00  
 SSE Chas Beckley / Frank Adams NJDEP CERT # 9974 CA  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR Frank Adams NJDEP CERT #                       
 WEATHER Overcast - Rain over beach

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	<u>YES</u>
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	<u>Frank A</u>
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E G 29CFR)	<u>YES</u>
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	<u>NA</u>
THE UST WAS PLACED ONTO PLASTIC SCRAPED OFF INSPECTED FOR HOLES AND PHOTOGRAPHED	<u>NA</u>
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337	<u>CA</u>
CASE# <u>09-06221402-58</u> <u>Site 750E</u> <u>100gal Steel UST #2 Fuel oil.</u>	<u>YES</u>
PHOTOS HAVE UST# -BLDG #, DATE, TIME NAME OF SSE AND DESCR WRITTEN ON BACK	<u>FA</u>
GROUNDWATER WAS ENCOUNTERED AT <u>4.4</u> FEET BG A SHEEN (WAS/WAS NOT) OBSERVED ON GW	<u>CA</u>
IF OVA WAS USED WAS IT CAL AND FOUND TO BE OPERATIONAL (cal data on COC)	<u>NA</u>
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	<u>NA</u>
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM 2005 August	<u>NA</u>
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7 26E-3 6 et seq	<u>NA</u>
ALL PETROL CONT SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	<u>YES</u>
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1 ABOVE GROUNDWATER) AND A BACKFILL AUTH LTR IS ATTACHED	<u>NO</u>
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	<u>NA</u>
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	<u>YES</u>
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) PHOTOGRAPHS (UST EXCAVATION SAMPLING POINTS)	<u>None</u>

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

Subsurface Evaluator (print Name) Chas Beckley Date 6-22-09  
 SIGNATURE [Signature]

CA - 750 E

6-22-09

- Clean overboard material is left on site
- Cont Soils moved to 166 Pad
- TANK taken to 108 yard for disposal
- hole in UST
- Check called to visually determine if Discharge needs to be reported to NTDPA  
Based on Visual observation (Spoon) a discharge was called in CA
- 1000 gal STEEL #2 Fuel oil

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG # 750 REG # UST 'E'  
 DATE 7-13-09 TOA \_\_\_\_\_ TOD \_\_\_\_\_  
 SSE FRANK ACCORSI NJDEP CERT # 0010042  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR FRANK ACCORSI NJDEP CERT # 0010042  
 WEATHER PTLY. CLOUD; 80's

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E G 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS PLACED ONTO PLASTIC SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (609-292-7172) CASE# _____	Y
PHOTOS HAVE UST#, BLDG # DATE TIME NAME OF SSE AND DESCR WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT <u>5.5</u> FEET BG A SHEEN (WAS/WAS NOT) OBSERVED ON GW	Y
IF OVA WAS USED WAS IT CAL AND FOUND TO BE OPERATIONAL (cal data on COC)	Y
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	Y
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM 1992	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7 26E-3 6 et seq	Y
ALL PETROL CONT SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) AND A BACKFILL AUTH LTR IS ATTACHED	Y
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	Y
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	Y
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY (CIRCLE EACH) SCRAP TICKET CSE PERMIT ACCIDENT REPORT HAZ WASTE MANIFEST <u>DAILY UST CLOSURE LOG</u> SCALED SITE MAP (SAMPLING) SRF CLOSURE <u>CHAIN OF CUSTODY</u> <u>SOIL ANALYTICAL RESULTS</u> CLEAN FILL TICKETS (IN YDS <sup>3</sup> ) PHOTOGRAPHS (UST EXCAVATION SAMPLING POINTS)	Y

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) FRANK ACCORSI Date 7-13-09

SIGNATURE Frank Accorsi

**US ARMY, FORT MONMOUTH  
DAILY UST CLOSURE LOG**

BLDG.#: 750 REG.#: "UST-E"  
 DATE: 7-1-09 TO 7-13-09 TOA: \_\_\_\_\_ TOD: \_\_\_\_\_  
 CLOSURE TECH: FRANK ACCORSI NJDEP CERT.#: 0010042  
 PERSONNEL: ANTHONY FORGIONE, MARC TAYLOR

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAVE CURRENT TRAINING IAW ALL SAFETY REQ. (E.G. 29CFR)	Y
ALL UTILITIES WERE MARKED OUT PRIOR TO ANY EXCAVATION (VISUAL CONFIRM. <u>YES</u> /NO)	Y
HAND EXCAVATION WAS DONE WHEN EXCAVATING WITHIN 4 FT OF ANY UTILITIES	NA
ALL UST PIPING WAS BLOWN BACK AND DRAINED PRIOR TO ANY EXCAVATION WITH BACKHOE	NA
ALL UST PIPING WAS REMOVED PRIOR TO UST EXCAVATION	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS <del>CLEANED</del> <u>PUMPED</u> AND NO RESIDUAL LIQUIDS WERE LEFT IN THE TANK	Y
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
<u>6</u> DRUMS OF WASTE WERE GENERATED AT THIS SITE TODAY (ID CARDS COMPLETED)	Y
<u>6</u> DRUMS OF WASTE WERE TRANSPORTED TO THE <u>(MP) CW, EV) HWSA B.482 + B.1122</u>	Y
_____ GALLONS OF _____ WASTE WERE REMOVED (MANIFEST#: _____)	NA
<u>24</u> CUBIC YARDS OF PETROL. CONT. SOIL WERE EXCAVATED+TRANS TO (T-80, <sup>166</sup> 2624)	Y
THE DPW WAS NOTIFIED OF ANY DISCHARGE TO THE ENVIRONMENT. (WHO) <u>C. APPLEBY</u>	Y
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW AUTHORIZED BACKFILLING THE EXCAVATION. SSE INITIAL REQUIRED: _____	Y
THE UST WAS TRANSPORTED TO <u>108 YARD</u> FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
ADDITIONAL NOTES WERE TAKEN AND RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE GIVEN TO THE SSE TODAY: (CIRCLE EACH OR ADD ITEMS) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, _____	N

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. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

CLOSURE TECH (PRINT NAME): FRANK ACCORSI  
 SIGNATURE: Frank Accorsi DATE: 7-13-09



# 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: 09-123690

### Bldg. 750 Motor Pool/UST E

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-E-1, North Wall	9026501	Soil	25-June-09 14:00	06/25/09
750-E-2, South Wall	9026502	Soil	25-June-09 14:20	06/25/09
750-E-3, East Wall	9026503	Soil	25-June-09 14:35	06/25/09
750-E-4, West Wall	9026504	Soil	25-June-09 14:55	06/25/09
750-D-PX4, North Wall	9026505	Soil	25-June-09 09:30	06/25/09
750-D-PX5, West Wall	9026506	Soil	25-June-09 11:00	06/25/09
750-D, Duplicate	9026507	Soil	25-June-09 14:55	06/25/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

*Jacqueline Hamer* 9/17/09  
Jacqueline Hamer/Date  
QA/QC Supervisor

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**CHAIN  
OF  
CUSTODY**

**000001**

# Fort Monmouth Environmental Testing Laboratory

## Chain of Custody Record

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

Customer: CHUCK APPEBY		Project No: 09-123690		Analysis Parameters		Comments: Remarks / Preservation Method					
Phone #: X26292	Location: Bldg. 750 - MOTOR POOL UST# E + D	Sample Location	Date	Time	Sample Type		# bottles				
( ) DERA ( ) OMA (X) Other:	Samplers Name / Company: FRANK ACCORSI / TUS	LIMS/Work Order #									
01	750-E-1, NORTH WALL	6-25-09	1400		50/105	X	TPH *	DEPTH (FT) 55-6	5	ICE	
02	750-E-2, SOUTH WALL		1420			X		55-6	0		
03	750-E-3, EAST WALL		1435			X		55-6	210		
04	750-E-4, WEST WALL		1455			X		55-6	210		
05	750-D-PX4, NORTH WALL		0930			X		7-75	2		
06	750-D-PX5, WEST WALL		1100			X		7-75	10		
07	750-D, DUPLICATE		1455			X		55-6	200		
Relinquished by (signature): <i>Frank Accorsi</i>		Date/Time: 6-25-09 1100	Received by (signature): <i>[Signature]</i>	Relinquished by (signature):			Date/Time: Received by (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, (X) Rush 3 wks, ( ) ASAP Verbal _____ Hrs.		* TPH ONLY							

print legibly

Page 1 of 1

new coc..XLS6/2/2009

000002

## SAMPLE RECEIPT FORM

Date Received: 11-25-09

Work Order ID#: 902105

Site/Proj. Name: Blay CD/M.Pool

Cooler Temp (°C): 3.0<sup>th</sup>

Received By: J. Vergara  
(Print name)

Sign: J. Vergara

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**GPS**  
**COORDINATED**

**000004**

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

**BUILDING 750 - UST 'E'**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

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

**(IN US SURVEY FEET)**

**SAMPLE POINTS**

<b><u>POSITION/DESCRIPTION</u></b>	<b><u>Y COORDINATE (NORTHING)</u></b>	<b><u>X COORDINATE (EASTING)</u></b>
750E NORTH WALL	537999.109	617635.673
750E SOUTH WALL	537982.744	617644.25
750E EAST WALL	537992.64	617643.534
750E WEST WALL	537988.742	617634.674

**000005**

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

**BUILDING 750 - UST 'D'**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

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

(IN US SURVEY FEET)

**SAMPLE POINTS**

<b><u>POSITION/DESCRIPTION</u></b>	<b><u>Y COORDINATE (NORTHING)</u></b>	<b><u>X COORDINATE (EASTING)</u></b>
750D PX1 SOUTH WALL	538007.026	617721.234
750D PX2 EAST WALL	538029.338	617728.036
750D PX3 BOTTOM	538020.697	617713.203
750D PX4 NORTH WALL	538039.11	617705.835
750D PX5 WEST WALL	538015.389	617703.925

**000006**



**FIELD  
DUPLICATE  
IDENTIFICATION**

**000007**

## **Field Duplicate Identification**

**Lab ID:** 90265

**Site:** Bldg. 750  
Motor Pool

The Field Duplicate was performed on 750-E-4, West Wall (Lab ID 9026504).

**000008**

# **METHOD SUMMARY**

**000009**

# **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.

**000010**

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000011**

**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: TPHC only no additional analyses performed as per Chain of Custody

Laboratory Manager: Jawunqun Intanon Date: 9/16/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

**000013**

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 25-Jun-09  
**Date Extracted:** 26-Jun-09  
**Extraction Method:** Shake  
**Analysis Complete:** 1-Jul-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB06260901	MB06260901	1.00	15.00	100.00	23	333	0.00	
LCS06260901	LCS06260901	1.00	15.00	100.00	23	333	843.67	
9026501	750-E-1 NORTH WALL	1.00	15.53	83.50	27	386	128.33	J
9026502	750-E-2 SOUTH WALL	1.00	15.76	83.20	27	381	0.00	
9026503	750-E-3 EAST WALL	1.00	15.60	83.70	27	383	13089.23	E
9026503	750-E-3 EAST WALL	5.00	15.60	83.70	134	1915	14133.35	D
9026504	750-E-4 WEST WALL	1.00	15.83	82.70	27	382	3218.94	
9026505	750-D-PX4 NORTH WALL	1.00	15.73	81.10	27	392	0.00	
9026506	750-D-PX5 WEST WALL	1.00	15.67	83.20	27	384	227.02	J
9026507	750-D DUPLICATE	1.00	15.38	82.50	28	394	2824.77	

**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*

000014



## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

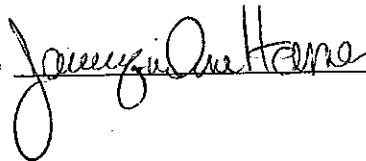
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <u>✓</u> |
| 2.  | Table of Contents submitted.   | <u>✓</u> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <u>✓</u> |
| 4.  | Document paginated and legible.  | <u>✓</u> |
| 5.  | Chain of Custody submitted.  | <u>✓</u> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <u>✓</u> |
| 7.  | Methodology Summary submitted.   | <u>✓</u> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <u>✓</u> |
| 9.  | Results submitted on a dry weight basis.   | <u>✓</u> |
| 10. | Method Detection Limits submitted.   | <u>✓</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/16/05




Laboratory Certification # 13461

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

000046

## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000047

# 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

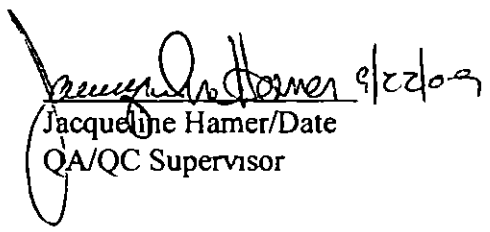


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT 09-123690

### Bldg. 750/UST # I

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750 E PX 1 West Wall	9027401	Soil	09 July-09 14 20	07/09/09
750-E PX 2 East Wall	9027402	Soil	09-July-09 15 00	07/09/09
750-E PX 3, Bottom	9027403	Soil	09 July-09 14 40	07/09/09
750-E, Piping	9027404	Soil	09-July-09 15 20	07/09/09
750-E, Duplicate	9027405	Soil	09-July-09 15 00	07/09/09

ANALYSIS  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

  
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



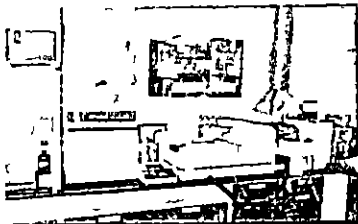
# Table of Contents

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**CHAIN  
OF  
CUSTODY**

000001



# 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		Project No		Analysis Parameters										Comments		
CHUCK APPLEBY		09-123690		TPH*	% SOLIDS							PID (PPM)	DEPTH(ft)	Remarks / Preservation Method		
Phone # X22692		Location BLDG. 750														
( ) DERA ( ) OMA (X) Other _____		UST # 750-E														
Samplers Name / Company			Sample #													
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles											
90274 01	750-E, PX-1 WEST WALL	7-9-09	1420	SOIL	1	X	X					20	758		ICE	
	02 750 E, PX-2 EAST WALL		1500		1	X	X					350	758			
	03 750-E, PX 3 BOTTOM		1440		1	X	X					0	859			
	04 750E PIPING		1520		1	X	X					1	354			
	05 750-E, DUPLICATE		1500		1	X	X					2	758			
Relinquished by (signature)		Date/Time	Received by (signature)		Relinquished by (signature)		Date/Time	Received by (signature)								
Frank Accorsi		7-9-09 15:39	[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					* CONTINGENT BNA IF TPH > 1,000 PPM, ON HIGHEST											
Turnaround time ( ) Standard 3 wks (X) Rush 3 <del>Wks</del> ( ) ASAP Verbal ___ Hrs																

000002

DAYS

## SAMPLE RECEIPT FORM

Date Received 7-9-09

Work Order ID# 90214

Site/Proj Name Bldg 700/MP

Cooler Temp (°C) 3.0

Received By J. Ventura  
(Print name)

Sign [Signature]

### 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

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# **GPS COORDINATED**

**000004**



U S ARMY - FT MONMOUTH, NJ

BUILDING 750 - UST E

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750E PX1 WEST WALL UST	537982 429	617626 411
750E PX2 EAST WALL UST	537994 15	617647 161
750E PX3 BOTTOM	537988 101	617634 129
750E PX4 EAST WALL	537997 611	617650 231
750E PX5 EAST WALL N END	538002 189	617650 03
750E PX6 EAST WALL SOUTH END	537996 415	617654 837
750E PIPING	537982 76	617642 794

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006

## **Field Duplicate Identification**

**Lab ID 90274**

**Site Bldg 750  
UST # 750-E**

The Field Duplicate was performed on 750-E, PX-2, East Wall (Lab ID 9027402 )

**000007**

**METHOD  
SUMMARY**

000008

## 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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

000010

TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

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

Additional comments Sample 9027402 > 1000 ppm No additional analysis performed. Its duplicate result is 172 ppm. See in lab of homogeneity

Laboratory Manager Jay G. Osterman Date 9/1/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012



**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 #** 09-123690  
**Location** BLDG 750 MOTOR POOL  
**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** 9 Jul-09  
**Date Extracted** 13 Jul-09  
**Extraction Method** Shake  
**Analysis Complete** 14-Jul 09  
**Analyst** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07130901	MB07130901	1 00	15 00	100 00	23	333	0 00	
LCS07130901	LCS07130901	1 00	15 00	100 00	23	333	886 83	
9027401	750-E PX-1 WEST WALL	1 00	15 55	77 60	29	414	0 00	
9027402	750-E PX 2 EAST WALL	1 00	15 53	80 80	28	398	1232 09	
9027403	750-E PX-3 BOTTOM	1 00	15 42	76 40	30	424	0 00	
9027404	750-E PIPING	1 00	15 36	85 60	27	380	0 00	
9027405	750-E DUPLICATE	1 00	15 41	81 30	28	399	172 37	

**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

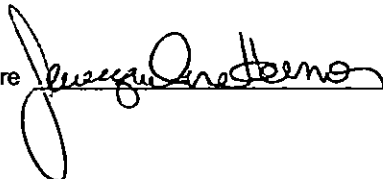
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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   | <input checked="" type="checkbox"/> |
| 2  | Table of Contents submitted  | <input checked="" type="checkbox"/> |
| 3  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted          | <input checked="" type="checkbox"/> |
| 4  | Document paginated and legible   | <input checked="" type="checkbox"/> |
| 5  | Chain of Custody submitted   | <input checked="" type="checkbox"/> |
| 6  | Samples submitted to lab within 48 hours of sample collection  | <input checked="" type="checkbox"/> |
| 7  | Methodology Summary submitted  | <input checked="" type="checkbox"/> |
| 8  | Laboratory Chronicle and Holding Time Check submitted  | <input checked="" type="checkbox"/> |
| 9  | Results submitted on a dry weight basis  | <input checked="" type="checkbox"/> |
| 10 | Method Detection Limits submitted  | <input checked="" type="checkbox"/> |
| 11 | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date 9/22/09



Laboratory Certification # 13461

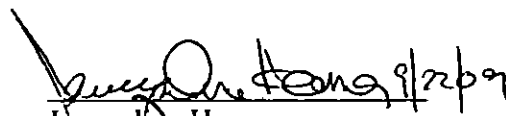
Refer to NJAC 7:26E - Appendix A Section IV - Reduced Data Deliverables - Non-USEPA/CLP Methods for further guidance

000036



## 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.



Jacqueline Hamer  
QA/QC Supervisor



000097

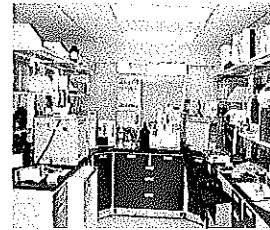
# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP CERTIFICATION #13461

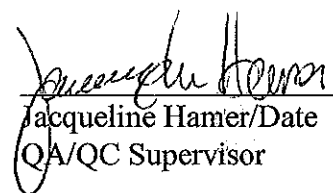


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

**Bldg. 750/UST # E**

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-E-PX4, West Wall	9028301	Soil	14-July-09 15:00'	07/14/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

 9/17/09  
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**

**000001**

# 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: <b>CHUCK APPLEBY</b>		Project No: <b>09-123690</b>		Analysis Parameters					Comments:					
Phone #: <b>X26292 22692</b>		Location: <b>Bldg. 750, UST # E</b>												
<input type="checkbox"/> DERA <input type="checkbox"/> OMA <input checked="" type="checkbox"/> Other: _____		Samplers Name / Company: <b>FRANK ACCORSI / TVS</b>		Sample #	Type	bottles								
LIMS/Work Order #	Sample Location	Date	Time											
<b>7488 01</b>	<b>750E, PX4, WEST WALL 2</b>	<b>7-19-09</b>	<b>1500</b>	<b>501L</b>	<b>1</b>	<b>X</b>	<b>X</b>	<b>0</b>	<b>657</b>	<b>ICE</b>				
Relinquished by (signature): <i>Frank Accorsi</i>		Date/Time: <b>7-19-09 1545</b>	Received by (signature): <i>[Signature]</i>		Relinquished by (signature):					Date/Time:	Received by (signature):			
Relinquished by (signature):		Date/Time:	Received by (signature):		Relinquished by (signature):					Date/Time:	Received by (signature):			
Report Type: <input type="checkbox"/> Full, <input type="checkbox"/> Reduced, <input checked="" type="checkbox"/> Standard, <input type="checkbox"/> Screen / non-certified, <input type="checkbox"/> EDD												Comments:		
Turnaround time: <input type="checkbox"/> Standard 3 wks, <input checked="" type="checkbox"/> Rush 3 wks., <input type="checkbox"/> ASAP Verbal _____ Hrs.														

000002

print legibly

## SAMPLE RECEIPT FORM

Date Received: 7-14-09  
 Site/Proj. Name: Bldg 20/M. Hall  
 Received By: J. C. [Signature]  
 (Print name)

Work Order ID#: 90283  
 Cooler Temp (°C): 4.0°C  
 Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**GPS  
COORDINATED**

**000004**

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'E'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750E NORTH WALL	537999.109	617635.673
750E SOUTH WALL	537982.744	617644.25
750E EAST WALL	537992.64	617643.534
750E WEST WALL	537988.742	617634.674

000005

# **METHOD SUMMARY**

000006

# 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.

000007

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000008**

# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

Indicate  
Yes, No, N/A

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

Additional comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Josephine Heimer Date: 9/17/09

000009

**TOTAL  
PETROLEUM  
HYDROCARBONS**

**000010**

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 14-Jul-09  
**Date Extracted:** 17-Jul-09  
**Extraction Method:** Shake  
**Analysis Complete:** 20-Jul-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07170901	MB07170901	1.00	15.00	100.00	23	333	0.00	
LCS07170901	LCS07170901	1.00	15.00	100.00	23	333	822.85	
9028301	750-E PX4 WEST WALL	1.00	15.43	85.5	27	379	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*

000011



## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

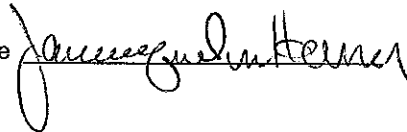
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <u>✓</u> |
| 2.  | Table of Contents submitted.   | <u>✓</u> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <u>✓</u> |
| 4.  | Document paginated and legible.  | <u>✓</u> |
| 5.  | Chain of Custody submitted.  | <u>✓</u> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <u>✓</u> |
| 7.  | Methodology Summary submitted.   | <u>✓</u> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <u>✓</u> |
| 9.  | Results submitted on a dry weight basis.   | <u>✓</u> |
| 10. | Method Detection Limits submitted.   | <u>✓</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/17/09



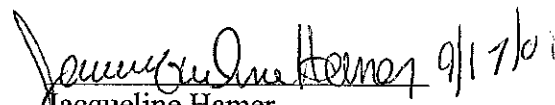
Laboratory Certification # 13461

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

000029

## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000030

# 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

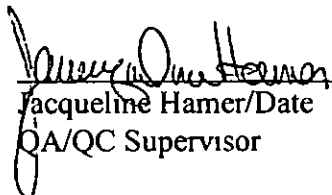


## ANALYTICAL DATA REPORT Fort Monmouth Environmental Laboratory ENVIRONMENTAL DIVISION Fort Monmouth, New Jersey PROJECT 09-123690

### Bldg. 750/UST # E

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750 E PX5 East Wall North End	9030001	Soil	16 July-09 15 05	07/16/09
750-E, PX6, East Wall South End	9030002	Soil	16-July-09 15 15	07/16/09
750-E Duplicate	9030003	Soil	16-July-09 15 15	07/16/09

### ANALYSIS FORT MONMOUTH ENVIRONMENTAL LAB TPHC, % SOLIDS

 9/17/09  
Jacqueline Hamer/Date  
QA/QC Supervisor

# Table of Contents

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**CHAIN  
OF  
CUSTODY**

**000001**

# 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 <b>CHUCK APPEBY</b>		Project No <b>09-123690</b>		Analysis Parameters								Comments	
Phone # <b>X26292</b>		Location <b>BLOG 750, UST E</b>		TPH	% SOLIDS					P10 (PPM)	DEPTH (FT)	Remarks / Preservation Method	
( ) DERA ( ) OMA (X) Other _____		Samplers Name / Company <b>FRANK ACCORSI / TVS</b>											Sample #
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles								
<b>010901</b>	<b>750-E, PX5, EAST WALL, NORTH END</b>	<b>7-16-09</b>	<b>1505</b>	<b>SOIL</b>	<b>1</b>	<b>X</b>	<b>X</b>			<b>0</b>	<b>65-7</b>	<b>ICE</b>	
<b>02</b>	<b>750-E, PX6, EAST WALL, SOUTH END</b>		<b>1515</b>		<b>1</b>	<b>X</b>	<b>X</b>			<b>0</b>	<b>65-7</b>		
<b>03</b>	<b>750-E, DUPLICATE</b>		<b>1505</b>		<b>1</b>	<b>X</b>	<b>X</b>			<b>0</b>	<b>65-7</b>		
Relinquished by (signature) <i>Frank Accorsi</i>		Date/Time <b>7-16-09 1610</b>	Received by (signature) <i>J. Williams</i>		Relinquished by (signature)		Date/Time	Received by (signature)					
Relinquished by (signature)		Date/Time	Received by (signature)		Relinquished by (signature)		Date/Time	Received by (signature)					
Report Type <input type="checkbox"/> Full <input checked="" type="checkbox"/> Reduced <input type="checkbox"/> Standard <input type="checkbox"/> Screen / non certified <input type="checkbox"/> EDD					Comments								
Turnaround time <input type="checkbox"/> Standard 3 wks <input checked="" type="checkbox"/> Rush 3 Wk <input type="checkbox"/> ASAP Verbal ___ Hrs													

000002

**DAYS**

## SAMPLE RECEIPT FORM

Date Received 7-16-09

Work Order ID# 90300

Site/Proj Name Blakey 750-E

Cooler Temp (°C) 3.0<sup>o</sup>

Received By J. G. [Signature]  
(Print name)

Sign [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# **GPS COORDINATED**

**000004**



U S ARMY - FT MONMOUTH, NJ

BUILDING 750 - UST 'E'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750E PX1 WEST WALL UST	537982 429	617626 411
750E PX2 EAST WALL UST	537994 15	617647 161
750E PX3 BOTTOM	537988 101	617634 129
750E PX4 EAST WALL	537997 611	617650 231
750E PX5 EAST WALL N END	538002 189	617650 03
750E PX6 EAST WALL SOUTH END	537996 415	617654 837
750E PIPING	537982 76	617642 794

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006

## Field Duplicate Identification

**Lab ID 90300**

**Site Bldg 750  
UST # 750-E**

The Field Duplicate was performed on 750-E-PX6, East Wall South End (Lab ID 9030002)

**000007**



# **METHOD SUMMARY**

**000008**



## 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.

000009



**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000010**

**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 Jerry L. Hannon Date 9/17/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012



**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 #** 09-123690  
**Location** BLDG 750 MOTOR POOL  
**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** 16 Jul-09  
**Date Extracted** 17-Jul-09  
**Extraction Method** Shake  
**Analysis Complete** 20 Jul-09  
**Analyst** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07170901	MB07170901	1.00	15.00	100.00	23	333	0.00	
LCS07170901	LCS07170901	1.00	15.00	100.00	23	333	822.85	
9030001	750-E PX5 EAST WALL NORTH END	1.00	16.12	88.0	25	352	0.00	
9030002	750-E PX6 EAST WALL SOUTH END	1.00	16.04	87.8	25	355	0.00	
9030003	750-E DUPLICATE	1.00	15.84	88.0	25	359	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  
Date 9/17/09

*James J. Quilliam*

Laboratory Certification # 13461

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

000035

## 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.

*Jacqueline Hamer* 9/17/09  
Jacqueline Hamer  
QA/QC Supervisor

000036

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT  
 FOR  
 Directorate of Public Works  
 Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

SAMPLE LOCATION AND IDENTIFICATION

SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9043404	750MW01**	29-28992	11/03/09
9043405	750MW02	29-28993	11/03/09
9043406	750MW03	29-28994	11/03/09
9043407	750MW04	29-28995	11/03/09
9043408	750MW01A***	-----	11/03/09
9043409	750MW02A*	-----	11/03/09
9043410	750MW03A*	-----	11/03/09
9043411	750MW04A*	-----	11/03/09

\*New Wells Round I

\*\*Duplicate Sample for VOA and TAL Metals is 9043404.

