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

June 12, 2015

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

Re: No Further Action Request
Site Investigation Report Addendum for the 800 Area Including ECP Parcels 55 and 56, Fort Monmouth, New Jersey

Attachments:

A. Correspondence
B. Site Layout Drawings of 800 Area (Recent and Historical)
C. Summary Table of 800 Area Underground Storage Tanks
D. No Further Action Letters from NJDEP
E. Geophysical Survey Reports
F. UST 800-1 Report
G. UST 800-2 File Review and Analyses
H. UST 800-9 Report
I. UST 800-10 File Review and Analyses
J. UST 800-12 Report
K. UST 800-14 File Review and Analyses
L. UST 800-15 File Review and Analyses
M. UST 800-16 File Review and Analyses
N. UST 800-19 File Review and Analyses
O. UST 800-20 File Review and Analyses
P. UST 800-21 Report
Q. UST 800-22 File Review and Analyses
R. UST 813 File Review and Analyses
S. UST 814 File Review and Analyses
T. UST 850 File Review and Analyses
U. UST 884 File Review and Analyses
V. UST 888 File Review and Analyses
W. 800 Area Excerpts from the 2005 Residential Communities Initiative (RCI) Remedial Action Report
X. 800 Area Groundwater Monitoring Results

Previous Correspondence:

1. NJDEP letter to the Army dated September 5, 2007, re: *Remedial Action Report for the 800, 700, and 400 Areas, Ft Monmouth, NJ.*
2. NJDEP letter to the Army dated December 31, 2007, re: *Underground Storage Tank Closure & Remedial Investigation Reports, 800 Area UST No. 9, 800 Area UST No. 12, Ft Monmouth, NJ.*

References Cited:

1. Tetra Tech EM Inc. 2005. *Final Remedial Action Report for the 800, 700, and 400 Areas, U.S. Army Installation Fort Monmouth, Fort Monmouth, New Jersey*. October.

Dear Ms. Range:

The U.S. Army Fort Monmouth (FTMM) has reviewed existing file information for underground storage tank (UST) sites at Fort Monmouth within Environmental Condition of Property (ECP) Parcels 55, 56, and the surrounding 800 Area (which also includes portions of Parcels 54, 57, 58, 59, 63, 64, and 65). The purpose of this submittal is to provide comprehensive documentation of the location and updated closure status of all USTs identified within this parcel. Previous investigation results associated with the Residential Communities Initiative (RCI) activities within Parcel 56 (also referred to as the RCI 800 Area) have been reviewed, as well as the 2007 New Jersey Department of Environmental Protection (NJDEP) comments on the RCI Report (Correspondence 1; provided in Attachment A). This submittal provides a comprehensive response to NJDEP's previous comments on the RCI 800 Area (Correspondence 1). This information may be useful for the future Phase II property transfer.

The 800 Area includes that portion of the Main Post generally bounded by Razor Avenue to the north, Todd Avenue to the west, Cockayne Avenue and the Base boundary to the south, and Stephenson Avenue to the east (see recent and historical layout drawings presented in Attachment B). There are three designated Installation Restoration Program (IRP) sites located within the 800 Area, including the following:

- FTMM-47 Building 1002 Former PCB Transformer Site (located within Parcel 55),
- FTMM-64 Site 812 Former Leaking UST Site (also designated as Parcel 64), and
- FTMM-66 Site 886 Former Aboveground Storage Tank (also designated as Parcel 65).

These IRP sites are not specifically addressed within this submittal, although reference has been made to the sites as appropriate within the context of the 800 Area USTs.

Extensive soil sampling and numerous UST removals were conducted as part of the Army's RCI and Enhanced Use Leasing (EUL) programs within Parcel 56. Currently there are no buildings within Parcel 56; however, historically there were up to 28 barracks and other buildings within this area (see the historical layout map in Attachment B). The purpose of the RCI and EUL programs was to assess specific Fort Monmouth site areas for privatized housing and associated support buildings; subsequently the program was discontinued after closure of Fort Monmouth was announced in 2005.

A final report was prepared in 2005 under the RCI program that summarized the results of soils investigation and remediation activities within the 400, 700, and 800 Areas of Fort Monmouth, and requested No Further Action (NFA) for all three areas. In 2007, NJDEP commented

(Attachment A) that NFA could not be approved for the following reasons (***current Army responses concerning the 800 Area are provided in bold italics***):

- There was no documentation provided concerning the remediation and closure of USTs removed from the site (***documentation of UST closure activities for the entire 800 Area is presented in Section 1.0 below***); and
- A site investigation for groundwater was required (***a description of the 800 Area groundwater investigations is presented in Section 4.0 below***).

1.0 UNDERGROUND STORAGE TANKS

The locations of the USTs within the 800 Area are presented in Attachment B, and a summary table of these USTs is provided in Attachment C. All of the USTs identified within the 800 Area have been removed. Most of these USTs were either used for residential heating oil, or were less than 2000 gallons in size and used to store heating oil for nonresidential buildings, and are therefore considered unregulated heating oil tanks (UHOTs).

Multiple UHOTs within the 800 Area were previously approved for No Further Action (NFA) by NJDEP; documentation of this approval is provided in Attachment D, and referenced below. In these cases, there is generally a supporting investigation report that was previously