\*\*\* Duplicate Sample for BN is 9043408.

NJDEP Laboratory Certification # 13461

*Dean Tardiff*  
 Dean Tardiff/Date: 11/20/10  
 Laboratory Manager

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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Deanturd 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**

# 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

000002

Customer: JOE FALLON		Project No:		Analysis Parameters				Comments:
Phone #: 732-532-6223		Location: 4 <sup>TH</sup> QUARTER MONITOR WELL SAMPLING		VOATIS	METALS	BN+IS	Remarks / Preservation Method	
( ) DERA ( ) OMA ( ) Other:		Company: WATER FUNK / TVS		Sample #	Type	bottles		
LIMS/Work Order #	Sample Location	Date	Time					
90494.01	7SD TRIP BLANK	11-3-09	9:00	AQ	2			
02	7SD FIELD BLANK	11-3-09	12:20	AQ	4			
03	7SD DUP.	11-3-09	—	AQ	3			
04	7SD MW #01	11-3-09	15:30	AQ	3		29-28992	
05	7SD MW #02	11-3-09	15:00	AQ	3		29-28993	
06	7SD MW #03	11-3-09	15:10	AQ	3		29-28994	
07	7SD MW #04	11-3-09	15:20	AQ	3		29-28995	
08	7SD MW #01A	11-3-09	12:30	AQ	4			
09	7SD MW #02A	11-3-09	12:50	AQ	3			
10	7SD MW #03A	11-3-09	13:00	AQ	3			
11	7SD MW #04A	11-3-09	13:20	AQ	3			
12	7SD MW #01ADP	11-3-09	12:30	AQ	1			
Relinquished by (signature): <i>Walter Ford</i>		Date/Time: 11/03/09 15:55	Received by (signature): <i>J. D. Hamer</i>	Relinquished by (signature):				Date/Time: Received by (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., ( ) ASAP Verbal ___ Hrs.								
Comments:								



## SAMPLE RECEIPT FORM

Date Received: 11-11-09

Work Order ID#: 90434

Site/Proj. Name: 750 / LTRM / 144 QTR-09

Cooler Temp (°C): 3.0a

Received By: J. Veriquia  
(Print name)

Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative
<u>90434/1-11</u>	<u>N/A</u>	<u>HCL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# 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

000004

Customer: Jacqueline Hamer		Project No:		Analysis Parameters					Comments:									
Phone #: (732)532-4359		Location: 750																
() DERA () OMA () Other:		Sample Name / Company:		Sample #														
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles													
9043402	Field Blank	11/3/2009	12:20	AQ	1	X												
9043408	750MW01A	11/3/2009	12:30	AQ	1	X												
9043408DUP.	750MW01A	11/3/2009	12:30	AQ	1	X												
9043409	750MW02A	11/3/2009	12:50	AQ	1	X												
9043410	750MW03A	11/3/2009	13:00	AQ	1	X												
9043411	750MW04A	11/3/2009	13:20	AQ	1	X												
Relinquished by (signature):		Date/Time:	Received by (signature):		Date/Time:		Relinquished by (signature):		Date/Time:		Received by (signature):							
<i>[Signature]</i>		11-4-09 1440	<i>[Signature]</i>															
Relinquished by (signature):		Date/Time:	Received by (signature):		Date/Time:		Relinquished by (signature):		Date/Time:		Received by (signature):							
<i>[Signature]</i>			<i>[Signature]</i>															
Report Type: <input type="checkbox"/> Full, <input type="checkbox"/> Reduced, <input checked="" type="checkbox"/> Screen / non-certified, <input type="checkbox"/> JEDD				Comments: DK9/2009-389 (PO C09-20650)														
Turnaround time: <input checked="" type="checkbox"/> Standard 3 wks, <input type="checkbox"/> Rush Wk., <input type="checkbox"/> ASAP Verbal _____ Hrs.																		

No Seal

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A

MW #:02A

NJDEP ID #

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/03/09

WEATHER: Sunny and cool.

TIDE: N/A

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

**Initial Readings:**

Elevation of Casing Survey Mark:

TDOW-21.50

8.81 ft

Depth of Well:

21.50 ft

Height of Water in Well:

12.69 ft

PID/FID Reading:

0.00 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 =

24.74

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: 10:52

End Time of Purging: 12:41

	Initial Value	Pre-Sample	Post-Sample
pH:	5.05 su	5.12 su	5.16 su
Temperature:	16.79 ( °C)	17.32 ( °C)	17.31 ( °C)
Specific Conductivity:	6156 us/cm	7216 us/cm	7079 us/cm
ORP:	156 mv	139 mv	142 mv
DO:	1.98 mg/L	2.33 mg/L	2.31 mg/L
Depth to Water Post Purge:	12.20 ft		
Depth to Water Post Sampling:	12.29 ft		
Sampling Start Time:	12:50		
Sampling End Time:	12:56		

Comments:


000011

**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)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DFTPP Meet Criteria	<u>NA</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
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).	<u>No</u>
a. VOA Fraction: <u>Several compounds have high recoveries, see summary form.</u>	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	

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

Indicate  
Yes, No, N/A

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

Yes

a. VOA Fraction \_\_\_\_\_  
b. B/N Fraction NA \_\_\_\_\_  
c. Acid Fraction NA \_\_\_\_\_

11. Extraction Holding Time Met

NA

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: Scantaraig Date: 1/20/10

000015



**ACCUTEST**  
Laboratories

2

**CASE NARRATIVE / CONFORMANCE SUMMARY**

Client: Fort Monmouth Environmental Testing Lab.

Job No JA33317

Site: 750

Report Date 12/6/2009 6:26:47 PM

On 11/18/2009, 5 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.5 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA33317 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: OP41049
-----------	-------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS, JA33267-2MSD were used as the QC samples indicated.
- ☐ Blank Spike Recovery(s) for Atrazine are outside control limits.
- ☐ Matrix Spike Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Matrix Spike Duplicate Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Sample(s) OP41049-MSD have surrogates outside control limits. Probable cause due to matrix interference.

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

Matrix AQ	Batch ID: OP41049A
-----------	--------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS 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

**METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT**

Lab ID: 90434

Indicate  
Yes, No, N/A

- 1. Initial and Continuing Calibration Verifications Meet Criteria Yes  
\_\_\_\_\_  
\_\_\_\_\_
- 2. ICP Interference Check Sample Results Meet Criteria Yes  
\_\_\_\_\_  
\_\_\_\_\_
- 3. Serial Dilutions Meet Criteria Yes  
\_\_\_\_\_  
\_\_\_\_\_
- 4. Laboratory Control Samples Meet Criteria Yes  
\_\_\_\_\_  
\_\_\_\_\_
- 5. Preparation, Method and Calibration Blank Contamination No  
If yes, list compounds and concentrations in each blank  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
- 6. Spike Sample Recoveries Meet Criteria Yes  
9043103: AI = 55.9%  
\_\_\_\_\_  
\_\_\_\_\_
- 7. Duplicates Meet Criteria Yes  
\_\_\_\_\_  
\_\_\_\_\_
- 8. Analysis Holding Time Met Yes  
If not met, list number of days exceeded for each sample  
\_\_\_\_\_  
\_\_\_\_\_

Additional Comments:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Dean Tardiff Date: 1/20/10



# **METHOD SUMMARY**

000018

## Method Summary

### **EPA Method 624 – Aqueous Gas Chromatographic Determination of Volatiles in Water**

A 5 ml volume of sample is added to 5 ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 3510/8270 Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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.

### **EPA SW-846 Method 3115B, 3<sup>rd</sup> Edition base manual with final Updates I, II, IIA, IIB and III: Digestion of TAL Metals**

Milestone MLS 1200 MEGA

A representative sample of 45ml is digested in 4 ml of concentrated nitric acid and 1 ml concentrated hydrochloric acid for 10 minutes heating with a suitable laboratory microwave unit. The sample and acid are placed in a fluorocarbon (TFM) microvessel. This vessel is capped and heated in the microwave unit. After cooling the vessel contents are filtered and then diluted to a 50 ml volume and analyzed by ICP.

### **Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition, Method 3120B: ICP TAL Metals**

Perkin Elmer OPTIMA 3000 DV

The method measures element-emitted light by optical spectrometry. Samples are nebulized and the resulting aerosol is transported to the plasma torch. Radio-frequency inductively coupled plasma produces element-specific atomic-line emission spectra. The spectra are dispersed by a grating spectrometer and a Segmented-array Charged-coupled-device Detector (SCD) monitors the intensities of the lines. Background and interelemental correction is used for trace element determinations.

### **EPA SW-846 Method 7470A, 3<sup>rd</sup> Edition Base Manual with Final Updates I, II, IIA, IIB and III: Mercury**

Varian SpectrAA-640, VGA-77

The flameless AA procedure is a physical method based on the absorption of radiation at 253.7 nm by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrometer. Absorbency (peak height) is measured as a function of mercury concentration and recorded in the usual manner.

000019

# **LABORATORY CHRONICLE**

000020

# Laboratory Chronicle

Lab ID: 90447

Site: 750 LTM

	<b>Date</b>	<b>Hold Time</b>
<b>Date Sampled</b>	11/03/09	NA
<b>Receipt/Refrigeration</b>	11/03/09	NA

## Analyses

1. Volatiles	11/14,15/09	14 Days
2. Base Neutral	11/11,17/09	7 Days
3. TAL Metals	11/10/09	6 Months
4. Arsenic	11/17/09	6 Months
5. Mercury	11/13/09	28 Days
6. Thallium	11/16/09	6 Months

000021

# **VOLATILE ORGANICS**

**000022**

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.

000023

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

Data File VA4841.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 7:26 pm

Sample Name MB11040902  
 Field ID METHOD 624 11/04/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*		Qualifiers
					MDL	RL	
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11040902**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: MB11040902  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4841.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4843.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 8:28 pm

Sample Name 9043401  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

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

PQL = Practical Quantitation Limit  
 J = Estimated concentration, value falls between R.L. and M.D.L.

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043401  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4843.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      VA4844.D  
 Operator        ROBERTS  
 Date Acquired   4 Nov 2009 8:59 pm

Sample Name    9043402  
 Field ID        750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 FIELD BLANK**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043402  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4844.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4851.D  
 Operator ROBERTS  
 Date Acquired 5 Nov 2009 12:37 am

Sample Name 9043409  
 Field ID 750 MW#02A  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#02A

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043409  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4851.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/5/2009  
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
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# **SEMI-VOLATILE ORGANICS**

000090

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23002.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	2.0	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000091

ACCUTEST  
Laboratories

6 of 146

JA32053



### Report of Analysis

3-1  
3

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

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	78%		31-106%		
1718-51-0	Terphenyl-d14	79%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.50	4.3	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

000092

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13243.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	77%		18-104%
1718-51-0	Terphenyl-d14	73%		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

000093

## Report of Analysis

Client Sample ID: 9043409 750MW02A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-4	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23005.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000103

Report of Analysis

Client Sample ID:	9043409 750MW02A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-4	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

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	64%		25-112%		
321-60-8	2-Fluorobiphenyl	66%		31-106%		
1718-51-0	Terphenyl-d14	71%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.50	4.6	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

## Report of Analysis

Client Sample ID:	9043409 750MW02A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-4	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13246.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	73%		18-119%
321-60-8	2-Fluorobiphenyl	65%		18-104%
1718-51-0	Terphenyl-d14	63%		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

000105

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 1/1/10

Dean Tarajji

Laboratory Certification # 13461

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

000309

## 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

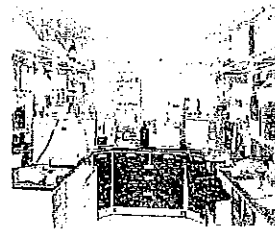
000310

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING



## ANALYTICAL DATA REPORT

FOR

Directorate of Public Works

Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

New Wells Round II

### SAMPLE LOCATION AND IDENTIFICATION

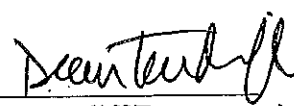
SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9044704	750MW01A**	-----	11/17/09
9044705	750MW02A	-----	11/17/09
9044706	750MW03A	-----	11/17/09
9044707	750MW04A	-----	11/17/09

\*New Wells Round II

\*\*DUP. Sample is 9044704.

NJDEP Laboratory Certification # 13461

  
Dean Tardiff/Date: 1/20/10  
Laboratory Manager



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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Dean Tardiff 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**

# 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: JOE FALLON		Project No:		Analysis Parameters				Comments:
Phone #: 732-532-6223		Location: 2ND ROUND		Remarks / Preservation Method				
() DERA ( ) OMA ( ) Other:		Sample Location	Date	Time	Sample Type	# bottles		
LIMS/Work Order #	750 TRIP BLANK	11-17-09	8:00	AQ	2			
001	750 FIELD BLANK	11-17-09	11:00	AQ	3	X		
002	750 DUP.	11-17-09	11:00	AQ	3	X		
003	750* MW#01A	11-17-09	11:10	AQ	3	X		
004	750 MW#02A	11-17-09	11:20	AQ	3	X		
005	750 MW#03A	11-17-09	11:30	AQ	3	X		
006	750 MW#04A	11-17-09	11:50	AQ	3	X		
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Relinquished by (signature):	Date/Time:	Received by (signature):	Date/Time:
<i>[Signature]</i>	11/17/09 13:00	<i>[Signature]</i>	
Relinquished by (signature):	Date/Time:	Relinquished by (signature):	Date/Time:

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

000002

## SAMPLE RECEIPT FORM

Date Received: 11-17-09

Work Order ID#: 90444

Site/Proj. Name: 750/AR 012-09

Cooler Temp (°C): 3.5°C

Received By: J. Venema  
(Print name)

Sign: J. Venema

**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
<u>90444-1-N/A</u>	<u>N/A</u>	<u>ACL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# Fort Monmouth Environmental Testing Laboratory

## Chain of Custody Record

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

Customer: Jacqueline Hamer		Project No:			Analysis Parameters		Comments:																							
Phone #: (732)532-4359		Location: 750 New Wells Rd. II			<table border="1"> <tr> <td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td> </tr> <tr> <td colspan="12" style="text-align: center;">S + N</td> </tr> </table>															S + N										
S + N																														
( ) DERA ( ) OMA ( ) Other: _____		Sample Location		Date	Time	Sample Type	# bottles	Remarks / Preservation Method																						
Samplers Name / Company:		Sample Location		Date	Time	Sample Type	# bottles																							
9044702	Field Blank	11/17/2009	11:00	AQ	1	X																								
9044703	DUP.	11/17/2009	11:10	AQ	1	X																								
9044704	750MW01A	11/17/2009	11:10	AQ	1	X																								
9044705	750MW02A	11/17/2009	11:20	AQ	1	X																								
9044706	750MW03A	11/17/2009	11:30	AQ	1	X																								
9044707	750MW04A	11/17/2009	0.80625	AQ	1	X																								
Relinquished by (signature):	Date/Time:	Received by (signature):	Date/Time:	Relinquished by (signature):				Date/Time:	Received by (signature):																					
<i>J. L. Hamer</i>	11-18-09 10:35	<i>J. J. ...</i>		<i>J. J. ...</i>					<i>J. J. ...</i>																					
Relinquished by (signature):	Date/Time:	Received by (signature):	Date/Time:	Relinquished by (signature):				Date/Time:	Received by (signature):																					
<i>J. L. Hamer</i>		<i>J. J. ...</i>		<i>J. J. ...</i>					<i>J. J. ...</i>																					

Report Type:  Full,  Reduced,  Standard,  Screen / non-certified,  EDD

Turnaround time:  Standard 3 wks,  Rush Wk.,  ASAP Verbal \_\_\_ Hrs.

Comments: C09-20650

# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A

MW #:02A

NJDEP ID #

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/17/09

WEATHER: Sunny and cool.

TIDE: High

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

TDOW-21.48

**Initial Readings:**

Elevation of Casing Survey Mark:

8.96 ft

Depth of Well:

21.48 ft

Height of Water in Well:

12.52 ft

PID/FID Reading:

0.00 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 = 24.41

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: 09:53

End Time of Purging: 11:12

	Initial Value	Pre-Sample	Post-Sample
pH:	5.12 su	5.02 su	5.10 su
Temperature:	16.07 ( °C)	16.39 ( °C)	16.52 ( °C)
Specific Conductivity:	5908 us/cm	7064 us/cm	6410 us/cm
ORP:	98 mv	103 mv	62 mv
DO:	3.12 mg/L	3.18 mg/L	3.48 mg/L
Depth to Water Post Purge:	14.88 ft		
Depth to Water Post Sampling:	14.97 ft		
Sampling Start Time:	11:20		
Sampling End Time:	11:24		

Comments:


**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**



90447 VOA

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

	Indicate Yes, No, N/A
1. Chromatograms labeled/Compounds identified (Field samples and method blanks)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DF/TPP Meet Criteria	<u>N/A</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
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)	<u>No</u>
a. VOA Fraction <u>Several compounds have high recoveries due to matrix interference.</u>	
b. B/N Fraction _____	
c. Acid Fraction _____	

000010

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

Indicate  
Yes, No, N/A

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

Yes

- 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:

pcuntarige

Date:

1/20/10

RAA 11/30/09

# **METHOD SUMMARY**

## **Method Summary**

### **EPA Method 624 – Aqueous**

#### **Gas Chromatographic Determination of Volatiles in Water**

A 5-ml volume of sample is added to 5-ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 625**

#### **Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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 is concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

# **LABORATORY CHRONICLE**

# Laboratory Chronicle

Lab ID: 90447

Site: 750

	Date	Hold Time
Date Sampled	11/17/09	NA
Receipt/Refrigeration	11/17/09	NA

## Analyses

1. Volatiles	11/25/09	14 Days
2. Semi-Volatiles	11/24-12/02/09	7 Days

000015

# **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 VA4992.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 1:36 pm

Sample Name MB11250901  
 Field ID METHOD 624 11/25/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+tp-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11250901**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: MB11250901  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4992.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4998.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 5:45 pm

Sample Name 9044701  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nfe	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nfe	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nfe	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nfe	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nfe	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nfe	0.27 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nfe	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044701  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4998.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4999.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 6:16 pm

Sample Name 9044702  
 Field ID 750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l) <sup>a</sup>	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 FIELD BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044702  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4999.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4995.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 4:13 pm

Sample Name 9044705  
 Field ID 750 MW#02A  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethane			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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.

750 MW#02A

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044705  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4995.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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# **SEMI-VOLATILE ORGANICS**

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Accutest Laboratories

## Report of Analysis

Page 1 of 2

Client Sample ID: 9044702 FIELD BLANK  
 Lab Sample ID: JA33317-1  
 Matrix: AQ - Field Blank Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75635.D	1	12/02/09	VN	11/20/09	OP41049	BR2857
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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Report of Analysis



Client Sample ID: 9044702 FIELD BLANK  
 Lab Sample ID: JA33317-1  
 Matrix: AQ - Field Blank Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

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	71%		31-106%		
1718-51-0	Terphenyl-d14	66%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	system artifact/aldol-condensation	4.53	4.1	ug/l	J	
	Internal standard added for SIM test	8.48	4.1	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

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## Report of Analysis

Page 1 of 1

Client Sample ID:	9044702 FIELD BLANK	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-1	Date Received:	11/18/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13629.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	88%		18-119%
321-60-8	2-Fluorobiphenyl	79%		18-104%
1718-51-0	Terphenyl-d14	74%		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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## Report of Analysis

Page 1 of 2

Client Sample ID:	9044705 750MW02A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-4	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75644.D	1	12/02/09	VN	11/20/09	OP41049	ER2858
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	2.0	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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Client Sample ID: 9044705 750MW02A	Date Sampled: 11/17/09
Lab Sample ID: JA33317-4	Date Received: 11/18/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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	75%		25-112%		
321-60-8	2-Fluorobiphenyl	72%		31-106%		
1718-51-0	Terphenyl-d14	42%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	8.48	4.1	ug/l	J	
	Internal standard added for SIM test	18.37	4.2	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

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## Report of Analysis

Page 1 of 1

Client Sample ID:	9044705 750MW02A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-4	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13632.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	77%		18-104%
1718-51-0	Terphenyl-d14	47%		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 and in the main body of the report.

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

Laboratory Manager or Environmental Consultant's Signature Dean Tardif  
Date: 1/20/10

Laboratory Certification # 13461

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

000238



## 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

000239

ATTACHMENT I

UST 750F File Review and Analyses

UNDERGROUND STORAGE TANK FILE REVIEW  
 FORT MONMOUTH BRAC 05 FACILITY  
 OCEANPORT, NEW JERSEY

Date: August 30, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750F**

Registration ID: *None*

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release? [ ] Yes [X] No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [X] No [ ] 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: 7/13/2009

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**

UST 750F was initially identified as anomaly P51\_20 in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_20 location, a steel tank was located and removed on 7/13/09. No evidence of fuel oil contamination was observed. Initial soil samples (750-F-1 through 750-F-3) were collected from the east end, west end, and center of the excavation on 7/13/09, and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). TPH in all of these initial soil samples was not detected (ND). On 7/16/09 additional side wall samples were collected because groundwater was observed in the open excavation at 7 feet below ground surface. These additional side wall samples (750-F North Wall, 750-F South Wall, 750-F East Wall, and 750-F West Wall) were also all ND for TPH. The final results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, there is no indication of a release to soil or groundwater at UST 750F, and no additional soil sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed."

Recommendations (if any): Change to "Case Closed", request NFA from NJDEP

Signed:   
 Kent A. Friesen, Parsons

# Fort Monmouth UST Status Summary Report

## UST REGISTRATION INFORMATION SUMMARY

*LOCATION:* 750 F *NJDEP REG ID:*  
*RESIDENTIAL?* YES

---

## UST CONSTRUCTION INFORMATION SUMMARY

*SIZE (GALLONS):* 1000 *CONSTRUCTION:* STEEL  
*PRODUCT:* #2:FUEL OIL *YEAR INSTALLED:*

---

## UST REMOVAL/INVESTIGATION SUMMARY

*REMOVAL DATE:* 7/13/2009 *REMOVAL CONTRACTOR:* TVS Inc.  
*SRF SEND DATE:* *TMS:* NR UHOT  
*DICAR NO.* *LEAK DETECT:*

*REMEDIALION COMMENTS:* Three pit bottom soil samples were collected on the day of UST removal. The results were less then the action level. C. Appleby had side wall samples collected above the water prior to back-filling. CA

*REGISTRATION COMMENTS:* Not registered as per the BRAC legal office determination that this is a UHOT.

*SAS DONE:* NO *CONSULTANT:*

*MW's NEEDED:* 0 *MONITORING WELLS:* 0

*SUB-SURFACE EVALUATOR:* CharlesAppleby

---

## CURRENT UST STATUS

*UST STATUS:* REMOVED CLEAN SITE SAS CONT. *CASE STATUS:* Case Open  
*SUBMITTAL DATE:* *APPROVAL DATE:*

---

**US ARMY, FORT MONMOUTH  
DAILY UST CLOSURE LOG**

BLDG.#: 750 REG.#: UST F  
 DATE: 7-13-09 TOA: \_\_\_\_\_ TOD: \_\_\_\_\_  
 CLOSURE TECH: FRANK ACCORSI NJDEP CERT.#: 0010042  
 PERSONNEL: ANTHONY FORGIONE, MARC TAYLOR

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAVE CURRENT TRAINING IAW ALL SAFETY REQ. (E.G. 29CFR)	Y
ALL UTILITIES WERE MARKED OUT PRIOR TO ANY EXCAVATION (VISUAL CONFIRM. <u>YES</u> /NO)	Y
HAND EXCAVATION WAS DONE WHEN EXCAVATING WITHIN 4 FT OF ANY UTILITIES	NA
ALL UST PIPING WAS BLOWN BACK AND DRAINED PRIOR TO ANY EXCAVATION WITH BACKHOE	NA
ALL UST PIPING WAS REMOVED PRIOR TO UST EXCAVATION	NA
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS <del>CLEANED</del> <u>PUMPED</u> AND NO RESIDUAL LIQUIDS WERE LEFT IN THE TANK	Y
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
<u>4</u> DRUMS OF WASTE WERE GENERATED AT THIS SITE TODAY (ID CARDS COMPLETED)	Y
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP,CW,EV) HWSA	N
_____ GALLONS OF _____ WASTE WERE REMOVED (MANIFEST#: _____)	N
<u>0</u> CUBIC YARDS OF PETROL. CONT. SOIL WERE EXCAVATED+TRANS TO (T-80, 2624)	Y
THE DPW WAS NOTIFIED OF ANY DISCHARGE TO THE ENVIRONMENT. (WHO) _____	N/A
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	N/A
THE DPW AUTHORIZED BACKFILLING THE EXCAVATION. SSE INITIAL REQUIRED: _____	Y
THE UST WAS TRANSPORTED TO <u>108 YARD</u> FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
ADDITIONAL NOTES WERE TAKEN AND RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE GIVEN TO THE SSE TODAY: (CIRCLE EACH OR ADD ITEMS) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, _____	

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. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

CLOSURE TECH (PRINT NAME): FRANK ACCORSI  
 SIGNATURE: Frank Accorsi DATE: 7-13-09

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG.#: 750 REG.#: UST 'F' -  
 DATE: 7-13-09 TOA: \_\_\_\_\_ TOD: \_\_\_\_\_  
 SSE: FRANK ACCORSI NJDEP CERT.#: 0010092  
 REMOVAL CONTRACTOR: TVS Inc. PWS-007  
 CLOSURE SUPERVISOR: FRANK ACCORSI NJDEP CERT.#: 0010092  
 WEATHER: PTLY. CLOUDY, 80's

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (609-292-7172), CASE# _____	NA
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT <u>5</u> FEET BG, A SHEEN (WAS/ <del>WAS NOT</del> ) OBSERVED ON GW	Y
IF OVA WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	Y
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	Y
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/ <del>FID</del> RECORDED SITES IAW 7:26E-3.6 et seq.	Y
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	Y
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	Y
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
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 <sup>3</sup> ), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

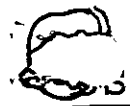
CHECK ALL BOXES, LEAVE NO BLANKS

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): FRANK ACCORSI Date: 7-13-09

SIGNATURE: Frank Accorsi

Q



Databox  
Updated CA

ARMY, SELFM-PW-E  
DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 750-F REG.#: NA  
DATE: 7-14-09 TOA: 1230 TOD: 1330  
SSE: Charles Appleby / Frank Pearce NJDEP CERT.#: 9974  
REMOVAL CONTRACTOR: TVS Inc. PWS-007  
CLOSURE SUPERVISOR: Frank Pearce TVS NJDEP CERT.#: \_\_\_\_\_  
WEATHER: Hot Humid

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 FA
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	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Yes FA
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337), CASE# <u>NA</u>	NA
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	NA
GROUNDWATER WAS ENCOUNTERED AT <u>7.0</u> 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)	NA
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	NA
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 2005 August	NA
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	NA
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 - <u>I Requested Additional Sidewall</u>	NO
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED <u>Samples</u>	NA
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	Yes
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 <sup>3</sup> ), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

ust Databox was updated to include this UST.  
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.

Subsurface Evaluator (print Name): Charles Appleby Date: 7-15-09

SIGNATURE: [Signature]

CA, Notes,

- UST had been Pulled last week.
- Three Samples + 1 dupc were taken for TPHC
  - Centaline - No water was observed at time of Removals
- No signs of discharge observed.

I visited the site on 7-15-09 as well.

And there were no signs of a discharge.

- UST Database will be updated by Asolo this site.

- Site is UHOT and Not to be Reg. w/ NJDEP as per Bruce legal office.

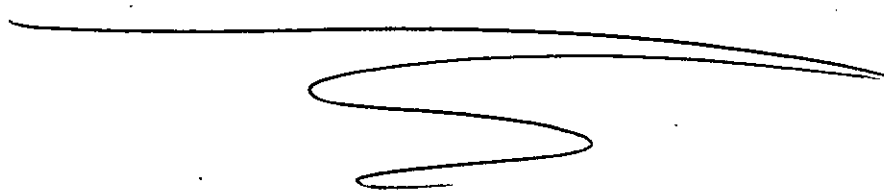
- 1000 gal UST

- STEEL

- Residential

- I ordered Additional TPHC Samples to be collected from all Sidewalls ~~for~~ above GW.

NOTE: GW was NOT observed when UST was Removed.





# 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



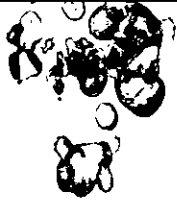
ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 750/UST # 750-F

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-F-1, East End	9028101	Soil	13-July-09 15:00	07/13/09
750-F-2, Center	9028102	Soil	13-July-09 15:20	07/13/09
750-F-3, West End	9028103	Soil	13-July-09 15:40	07/13/09
750-D, Duplicate	9028104	Soil	13-July-09 15:00	07/13/09

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

*Jacqueline Hamer* 9/17/09  
Jacqueline Hamer/Date  
QA/QC Supervisor



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**CHAIN  
OF  
CUSTODY**

**000001**

# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:jacqueline.hamers@us.army.mil

NJDEP Certification #13461

## Chain of Custody Record

Customer: <b>CHUCK APPLEBY</b>		Project No: <b>09-123690</b>		Analysis Parameters								Comments:		
Phone #: <b>X 26292</b>		Location: <b>BLDG. 750, JST#</b>		TPH	90 Solids						PID (ppm)	DEPTH (FT)	Remarks / Preservation Method	
( ) DERA ( ) OMA ( ) Other: _____		<b>750-F</b>												
Samplers Name / Company: <b>FRANK ACCORSI / TVS</b>				Sample #										
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles									
<b>90281</b>	<b>750-F-1, EAST END</b>	<b>7-13-09</b>	<b>1500</b>	<b>50/L</b>	<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>6-6.5</b>		<b>ICE</b>
	<b>750-F-2, CENTER</b>		<b>1520</b>		<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>6-6.5</b>		
	<b>750-F-3, WEST END</b>		<b>1540</b>		<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>6-6.5</b>		
	<b>750-F, DUPLICATE</b>		<b>1500</b>		<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>6-6.5</b>		
Relinquished by (signature): <i>Frank Accorsi</i>		Date/Time: <b>7-13-09 1600</b>		Received by (signature): <i>[Signature]</i>		Relinquished by (signature):		Date/Time:		Received by (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, (X) Rush <del>3</del> <sup>2</sup> <del>WK.</del> , ( ) ASAP Verbal ___ Hrs.								

000002

## SAMPLE RECEIPT FORM

Date Received: 7-13-09

Work Order ID#: 90281

Site/Proj. Name: Billy 700

Cooler Temp (°C): 4.0°C

Received By: J. Pennington  
(Print name)

Sign: J. Pennington

### Check the appropriate box

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# **GPS COORDINATED**

**000004**



U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'F'

SOIL SAMPLING GPS POSITIONS & COORDINATES

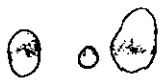
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750F.1 EAST END UST	538040.212	617324.612
750F.2 CENTER UST	538036.871	617319.874
750F.3 WEST END UST	538033.776	617313.698
750F NORTH WALL	538037.983	617319.129
750F SOUTH WALL	538031.78	617324.644
750F EAST WALL	538039.546	617326.74
750F WEST WALL	538030.405	617314.756

000005



**FIELD  
DUPLICATE  
IDENTIFICATION**

000006





## Field Duplicate Identification

**Lab ID:** 90281

**Site:** Bldg. 750  
UST # 750-F

The Field Duplicate was performed on 750-F-1, East End (Lab ID 9028101).

# **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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000010**

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: James DuHamer Date: 9/17/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 13-Jul-09  
**Date Extracted:** 14-Jul-09  
**Extraction Method:** Shake  
**Analysis Complete:** 15-Jul-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07140901	MB07140901	1.00	15.00	100.00	23	333	0.00	
LCS07140901	LCS07140901	1.00	15.00	100.00	23	333	927.87	
9028101	750-F-1 EAST END	1.00	15.67	83.90	27	380	0.00	
9028102	750-F-2 CENTER	1.00	15.99	84.80	26	369	0.00	
9028103	750-F-3 WEST END	1.00	15.69	84.40	26	378	0.00	
9028104	750-F DUPLICATE	1.00	15.43	82.10	28	395	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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input type="checkbox"/>            |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/17/09

*James A. Horney*

Laboratory Certification # 13461

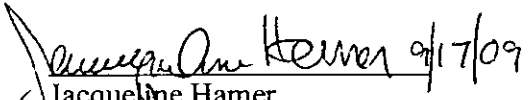
\*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

000036



## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000037

# 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



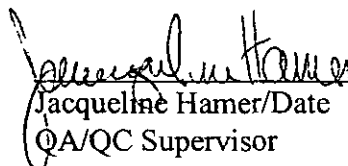
ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 750/UST # 750 F

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-F-1, North Wall	9029901	Soil	16-July-09 14:30	07/16/09
750-F-2, South Wall	9029902	Soil	16-July-09 14:40	07/16/09
750-F-3, East Wall	9029903	Soil	16-July-09 14:55	07/16/09
750-F-4, West Wall	9029904	Soil	16-July-09 15:10	07/16/09
750-F, Duplicate	9029905	Soil	16-July-09 14:30	07/16/09

### ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

 9/17/09  
Jacqueline Hamer/Date  
QA/QC Supervisor



## Table of Contents

<b>Section</b>	<b>Page No.</b>
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# CHAIN OF CUSTODY

9

200

000001

# 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: <b>CHUCK APPLEBY</b>				Project No: <b>09-123690</b>		Analysis Parameters						Comments:			
Phone #: <b>X 26292</b>				Location: <b>BLOG. 750, VST</b>		TPH	% SOLIDS					P.M. (PPM)	DEPTH (FT)	Remarks / Preservation Method	
( ) DERA ( ) OMA (X) Other: _____				# <b>F</b>											
Samplers Name / Company: <b>FRANK ACCORSI / TUS</b>				Sample #											
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles										
<b>020244 01</b>	<b>750-F, NORTH WALL</b>	<b>7-16-09</b>	<b>1430</b>	<b>SOIL</b>	<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>4-4.5</b>	<b>ICE</b>		
<b>02</b>	<b>750-F, SOUTH WALL</b>		<b>1440</b>		<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>4-4.5</b>			
<b>03</b>	<b>750-F, EAST WALL</b>		<b>1455</b>		<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>4-4.5</b>			
<b>04</b>	<b>750-F, WEST WALL</b>		<b>1510</b>		<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>4-4.5</b>			
<b>05</b>	<b>750-F, DUPLICATE</b>		<b>1430</b>		<b>1</b>	<b>X</b>	<b>X</b>				<b>0</b>	<b>4-4.5</b>			
Relinquished by (signature): <i>Frank Accorsi</i>				Date/Time: <b>7-16-09 1600</b>		Received by (signature): <i>[Signature]</i>				Relinquished by (signature):		Date/Time:		Received by (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						Comments:									
Turnaround time: ( ) Standard 3 wks, (X) Rush <b>3</b> wks., ( ) ASAP Verbal _____ Hrs.															

0000002



### SAMPLE RECEIPT FORM

Date Received: 7-10-09

Work Order ID#: 902009

Site/Proj. Name: Billy 70-F

Cooler Temp (°C): 3.0

Received By: J. Ventura  
(Print name)

Sign: J. Ventura

#### **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

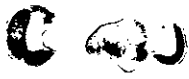
**Fill out the following table for each sample bottle**

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# **GPS COORDINATED**



U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'F'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750F.1 EAST END UST	538040.212	617324.612
750F.2 CENTER UST	538036.871	617319.874
750F.3 WEST END UST	538033.776	617313.698
750F NORTH WALL	538037.983	617319.129
750F SOUTH WALL	538031.78	617324.644
750F EAST WALL	538039.546	617326.74
750F WEST WALL	538030.405	617314.756





**FIELD  
DUPLICATE  
IDENTIFICATION**



## Field Duplicate Identification

**Lab ID:** 90299

**Site:** Bldg. 750  
UST # 750-F

The Field Duplicate was performed on 750-F, North Wall (Lab ID 9029901).

**000007**



# **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.

000009

**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: Josephine Harmer Date: 9/17/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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 µL  
**Blank Conc.:** 0.00

**Date Received:** 16-Jul-09  
**Date Extracted:** 17-Jul-09  
**Extraction Method:** Shake  
**Analysis Complete:** 20-Jul-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07170901	MB07170901	1.00	15.00	100.00	23	333	0.00	
LCS07170901	LCS07170901	1.00	15.00	100.00	23	333	822.85	
9029901	750-F NORTH WALL	1.00	15.75	88.8	25	358	0.00	
9029902	750-F SOUTH WALL	1.00	15.84	91.1	24	346	0.00	
9029903	750-F EAST WALL	1.00	15.84	86.1	26	367	0.00	
9029904	750-F WEST WALL	1.00	15.53	87.2	26	369	0.00	
9029905	750-F DUPLICATE	1.00	15.54	88.4	25	364	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

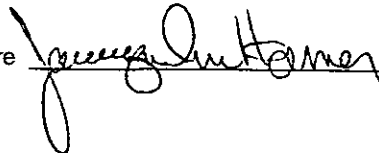
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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the 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. | <u>✓</u> |
| 2.  | Table of Contents submitted.   | <u>✓</u> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <u>✓</u> |
| 4.  | Document paginated and legible.  | <u>✓</u> |
| 5.  | Chain of Custody submitted.  | <u>✓</u> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <u>✓</u> |
| 7.  | Methodology Summary submitted.   | <u>✓</u> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <u>✓</u> |
| 9.  | Results submitted on a dry weight basis.   | <u>✓</u> |
| 10. | Method Detection Limits submitted.   | <u>✓</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/17/02



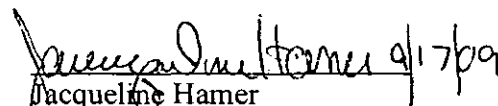
Laboratory Certification # 13461

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

000039

## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000040

ATTACHMENT J

UST 750G File Review and Analyses

UNDERGROUND STORAGE TANK FILE REVIEW  
 FORT MONMOUTH BRAC 05 FACILITY  
 OCEANPORT, NEW JERSEY

Date: August 31, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750G**

Registration ID: None

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release?  Yes  No

NJDEP Release No. or DICAR (If applicable): 09-07-16-1341-23

Did NJDEP approve No Further Action (NFA) for this site?  Yes  No  Not Applicable

Tank Description:  Steel  Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

Residential  Commercial/Industrial

Tank Removed?  Yes  No If "yes," removal date: 7/16/2009

Were closure soil samples taken?  Yes  No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria?  Yes  No

**Brief Narrative**

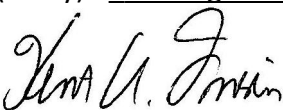
UST 750G was initially identified as anomaly P51\_38 in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_38 location, a steel tank was located and removed on 7/16/09. Stained soil was observed below the tank, and a sheen was noted on groundwater at 7.5 feet below ground surface. Contaminated soil was removed from the excavation, and then initial soil samples (750-G-1 through 750-G-4) were collected from the side walls of the excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). TPH in three of the samples was not detected (ND), and 1166 milligrams per kilogram (mg/kg) of TPH was detected in the north side wall sample. After additional soil excavation, the north side wall was sampled again on 7/27/09, and this additional sample (750-G-5 North Wall) was also ND for TPH. The final results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, no additional soil sampling or remedial action was warranted.

Groundwater well 750MW08 was installed on 10/16/09 approximately downgradient of the removed UST 750G, and sampled on 11/3/09 and 11/17/09 for analysis of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), plus VOC and SVOC tentatively identified compounds (TICs). As noted in the analytical data reports (see the sheet preceding the Chain of Custody Form), well 750MW08 was initially designated as "750MW04A". Carbon disulfide was the only VOC detected in only one sample round but at a concentration well below the respective Class IIA Ground Water Quality Criteria (GWQC). No SVOCs were detected in the groundwater samples. Therefore, there is no indication of a release to groundwater at UST 750G.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed."

Recommendations (if any): Change to "Case Closed", request NFA from NJDEP

Signed:   
 Kent A. Friesen, Parsons

# **Fort Monmouth UST Status Summary Report**

## **UST REGISTRATION INFORMATION SUMMARY**

**LOCATION** 750 G **NJDEP REG ID**  
**RESIDENTIAL** YES

## **UST CONSTRUCTION INFORMATION SUMMARY**

**SIZE (GALLONS)** 1000 **CONSTRUCTION** STEEL  
**PRODUCT** #2 FUEL OIL **YEAR INSTALLED**

## **UST REMOVAL/INVESTIGATION SUMMARY**

**REMOVAL DATE** 7/16/2009 **REMOVAL CONTRACTOR** TVS Inc

**SRF SEND DATE** **TMS**

**DICAR NO** 09-07-16-1341-23 **LEAK DETECT**

**REMEDICATION COMMENTS** Oil stained soil observed below tank line Excavation began immediately following UST removal CA

**REGISTRATION COMMENTS** Not registered as per BRAC Legal determination UST is a UHOT

**SAS DONE** NO **CONSULTANT**

**MW's NEEDED** **MONITORING WELLS**

**SUB-SURFACE EVALUATOR** CharlesAppleby

## **CURRENT UST STATUS**

**UST STATUS** REMEDIATION ON-GOING **CASE STATUS** Case Open

**SUBMITTAL DATE** **APPROVAL DATE**

**ARMY, SELFM-PW-1**

**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG # 750-G REG # NA  
 DATE 7-16-09 TOA 1230 PM TOD 1330  
 SSE Charles Appleby / Frank D NJDEP CERT # 4974  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR Fleming Bellon NJDEP CERT # \_\_\_\_\_  
 WEATHER H/T Humid

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	✓
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y/S
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E G 29CFR)	Y/S
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y/S
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337 <u>CA- 145 PM, 730 532-2692</u> CASE# <u>09-07-16-1341-23</u> <u>100gal - Record Approx 10am #2 fuel oil</u>	
PHOTOS HAVE UST# BLDG # DATE TIME NAME OF SSE AND DESCR WRITTEN ON BACK	NA
GROUNDWATER WAS ENCOUNTERED AT <u>~7.5</u> FEET BG A SHEEN (WAS WAS NOT) OBSERVED ON GW	Y/S
IF OVA WAS USED WAS IT CAL AND FOUND TO BE OPERATIONAL (cal data on COC)	NO
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	NA
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM 2005 August	NA
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7 26E-3 6 et seq	NO
ALL PETROL CONT SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y/S
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1 ABOVE GROUNDWATER) AND A BACKFILL AUTH LTR IS ATTACHED	NO
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	NA
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	Y/S
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 <sup>3</sup> ) PHOTOGRAPHS (UST EXCAVATION SAMPLING POINTS) <u>- Databow updated with this site information ✓ CA</u>	

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

Subsurface Evaluator (print Name) Charles Appleby Date 7-16-09  
 SIGNATURE \_\_\_\_\_  
 ca\ms\ust\removal\sitessls499 doc

CA - Notes,

- UST had been pulled in morning
- UST Database will be updated with this information
- Site is a UHOT and not to be reg w/ NJDEP as per DEP legal office
- 1000 gal STEEL UST  
~~Residential~~  
#2 Fuel Oil

~ 300 gal of water/oil Removed Drained for  
later disposal



# 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

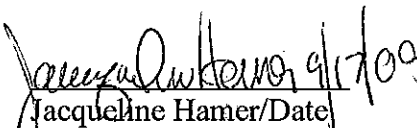


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 750/UST # 750 G

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-G-1, North Wall	9029601	Soil	16-July-09 13:10	07/16/09
750-G-2, South Wall	9029602	Soil	16-July-09 13:20	07/16/09
750-G-3, East Wall	9029603	Soil	16-July-09 13:30	07/16/09
750-G-4, West Wall	9029604	Soil	16-July-09 13:45	07/16/09
750-G, Duplicate	9029605	Soil	16-July-09 13:30	07/16/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

  
Jacqueline Hamer/Date  
QA/QC Supervisor



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**CHAIN  
OF  
CUSTODY**

**000001**



## SAMPLE RECEIPT FORM

Date Received: 7-16-09

Work Order ID#: 90296

Site/Proj. Name: Blally BOC

Cooler Temp (°C): 4.0

Received By: J. Conroy  
(Print name)

Sign: J. Conroy

### Check the appropriate box

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**GPS**  
**COORDINATED**

**000004**

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'G'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750G.1 NORTH WALL	537961.969	617566.535
750G.2 SOUTH WALL	537946.404	617576.269
750G.3 EAST WALL	537958.065	617577.422
750G.4 WEST WALL	537950.703	617567.023

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

**000006**

## Field Duplicate Identification

**Lab ID:** 90296

**Site:** Bldg. 750  
UST # 750-G

The Field Duplicate was performed on 750-G-3, East Wall (Lab ID 9029603).

**000007**



# **METHOD SUMMARY**

000008

# **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**

**000010**

# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

Indicate  
Yes, No, N/A

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

Additional comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: James D. McHenry Date: 9/17/09

000011

**TOTAL  
PETROLEUM  
HYDROCARBONS**

**000012**

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 16-Jul-09  
**Date Extracted:** 17-Jul-09  
**Extraction Method:** Shake  
**Analysis Complete:** 20-Jul-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07170901	MB07170901	1.00	15.00	100.00	23	333	0.00	
LCS07170901	LCS07170901	1.00	15.00	100.00	23	333	822.85	
9029601	750-G-1 NORTH WALL	1.00	15.58	77.0	29	417	1166.16	
9029602	750-G-2 SOUTH WALL	1.00	16.17	76.6	28	404	0.00	
9029603	750-G-3 EAST WALL	1.00	15.60	76.9	29	417	0.00	
9029604	750-G-4 WEST WALL	1.00	15.84	77.3	29	408	0.00	
9029605	750-G DUPLICATE	1.00	15.32	76.2	30	428	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

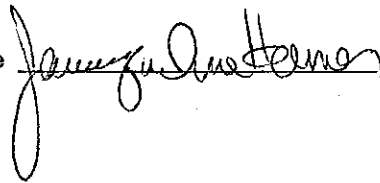
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <u>✓</u> |
| 2.  | Table of Contents submitted.   | <u>✓</u> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <u>✓</u> |
| 4.  | Document paginated and legible.  | <u>✓</u> |
| 5.  | Chain of Custody submitted.  | <u>✓</u> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <u>✓</u> |
| 7.  | Methodology Summary submitted.   | <u>✓</u> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <u>✓</u> |
| 9.  | Results submitted on a dry weight basis.   | <u>✓</u> |
| 10. | Method Detection Limits submitted.   | <u>✓</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/17/09



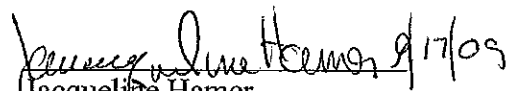
Laboratory Certification # 13461

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

000039

## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000040



# 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

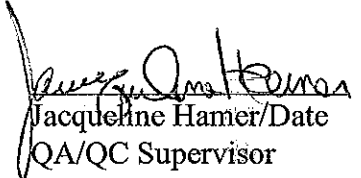


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 750/UST # G

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-G-5, North Wall	9031101	Soil	27-July-09 09:20	07/27/09
750-G, Duplicate	9031102	Soil	27-July-09 09:20	07/27/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

 9/22/09  
Jacqueline Hamer/Date  
QA/QC Supervisor

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LCS Results Summary	21
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**CHAIN  
OF  
CUSTODY**

**000001**



## SAMPLE RECEIPT FORM

Date Received: 7/27/09

Work Order ID#: \_\_\_\_\_

Site/Proj. Name: 750

Cooler Temp (°C): 4°

Received By: George Boyce  
(Print name)

Sign: George Boyce

### Check the appropriate box

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**GPS  
COORDINATED**

**000004**

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

**BUILDING 750 - UST 'G'**

**SOIL SAMPLING GPS POSITIONS & COORDINATES**

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

**(IN US SURVEY FEET)**

**SAMPLE POINTS**

<b><u>POSITION/DESCRIPTION</u></b>	<b><u>Y COORDINATE (NORTHING)</u></b>	<b><u>X COORDINATE (EASTING)</u></b>
750G.1 NORTH WALL	537961.969	617566.535
750G.2 SOUTH WALL	537946.404	617576.269
750G.3 EAST WALL	537958.065	617577.422
750G.4 WEST WALL	537950.703	617567.023
750G.5 WEST WALL	537967.487	617562.349

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006



## **Field Duplicate Identification**

**Lab ID:** 90311

**Site:** Bldg. 750  
UST # 750-G

The Field Duplicate was performed on 750-G-5, North Wall (Lab ID 9031101).

**000007**

# **METHOD SUMMARY**

000008

# **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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

000010

# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

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

Additional comments: \_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Joseph L. Hemen Date: 9/17/09

000011

**TOTAL  
PETROLEUM  
HYDROCARBONS**

**000012**

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 27-Jul-09  
**Date Extracted:** 30-Jul-09  
**Extraction Method:** Shake  
**Analysis Complete:** 6-Aug-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07300902	MB07300902	1.00	15.00	100.00	23	333	0.00	
LCS0730902	LCS0730902	1.00	15.00	100.00	23	333	1161.47	
9031101	750-G-5 NORTH WALL	1.00	15.87	83.1	27	379	0.00	
9031102	750-G DUPLICATE	1.00	15.64	85.0	26	376	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

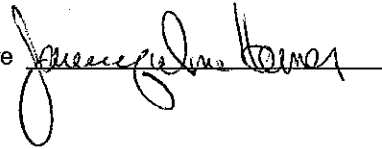
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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

Date: 9/17/09



Laboratory Certification # 13461


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

000028



## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000029

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT  
 FOR  
 Directorate of Public Works  
 Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

SAMPLE LOCATION AND IDENTIFICATION

SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9043404	750MW01**	29-28992	11/03/09
9043405	750MW02	29-28993	11/03/09
9043406	750MW03	29-28994	11/03/09
9043407	750MW04	29-28995	11/03/09
9043408	750MW01A***	-----	11/03/09
9043409	750MW02A*	-----	11/03/09
9043410	750MW03A*	-----	11/03/09
9043411	750MW04A*	-----	11/03/09

\*New Wells Round I

\*\*Duplicate Sample for VOA and TAL Metals is 9043404.

\*\*\* Duplicate Sample for BN is 9043408.

NJDEP Laboratory Certification # 13461

*Dean Tardiff*  
 Dean Tardiff/Date: 11/20/10  
 Laboratory Manager

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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Deantard 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**

# 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

000002

Customer: JOE FALLON		Project No:		Analysis Parameters				Comments:	
Phone #: 732-532-6223		Location: 4 <sup>TH</sup> QUARTER		VOAHS	METALS	BN+IS			
( ) DERA ( ) OMA ( ) Other:		MONITOR WELL SAMPLING							
Sample #	Sample Type	Date	Time						
LIMS/Work Order #	Sample Location						Remarks / Preservation Method		
90494.01	7SD TRIP BLANK	11-3-09	9:00						
02	7SD FIELD BLANK	11-3-09	12:20	X	X	X			
03	7SD DUP.	11-3-09	—	X	X	X			
04	7SD MW #01	11-3-09	15:30	X	X	X		29-28992	
05	7SD MW #02	11-3-09	15:00	X	X	X		29-28993	
06	7SD MW #03	11-3-09	15:10	X	X	X		29-28994	
07	7SD MW #04	11-3-09	15:20	X	X	X		29-28995	
08	7SD MW #01A	11-3-09	12:30	X	X	X			
09	7SD MW #02A	11-3-09	12:50	X	X	X			
10	7SD MW #03A	11-3-09	13:00	X	X	X			
11	7SD MW #04A	11-3-09	13:20	X	X	X			
12	7SD MW #01ADP	11-3-09	12:30	X	X	X			
Relinquished by (signature): <i>Walter Ford</i>		Date/Time: 11/03/09 15:55		Relinquished by (signature):		Date/Time:		Received by (signature):	
Relinquished by (signature):		Date/Time:		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., ( ) ASAP Verbal ___ Hrs.									

## SAMPLE RECEIPT FORM

Date Received: 11-11-09

Work Order ID#: 90434

Site/Proj. Name: 750 / LTRM / 144 QTR-09

Cooler Temp (°C): 3.0a

Received By: J. Veriquia  
(Print name)

Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative
<u>90434/1-11</u>	<u>N/A</u>	<u>HCL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_





# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A

MW #:04A

NJDEP ID #

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/03/09

WEATHER: Sunny and cool.

TIDE: N/A

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

TDOW-19.23

**Initial Readings:**

Elevation of Casing Survey Mark:

5.67 ft

Depth of Well:

19.23 ft

Height of Water in Well:

13.56 ft

PID/FID Reading:

0.00 ppm

Gallons of Water to be Purged:

27 Gal.

Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 = 26.44

Purge Method: Peristaltic Pump/Other (Specify)

Purge Rate: Not to Exceed Well Draw Down of 0.5'                      27/117      Gal/Min.

**Purge Data:**

Start Time of Purging: 11:21

End Time of Purging: 13:18

	Initial Value	Pre-Sample	Post-Sample
pH:	3.91 su	3.90 su	3.88 su
Temperature:	19.28 ( °C)	19.62 ( °C)	19.75 ( °C)
Specific Conductivity:	12313 us/cm	12929 us/cm	13606 us/cm
ORP:	181 mv	146 mv	148 mv
DO:	1.26 mg/L	1.27 mg/L	1.05 mg/L
Depth to Water Post Purge:	8.08 ft		
Depth to Water Post Sampling:	8.17 ft		
Sampling Start Time:	13:20		
Sampling End Time:	13:28		

Comments:


000009

**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)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DFTPP Meet Criteria	<u>NA</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
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).	<u>No</u>
a. VOA Fraction: <u>Several compounds have high recoveries, see summary form.</u>	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	

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

Indicate  
Yes, No, N/A

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

Yes

a. VOA Fraction \_\_\_\_\_  
b. B/N Fraction NA  
c. Acid Fraction NA

11. Extraction Holding Time Met

NA

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: *Scantaraig* Date: 1/20/10

000015



**ACCUTEST**  
Laboratories

2

**CASE NARRATIVE / CONFORMANCE SUMMARY**

Client: Fort Monmouth Environmental Testing Lab.

Job No JA33317

Site: 750

Report Date 12/6/2009 6:26:47 PM

On 11/18/2009, 5 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.5 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA33317 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: OP41049
-----------	-------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS, JA33267-2MSD were used as the QC samples indicated.
- ☐ Blank Spike Recovery(s) for Atrazine are outside control limits.
- ☐ Matrix Spike Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Matrix Spike Duplicate Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Sample(s) OP41049-MSD have surrogates outside control limits. Probable cause due to matrix interference.

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

Matrix AQ	Batch ID: OP41049A
-----------	--------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS 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

**METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT**

Lab ID: 90434

Indicate  
Yes, No, N/A

1. Initial and Continuing Calibration Verifications Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

2. ICP Interference Check Sample Results Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

3. Serial Dilutions Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

4. Laboratory Control Samples Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

5. Preparation, Method and Calibration Blank Contamination No  
If yes, list compounds and concentrations in each blank

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Spike Sample Recoveries Meet Criteria Yes  
9043103: AI = 55.9%

\_\_\_\_\_

7. Duplicates Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

8. Analysis Holding Time Met Yes  
If not met, list number of days exceeded for each sample

\_\_\_\_\_  
\_\_\_\_\_

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Dean Tardiff Date: 1/20/10

**000017**

# **METHOD SUMMARY**

000018

## Method Summary

### **EPA Method 624 – Aqueous Gas Chromatographic Determination of Volatiles in Water**

A 5 ml volume of sample is added to 5 ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 3510/8270 Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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.

### **EPA SW-846 Method 3115B, 3<sup>rd</sup> Edition base manual with final Updates I, II, IIA, IIB and III: Digestion of TAL Metals**

Milestone MLS 1200 MEGA

A representative sample of 45ml is digested in 4 ml of concentrated nitric acid and 1 ml concentrated hydrochloric acid for 10 minutes heating with a suitable laboratory microwave unit. The sample and acid are placed in a fluorocarbon (TFM) microvessel. This vessel is capped and heated in the microwave unit. After cooling the vessel contents are filtered and then diluted to a 50 ml volume and analyzed by ICP.

### **Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition, Method 3120B: ICP TAL Metals**

Perkin Elmer OPTIMA 3000 DV

The method measures element-emitted light by optical spectrometry. Samples are nebulized and the resulting aerosol is transported to the plasma torch. Radio-frequency inductively coupled plasma produces element-specific atomic-line emission spectra. The spectra are dispersed by a grating spectrometer and a Segmented-array Charged-coupled-device Detector (SCD) monitors the intensities of the lines. Background and interelemental correction is used for trace element determinations.

### **EPA SW-846 Method 7470A, 3<sup>rd</sup> Edition Base Manual with Final Updates I, II, IIA, IIB and III: Mercury**

Varian SpectrAA-640, VGA-77

The flameless AA procedure is a physical method based on the absorption of radiation at 253.7 nm by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrometer. Absorbency (peak height) is measured as a function of mercury concentration and recorded in the usual manner.

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# **LABORATORY CHRONICLE**

000020

# Laboratory Chronicle

Lab ID: 90447

Site: 750 LTM

	Date	Hold Time
Date Sampled	11/03/09	NA
Receipt/Refrigeration	11/03/09	NA

## Analyses

1. Volatiles	11/14,15/09	14 Days
2. Base Neutral	11/11,17/09	7 Days
3. TAL Metals	11/10/09	6 Months
4. Arsenic	11/17/09	6 Months
5. Mercury	11/13/09	28 Days
6. Thallium	11/16/09	6 Months

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# **VOLATILE ORGANICS**

**000022**

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.

000023

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

Data File VA4841.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 7:26 pm

Sample Name MB11040902  
 Field ID METHOD 624 11/04/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*		Qualifiers
					MDL	RL	
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11040902**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: MB11040902  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4841.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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      VA4843.D  
 Operator        ROBERTS  
 Date Acquired   4 Nov 2009 8:28 pm

Sample Name    9043401  
 Field ID        750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043401  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4843.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      VA4844.D  
 Operator        ROBERTS  
 Date Acquired   4 Nov 2009 8:59 pm

Sample Name    9043402  
 Field ID        750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 FIELD BLANK**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043402  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4844.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      VA4853.D  
 Operator        ROBERTS  
 Date Acquired   5 Nov 2009 1:40 am

Sample Name    9043411  
 Field ID        750 MW#04A  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide	7.46	41952	1.52 ug/L	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**750 MW#04A**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043411  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4853.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/5/2009  
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
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# **SEMI-VOLATILE ORGANICS**

000090

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23002.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	2.0	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000091

ACCUTEST  
JA32053 Laboratories

6 of 146

Report of Analysis

3-1  
3

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

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	78%		31-106%		
1718-51-0	Terphenyl-d14	79%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.50	4.3	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

000092

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13243.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	77%		18-104%
1718-51-0	Terphenyl-d14	73%		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

000093



## Report of Analysis

Client Sample ID: 9043411 750MW04A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-6	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23007.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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: 9043411 750MW04A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-6	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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	77%		25-112%		
321-60-8	2-Fluorobiphenyl	78%		31-106%		
1718-51-0	Terphenyl-d14	78%		14-122%		
CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.49	4.5	ug/l	J	
	Internal standard added for SIM test	14.94	4.3	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

000110

Report of Analysis

Client Sample ID:	9043411 750MW04A	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-6	Date Received:	11/04/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #1	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #2	4M13248.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610

Run #1	Initial Volume	Final Volume
Run #2	1000 ml	1.0 ml

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	73%		18-104%
1718-51-0	Terphenyl-d14	68%		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

000111

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 1/1/10

Dean Tarajji

Laboratory Certification # 13461

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

000309

## 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

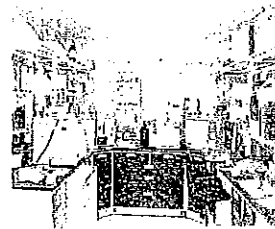
000310

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING



## ANALYTICAL DATA REPORT

FOR

Directorate of Public Works

Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

New Wells Round II

### SAMPLE LOCATION AND IDENTIFICATION

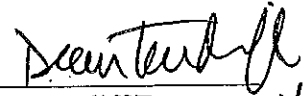
SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9044704	750MW01A**	-----	11/17/09
9044705	750MW02A	-----	11/17/09
9044706	750MW03A	-----	11/17/09
9044707	750MW04A	-----	11/17/09

\*New Wells Round II

\*\*DUP. Sample is 9044704.

NJDEP Laboratory Certification # 13461

  
Dean Tardiff/Date: 1/20/10  
Laboratory Manager

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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Dean Tardiff 3/15/10

Dean Tardiff



# **SAMPLING**

**000001**



## SAMPLE RECEIPT FORM

Date Received: 11-17-09

Work Order ID#: 90444

Site/Proj. Name: 750/AR 012-09

Cooler Temp (°C): 3.5°C

Received By: J. Venema  
(Print name)

Sign: J. Venema

**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
<u>90444-1-N/A</u>	<u>N/A</u>	<u>ACL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A

MW #:04A

NJDEP ID #

NJDEP CERT. # 13461

SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES

SAMPLER: WALTER FUNK

DATE: 11/17/09

WEATHER: Sunny and cool.

TIDE: High

Sampling Conducted in  
Accordance with TVS SOP  
SAM-0205

TDOW-19.25

**Initial Readings:**

Elevation of Casing Survey Mark:

5.98 ft

Depth of Well:

19.25 ft

Height of Water in Well:

13.27 ft

PID/FID Reading:

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 = 25.87

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: 09:53

End Time of Purging: 11:46

	Initial Value	Pre-Sample	Post-Sample
pH:	3.89 su	3.88 su	3.87 su
Temperature:	17.62 ( °C)	18.34 ( °C)	18.61 ( °C)
Specific Conductivity:	10848 us/cm	11797 us/cm	12686 us/cm
ORP:	136 mv	110 mv	110 mv
DO:	2.18 mg/L	1.82 mg/L	1.08 mg/L
Depth to Water Post Purge:	8.07 ft		
Depth to Water Post Sampling:	8.14 ft		
Sampling Start Time:	11:50		
Sampling End Time:	11:55		

Comments:


**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

90447 VOA

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

	Indicate Yes, No, N/A
1. Chromatograms labeled/Compounds identified (Field samples and method blanks)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DF/TPP Meet Criteria	<u>N/A</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
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)	<u>No</u>
a. VOA Fraction <u>Several compounds have high recoveries due to matrix interference.</u>	
b. B/N Fraction _____	
c. Acid Fraction _____	

000010

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

Indicate  
Yes, No, N/A

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

Yes

- 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: pcuntaridge

Date: 1/20/10

RAA 11/30/09

000011



# **METHOD SUMMARY**

## **Method Summary**

### **EPA Method 624 – Aqueous**

#### **Gas Chromatographic Determination of Volatiles in Water**

A 5-ml volume of sample is added to 5-ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 625**

#### **Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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 is concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

# **LABORATORY CHRONICLE**

# Laboratory Chronicle

Lab ID: 90447

Site: 750

	Date	Hold Time
Date Sampled	11/17/09	NA
Receipt/Refrigeration	11/17/09	NA

## Analyses

1. Volatiles	11/25/09	14 Days
2. Semi-Volatiles	11/24-12/02/09	7 Days

000015

# **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 VA4992.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 1:36 pm

Sample Name MB11250901  
 Field ID METHOD 624 11/25/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+tp-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11250901**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: MB11250901  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4992.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4998.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 5:45 pm

Sample Name 9044701  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nfe	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nfe	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nfe	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nfe	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nfe	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nfe	0.27 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nfe	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044701  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4998.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4999.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 6:16 pm

Sample Name 9044702  
 Field ID 750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l) <sup>a</sup>	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 FIELD BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044702  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4999.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4997.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 5:14 pm

Sample Name 9044707  
 Field ID 750 MW#04A  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

000032

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#04A

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044707  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4997.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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# **SEMI-VOLATILE ORGANICS**

000068

Accutest Laboratories

## Report of Analysis

Page 1 of 2

Client Sample ID:	9044702 FIELD BLANK	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-1	Date Received:	11/18/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75635.D	1	12/02/09	VN	11/20/09	OP41049	BR2857
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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Report of Analysis



Client Sample ID: 9044702 FIELD BLANK  
 Lab Sample ID: JA33317-1  
 Matrix: AQ - Field Blank Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

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	71%		31-106%		
1718-51-0	Terphenyl-d14	66%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	system artifact/aldol-condensation	4.53	4.1	ug/l	J	
	Internal standard added for SIM test	8.48	4.1	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

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## Report of Analysis

Page 1 of 1

Client Sample ID:	9044702 FIELD BLANK	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-1	Date Received:	11/18/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13629.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	88%		18-119%
321-60-8	2-Fluorobiphenyl	79%		18-104%
1718-51-0	Terphenyl-d14	74%		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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## Report of Analysis

Page 1 of 2

Client Sample ID:	9044707 750MW04A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-6	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75646.D	1	12/02/09	VN	11/20/09	OP41049	ER2858
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	2.0	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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## Report of Analysis

Client Sample ID: 9044707 750MW04A	Date Sampled: 11/17/09
Lab Sample ID: JA33317-6	Date Received: 11/18/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

**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	72%		25-112%		
321-60-8	2-Fluorobiphenyl	68%		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	4.52	4.6	ug/l	J	
	Internal standard added for SIM test	8.48	4	ug/l	J	
	Internal standard added for SIM test	12.68	4.6	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

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Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	9044707 750MW04A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-6	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13634.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	85%		18-119%
321-60-8	2-Fluorobiphenyl	75%		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

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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 and in the main body of the report.

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

Laboratory Manager or Environmental Consultant's Signature Dean Tardif  
Date: 1/20/10

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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## 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

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ATTACHMENT K

UST 750H File Review and Analyses



UNDERGROUND STORAGE TANK FILE REVIEW  
 FORT MONMOUTH BRAC 05 FACILITY  
 OCEANPORT, NEW JERSEY

Date: August 31, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750H** Registration ID: None

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release?  Yes  No

NJDEP Release No. or DICAR (If applicable): 09-07-28-1554-16

Did NJDEP approve No Further Action (NFA) for this site?  Yes  No  Not Applicable

Tank Description:  Steel  Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

Residential  Commercial/Industrial

Tank Removed?  Yes  No If "yes," removal date: 7/28/2009

Were closure soil samples taken?  Yes  No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria?  Yes  No

**Brief Narrative**

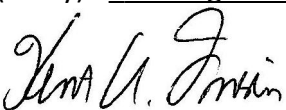
UST 750H was initially identified as anomaly P51\_31 in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_31 location, a steel tank was located and removed on 7/28/09. Stained soil as well as holes in the tank were observed, and a sheen was noted on groundwater at 6.5 feet below ground surface. Visibly contaminated soil was removed from the excavation, and soil samples (750-H-1 through 750-H-4) were collected from the side walls and bottom of the excavation on 7/30/09 and 8/11/09, and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). TPH concentrations ranged from not detected (ND) to 79 milligrams per kilogram (mg/kg). The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, no additional soil sampling or remedial action was warranted.

Groundwater well 750MW07 was installed on 10/14/09 in the immediate vicinity of the removed UST 750H, and sampled on 11/3/09 and 11/17/09 for analysis of volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs), plus VOC and SVOC tentatively identified compounds (TICs). As noted in the analytical data reports (see the sheet preceding the Chain of Custody Form), well 750MW07 was initially designated as "750MW03A". The SVOC bis(2-ethylhexyl)phthalate was detected at 2.6 ug/L in one round of sampling, which is below the respective Class IIA Ground Water Quality Criteria (GWQC) of 3 ug/L. No other SVOCs or VOCs were detected in the groundwater samples. Therefore, there is no indication of a release to groundwater at UST 750H.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed."

Recommendations (if any): Change to "Case Closed", request NFA from NJDEP

Signed:   
 Kent A. Friesen, Parsons

# Fort Monmouth UST Status Summary Report

## UST REGISTRATION INFORMATION SUMMARY

*LOCATION:* 750 H *NJDEP REG ID:* -  
*RESIDENTIAL?* YES

---

## UST CONSTRUCTION INFORMATION SUMMARY

*SIZE (GALLONS):* 1000 *CONSTRUCTION:* STEEL  
*PRODUCT:* #2 FUEL OIL *YEAR INSTALLED:*

---

## UST REMOVAL/INVESTIGATION SUMMARY

*REMOVAL DATE:* 7/28/2009 *REMOVAL CONTRACTOR:* TVS Inc.  
*SRF SEND DATE:* *TMS:*  
*DICAR NO.* 09-07-28-1554-16 *LEAK DETECT:*  
*REMEDICATION COMMENTS:* Discharge observed. Soil removed and sit eis being assessed as per NJDEP requirements CA.  
*REGISTRATION COMMENTS:* UHOT as per BRAC 2005 Legal determination. Not to be reg. with NJDEP. No fees to be paid  
*SAS DONE:* NO *CONSULTANT:*  
*MWs NEEDED:* 1 *MONITORING WELLS:*  
*SUB-SURFACE EVALUATOR:* Appleby

---

## CURRENT UST STATUS

*UST STATUS:* REMEDIATION ON-GOING *CASE STATUS:* Case Open  
*SUBMITTAL DATE:* *APPROVAL DATE:*

---

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG.#: 750-H REG.#: NA  
 DATE: 7-28-09 TOA: 1515 TOD: 1715  
 SSE: Chris Appleby / Frank Accorsi NJDEP CERT.#: \_\_\_\_\_  
 REMOVAL CONTRACTOR: TVS Inc. PWS-007  
 CLOSURE SUPERVISOR: Frank Accorsi NJDEP CERT.#: \_\_\_\_\_  
 WEATHER: Hot Humid

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	NA
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	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	NA
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337), CASE# <u>09-07-28-1554-16</u> <u>opacta 18</u>	
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Yes FD.
GROUNDWATER WAS ENCOUNTERED AT <u>65</u> FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	
IF OVA WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	NA
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	NA
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 2005 August	NA
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	NA
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Yes
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) AND A BACKFILL AUTH. LTR. IS ATTACHED	NO
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	NA
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	Yes
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 <sup>3</sup> ), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	None
<u>Database Updated CA. 8-3-09.</u>	

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.

Subsurface Evaluator (Print Name): Chris Appleby Date: 7-28-09

SIGNATURE: \_\_\_\_\_

- UST Rilled 9:45 am - Today - Howard Everett and Frank Accardi on-site.
- C. Appleby on-site after Removal and UST tanks off site
  - holes in UST as per Frank A.
  - Visible Contamination - odors, stains, Free Product globules.
- Site will be called in for DICAR.
- TUS is excavating Visually Contaminated Soils.
- NJDEP Discharge Ppt
  - UST # 750-H Building.
  - U.S. Army Ft. Monmouth 07703 DPW ENV
  - No Assistance Required
  - Not Registered - UHOT as per US Army Base Legal,
  - Phone (732) 532-2692. POC. Charles Appleby
  - Responsible Party - U.S. Army, - Cleanup in progress
  - 1000 gal - #2 H-oil.

DICAR #

09-07-28-1554-16,

op. 18,

CA.

# US ARMY, FORT MONMOUTH

## DAILY UST CLOSURE LOG

BLDG.#: 750      REG.#: VST 'H'      -  
 DATE: 7-28-09      TOA: \_\_\_\_\_      TOD: \_\_\_\_\_  
 CLOSURE TECH: FRANK ACCORSI      NJDEP CERT.#: 0010042  
 PERSONNEL: ANTHONY FORGIONE, MARC TAYLOR

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAVE CURRENT TRAINING IAW ALL SAFETY REQ. (E.G. 29CFR)	Y
ALL UTILITIES WERE MARKED OUT PRIOR TO ANY EXCAVATION (VISUAL CONFIRM. <input checked="" type="radio"/> YES/NO)	Y
HAND EXCAVATION WAS DONE WHEN EXCAVATING WITHIN 4 FT OF ANY UTILITIES	NA
ALL UST PIPING WAS BLOWN BACK AND DRAINED PRIOR TO ANY EXCAVATION WITH BACKHOE	NA
ALL UST PIPING WAS REMOVED PRIOR TO UST EXCAVATION	NA
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS <del>CLEANED</del> <sup>PUMPED</sup> AND NO RESIDUAL LIQUIDS WERE LEFT IN THE TANK	Y
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
<u>1.5</u> DRUMS OF WASTE WERE GENERATED AT THIS SITE TODAY (ID CARDS COMPLETED)	---
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE <input checked="" type="radio"/> (MP, CW, EV) HWSA	---
_____ GALLONS OF _____ WASTE WERE REMOVED (MANIFEST#: _____)	---
<del>111</del> <u>60</u> CUBIC YARDS OF PETROL. CONT. SOIL WERE EXCAVATED+TRANS TO (T-80, 2624)-	Y
THE DPW WAS NOTIFIED OF ANY DISCHARGE TO THE ENVIRONMENT. (WHO) <u>C. APPEBY</u>	Y
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW AUTHORIZED BACKFILLING THE EXCAVATION. SSE INITIAL REQUIRED: _____	---
THE UST WAS TRANSPORTED TO <u>108 YARD</u> FOR DISPOSAL (ATTACH SCRAP TICKET)	---
ADDITIONAL NOTES WERE TAKEN AND RECORDED ON THE BACK OF THIS FORM	---
THE FOLLOWING DOCUMENTS WERE GIVEN TO THE SSE TODAY: (CIRCLE EACH OR ADD ITEMS)	---
SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, _____	---

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. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

CLOSURE TECH (PRINT NAME): FRANK ACCORSI

SIGNATURE: Frank Accorsi      DATE: 7-28-09

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG.#: 750 REG.#: UST 'H' -        TOD:         
 DATE: 7-29-09 TOA:        NJDEP CERT.#: 0010042  
 SSE: FRANK ACCORSI REMOVAL CONTRACTOR: TVS Inc. PWS-007  
 CLOSURE SUPERVISOR: " " NJDEP CERT.#: " "  
 WEATHER: HAZY HOT, HUMID, MID 80'S

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT.) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (609-292-7172), CASE# <u>      </u>	Y
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT <u>7</u> FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	Y
IF OVA WAS USED: WAS IT CAL. AND FOUND TO BE OPERATIONAL (cal. data on COC)	Y
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	Y
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	Y
ALL PETROL. CONT. SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) AND A BACKFILL AUTH. LTR. IS ATTACHED	.
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	Y
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
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 <sup>3</sup> ), 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): FRANK ACCORSI Date: 7-29-09

SIGNATURE: Frank Accorsi

# 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: 09-123690

### Bldg. 750/UST # H

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-H-1, Bottom	9032101	Soil	30-July-09 08:20	07/30/09
750-H-2, East Wall	9032102	Soil	30-July-09 09:30	07/30/09
750-H-3, West Wall	9032103	Soil	30-July-09 13:40	07/30/09
750-H-4, South Wall	9032104	Soil	30-July-09 14:00	07/30/09
750-H, Duplicate	9032105	Soil	30-July-09 09:30	07/30/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

*Jacqueline Hamer* 9/17/09  
Jacqueline Hamer/Date  
QA/QC Supervisor

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**CHAIN  
OF  
CUSTODY**

**000001**



## SAMPLE RECEIPT FORM

Date Received: 7-30-09

Work Order ID#: 90321

Site/Proj. Name: Bldg 150/M.P.

Cooler Temp (°C): 3.0<sup>00</sup>

Received By: J. Ventura  
(Print name)

Sign: J. Ventura

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**GPS  
COORDINATED**

**000004**

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'H'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750H1 BOTTOM	537881.361	617428.394
750H2 EAST WALL	537885.308	617440.3
750H3 WEST WALL	537880.13	617420.335
750H4 SOUTH WALL	537871.883	617432.982
750H5 NORTH WALL	537890.793	617425.13

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006

## **Field Duplicate Identification**

**Lab ID:** 90321

**Site:** Bldg. 750  
UST # 750-H

The Field Duplicate was performed on 750-H-2, East Wall (Lab ID 9032102).

**000007**

# **METHOD SUMMARY**

000008



# 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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000010**

# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

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

Additional comments: \_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Jameson Dan Healey Date: 9/17/09

000011

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 30-Jul-09  
**Date Extracted:** 31-Jul-09  
**Extraction Method:** Shake  
**Analysis Complete:** 6-Aug-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB07310901	MB07310901	1.00	15.00	100.00	23	333	0.00	
LCS0730902	LCS0730902	1.00	15.00	100.00	23	333	1161.47	
MB08050901	MB08050901	1.00	15.02	100.00	23	333	0.00	
LCS08050901	LCS08050901	1.00	15.08	100.00	23	332	995.59	
9032101	750-H-1 BOTTOM	1.00	15.53	75.5	30	426	0.00	
9032102	750-H-2 EAST WALL	1.00	15.23	77.4	30	424	0.00	
9032103	750-H-3 WEST WALL	1.00	15.21	76.4	30	430	79.64	J
9032104	750-H-4 SOUTH WALL	1.00	15.16	81.1	28	407	0.00	
9032105	750-H DUPLICATE	1.00	15.09	77.1	30	430	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

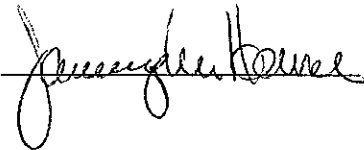
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <u>✓</u> |
| 2.  | Table of Contents submitted.   | <u>✓</u> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <u>✓</u> |
| 4.  | Document paginated and legible.  | <u>✓</u> |
| 5.  | Chain of Custody submitted.  | <u>✓</u> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <u>✓</u> |
| 7.  | Methodology Summary submitted.   | <u>✓</u> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <u>✓</u> |
| 9.  | Results submitted on a dry weight basis.   | <u>✓</u> |
| 10. | Method Detection Limits submitted.   | <u>✓</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/17/09



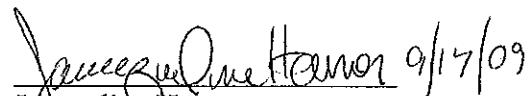
Laboratory Certification # 13461

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

000050

## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000051

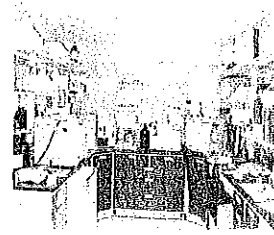
# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP CERTIFICATION #13461

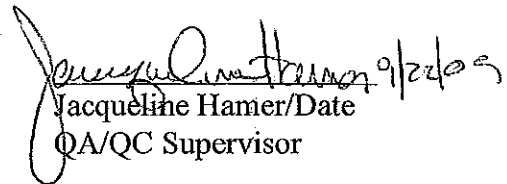


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

**Bldg. 750/UST # H**

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-H-5, North Wall	9033801	Soil	11-Aug-09 11:20	08/11/09
750-H, Duplicate	9033802	Soil	11-Aug-09 11:20	08/11/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

  
Jacqueline Hamer/Date  
QA/QC Supervisor



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**CHAIN  
OF  
CUSTODY**

000001



## SAMPLE RECEIPT FORM

Date Received: 8-11-09

Work Order ID#: 90338

Site/Proj. Name: Bldg 250/M.P.

Cooler Temp (°C): 4.5<sup>o</sup>

Received By: J. Venema  
(Print name)

Sign: J. Venema

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**GPS  
COORDINATED**

000004

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'H'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750H1 BOTTOM	537881.361	617428.394
750H2 EAST WALL	537885.308	617440.3
750H3 WEST WALL	537880.13	617420.335
750H4 SOUTH WALL	537871.883	617432.982
750H5 NORTH WALL	537890.793	617425.13

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006

## Field Duplicate Identification

**Lab ID:** 90338

**Site:** Bldg. 750  
UST # 750-H

The Field Duplicate was performed on 750-H-5, North Wall (Lab ID 9033801 ).

000007



# **METHOD SUMMARY**

000008

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

Additional comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: James H. Hume Date: 9/17/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 11-Aug-09  
**Date Extracted:** 12-Aug-09  
**Extraction Method:** Shake  
**Analysis Complete:** 13-Aug-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB08120901	MB08050901	1.00	15.02	100.00	23	333	0.00	
LCS08120901	LCS08050901	1.00	15.08	100.00	23	332	996.45	
9033801	750-H-5 NORTH WALL	1.00	15.25	77.7	30	422	0.00	
9033802	750-H DUPLICATE	1.00	15.19	76.7	30	429	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

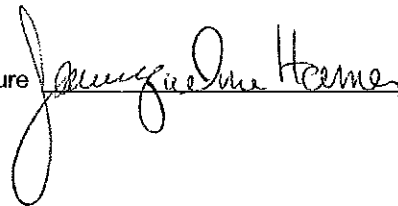
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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

Date: 9/17/09



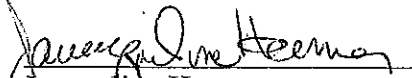
Laboratory Certification # 13461

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

000031

## 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.

 9/17.  
Jacqueline Hamer  
QA/QC Supervisor

000032



# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT  
 FOR  
 Directorate of Public Works  
 Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

SAMPLE LOCATION AND IDENTIFICATION

SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9043404	750MW01**	29-28992	11/03/09
9043405	750MW02	29-28993	11/03/09
9043406	750MW03	29-28994	11/03/09
9043407	750MW04	29-28995	11/03/09
9043408	750MW01A***	-----	11/03/09
9043409	750MW02A*	-----	11/03/09
9043410	750MW03A*	-----	11/03/09
9043411	750MW04A*	-----	11/03/09

\*New Wells Round I

\*\*Duplicate Sample for VOA and TAL Metals is 9043404.

\*\*\* Duplicate Sample for BN is 9043408.

NJDEP Laboratory Certification # 13461

*Dean Tardiff*  
 Dean Tardiff/Date: 11/20/10  
 Laboratory Manager

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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Deantard 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**

# 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

000002

Customer: JOE FALLON		Project No:		Analysis Parameters				Comments:
Phone #: 732-532-6223		Location: 4 <sup>TH</sup> QUARTER MONITOR WELL SAMPLING		VOATIS	METALS	BN+IS	Remarks / Preservation Method	
( ) DERA ( ) OMA ( ) Other:		Sample Name / Company: WATER FUNK / TVS		Sample #	Type	bottles		
LIMS/Work Order #	Sample Location	Date	Time					
90494.01	7SDTRIPBLANK	11-3-09	9:00	AQ	2			
02	7SDFIELD BLANK	11-3-09	12:20	AQ	4			
03	7SD DUP.	11-3-09	—	AQ	3			
04	7SD MW #01	11-3-09	15:30	AQ	3		29-28992	
05	7SD MW #02	11-3-09	15:00	AQ	3		29-28993	
06	7SD MW #03	11-3-09	15:10	AQ	3		29-28994	
07	7SD MW #04	11-3-09	15:20	AQ	3		29-28995	
08	7SD MW #01A	11-3-09	12:30	AQ	4			
09	7SD MW #02A	11-3-09	12:50	AQ	3			
10	7SD MW #03A	11-3-09	13:00	AQ	3			
11	7SD MW #04A	11-3-09	13:20	AQ	3			
12	7SD MW #01ADWP	11-3-09	12:30	AQ	1			
Relinquished by (signature): <i>Walter Ford</i>		Date/Time: 11/03/09 15:55	Received by (signature): <i>J. D. ...</i>	Relinquished by (signature):				Date/Time: Received by (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., ( ) ASAP Verbal ___ Hrs.								
Comments:								

## SAMPLE RECEIPT FORM

Date Received: 11-11-09

Work Order ID#: 90434

Site/Proj. Name: 750 / LTM / 144 QTR-09

Cooler Temp (°C): 3.0a

Received By: J. Veriquia  
(Print name)

Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative
<u>90434/1-11</u>	<u>N/A</u>	<u>HCL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A MW #:03A NJDEP ID # NJDEP CERT. # 13461 SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES SAMPLER: WALTER FUNK DATE: 11/03/09 WEATHER: Sunny and cool. TIDE: N/A	Sampling Conducted in Accordance with TVS SOP SAM-0205
---	--

<b>Initial Readings:</b>	TDOW-21.50
Elevation of Casing Survey Mark:	8.75 ft
Depth of Well:	21.50 ft
Height of Water in Well:	12.75 ft
PID/FID Reading:	0.00 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 =	24.86
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: 11:06  
 End Time of Purging: 12:55

	Initial Value	Pre-Sample	Post-Sample
pH:	4.67 su	4.67 su	4.54 su
Temperature:	16.25 ( °C)	16.64 ( °C)	16.44 ( °C)
Specific Conductivity:	3831 us/cm	4031 us/cm	3921 us/cm
ORP:	145 mv	147 mv	139 mv
DO:	1.92 mg/L	2.71 mg/L	2.20 mg/L
Depth to Water Post Purge:	11.04 ft		
Depth to Water Post Sampling:	11.11 ft		
Sampling Start Time:	13:00		
Sampling End Time:	13:12		

Comments:



**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)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DFTPP Meet Criteria	<u>NA</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction _____	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	
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).	<u>No</u>
a. VOA Fraction: <u>Several compounds have high recoveries, see summary form.</u>	
b. B/N Fraction <u>NA</u>	
c. Acid Fraction <u>NA</u>	

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

Indicate  
Yes, No, N/A

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

Yes

a. VOA Fraction \_\_\_\_\_  
b. B/N Fraction NA \_\_\_\_\_  
c. Acid Fraction NA \_\_\_\_\_

11. Extraction Holding Time Met

NA

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: Scantaraig

Date: 1/20/10

000015



**ACCUTEST**  
Laboratories

2

**CASE NARRATIVE / CONFORMANCE SUMMARY**

Client: Fort Monmouth Environmental Testing Lab.

Job No JA33317

Site: 750

Report Date 12/6/2009 6:26:47 PM

On 11/18/2009, 5 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.5 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA33317 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: OP41049
-----------	-------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS, JA33267-2MSD were used as the QC samples indicated.
- ☐ Blank Spike Recovery(s) for Atrazine are outside control limits.
- ☐ Matrix Spike Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Matrix Spike Duplicate Recovery(s) for Atrazine are outside control limits. Probable cause due to matrix interference.
- ☐ Sample(s) OP41049-MSD have surrogates outside control limits. Probable cause due to matrix interference.

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

Matrix AQ	Batch ID: OP41049A
-----------	--------------------

- ☐ All samples were extracted within the recommended method holding time.
- ☐ All samples were analyzed within the recommended method holding time.
- ☐ All method blanks for this batch meet method specific criteria.
- ☐ Sample(s) JA33267-2MS 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

**METALS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT**

Lab ID: 90434

Indicate  
Yes, No, N/A

1. Initial and Continuing Calibration Verifications Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

2. ICP Interference Check Sample Results Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

3. Serial Dilutions Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

4. Laboratory Control Samples Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

5. Preparation, Method and Calibration Blank Contamination No  
If yes, list compounds and concentrations in each blank

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

6. Spike Sample Recoveries Meet Criteria Yes  
9043103: AI = 55.9%

\_\_\_\_\_  
\_\_\_\_\_

7. Duplicates Meet Criteria Yes

\_\_\_\_\_  
\_\_\_\_\_

8. Analysis Holding Time Met Yes  
If not met, list number of days exceeded for each sample

\_\_\_\_\_  
\_\_\_\_\_

Additional Comments:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager:

*Dean Tardiff*

Date:

*1/20/10*

**000017**

# **METHOD SUMMARY**

000018

## Method Summary

### **EPA Method 624 – Aqueous Gas Chromatographic Determination of Volatiles in Water**

A 5 ml volume of sample is added to 5 ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 3510/8270 Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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.

### **EPA SW-846 Method 3115B, 3<sup>rd</sup> Edition base manual with final Updates I, II, IIA, IIB and III: Digestion of TAL Metals**

Milestone MLS 1200 MEGA

A representative sample of 45ml is digested in 4 ml of concentrated nitric acid and 1 ml concentrated hydrochloric acid for 10 minutes heating with a suitable laboratory microwave unit. The sample and acid are placed in a fluorocarbon (TFM) microvessel. This vessel is capped and heated in the microwave unit. After cooling the vessel contents are filtered and then diluted to a 50 ml volume and analyzed by ICP.

### **Standard Methods for the Examination of Water and Wastewater 18<sup>th</sup> Edition, Method 3120B: ICP TAL Metals**

Perkin Elmer OPTIMA 3000 DV

The method measures element-emitted light by optical spectrometry. Samples are nebulized and the resulting aerosol is transported to the plasma torch. Radio-frequency inductively coupled plasma produces element-specific atomic-line emission spectra. The spectra are dispersed by a grating spectrometer and a Segmented-array Charged-coupled-device Detector (SCD) monitors the intensities of the lines. Background and interelemental correction is used for trace element determinations.

### **EPA SW-846 Method 7470A, 3<sup>rd</sup> Edition Base Manual with Final Updates I, II, IIA, IIB and III: Mercury**

Varian SpectrAA-640, VGA-77

The flameless AA procedure is a physical method based on the absorption of radiation at 253.7 nm by mercury vapor. The mercury is reduced to the elemental state and aerated from solution in a closed system. The mercury vapor passes through a cell positioned in the light path of an atomic absorption spectrometer. Absorbency (peak height) is measured as a function of mercury concentration and recorded in the usual manner.

000019

# **LABORATORY CHRONICLE**

000020



# Laboratory Chronicle

Lab ID: 90447

Site: 750 LTM

	Date	Hold Time
Date Sampled	11/03/09	NA
Receipt/Refrigeration	11/03/09	NA

## Analyses

1. Volatiles	11/14,15/09	14 Days
2. Base Neutral	11/11,17/09	7 Days
3. TAL Metals	11/10/09	6 Months
4. Arsenic	11/17/09	6 Months
5. Mercury	11/13/09	28 Days
6. Thallium	11/16/09	6 Months

000021

# **VOLATILE ORGANICS**

**000022**

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.

000023

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

Data File VA4841.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 7:26 pm

Sample Name MB11040902  
 Field ID METHOD 624 11/04/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*		Qualifiers
					MDL	RL	
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11040902**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: MB11040902  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4841.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4843.D  
 Operator ROBERTS  
 Date Acquired 4 Nov 2009 8:28 pm

Sample Name 9043401  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

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

PQL = Practical Quantitation Limit  
 J = Estimated concentration, value falls between R.L. and M.D.L.

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043401  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4843.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      VA4844.D  
 Operator        ROBERTS  
 Date Acquired   4 Nov 2009 8:59 pm

Sample Name    9043402  
 Field ID        750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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



1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 FIELD BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043402  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4844.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/4/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File      VA4852.D  
 Operator       ROBERTS  
 Date Acquired   5 Nov 2009 1:08 am

Sample Name    9043410  
 Field ID       750 MW#03A  
 Sample Multiplier   1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l) <sup>a</sup>	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	1.00 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 ug/L	1.00 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	1.00 ug/L	
74-83-9	Bromomethane			not detected	10	0.25 ug/L	1.00 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	1.00 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	1.00 ug/L	
75-35-4	1,1-Dichloroethane			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	1.00 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	1.00 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	1.00 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	1.00 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	

<sup>a</sup>Results between MDL and RL are estimated values

<sup>a</sup>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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#03A

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90434  
Matrix: (soil/water) WATER Lab Sample ID: 9043410  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4852.D  
Level: (low/med) LOW Date Received: 11/3/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/5/2009  
GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0  
Soil Extract Volume: \_\_\_\_\_ (uL) Soil Aliquot Volume: \_\_\_\_\_ (uL)

CONCENTRATION UNITS:

Number TICs found: 0

(ug/L or ug/Kg) UG/L

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
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# **SEMI-VOLATILE ORGANICS**

000090

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23002.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	2.0	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

3-1  
3

Client Sample ID: 9043402 FIELD BLANK	Date Sampled: 11/03/09
Lab Sample ID: JA32053-1	Date Received: 11/04/09
Matrix: AQ - Field Blank Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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	78%		31-106%		
1718-51-0	Terphenyl-d14	79%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.50	4.3	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

000092

## Report of Analysis

Client Sample ID:	9043402 FIELD BLANK	Date Sampled:	11/03/09
Lab Sample ID:	JA32053-1	Date Received:	11/04/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13243.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	77%		18-104%
1718-51-0	Terphenyl-d14	73%		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

000093

## Report of Analysis

Client Sample ID: 9043410 750MW03A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-5	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	3E23006.D	1	11/17/09	OYA	11/09/09	OP40821	E3E1045
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	2.6	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

000106



Report of Analysis



Client Sample ID: 9043410 750MW03A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-5	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C SW846 3510C	
Project: 750	

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.	Surr ogate Recoveries	Run# 1	Run# 2	Limits		
4165-60-0	Nitrobenzene-d5	80%		25-112%		
321-60-8	2-Fluorobiphenyl	80%		31-106%		
1718-51-0	Terphenyl-d14	79%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	Internal standard added for SIM test	11.50	4.6	ug/l	J	
	Internal standard added for SIM test	19.90	4.1	ug/l	J	
	Total TIC, Semi-Volatile		0	ug/l		

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

000107

### Report of Analysis

Client Sample ID: 9043410 750MW03A	Date Sampled: 11/03/09
Lab Sample ID: JA32053-5	Date Received: 11/04/09
Matrix: AQ - Ground Water	Percent Solids: n/a
Method: SW846 8270C BY SIM SW846 3510C	
Project: 750	

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13247.D	1	11/11/09	NAP	11/09/09	OP40821A	E4M610
Run #2							

Run #	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	79%		18-104%
1718-51-0	Terphenyl-d14	71%		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

000108

## 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. | <input checked="" type="checkbox"/> |
| 2.  | Table of Contents submitted.   | <input checked="" type="checkbox"/> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <input checked="" type="checkbox"/> |
| 4.  | Document paginated and legible.  | <input checked="" type="checkbox"/> |
| 5.  | Chain of Custody submitted.  | <input checked="" type="checkbox"/> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <input checked="" type="checkbox"/> |
| 7.  | Methodology Summary submitted.   | <input checked="" type="checkbox"/> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <input checked="" type="checkbox"/> |
| 9.  | Results submitted on a dry weight basis.   | <input checked="" type="checkbox"/> |
| 10. | Method Detection Limits submitted.   | <input checked="" type="checkbox"/> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <input checked="" type="checkbox"/> |

Laboratory Manager or Environmental Consultant's Signature

Date: 1/1/10

Dean Tarajo

Laboratory Certification # 13461

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

000309

## 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

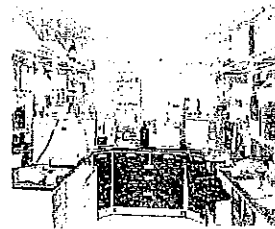
000310

# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE: (732)532-6224 FAX: (732)532-6263

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING



## ANALYTICAL DATA REPORT

FOR

Directorate of Public Works

Fort Monmouth, NJ 07703

PROJECT: UST/ Monitoring Program

New Wells Round II

### SAMPLE LOCATION AND IDENTIFICATION

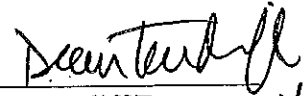
SITE: 750

LABORATORY ID #	MONITOR WELL#	NJDEP WELL ID#	SAMPLE DATE
9044704	750MW01A**	-----	11/17/09
9044705	750MW02A	-----	11/17/09
9044706	750MW03A	-----	11/17/09
9044707	750MW04A	-----	11/17/09

\*New Wells Round II

\*\*DUP. Sample is 9044704.

NJDEP Laboratory Certification # 13461

  
Dean Tardiff/Date: 1/20/10  
Laboratory Manager

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The following well designations: 750MW01A, 750MW02A, 750MW03A, and 750MW04A refer to 750MW05, 750MW06, 750MW07, and 750MW08 respectively.

Dean Tardiff 3/15/10

Dean Tardiff

# **SAMPLING**

**000001**





## SAMPLE RECEIPT FORM

Date Received: 11-17-09

Work Order ID#: 90444

Site/Proj. Name: 750/AR 012-09

Cooler Temp (°C): 3.5°C

Received By: J. Venema  
(Print name)

Sign: J. Venema

**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
<u>90444-1-N/A</u>	<u>N/A</u>	<u>ACL</u>			

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



# US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 750A MW #:03A NJDEP ID # NJDEP CERT. # 13461 SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES SAMPLER: WALTER FUNK DATE: 11/17/09 WEATHER: Sunny and cool. TIDE: High	Sampling Conducted in Accordance with TVS SOP SAM-0205
--	--

<b>Initial Readings:</b>	TDOW-21.50
Elevation of Casing Survey Mark:	9.03 ft
Depth of Well:	21.50 ft
Height of Water in Well:	12.47 ft
PID/FID Reading:	0.00 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 =	24.31
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: 09:38  
 End Time of Purging: 11:27

	Initial Value	Pre-Sample	Post-Sample
pH:	4.68 su	4.63 su	4.52 su
Temperature:	14.98 ( °C)	15.52 ( °C)	15.47 ( °C)
Specific Conductivity:	3606 us/cm	3904 us/cm	3797 us/cm
ORP:	115 mv	87 mv	92 mv
DO:	2.78 mg/L	4.17 mg/L	3.04 mg/L
Depth to Water Post Purge:	11.78 ft		
Depth to Water Post Sampling:	11.84 ft		
Sampling Start Time:	11:30		
Sampling End Time:	11:34		

**Comments:**

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**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

90447 VOA

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

	Indicate Yes, No, N/A
1. Chromatograms labeled/Compounds identified (Field samples and method blanks)	<u>Yes</u>
2. Retention times for chromatograms provided	<u>Yes</u>
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	<u>Yes</u>
b. DF/TPP Meet Criteria	<u>N/A</u>
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	<u>Yes</u>
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	<u>Yes</u>
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	<u>Yes</u>
b. System Performance Check Compounds Meet Criteria	<u>Yes</u>
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	<u>No</u>
a. VOA Fraction _____	
b. B/N Fraction _____	
c. Acid Fraction _____	
8. Surrogate Recoveries Meet Criteria	<u>Yes</u>
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"?	
	<u>No</u>
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	
a. VOA Fraction <u>Several compounds have high recoveries due to matrix interference.</u>	
b. B/N Fraction _____	
c. Acid Fraction _____	

000010

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

Indicate  
Yes, No, N/A

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

Yes

- 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: pcuntaridge

Date: 1/20/10

RAA 11/30/09

000011

# **METHOD SUMMARY**



## **Method Summary**

### **EPA Method 624 – Aqueous**

#### **Gas Chromatographic Determination of Volatiles in Water**

A 5-ml volume of sample is added to 5-ml aliquot of water. Surrogates and internal standards are added and the sample is placed on a purge and trap concentrator. The sample is purged and desorbed into a GC/MS system. Volatiles are then identified and quantitated.

### **EPA Method 625**

#### **Gas Chromatographic Determination of Semi-volatiles in Water**

Surrogates are added to a 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 is concentrated and internal standards are added. The sample is injected into a GC/MS system. Semi-volatiles are identified and quantitated.

# **LABORATORY CHRONICLE**

# Laboratory Chronicle

Lab ID: 90447

Site: 750

	Date	Hold Time
Date Sampled	11/17/09	NA
Receipt/Refrigeration	11/17/09	NA

## Analyses

1. Volatiles	11/25/09	14 Days
2. Semi-Volatiles	11/24-12/02/09	7 Days

000015

# **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 VA4992.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 1:36 pm

Sample Name MB11250901  
 Field ID METHOD 624 11/25/09  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+tp-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

**MB11250901**

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: MB11250901  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4992.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4998.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 5:45 pm

Sample Name 9044701  
 Field ID 750 TRIP BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nfe	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nfe	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nfe	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nfe	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nfe	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nfe	0.27 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nfe	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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



1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 TRIP BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044701  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4998.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4999.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 6:16 pm

Sample Name 9044702  
 Field ID 750 FIELD BLANK  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l) <sup>a</sup>	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 FIELD BLANK

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044702  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4999.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture: not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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**Volatile Analysis Report**  
**U.S. Army, Fort Monmouth Environmental Laboratory**  
**NJDEP Certification #13461**

Data File VA4996.D  
 Operator ROBERTS  
 Date Acquired 25 Nov 2009 4:43 pm

Sample Name 9044706  
 Field ID 750 MW#03A  
 Sample Multiplier 1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	2.09 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	1.64 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.89 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.18 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.12 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.22 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.10 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	0.25 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.22 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.18 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.20 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.18 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.18 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.16 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.20 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.19 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.16 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.14 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.21 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.17 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.27 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.16 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.19 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.18 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.16 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.25 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1	0.16 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.26 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.15 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1	0.12 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	0.18 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.20 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.14 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.15 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.16 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.15 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.27 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	0.12 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	0.12 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.12 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.12 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.12 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

1E  
VOLATILE ORGANICS ANALYSIS DATA SHEET  
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

750 MW#03A

Lab Name: FMETL Contract: \_\_\_\_\_  
Lab Code: 13461 Case No.: MW SAS No.: \_\_\_\_\_ SDG No.: 90447  
Matrix: (soil/water) WATER Lab Sample ID: 9044706  
Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA4996.D  
Level: (low/med) LOW Date Received: 11/17/2009  
% Moisture; not dec. \_\_\_\_\_ Date Analyzed: 11/25/2009  
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
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# **SEMI-VOLATILE ORGANICS**

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Accutest Laboratories

## Report of Analysis

Page 1 of 2

Client Sample ID: 9044702 FIELD BLANK  
 Lab Sample ID: JA33317-1  
 Matrix: AQ - Field Blank Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75635.D	1	12/02/09	VN	11/20/09	OP41049	BR2857
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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Report of Analysis



Client Sample ID: 9044702 FIELD BLANK  
 Lab Sample ID: JA33317-1  
 Matrix: AQ - Field Blank Water  
 Method: SW846 8270C SW846 3510C  
 Project: 750

Date Sampled: 11/17/09  
 Date Received: 11/18/09  
 Percent Solids: n/a

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	71%		31-106%		
1718-51-0	Terphenyl-d14	66%		14-122%		
CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q	
	system artifact/aldol-condensation	4.53	4.1	ug/l	J	
	Internal standard added for SIM test	8.48	4.1	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

Page 1 of 1

Client Sample ID:	9044702 FIELD BLANK	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-1	Date Received:	11/18/09
Matrix:	AQ - Field Blank Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13629.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	88%		18-119%
321-60-8	2-Fluorobiphenyl	79%		18-104%
1718-51-0	Terphenyl-d14	74%		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

Page 1 of 2

Client Sample ID:	9044706 750MW03A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-5	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R75645.D	1	12/02/09	VN	11/20/09	OP41049	ER2858
Run #2							

Run #	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	5.0	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	2.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	5.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	2.0	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	0.37	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.67	ug/l	
67-72-1	Hexachloroethane	ND	5.0	0.26	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	2.0	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

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Report of Analysis



Client Sample ID:	9044706 750MW03A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-5	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C SW846 3510C		
Project:	750		

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	73%		25-112%		
321-60-8	2-Fluorobiphenyl	72%		31-106%		
1718-51-0	Terphenyl-d14	38%		14-122%		
CAS No.	Tentatively Identified Compounds	R. T.	Est. Conc.	Units	Q	
	system artifact/aldol-condensation	4.54	4	ug/l	J	
	Benzene, -dichloro-chloroethenyl	13.44	7.7	ug/l	J	
	Internal standard added for SIM test	18.37	4.1	ug/l	J	
	Total TIC; Semi-Volatile		7.7	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

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Accutest Laboratories

## Report of Analysis

Page 1 of 1

Client Sample ID:	9044706 750MW03A	Date Sampled:	11/17/09
Lab Sample ID:	JA33317-5	Date Received:	11/18/09
Matrix:	AQ - Ground Water	Percent Solids:	n/a
Method:	SW846 8270C BY SIM SW846 3510C		
Project:	750		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M13633.D	1	11/24/09	NAP	11/20/09	OP41049A	E4M623
Run #2							

Run #	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	88%		18-119%
321-60-8	2-Fluorobiphenyl	80%		18-104%
1718-51-0	Terphenyl-d14	45%		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 and in the main body of the report.

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

Laboratory Manager or Environmental Consultant's Signature Dean Tardif  
Date: 1/20/10

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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## 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

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ATTACHMENT L

UST 750I File Review and Analyses

UNDERGROUND STORAGE TANK FILE REVIEW  
 FORT MONMOUTH BRAC 05 FACILITY  
 OCEANPORT, NEW JERSEY

Date: August 31, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750I**

Registration ID: *None*

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release? [ ] Yes [X] No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site? [ ] Yes [X] No [ ] 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: 8/13/2009

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**

UST 750I was initially identified as anomaly P51\_5 in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_5 location, a steel tank was located and removed on 8/13/09. No evidence of fuel oil contamination was observed. Soil samples (750-I-1 through 750-I-5) were collected from the side walls of the excavation and below piping on 8/13/09, and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). TPH in all of the soil samples was not detected (ND). The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, there is no indication of a release to soil or groundwater at UST 750F, and no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed."

Recommendations (if any): Change to "Case Closed", request NFA from NJDEP

Signed:   
 Kent A. Friesen, Parsons



# Port Monmouth UST Status Summary Report

## UST REGISTRATION INFORMATION SUMMARY

*LOCATION* 750 1 *NJDEP REG ID*  
*RESIDENTIAL?* YES

## UST CONSTRUCTION INFORMATION SUMMARY

*SIZE (GALLONS)* 1000 *CONSTRUCTION* STEEL  
*PRODUCT* #2 FUEL OIL *YEAR INSTALLED*

## UST REMOVAL/INVESTIGATION SUMMARY

*REMOVAL DATE* 8/13/2009 *REMOVAL CONTRACTOR* TVS  
*SRF SEND DATE* *TMS*  
*DICAR NO* *LEAK DETECT*

### REMEDICATION COMMENTS

*REGISTRATION COMMENTS* unregulated Heating oil UST as per BRAC Legal Office

*SAS DONE* NO *CONSULTANT*

*MW's NEEDED* *MONITORING WELLS*

*SUB-SURFACE EVALUATOR* Frank Accorsi

## CURRENT UST STATUS

*UST STATUS* REMOVED CLEAN SITE SAS REQ *CASE STATUS* Case Open  
*SUBMITTAL DATE* *APPROVAL DATE*

**US ARMY, FORT MONMOUTH  
DAILY UST CLOSURE LOG**

BLDG # 750 REG # UST I  
 DATE 8-12-09 TOA \_\_\_\_\_ TOD \_\_\_\_\_  
 CLOSURE TECH FRANK ACCORSI NJDEP CERT # 0010042  
 PERSONNEL \_\_\_\_\_

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAVE CURRENT TRAINING IAW ALL SAFETY REQ (E G 29CFR)	Y
ALL UTILITIES WERE MARKED OUT PRIOR TO ANY EXCAVATION (VISUAL CONFIRM YES/NO)	Y
HAND EXCAVATION WAS DONE WHEN EXCAVATING WITHIN 4 FT OF ANY UTILITIES	Y
ALL UST PIPING WAS BLOWN BACK AND DRAINED PRIOR TO ANY EXCAVATION WITH BACKHOE	NA
ALL UST PIPING WAS REMOVED PRIOR TO UST EXCAVATION	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS <del>CLEANED</del> <sup>PUMPED</sup> AND NO RESIDUAL LIQUIDS WERE LEFT IN THE TANK	Y
THE UST WAS PLACED ONTO PLASTIC SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
_____ DRUMS OF WASTE WERE GENERATED AT THIS SITE TODAY (ID CARDS COMPLETED)	N
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP CW EV) HWSA	N
<u>700</u> GALLONS OF <u>H<sub>2</sub>O</u> WASTE WERE REMOVED (MANIFEST# _____)	Y
<u>0</u> CUBIC YARDS OF PETROL CONT SOIL WERE EXCAVATED+TRANS TO (T 80 2624)	NA
THE DPW WAS NOTIFIED OF ANY DISCHARGE TO THE ENVIRONMENT (WHO) _____	NA
ALL PETROL CONT SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	NA
THE DPW AUTHORIZED BACKFILLING THE EXCAVATION SSE INITIAL REQUIRED _____	
THE UST WAS TRANSPORTED TO <u>108 YARD</u> FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
ADDITIONAL NOTES WERE TAKEN AND RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE GIVEN TO THE SSE TODAY (CIRCLE EACH OR ADD ITEMS) SCRAP TICKET CSE PERMIT ACCIDENT REPORT _____	

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 I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment

CLOSURE TECH (PRINT NAME) FRANK ACCORSI  
 SIGNATURE Frank Accorsi DATE 8-12-09

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG # 750 REG # UST I -  
 DATE 8-13-09 TOA                      TOD                       
 SSE FRANK ACCORSI NJDEP CERT # 0010042  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR FRANK ACCORSI NJDEP CERT # 0010042  
 WEATHER MOSTLY CLOUDY, OCC LT RAIN, 80's

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E G 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS PLACED ONTO PLASTIC SCRAPED OFF INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (609-292-7172)	N
CASE# <u>                                    </u>	
PHOTOS HAVE UST# BLDG # DATE TIME, NAME OF SSE AND DESCR WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT <u>55</u> FEET BG A SHEEN (WAS/ <del>WAS NOT</del> ) OBSERVED ON GW	Y
IF OVA WAS USED WAS IT CAL AND FOUND TO BE OPERATIONAL (cal data on COC)	Y
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	Y
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/ <u>PID</u> RECORDED SITES IAW 7 26E-3 6 et seq	Y
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	
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	Y
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY (CIRCLE EACH) .. SCRAP TICKET CSE PERMIT ACCIDENT REPORT HAZ WASTE MANIFEST <u>DAILY UST CLOSURE LOG</u> SCALED SITE MAP (SAMPLING) SRF-CLOSURE CHAIN OF CUSTODY SOIL ANALYTICAL RESULTS CLEAN FILL TICKETS (IN YDS <sup>3</sup> ) 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) FRANK ACCORSI Date 8-13-09

SIGNATURE Frank Accorsi

# 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

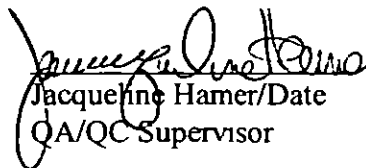


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT 09-123690

### Bldg 750/UST # I

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-I-1, North Wall	9034101	Soil	13-Aug-09 09 00	08/13/09
750-I-2 South Wall	9034102	Soil	13 Aug-09 09 15	08/13/09
750 I-3 East Wall	9034103	Soil	13 Aug-09 09 35	08/13/09
750-I-4 West Wall	9034104	Soil	13 Aug 09 09 55	08/13/09
750 I 5 Piping	9034105	Soil	13 Aug-09 10 10	08/13/09
750 I Duplicate	9034106	Soil	13 Aug-09 09 00	08/13/09

ANALYSIS  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

 9/22/09  
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**

000001

# 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 <b>CHUCK APPLEBY</b>		Project No <b>09-123690</b>		Analysis Parameters								Comments		
Phone # <b>X26292</b>		Location <b>BLDG. 750</b>		* TPH	* % SOLIDS							FID (PPM)	DEPTH (FT)	Remarks / Preservation Method
( ) DERA ( ) OMA (X) Other _____		<b>UST 'I'</b>												
Samplers Name / Company <b>FRANK ACCORSI / TVS</b>				Sample #										
LIMS/Work Order #	Sample Location	Date	Time	Type	bottles									
<b>90341</b>	<b>750-I-1, NORTH WALL</b>	<b>8-13-09</b>	<b>0900</b>	<b>SOIL</b>	<b>1</b>	<b>X</b>	<b>X</b>					<b>1</b>	<b>5-5.5</b>	<b>ICE</b>
	<b>750 I-2, SOUTH WALL</b>		<b>0915</b>			<b>X</b>	<b>X</b>					<b>2</b>	<b>5-5.5</b>	
	<b>750 I-3, EAST WALL</b>		<b>0935</b>			<b>X</b>	<b>X</b>					<b>1</b>	<b>5-5.5</b>	
	<b>750-I-4, WEST WALL</b>		<b>0955</b>			<b>X</b>	<b>X</b>					<b>1</b>	<b>5-5.5</b>	
	<b>750-I 5, PIPING</b>		<b>1010</b>			<b>X</b>	<b>X</b>					<b>0</b>	<b>2-2.5</b>	
	<b>750-I, DUPLICATE</b>		<b>0900</b>			<b>X</b>	<b>X</b>					<b>1</b>	<b>5-5.5</b>	

Relinquished by (signature) <i>Frank Accorsi</i>	Date/Time <b>8-13-09 1100</b>	Received by (signature) <i>[Signature]</i>	Relinquished by (signature)	Date/Time	Received by (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 wks** ( ) ASAP Verbal \_\_\_ Hrs

\* BN (CONTINGENT) ON SAMPLES > 1,000 PPM TPH, ON HIGHEST

000002

04-23

## SAMPLE RECEIPT FORM

Date Received 8-13-09

Work Order ID# 90241

Site/Proj Name Bldg 750/m. pool

Cooler Temp (°C) 4.5°c

Received By J. Vergara  
(Print name)

Sign J. Vergara

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_



**GPS**  
**COORDINATED**

000004

U S ARMY - FT MONMOUTH, NJ

BUILDING 750 - UST 'I'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750I 1 NORTH WALL UST	537967 346	617191 513
750I 2 SOUTH WALL UST	537960 191	617195 418
750I 3 EAST WALL UST	537966 868	617198 354
750I 4 WEST WALL UST	537960 093	617185 556
750I 5 PIPING	537967 685	617199 558

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006

## **Field Duplicate Identification**

**Lab ID** 90341

**Site** Bldg 750  
UST # 750-I

The Field Duplicate was performed on 750-I-1, North Wall (Lab ID 9034101 )

**000007**

**METHOD**  
**SUMMARY**

000008

# 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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

**000010**

# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

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

Additional comments \_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager James J. [Signature] Date 9/17/09



**TOTAL  
PETROLEUM  
HYDROCARBONS**

**000012**

**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 #** 09 123690  
**Location** BLDG 750 MOTOR POOL  
**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** 13 Aug-09  
**Date Extracted** 13 Aug 09  
**Extraction Method** Shake  
**Analysis Complete** 14 Aug-09  
**Analyst** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB08130901	MB08130901	1 00	15 04	100 00	23	332	0 00	
LCS08130901	LCS08130901	1 00	15 09	100 00	23	331	931 64	
9034101	750-I 1 NORTH WALL	1 00	15 12	84 9	27	390	0 00	
9034102	750-I-2 SOUTH WALL	1 00	15 32	78 1	29	418	0 00	
9034103	750-I 3 EAST WALL	1 00	15 13	83 6	28	395	0 00	
9034104	750-I-4 WEST WALL	1 00	15 34	81 2	28	401	0 00	
9034105	750-I-5 PIPING	1 00	15 23	88 5	26	371	0 00	
9034106	750 I DUPLICATE	1 00	15 29	82 1	28	398	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 ✓

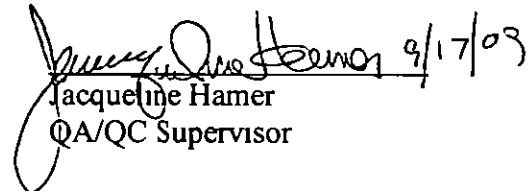
Laboratory Manager or Environmental Consultant's Signature *Joseph M. Horner*  
 Date 9/17/09  
 Laboratory Certification # 13461

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.

  
Jacqueline Hamer  
QA/QC Supervisor

000039

ATTACHMENT M

UST 750J File Review and Analyses

UNDERGROUND STORAGE TANK FILE REVIEW  
 FORT MONMOUTH BRAC 05 FACILITY  
 OCEANPORT, NEW JERSEY

Date: August 31, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **750J** Registration ID: None

Recommended Status of Site: **Change to Case Closed**

Based on the file review, were there indications of a contaminant release?  Yes  No

NJDEP Release No. or DICAR (If applicable): 09-08-20-0915-22

Did NJDEP approve No Further Action (NFA) for this site?  Yes  No  Not Applicable

Tank Description:  Steel  Fiberglass Size: 1000 gals. Contents: No. 2 Fuel Oil

Residential  Commercial/Industrial

Tank Removed?  Yes  No If "yes," removal date: 8/25/2009

Were closure soil samples taken?  Yes  No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

Were closure soil sample results less than comparison criteria?  Yes  No

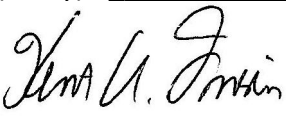
**Brief Narrative**

UST 750J was initially identified as anomaly P51\_27 in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_27 location, a steel tank was uncovered on 8/19/09. Petroleum contaminated soils and holes in the top of the tank were observed. The contamination was noted to have possibly resulted from historic overfill of the tank. The tank was removed from the excavation on 8/25/09, and stained soil was observed, as well as a sheen on groundwater at 6.5 feet below ground surface. On 9/2/09 approximately 24 cubic yards of petroleum contaminated soil was removed from the excavation, and then soil samples (750-J-1 through 750-J-5) were collected from the side walls and bottom of the excavation, and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). TPH was not detected (ND) in all of the soil samples. The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support changing the UST Case Status to "Case Closed."

Recommendations (if any): Change to "Case Closed", request NFA from NJDEP

Signed: 

Kent A. Friesen, Parsons

# Fort Monmouth UST Status Summary Report

## UST REGISTRATION INFORMATION SUMMARY

*LOCATION* 750 J *NJDEP REG ID*  
*RESIDENTIAL?* YLS

---

## UST CONSTRUCTION INFORMATION SUMMARY

*SIZE (GALLONS)* 1000 *CONSTRUCTION* STEEL  
*PRODUCT* #2 FUEL OIL *YEAR INSTALLED*

---

## UST REMOVAL/INVESTIGATION SUMMARY

*REMOVAL DATE* 9/2/2009 *REMOVAL CONTRACTOR* IVS Inc  
*SRF SEND DATE* *TMS*  
*DICAR NO* 09 08 200915 22 *LEAK DETECT*  
*REMEDIAION COMMENTS* Discharge to GW approx 24 cu yds of TPH contaminated soil was removed All TPH final assessment samples were less than 5600PPM GW Assessment required  
*REGISTRATION COMMENTS* unregulated UST as per BRAC Legal Office  
*SAS DONE* NO *CONSULTANT*  
*MW's NEEDED* *MONITORING WELLS*  
*SUB-SURFACE EVALUATOR* Frank Accorsi

---

## CURRENT UST STATUS

*UST STATUS* REMOVED RI ON GOING *CASE STATUS* Case Open  
*SUBMITTAL DATE* *APPROVAL DATE*

---

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG # 750-J REG # NA  
 DATE 8-A-09 TOA 11AM TOD 1145  
 SSE C Appleby NJDEP CERT # 9974  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR Frank - B...s NJDEP CERT # \_\_\_\_\_  
 WEATHER Hot Humid

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	NA
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	NA
THE UST WAS PLACED ONTO PLASTIC SCRAPED OFF INSPECTED FOR HOLES AND PHOTOGRAPHED	NA
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337)	
CASE# _____ to 11 Be done	NO
PHOTOS HAVE UST# BLDG # DATE TIME NAME OF SSE AND DESCR WRITTEN ON BACK	NA
GROUNDWATER WAS ENCOUNTERED AT _____ FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	NA
IF OVA WAS USED WAS IT CAL AND FOUND TO BE OPERATIONAL (cal data on COC)	NA
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	NA
ALL SAMPLE COLLECTION ACTIVITIES WERE (AS DESCRIBED IN THE NJDEP FSPM 2005 August	NA
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7 26E-3 6 et seq.	NA
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	NO
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	NA
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	YES
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 <sup>3</sup> ) PHOTOGRAPHS (UST EXCAVATION SAMPLING POINTS)	None

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

Subsurface Evaluator (print Name) Charles Appleby Date 8-19-09  
 SIGNATURE \_\_\_\_\_



8-19-09 CA

• Site Visit

- UST unconnected to top of UST

- Steel 1000 gal #2

- Located in Parking Lot

- Based on visual & observations, the tank discharged oil to the environment

- hole in top of UST

- Possible over fill that resulted in soils below UST being impacted by fuel oil.

- TTD - Call Discharge into NJDEP

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG # 750-J REG # NA - As Per Briefing  
 DATE 8-20-07 TOA NA TOD \_\_\_\_\_  
 SSE Charles Appleby NJDEP CERT # 9974  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR Frank August NJDEP CERT # \_\_\_\_\_  
 WEATHER Hot Humid

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	<u>NO</u>
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	<u>NA</u>
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E G 29CFR)	<u>NO</u>
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	<u>NA</u>
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF INSPECTED FOR HOLES AND PHOTOGRAPHED	<u>NA</u>
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337)	
CASE# <u>09-08-20-915-22</u>	<u>YES</u>
PHOTOS HAVE UST#, BLDG # DATE TIME NAME OF SSE AND DESCR WRITTEN ON BACK	<u>NA</u>
GROUNDWATER WAS ENCOUNTERED AT <u>5</u> FEET BG A SHEEN (WAS/WAS NOT) OBSERVED ON GW	<u>NA</u>
IF OVA WAS USED WAS IT CAL AND FOUND TO BE OPERATIONAL (cal data on COC)	<u>NA</u>
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	<u>NA</u>
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM 2005 August	<u>NA</u>
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7 26E-3 6 et seq	<u>NA</u>
ALL PETROL CONT SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	<u>NA</u>
THE DPW, SSE AUTHORIZED, BACKFILLING THE EXCAVATION (STONE TO 1 ABOVE GROUNDWATER) AND A BACKFILL AUTH LTR IS ATTACHED	<u>NA</u>
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	<u>NO</u>
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	<u>YES</u>
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 <sup>3</sup> ) PHOTOGRAPHS (UST EXCAVATION SAMPLING POINTS)	<u>NO</u>

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

Subsurface Evaluator (print Name) Charles Appleby Date 8-20-07  
 SIGNATURE [Signature]

8-20-09

Site 750 - J.

- Discharge called into NTPRP - Charles Appleby

732-532-2692

#2 Fuel oil

US Army

1000gal STEEL

Bldg 173

Riverside Ave

Ft Monmouth NJ

07703

Site Location:

Bldg 750  
- Nicholas Ave

UST Removal - Approx

~~Sept 2009 - 1 year~~  
Not Done today

- No impact to  
Waterway

- NO Assistance Required

Case # 09-08-200915-22.



CS.

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG # 750-J REG # NA  
 DATE 8-25-09 TOA 1230 TOD 1300  
 SSE Charles Appleby NJDEP CERT # 9974  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR Frank Accessi TVS NJDEP CERT # \_\_\_\_\_  
 WEATHER Sunny Warm

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	NA
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	NA
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	NA
THE UST WAS PLACED ONTO PLASTIC SCRAPED OFF INSPECTED FOR HOLES AND PHOTOGRAPHED	NO
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (877)927-6337)	
CASE# _____ <u>Previously Done 8-20-09</u>	
PHOTOS HAVE UST# BLDG # DATE TIME NAME OF SSE AND DESCR WRITTEN ON BACK	NA
GROUNDWATER WAS ENCOUNTERED AT <u>6.5</u> 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)	NA
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	NA
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM 2005 August	NA
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7 26E-3 6 et seq	NA
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	NO
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	NA
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	YES
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 <sup>3</sup> ) PHOTOGRAPHS (UST EXCAVATION SAMPLING POINTS)	None

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

Subsurface Evaluator (print Name) Charles Appleby Date 8-25-09

SIGNATURE [Signature]

BAK

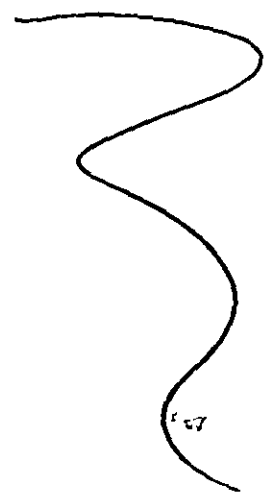


Ch. - I conducted a site visit and observed free product & absorbent pads on the groundwater in Excavation - Approx 4 Drums of oil/water were removed from the UST prior to Rilling out

- UST was removed some time in morning. Hole is contaminated - oil/water needs to be removed and soils need to be excavated

- No TUS Personnel were on site

Ch



TUS

**US ARMY, SELFM-PW-EV**  
**DAILY UST SUBSURFACE REMOVAL LOG**

BLDG # 750 REG # UST J'  
 DATE 9-2-09 TOA \_\_\_\_\_ TOD \_\_\_\_\_  
 SSE FRANK ACCORSI NJDEP CERT # 0010042  
 REMOVAL CONTRACTOR TVS Inc PWS-007  
 CLOSURE SUPERVISOR FRANK ACCORSI NJDEP CERT # \_\_\_\_\_  
 WEATHER SUNNY, 80°

ACTIVITY	YES / NO
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E G 29CFR)	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	N/A
THE UST WAS PLACED ONTO PLASTIC SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
A DISCHARGE WAS REPORTED BY THE DPW TO THE NJDEP (609-292-7172)	Y
CASE# _____	Y
PHOTOS HAVE UST# BLDG # DATE TIME NAME OF SSE AND DESCR WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT <u>6</u> FEET BG A SHEEN <u>(WAS)</u> WAS NOT) OBSERVED ON GW	Y
IF OVA WAS USED WAS IT CAL AND FOUND TO BE OPERATIONAL (cal data on COC)	Y
IF SAMPLES WERE TAKEN COC SCALED SITE MAP (VERT SOIL HORIZONS AND PLOT PLAN)	
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 1992	Y
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7 26E-3 6 et seq	Y
ALL PETROL CONT SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW SSE AUTHORIZED BACKFILLING THE EXCAVATION (STONE TO 1" ABOVE GROUNDWATER) AND A BACKFILL AUTH LTR IS ATTACHED	
ALL ENVIRONMENTAL SAMPLE POINTS WERE GPS AND LOGGED	
ADDITIONAL NOTES WERE TAKEN AND ARE RECORDED ON THE BACK OF THIS FORM	N
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 <sup>3</sup> ) 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) FRANK ACCORSI Date 9-2-09

SIGNATURE Frank Accorsi

# US ARMY, FORT MONMOUTH

## DAILY UST CLOSURE LOG

BLDG # 750 REG # UST J  
 DATE \_\_\_\_\_ TOA \_\_\_\_\_ TOD \_\_\_\_\_  
 CLOSURE TECH FRANK ACCORSI NJDEP CERT # 0010042  
 PERSONNEL ANTHONY FARGIONE, MARC TAYLOR

ACTIVITY	Y = S / N O
THE TECHNICIAN (CLOSURE CERT ) WAS ON-SITE DURING ALL CLOSURE RELATED ACTIVITIES	Y
THE SSE WAS ON-SITE DURING UST REMOVAL AND SITE SCREENING AND SAMPLING ACTIVITIES	Y
ALL ON-SITE PERSONNEL HAVE CURRENT TRAINING IAW ALL SAFETY REQ (E G 29CFR)	Y
ALL UTILITIES WERE MARKED OUT PRIOR TO ANY EXCAVATION (VISUAL CONFIRM YES/NO)	Y
HAND EXCAVATION WAS DONE WHEN EXCAVATING WITHIN 4 FT OF ANY UTILITIES	NA
ALL UST PIPING WAS BLOWN BACK AND DRAINED PRIOR TO ANY EXCAVATION WITH BACKHOE	NA
ALL UST PIPING WAS REMOVED PRIOR TO UST EXCAVATION	NA
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS CLEANED AND NO RESIDUAL LIQUIDS WERE LEFT IN THE TANK	Y
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	Y
_____ DRUMS OF WASTE WERE GENERATED AT THIS SITE TODAY (ID CARDS COMPLETED)	
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP CW EV) HWSA	
_____ GALLONS OF _____ WASTE WERE REMOVED (MANIFEST# _____)	
<u>24</u> CUBIC YARDS OF PETROL CONT SOIL WERE EXCAVATED+TRANS TO (T 80 2624)	
THE DPW WAS NOTIFIED OF ANY DISCHARGE TO THE ENVIRONMENT (WHO) <u>C APPEBY</u>	Y
ALL PETROL CONT SOILS WERE SECURED FROM THE WEATHER BY CLOSE OF BUSINESS TODAY	Y
THE DPW AUTHORIZED BACKFILLING THE EXCAVATION SSE INITIAL REQUIRED _____	
THE UST WAS TRANSPORTED TO <u>108 YARD</u> FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
ADDITIONAL NOTES WERE TAKEN AND RECORDED ON THE BACK OF THIS FORM	N
THE FOLLOWING DOCUMENTS WERE GIVEN TO THE SSE TODAY (CIRCLE EACH OR ADD ITEMS)	
SCRAP TICKET CSE PERMIT ACCIDENT REPORT _____	

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 I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment

CLOSURE TECH (PRINT NAME) FRANK ACCORSI  
 SIGNATURE Frank Accorsi DATE 9-2-09

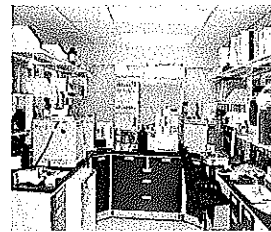
# FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

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

WET-CHEM - METALS - ORGANICS - FIELD SAMPLING

NJDEP CERTIFICATION #13461

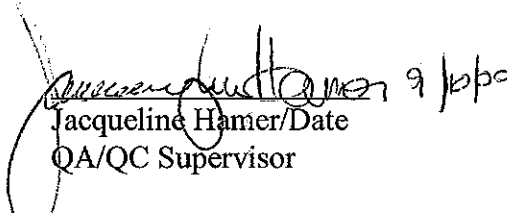


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 750 UST 'J'

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-J-1, North Wall	9036701	Soil	02-Sept-09 13:00	09/02/09
750-J-2, South Wall	9036702	Soil	02-Sept-09 13:20	09/02/09
750-J-3, East Wall	9036703	Soil	02-Sept-09 13:35	09/02/09
750-J-4, West Wall	9036704	Soil	02-Sept-09 13:50	09/02/09
750-J-5, Bottom	9036705	Soil	02-Sept-09 11:30	09/02/09
750-J, Duplicate	9036706	Soil	02-Sept-09 13:20	09/02/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

  
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**

000001

# 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 APPEBY		Project No: 09-123690		Analysis Parameters					Comments:	
Phone #: X26292		Location: Bldg. 750, OST J								
() DERA ( ) OMA (X) Other: _____		Samplers Name / Company: FRANK ACCORSI / TVS								
LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	% Solids	TPH (ppm)	TPH (H)	Remarks / Preservation Method
9403607	750-J-1, NORTH WALL	9-2-09	1300	SOIL	1	X	X	2	66.5	ICE
	750-J-2, SOUTH WALL		1320		1	X	X	2	66.5	
	750-J-3, EAST WALL		1335		1	X	X	3	66.5	
	750-J-4, WEST WALL		1350		1	X	X	5	66.5	
	750-J-5, BOTTOM		1130		1	X	X	2	77.5	
	750-J, DUPLICATE		1350		1	X	X	3	66.5	
Relinquished by (signature): <i>Frank Accorsi</i>		Date/Time: 9-2-09 1440	Received by (signature): <i>[Signature]</i>		Relinquished by (signature):		Date/Time:	Received by (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 2 wks., ( ) ASAP Verbal _____ Hrs.										
Remarks: *BNTIS ON 25% OF SAMPLES > 1000 PPM TPH, on #161455.										

000002



# **GPS COORDINATES**

000004

U.S. ARMY - FT. MONMOUTH, NJ

BUILDING 750 - UST 'J'

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

<u>POSITION/DESCRIPTION</u>	<u>Y COORDINATE (NORTHING)</u>	<u>X COORDINATE (EASTING)</u>
750J1 NORTH WALL	537974.645	617355.029
750J2 SOUTH WALL	537961.751	617363.889
750J3 EAST WALL	537974.068	617367.42
750J4 WEST WALL	537963.765	617353.758
750J5 BOTTOM	537969.84	617360.04

000005

**FIELD  
DUPLICATE  
IDENTIFICATION**

000006

## Field Duplicate Identification

**Lab ID:** 90367

**Site:** Bldg. 750  
UST 'J'

The Field Duplicate was performed on 750-J-4, West Wall (Lab ID 9036704).

000007



**METHOD  
SUMMARY**

000008

# 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.

000009

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

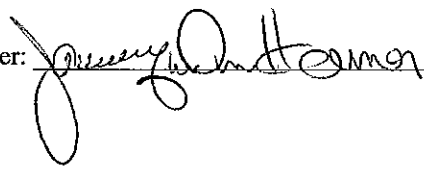
000010

**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: 9/9/09

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000012

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 2-Sep-09  
**Date Extracted:** 3-Sep-09  
**Extraction Method:** Shake  
**Analysis Complete:** 8-Sep-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB09030901	MB09030901	1.00	15.11	100.00	23	331	0.00	
LCS09030901	LCS09030901	1.00	15.08	100.00	23	332	760.65	
9036701	750-J-1 NORTH WALL	1.00	15.05	89.0	26	373	0.00	
9036702	750-J-2 SOUTH WALL	1.00	15.06	82.9	28	400	0.00	
9036703	750-J-3 EAST WALL	1.00	15.22	81.8	28	402	0.00	
9036704	750-J-4 WEST WALL	1.00	15.07	84.0	28	395	0.00	
9036705	750-J-5 BOTTOM	1.00	15.17	81.0	28	407	0.00	
9036706	750-J DUPLICATE	1.00	15.06	83.6	28	397	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

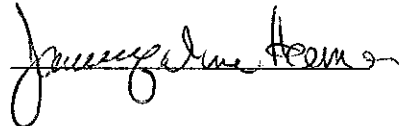
The following Laboratory Deliverables Checklist and Non-Conformance Summary shall be included in the data submission. All deviations from the accepted methodology and procedures, of performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The Technical Requirements 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. | <u>✓</u> |
| 2.  | Table of Contents submitted.   | <u>✓</u> |
| 3.  | Summary Sheets listing analytical results for all targeted and non-targeted compounds submitted.           | <u>✓</u> |
| 4.  | Document paginated and legible.  | <u>✓</u> |
| 5.  | Chain of Custody submitted.  | <u>✓</u> |
| 6.  | Samples submitted to lab within 48 hours of sample collection.   | <u>✓</u> |
| 7.  | Methodology Summary submitted.   | <u>✓</u> |
| 8.  | Laboratory Chronicle and Holding Time Check submitted.   | <u>✓</u> |
| 9.  | Results submitted on a dry weight basis.   | <u>✓</u> |
| 10. | Method Detection Limits submitted.   | <u>✓</u> |
| 11. | Lab certified by NJDEP for parameters of appropriate category of parameters or a member of the USEPA CLP.  | <u>✓</u> |

Laboratory Manager or Environmental Consultant's Signature

Date: 9/10/07



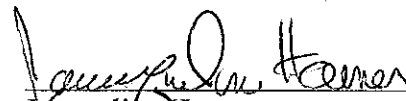
Laboratory Certification # 13461

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

000041

## 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.

  
Jacqueline Hamer  
QA/QC Supervisor

000042



ATTACHMENT N

Anomaly P51\_1 File Review and Analyses

UNDERGROUND STORAGE TANK FILE REVIEW  
 FORT MONMOUTH BRAC 05 FACILITY  
 OCEANPORT, NEW JERSEY

Date: September 1, 2016 Review Performed By: Kent Friesen, Parsons

Site ID: **Anomaly P51\_1** Registration ID: *None*

Recommended Status of Site: **NFA**

Based on the file review, were there indications of a contaminant release?  Yes  No

NJDEP Release No. or DICAR (If applicable): None

Did NJDEP approve No Further Action (NFA) for this site?  Yes  No  Not Applicable

Tank Description:  Steel  Fiberglass Size: \_\_\_\_\_ Contents: \_\_\_\_\_

Residential  Commercial/Industrial **No tank found**

Tank Removed?  Yes  No If "yes," removal date: \_\_\_\_\_

Were closure soil samples taken?  Yes  No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH


Were closure soil sample results less than comparison criteria?  Yes  No

**Brief Narrative**

Anomaly P51\_1 was initially identified in the 2008 Environmental Condition of Property (ECP) Site Investigation (SI) Report, and was one of 9 geophysical anomalies located south of Echo Avenue within ECP Parcel 51 that were suspected USTs.

At the anomaly P51\_1 location, soil excavation was performed but there was no tank found. No evidence of fuel oil or other contamination was observed. One soil sample (750-P51-1) was collected from 6 to 6.5 feet below ground surface in the excavation on 9/3/09, and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). TPH in this soil sample was not detected (ND). The results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Therefore, there is no indication of a release to soil or groundwater at Anomaly P51\_1, and no additional sampling or remedial action was warranted.

Recommendations (if any): Request NFA from NJDEP

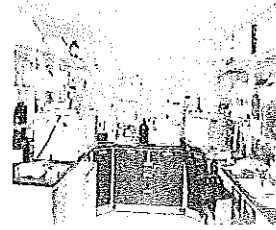
Signed: 

Kent A. Friesen, Parsons

# 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

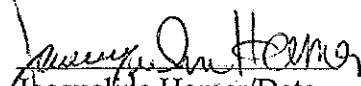


ANALYTICAL DATA REPORT  
Fort Monmouth Environmental Laboratory  
ENVIRONMENTAL DIVISION  
Fort Monmouth, New Jersey  
PROJECT: 09-123690

### Bldg. 751 Anomaly P51-1

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
750-P51-1	9036801	Soil	03-Sept-09 11:00	09/03/09

ANALYSIS:  
FORT MONMOUTH ENVIRONMENTAL LAB  
TPHC, % SOLIDS

 9/16/09  
Jacqueline Hamer/Date  
QA/QC Supervisor

## Table of Contents

<b>Section</b>	<b>Page No.</b>
Chain of Custody	1-3
GPS Coordinates	4-5
Method Summary	6-7
Conformance/Non-Conformance Summary	8-9
Total Petroleum Hydrocarbons	10
Result Summary	11
Calibration Summary	12-21
Surrogate Results Summary	22
MS/MSD Results Summary	23
LCS Results Summary	24
Raw Sample Data	25-28
Laboratory Deliverable Checklist	29
Laboratory Authentication Statement	30

**CHAIN  
OF  
CUSTODY**

000001

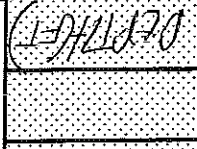
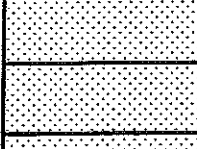
# Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703

Tel (732)532-4359 Fax (732)532-6263 EMail:jaqueline.hamer@us.army.mil

NJDEP Certification #13461

## Chain of Custody Record

Customer: <b>CHUCK APPEBY</b>		Project No: <b>09-123690</b>		Analysis Parameters		Comments:	
Phone #: <b>826292</b>		Location: <b>BLDG. 750, ANOMOLY P51-1</b>					
() DERA ( ) OMA (X) Other: _____		Sample Name / Company: <b>FRANK ACCORSI / TVS</b>					
LIMS/Work Order #		Date		Sample Type		Remarks / Preservation Method	
<b>90318801 757-P51-1</b>		<b>9-3-09 1100</b>		<b>SOIL 1</b>		<b>ICE</b>	
Relinquished by (signature): <i>Frank Accorsi</i>		Date/Time: <b>9-3-09 1115</b>		Relinquished by (signature):		Date/Time:	
Relinquished by (signature):		Date/Time:		Relinquished by (signature):		Date/Time:	
Report Type: ( ) Full, (X) Reduced, ( ) Standard, ( ) Screen / non-certified, ( ) EDD		Turnaround time: ( ) Standard 3 wks, (X) Rush 1 Wk., ( ) ASAP Verbal _____ Hrs.		Comments:			

000002

## SAMPLE RECEIPT FORM

Date Received: 9-3-09

Work Order ID#: 90308

Site/Proj. Name: Oldg. 750 / M.P.

Cooler Temp (°C): N/A

Received By: J. Verpura  
(Print name)

Sign: [Signature]

**Check the appropriate box**

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

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

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

# **GPS COORDINATES**

000004



U.S. ARMY - FT. MONMOUTH, NJ

PARCEL 51-ANOMOLY 51-1

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINT

POSITION/DESCRIPTION

Y COORDINATE (NORTHING)

X COORDINATE (EASTING)

EXCAVATION BOTTOM

537902.712

617157.741

000005

# **METHOD SUMMARY**

000006

# 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.

000007

**CONFORMANCE/  
NON-CONFORMANCE  
SUMMARY**

000008

# TPHC CONFORMANCE/NON-CONFORMANCE SUMMARY REPORT

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

Additional comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Laboratory Manager: Jonathan Harmon Date: 9/10/09

000009

**TOTAL  
PETROLEUM  
HYDROCARBONS**

000010

**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 #:** 09-123690  
**Location:** BLDG. 750 MOTOR POOL  
**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:** 3-Sep-09  
**Date Extracted:** 3-Sep-09  
**Extraction Method:** Shake  
**Analysis Complete:** 8-Sep-09  
**Analyst:** Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Qualifiers
MB09030901	MB09030901	1.00	15.11	100.00	23	331	0.00	
LCS09030901	LCS09030901	1.00	15.08	100.00	23	332	760.65	
9036801	750-P51-1 NORTH WALL	1.00	15.19	84.1	27	391	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*

000011

## LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

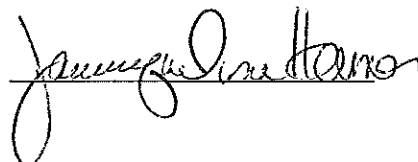
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It is recommended that the analytical results summary sheets listing all targeted and non-targeted compounds with the method detection limits, practical quantitation limits, and the laboratory and/or sample numbers be included in one section of the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

Date: 9/10/09



Laboratory Certification # 13461

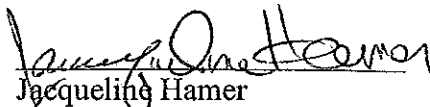
\*Refer to NJAC 7:26E – Appendix A, Section IV – Reduced Data Deliverables – Non-USEPA/CLP Methods for further guidance.

000029



## 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.

  
Jacqueling Hamer  
QA/QC Supervisor

000030

## ATTACHMENT O

### Building 750 Motor Pool Area Groundwater Monitoring Supporting Documents

#### Contents:

- Enclosure 1 – Map showing monitoring wells within “Building 750 Motor Pool Area” and vicinity
- Enclosure 2 – Table with monitor well construction for wells within the 750 Motor Pool Area
- Enclosure 3 – Bldg. 750, Main Post, Fort Monmouth, New Jersey (showing estimated direction of groundwater flow).
- Enclosure 4 – Shallow Groundwater Elevation Map from the Brinkerhoff (2010) Modflow Groundwater Modeling Report
- Enclosure 5 – Monitor Well Records for:
  1. 750MW01
  2. 750MW02
  3. 750MW03
  4. 750MW04
  5. 750MW05
  6. 750MW06
  7. 750MW07
  8. 750MW08

Analytical Data Reports for groundwater are provided in attachments for specific USTs within the Building 750 Motor Pool Area

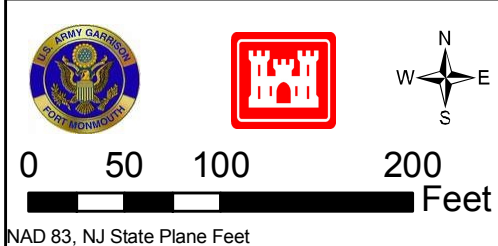
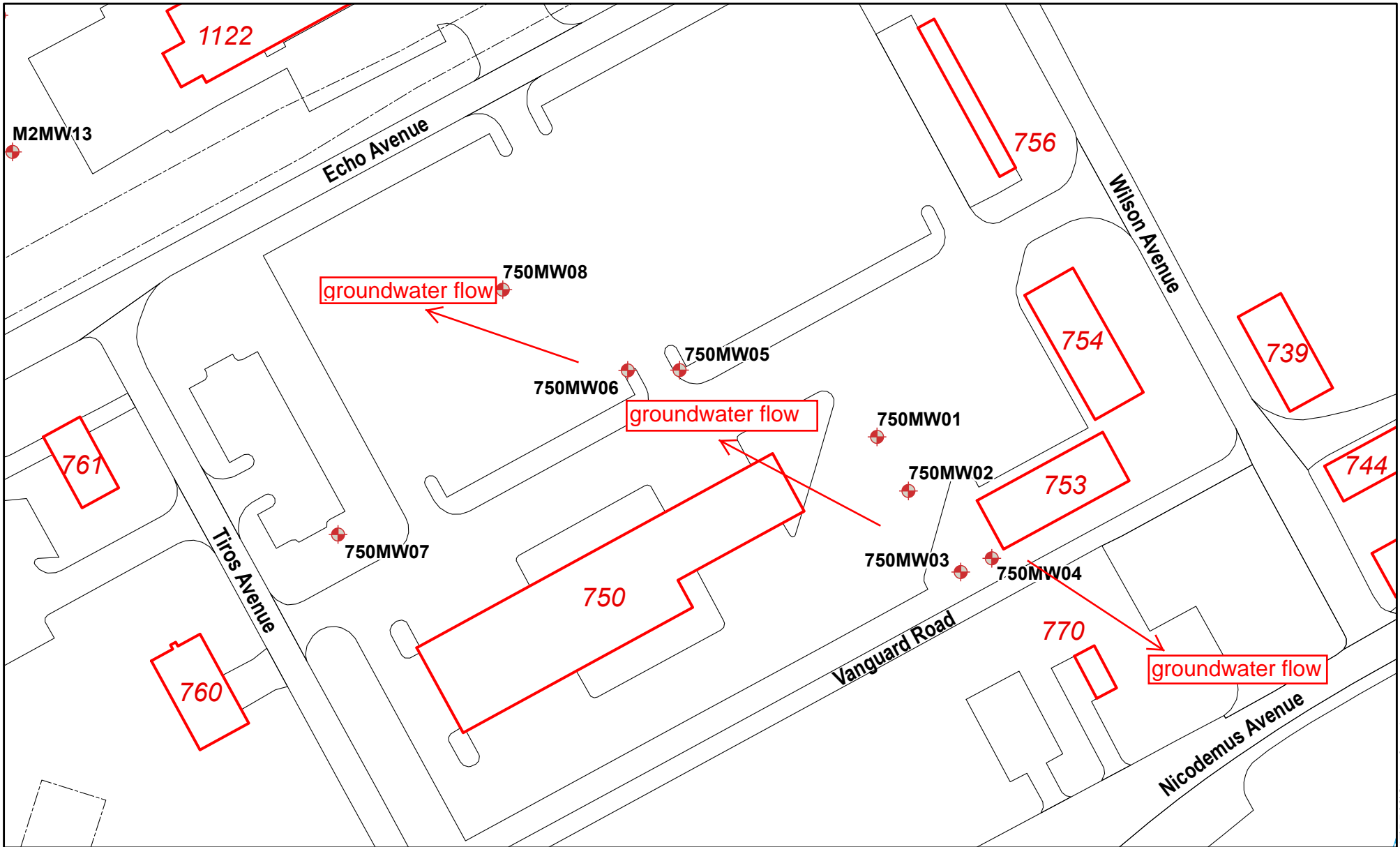


# Enclosure 2

## Non-Installation Restoration Program (Non-IRP)

### Main Post

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Installation Date	Depth	Casing Length	Screen Length	Top of Casing	Slot Size	Comments
					feet				inches	
<b>Bldg. 750</b>										Non-IRP, Former UST Site
750MW01	29-28992	537932.960	617839.829	10/30/1992	15.00	5.00	10.00	16.77	0.02	Surveyed 7/23/09
750MW02	29-28993	537892.603	617863.274	10/30/1992	15.00	5.00	10.00	16.82	0.02	Surveyed 7/23/09
750MW03	29-28994	537832.089	617902.314	11/2/1992	15.00	5.00	10.00	21.04	0.02	Surveyed 7/23/09
750MW04	29-28995	537842.326	617925.502	11/3/1992	15.00	5.00	10.00	20.79	0.02	Surveyed 7/23/09
750MW05	200908988	537982.804	617692.391	10/15/2009	20.00	5.00	15.00	20.20	0.01	Surveyed 1/19/10, well cap mislabeled as MW01A
750MW06	200908989	537982.607	617653.660	10/14/2009	20.00	5.00	15.00	20.46	0.01	Surveyed 1/19/10, well cap mislabeled as MW02A
750MW07	200908990	537860.082	617437.379	10/14/2009	20.00	5.00	15.00	20.99	0.01	Surveyed 1/19/10, well cap mislabeled as MW03A
750MW08	200908991	538042.847	617560.396	10/16/2009	20.00	5.00	15.00	17.36	0.01	Surveyed 1/19/10



**Bldg 750**  
**Main Post**  
**Fort Monmouth, New Jersey**

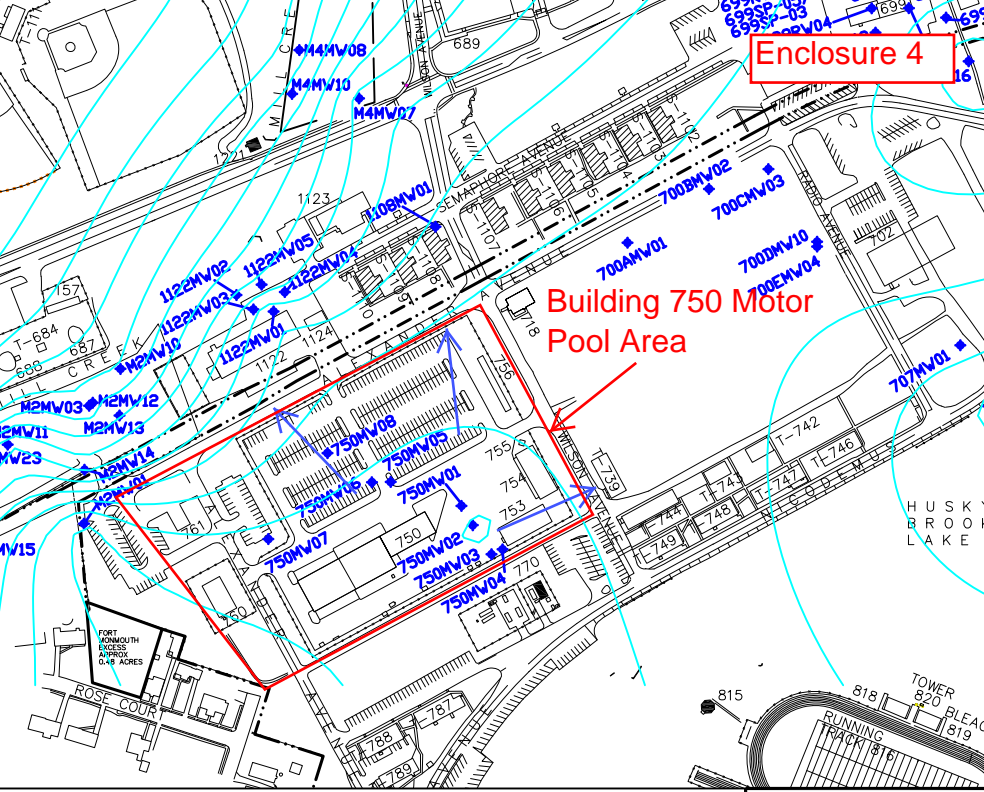
Map Created by:  
 Fort Monmouth Installation GIO, Environmental Division  
 Fort Monmouth, New Jersey  
 Date: March 22, 2010

Legend					
	Monitoring Well - Abandoned		Sparge Point		Existing Structure
	Monitoring Well - Active		Vapor Point		Demolished Structure
	Recovery Well		Irrigation Well		Landfill Area
	Soil Vapor Extraction Point		Roadway & Parking		Water Body
			Post Boundary		

All features in the legend may not appear in the map.

Enclosure 4

Building 750 Motor Pool Area



DWR 138 M  
12/91

New Jersey Department of Environmental Protection and Energy  
Bureau of Water Allocation

## MONITORING WELL RECORD

Well Permit No. 29 28982  
Atlas Sheet Coordinates 29 14 441

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address 513 MOTOR POOL, BLDG. 75C  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 750MW01  
County \_\_\_\_\_ Municipality OCEANPORT BOBO Lot No. 1 Block No. 3  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 10/30/92  
Regulatory Program Requiring Well UST Case I.D. # \_\_\_\_\_

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. Army Tele. # 908-532-6224

### WELL CONSTRUCTION

Total depth drilled 15' ft.

Well finished to 15' ft.

Borehole diameter:

Top 12" in.

Bottom 12" in.

Well was finished:  above grade

flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?

Yes  No

Static water level after drilling 7'6" ft.

Water level was measured using WATER TUBE

Well was developed for 20 min hours at 5 gpm

Method of development GAS PUMP

Was permanent pumping equipment installed?  Yes  No

Pump capacity \_\_\_\_\_ gpm

Pump type: \_\_\_\_\_

Drilling Method \_\_\_\_\_

Drilling Fluid \_\_\_\_\_ Type of Rig B61 AUGER

Name of Driller CLAUDE BRITTON

Health and Safety Plan submitted?  Yes  No

Level of Protection used on site (circle one) (None) D C B A

N.J. License No. 1098

Name of Drilling Company GARDEN STATE DRILLING COMPANY

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6"	5'	4"	PVC F.I.C.
Screen (Note slot size)	5'	15'	4"	PVC F.I.C.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	BONSAL
Method of Grouting				

### GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0" - 8' - GW  
8' - 13' - SW  
13' - 15' - CL GRW  
WATER AT 7'6"

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature

Claude Britton

Date 10-31-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

**MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION**

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

**LAND SURVEYOR'S CERTIFICATION**

Well Permit Number:

(This number must be permanently affixed to the well casing.) 29-28992

Owners Well Number (As shown on application or plans): 0750MW01

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 02' 57.1" Latitude: 40° 18' 33.8"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 537,930 East 617,840

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 16.77'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)

NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201; Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of Intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

**AUTHENTICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

  
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

July 23, 2009  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

Chester, Ploussas, Lisowsky Partnership, LLC  
100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER



### MONITORING WELL RECORD

Well Permit No. 29 28993  
Atlas Sheet Coordinates 29 14 441

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address 513 MOTOR POOL, BLDG. 75C  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 750MW02  
County \_\_\_\_\_ Municipality OCEANPORT BORO Lot No. 1 Block No. 3  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 10 30 92  
Regulatory Program Requiring Well UST Case I.D. # \_\_\_\_\_  
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) US ARMY Tele. # 908-532-6224

#### WELL CONSTRUCTION

Total depth drilled 15' ft.  
Well finished to 15' ft.

Borehole diameter:  
Top 12" in.  
Bottom 12" in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

Static water level after drilling 7'6" ft.  
Water level was measured using WATER TAP  
Well was developed for 20 min hours at 5 gpm  
Method of development GAS PUMP  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity \_\_\_\_\_ gpm  
Pump type: \_\_\_\_\_

Drilling Method \_\_\_\_\_  
Drilling Fluid \_\_\_\_\_ Type of Rig B61 AUGER  
Name of Driller CLAUDE BRITTON  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None D C B A  
N.J. License No. 1098  
Name of Drilling Company GARDEN STATE DRILLING COMPANY

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6'	5'	4"	PVC F.J.
Screen (Note slot size)	5'	15'	4"	PVC F.J.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	BENSOL
Method of Grouting				

#### GEOLOGIC LOG (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-8' GW  
8'-13' SW  
13'-15' CL GRW  
WATER AT 7'6"

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Charles Britton Date 10-31-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

**MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION**

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

**LAND SURVEYOR'S CERTIFICATION**

Well Permit Number:

(This number must be permanently affixed to the well casing.) 29-28983

Owners Well Number (As shown on application or plans): 0750MW02

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 02' 56.8" Latitude: 40° 18' 33.4"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 537.890 East 617.870

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 16.82'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)

NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201; Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

**AUTHENTICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

  
\_\_\_\_\_  
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

July 23, 2009  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

Chester, Ploussas, Lisowsky Partnership, LLC  
100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER

### MONITORING WELL RECORD

Well Permit No. 29 28894  
Atlas Sheet Coordinates 29 14 441

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address 519 MOTOR POOL, BLDG. 75C  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 750MW03  
County \_\_\_\_\_ Municipality OCEANPORT BORO Lot No. 1 Block No. 3  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Category) MONITORING Date well completed 11, 2, 92  
Regulatory Program Requiring Well UST Case I.D. # \_\_\_\_\_  
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) US ARMY Tele. # 908-532-6224

#### WELL CONSTRUCTION

Total depth drilled 15' ft.

W: " finished to 15' ft.

Borehole diameter  
Top 12" in.

Bottom 12" in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Was steel protective casing installed?  Yes  No

Static water level after drilling 7' 6" ft.

Water level was measured using WATER TAP

Well was developed for 20 min hours at 5 gpm

Method of development CAS PUMP

Was permanent pumping equipment installed?  Yes  No

Pump capacity \_\_\_\_\_ gpm

Pump type: \_\_\_\_\_

Drilling Method \_\_\_\_\_

Drilling Fluid \_\_\_\_\_ Type of Rig R/L mobile

Name of Driller CLAUDE BRITAN

Health and Safety Plan submitted?  Yes  No

Level of Protection used on site (circle one) D C B A

N.J. License No. 1078

Name of Drilling Company GARDEN STATE DRILLING COMPANY

I certify that I have drilled the above-referenced well in accordance with all well permit requirements and all applicable State rules and regulations.

Driller's Signature Claude Britan Date 11-4-92

COPIES: White & Green - DEPE Canary - Driller Pink - Owner Goldenrod - Health Dept.

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6'	5'	4"	PVC. F. J.
Screen (Note slot size)	5'	15'	4"	PVC. F. J.
Tail Piece				
Gravel Pack	3' 6"	15'	12"	SAND
Annular Seal/Grout	6"	3' 1"	12"	BLIND SEAL
Method of Grouting				

#### GEOLOGIC LOG

(Copies of other geologic logs and/or geophysical logs should be attached.)

0' - 3' - GW  
 3' - 7' - CL  
 7' - 13' - SM -  
 13' - 15' - CL GRBW  
 WATER AT 7' 6"



**MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION**

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

**LAND SURVEYOR'S CERTIFICATION**

Well Permit Number:

(This number must be permanently affixed to the well casing.) 29-28994

Owners Well Number (As shown on application or plans): 0750MW03

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 02' 56.3" Latitude: 40° 18' 32.8"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 537,830 East 617,910

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 21.04'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)

NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201; Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

**AUTHENTICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

  
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

July 23, 2009  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

Chester, Ploussas, Lisowsky Partnership, LLC  
100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER

# MONITORING WELL RECORD

Well Permit No. 29  
Atlas Sheet Coordinates 23 14 41

OWNER IDENTIFICATION - Owner U.S. ARMY  
Address U.S. ARMY HALL, BLDG. 750  
City FORT MONMOUTH State NJ Zip Code \_\_\_\_\_

WELL LOCATION - If not the same as owner please give address. Owner's Well No. 750MW04  
County \_\_\_\_\_ Municipality CAMPBELL TOWNSHIP Lot No. \_\_\_\_\_ Block No. \_\_\_\_\_  
Address \_\_\_\_\_

TYPE OF WELL (as per Well Permit Category) WATER Date well completed 11/3/92  
Regulatory Program Requiring Well EST Case I.D. # \_\_\_\_\_  
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) U.S. ARMY Tele. # 908-522-6

### WELL CONSTRUCTION

Total depth drilled 15' ft.  
Well finished to 15' ft.  
Borehole diameter:  
Top 12" in.  
Bottom 12" in.  
Well was finished:  above grade  
 flush mounted

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing				
Outer Casing (Not Protective Casing)	6"	5'	4"	P.V.C. F.
Screen (Note slot size)	5'	15'	4"	P.V.C. F.
Tail Piece				
Gravel Pack	3'6"	15'	12"	SAND
Annular Seal/Grout	6"	3'6"	12"	RESINAC
Method of Grouting				

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.  
Was steel protective casing installed?  Yes  No

Static water level after drilling 7'6" ft.  
Water level was measured using WATER TAP  
Well was developed for 20 min hours at 5 gpm  
Method of development GAS PUMP  
Was permanent pumping equipment installed?  Yes  No  
Pump capacity \_\_\_\_\_ gpm  
Pump type: \_\_\_\_\_  
Drilling Method AUGER  
Drilling Fluid \_\_\_\_\_ Type of Rig 1361 Mobile  
Name of Driller \_\_\_\_\_  
Health and Safety Plan submitted?  Yes  No  
Level of Protection used on site (circle one) None D C B A  
Permit No. 1098  
Company GREEN STATE DRILLING COMPANY

**GEOLOGIC LOG** (Copies of other geologic logs and/or geophysical logs should be attached.)

0'-3' GW  
3'-7' CL  
7'-13' SM  
13'-15' CL  
WATER AT 7'6"

I hereby certify that the above-referenced well in accordance with all well permit requirements and all applicable regulations.  
Driller's Signature [Signature] Date 11-4-92

**MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION**

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

**LAND SURVEYOR'S CERTIFICATION**

Well Permit Number:  
(This number must be permanently affixed to the well casing.) 29-28995

Owners Well Number (As shown on application or plans): 0750MW04

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 02' 56.0" Latitude: 40° 18' 32.9"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 537,840 East 617,920

Elevation of Top of Inner Casing (cap off) at  
reference mark (nearest 0.01'): 20.79'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)

NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201;  
Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of  
intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

**AUTHENTICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

July 23, 2009  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

Chester, Ploussas, Lisowsky Partnership, LLC  
100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER

4408

**MONITORING WELL RECORD**

OWNER IDENTIFICATION U.S. ARMY

Address 173 RIVERSIDE AVENUE

City Fort Monmouth

State New Jersey

Zip Code 07703

WELL LOCATION - If not the same as owner please give address

Owner's Well No. MW-05 750MW05

County Monmouth Municipality Eatontown Boro

Lot No. 1 Block No. 1

Address WILSON AVENUE MW-05

WELL USE Monitoring

DATE WELL STARTED 10/14/09

DATE WELL COMPLETED 10/14/09

**WELL CONSTRUCTION**

Total Depth Drilled 20 ft.

Finished Well Depth 20 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height  
(stick up) above land surface 1/2 ft.

Steel protective casing installed?

Yes  No

Static Water Level after drilling 9 ft.

Water Level was Measured Using TAPE

Well was developed for 1 hours

at 1 gpm

Method of development SUBMERSIBLE

Pump Capacity 3 gpm

Pump Type WHEELER

Drilling Fluid N/A Type of Rig DIEDRICH D-120

Health and Safety Plan Submitted?  Yes  No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	5	4	PVC	SCH 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used <u>.01</u> )	5	20	4	PVC	SCH 40
Blank Casings (No. Used )					
Tail Piece					
Gravel Pack	3	20	10	#1 & #00	600/lbs
Grout	0	3	10	Neat Cement Bentonite	100 lbs

Grouting Method GRAVITY PLACEMENT

Drilling Method HSA

**GEOLOGIC LOG**

Note each depth where water was encountered in consolidated formations

0'
GRN Fm SAND, TR. SILT
3'
GRN SILTY SAND
18'
BLK SILTY SAND
20'

**AS-BUILT WELL LOCATION  
(NAD 83 HORIZONTAL DATUM)**

NJ STATE PLANE COORDINATE IN US SURVEY FEET  
NORTHING: 537858 EASTING: 617439

OR

LATITUDE: 0 ' 0 " LONGITUDE: 0 ' 0 "

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company TABASCO DRILLING CORP

Well Driller (Print) WILLIAM SWINN

Driller's Signature W.S. Swinn

Registration No. MD1289 Date 10 123 09

ORIGINAL: DEP ✓

COPIES: DRILLER

OWNER

HEALTH DEPARTMENT



**U.S. ARMY  
FORT MONMOUTH  
SELFM-PW-EV**

**LOG OF BORING 750MW05**

(Page 1 of 1)

U.S. Army  
SELFM-PW-EV  
JOSEPH FALLON  
BUILDING 750  
GROUNDWATER INVESTIGATION

NJDEP Permit # : 200908988  
NJDEP Case # : -  
Start Date : 6/23/09  
Completion Date : 6/23/09

Northing : N 538100  
Easting : E 618268  
Logged By : Tabaso Drilling Corp  
Driller : -

Depth in Feet	Well: MW05 Elevation: -	DESCRIPTION	USCS	GRAPHIC	Samples	Blow Count	Well Construction Information
0		Topsoil	CO				Well Construction Hole Diameter : - Drill Method : Hollow Stem Auger Sampling Method : - Well Casing Material : PVC Diameter : 4 inch Joints : Threaded Length : 7 feet Well Screen Material : PVC Diameter : 4 inch Joints : Threaded Opening : 0.010 inch Length : 15 feet Sand Pack : - Annulus Seal : -
1		Green/olive soils, medium SAND with small cobbles and pebbles	SW				
2		Green medium to fine silty SANDS with small pebbles	SM				
3							Stick up: - Water level: 8.75 feet
4							
5							
6							
7							
8							
9							
10							
11							
12		Fine green/olive SANDS with traces of sandy clay	SM				
13							
14							
15							
16							
17							
18							
19							
20							

01-25-2010 L:\Installation Restoration Program Management\RP Sites\707\_740\_750MW Information\Well Logs (Electronic)\750MW05.BOR



MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

**LAND SURVEYOR'S CERTIFICATION**

Well Permit Number: 200908988  
(This number must be permanently affixed to the well casing.)

Owners Well Number (As shown on application or plans): 750 A

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 02' 59.0" Latitude: 40° 18' 34.3"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 537,980 East 617,690

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 20.20'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)  
NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201; Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

**AUTHENTICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

  
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

January 19, 2010  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

Chester, Ploussas, Lisowsky Partnership, LLC  
100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER

4406

**MONITORING WELL RECORD**

OWNER IDENTIFICATION U.S. ARMY

Address 173 RIVERSIDE AVENUE

City Fort Monmouth

State New Jersey

Zip Code 07703

WELL LOCATION - If not the same as owner please give address

Owner's Well No. MW-06 750MW06

County Monmouth Municipality Eatontown Boro

Lot No. 1 Block No. 1

Address WILSON AVENUE MW-06

WELL USE Monitoring

DATE WELL STARTED 10/14/09

DATE WELL COMPLETED 10/14/09

**WELL CONSTRUCTION**

Total Depth Drilled 20 ft.

Finished Well Depth 20 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished:  above grade

flush mounted

If finished above grade, casing height (stick up) above land surface 1/2 ft.

Steel protective casing installed?

Yes  No

Static Water Level after drilling 9 ft.

Water Level was Measured Using TAPE

Well was developed for 1 hours

at 1 gpm

Method of development SUBMERSIBLE

Pump Capacity 3 gpm

Pump Type WHALEN

Drilling Fluid N/A Type of Rig DIEDRICH D-120

Health and Safety Plan Submitted?  Yes  No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	5	4	PVC	SCN.40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used <u>01</u> )	5	20	4	PVC	SCN.40
Blank Casings (No. Used )					
Tail Piece					
Gravel Pack	3	20	10	#12#20	600/lbs
Grout	0	3	10	Neat Cement Bentonite	100 lbs

Grouting Method GRAVITY PLACEMENT

Drilling Method HSA

**GEOLOGIC LOG**

Note each depth where water was encountered in consolidated formations

0
BKN F-M SAND TR. SILT
3'
GRN SILTY SAND
18'
BLACK SILTY SAND
20'

**AS-BUILT WELL LOCATION  
(NAD 83 HORIZONTAL DATUM)**

NJ STATE PLANE COORDINATE IN US SURVEY FEET  
NORTHING: 537980 EASTING: 617655

OR

LATITUDE: 0 ' 0 " LONGITUDE: 0 ' 0 "

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company TABASCO DRILLING CORP

Well Driller (Print) WILLIAM SWINN

Driller's Signature W.S. Swinn

Registration No. MD1289 Date 10 23 09

ORIGINAL: DEP ✓

COPIES: DRILLER

OWNER

HEALTH DEPARTMENT



**U.S. ARMY  
FORT MONMOUTH  
SELFM-PW-EV**

**LOG OF BORING 750MW06**

(Page 1 of 1)

U.S. Army  
SELFM-PW-EV  
JOSEPH FALLON  
BUILDING 750  
GROUNDWATER INVESTIGATION

NJDEP Permit # : 200908989  
NJDEP Case # : -  
Start Date : 6/23/09  
Completion Date : 6/23/09

Northing : N 538141  
Easting : E 618372  
Logged By : Tabaso Drilling Corp  
Driller : -

Depth in Feet	Well: MW06 Elevation: -	DESCRIPTION	USCS	GRAPHIC	Samples	Blow Count	Well Construction Information
0		Topsoil	CO				Well Construction Hole Diameter : - Drill Method : Hollow Stem Auger Sampling Method : - Well Casing Material : PVC Diameter : 4 inch Joints : Threaded Length : 7 feet Well Screen Material : PVC Diameter : 4 inch Joints : Threaded Opening : 0.010 inch Length : 15 feet Sand Pack : - Annulus Seal : -
1		(Green to olive) Medium to fine silty SANDS					
2			SM				
3							Stick up: - Water level: 8.75 feet
4							
5			SM				
6							
7							
8			SM				
9		Green medium to fine SILTS and SANDS with traces of sandy clays					
10							
11			SM				
12							
13							
14			SM				
15		Green medium to fine SILTS and SANDS with traces of sandy clays					
16							
17			SM				
18							
19							
20			SM				

01-25-2010 L:\Installation Restoration Program Management\RP Sites\707\_740\_750\MW Information\Well Logs (Electronic)\750MW06.BOR

MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

**LAND SURVEYOR'S CERTIFICATION**

Well Permit Number:  
(This number must be permanently affixed to the well casing.) 200908989

Owners Well Number (As shown on application or plans): 750 B

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 02' 59.5" Latitude: 40° 18' 34.3"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 537,980 East 617,660

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 20.46'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)  
NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201; Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

**AUTHENTICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

  
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

January 19, 2010  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

Chester, Ploussas, Lisowsky Partnership, LLC  
100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER

4408

**MONITORING WELL RECORD**

Atlas Sheet Coordinates

2913683

OWNER IDENTIFICATION U.S. ARMY

Address 173 RIVERSIDE AVENUE

City Fort Monmouth State New Jersey Zip Code 07703

WELL LOCATION - If not the same as owner please give address

Owner's Well No. MW-07 750MW07

County Monmouth Municipality Eatontown Boro Lot No. 1 Block No. 1

Address WILSON AVENUE MW-07

WELL USE Monitoring

DATE WELL STARTED 10/15/09

DATE WELL COMPLETED 10/15/09

WELL CONSTRUCTION

Total Depth Drilled 20 ft.

Finished Well Depth 20 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface \_\_\_\_\_ ft.

Steel protective casing installed?

Yes  No

Static Water Level after drilling 9 ft.

Water Level was Measured Using TAPE

Well was developed for 1 hours

at 1 gpm

Method of development SUBMERSIBLE

Pump Capacity 3 gpm

Pump Type WHALE

Drilling Fluid N/A Type of Rig DIORIG D-120

Health and Safety Plan Submitted?  Yes  No

Level of Protection used on site (circle one) None (D) C B A

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	5	4	PVC	SCA-40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used <u>01</u> )	5	20	4	PVC	SCA-40
Blank Casings (No. Used )					
Tail Piece					
Gravel Pack	3	20	10	#10-#20	600lbs
Grout	0	3	10	Neat Cement Bentonite	100 lbs

Grouting Method GRAVITY PLACEMENT

Drilling Method HSA

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0	BEN F.M SAND, TR-SILT
3'	BRN SILTY SAND
18'	BLK SILTY SAND
20'	

AS-BUILT WELL LOCATION  
(NAD 83 HORIZONTAL DATUM)

NJ STATE PLANE COORDINATE IN US SURVEY FEET  
NORTHING: 537980 EASTING: 617694

OR

LATITUDE: 0 ' 0 " LONGITUDE: 0 ' 0 "

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company TABASCO DRILLING CORP

Well Driller (Print) WILLIAM SWINN

Driller's Signature [Signature]

Registration No. MD1289 Date 10/23/09

ORIGINAL: DEP ✓

COPIES: DRILLER

OWNER

HEALTH DEPARTMENT



**U.S. ARMY  
FORT MONMOUTH  
SELFM-PW-EV**

**LOG OF BORING 750MW07**

(Page 1 of 1)

U.S. Army  
SELFM-PW-EV  
JOSEPH FALLON  
BUILDING 750  
GROUNDWATER INVESTIGATION

NJDEP Permit # : 200908990  
NJDEP Case # : -  
Start Date : 6/23/09  
Completion Date : 6/23/09

Northing : N 538185  
Easting : E 618457  
Logged By : Tabaso Drilling Corp  
Driller : -

Depth in Feet	Well: MW07 Elevation: -	DESCRIPTION	USCS	GRAPHIC	Samples	Blow Count	Well Construction Information
0		Topsoil	CO				Well Construction Hole Diameter : - Drill Method : Hollow Stem Auger Sampling Method : - Well Casing Material : PVC Diameter : 4 inch Joints : Threaded Length : 7 feet Well Screen Material : PVC Diameter : 4 inch Joints : Threaded Opening : 0.010 inch Length : 15 feet Sand Pack : - Annulus Seal : -
1		Medium to fine SAND with some pebbles	SW				
2							Stick up: - Water level: 7.5 feet
3		Wet green CLAY	CL				
4		Wet sandy green CLAY, no free flowing water, but water encountered at 7.5 feet	CL				
5							
6							
7							
8							
9							
10							
11		Wet sandy CLAY, green very plastic	CL				
12							
13							
14							
15							
16							
17							
18							
19							
20							

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MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

LAND SURVEYOR'S CERTIFICATION

Well Permit Number:  
(This number must be permanently affixed to the well casing.) 2009089890

Owners Well Number (As shown on application or plans): 750 C

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 03' 02.3" Latitude: 40° 18' 33.1"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 537,860 East 617,440

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 20.99'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)  
NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201; Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

AUTHENTICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

  
PROFESSIONAL LAND SURVEYOR'S SIGNATURE

January 19, 2010  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

Chester, Ploussas, Lisowsky Partnership, LLC  
100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER

4408

**MONITORING WELL RECORD**

Atlas Sheet Coordinates  
2913683

OWNER IDENTIFICATION U.S. ARMY

Address 173 RIVERSIDE AVENUE

City Fort Monmouth State New Jersey Zip Code 07703

WELL LOCATION - If not the same as owner please give address Owner's Well No. MW-08 750MW08

County Monmouth Municipality Eatontown Boro Lot No. 1 Block No. 1

Address WILSON AVENUE MW-08

WELL USE Monitoring

DATE WELL STARTED 10/16/09

DATE WELL COMPLETED 10/16/09

**WELL CONSTRUCTION**

Total Depth Drilled 20 ft.

Finished Well Depth 20 ft.

Borehole Diameter:

Top 10 in.

Bottom 10 in.

Well was finished:  above grade  
 flush mounted

If finished above grade, casing height (stick up) above land surface 1 1/2 ft.

Steel protective casing installed?

Yes  No

Static Water Level after drilling 9 ft.

Water Level was Measured Using TAPE

Well was developed for 1 hours

at 1 gpm

Method of development SUSPENSION

Pump Capacity 3 gpm

Pump Type WALKER

Drilling Fluid N/A Type of Rig DIORIC D-120

Health and Safety Plan Submitted?  Yes  No

Level of Protection used on site (circle one) None (D) C B A

I certify that I have constructed the above referenced well in accordance with all well permit requirements and applicable State rules and regulations.

Drilling Company TABASCO DRILLING CORP

Well Driller (Print) WILLIAM SKYNN

Driller's Signature W. A. Skynn

Registration No. MD1289 Date 10/23/09

Note: Measure all depths from land surface	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt./Rating (lbs/sch no.)
Single/Inner Casing	0	5	4	PVC	SCD 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used <u>01</u> )	5	20	4	PVC	SCD 40
Blank Casings (No. Used )					
Tail Piece					
Gravel Pack	3	20	10	#16 #00	600/lbs
Grout	0	3	10	Neat Cement Bentonite	100 lbs

Grouting Method GRAVITY PLACEMENT  
Drilling Method HSA

GEOLOGIC LOG	
Note each depth where water was encountered in consolidated formations	
0	<u>BROWN FINE SAND, TR. SILT</u>
3	<u>GRN SILT/SAND</u>
18	<u>BUL SILT/SAND</u>
20	

AS-BUILT WELL LOCATION (NAD 83 HORIZONTAL DATUM)	
NJ STATE PLANE COORDINATE IN US SURVEY FEET	
NORTHING: <u>538041</u>	EASTING: <u>617562</u>
OR	
LATITUDE: <u>0</u> ' <u>0</u> "	LONGITUDE: <u>0</u> ' <u>0</u> "

ORIGINAL: DEP ✓ COPIES: DRILLER OWNER HEALTH DEPARTMENT





**U.S. ARMY  
FORT MONMOUTH  
SELFM-PW-EV**

**LOG OF BORING 750MW08**

(Page 1 of 1)

U.S. Army  
SELFM-PW-EV  
JOSEPH FALLON  
BUILDING 750  
GROUNDWATER INVESTIGATION

NJDEP Permit # : 200908991  
NJDEP Case # : -  
Start Date : 6/23/09  
Completion Date : 6/23/09

Northing : N 538252  
Easting : E 618188  
Logged By : Tabaso Drilling Corp  
Driller : -

Depth in Feet	Well: MW08 Elevation: -	DESCRIPTION	USCS	GRAPHIC	Samples	Blow Count	Well Construction Information
0		Topsoil	CO				Well Construction Hole Diameter : - Drill Method : Hollow Stem Auger Sampling Method : - Well Casing Material : PVC Diameter : 4 inch Joints : Threaded Length : 7 feet Well Screen Material : PVC Diameter : 4 inch Joints : Threaded Opening : 0.010 inch Length : 15 feet Sand Pack : - Annulus Seal : -
1		Fine SAND and silt, light brown	SW				
2							Stick up: - Water level: -
3		Fine SAND and silt, light brown	SW				
4							
5							
6							
7							
8		Light tan medium/fine sandy CLAY, wet	CL				
9							
10		Light tan medium/fine sandy CLAY, wet	CL				
11							
12							
13							
14		Wet glauconitic material, green to olive fine SANDS with clay	SW				
15							
16							
17							
18		CLAY, very tight advancement of auger slow, wet coming up the auger flight at 18 feet	CL				
19		Free flowing water in GLAUCONITE	CL				
20							

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MONITORING WELL CERTIFICATION FORM B - LOCATION CERTIFICATION

Name of Owner: U. S. Army, Directorate of Public Works

Name of Facility: Fort Monmouth

Location: \_\_\_\_\_

Case Number(s): \_\_\_\_\_ (UST #, ISRA #, Incident #, or EPA #)

**LAND SURVEYOR'S CERTIFICATION**

Well Permit Number: 260908991  
(This number must be permanently affixed to the well casing.)

Owners Well Number (As shown on application or plans): 750 D

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 03' 00.7" Latitude: 40° 18' 34.9"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 538,040 East 617,560

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 17.36'

Source of elevation datum (benchmark, number/description and elevation/datum. If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation.)  
NAVD 88 - North American Vertical Datum - 1988; as derived from Bench Mark # CW -201; Elevation 38.74' @ the southwest corner of a culvert headwall at the northwest corner of intersection of Guam Lane and Corregidor Road (approximately 3.9' above ground).

Significant observations and notes: \_\_\_\_\_

**AUTHENTICATION**

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.



PROFESSIONAL LAND SURVEYOR'S SIGNATURE

January 19, 2010  
DATE

Michael C. Nolan Lic. # 24 GS 03448800  
PROFESSIONAL LAND SURVEYOR'S NAME AND LICENSE NUMBER  
(Please print or type) Certificate of Authorization No. 24GA28159000

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100 Matawan Road, Matawan, New Jersey 07747 732-566-0297  
PROFESSIONAL LAND SURVEYOR'S ADDRESS AND PHONE NUMBER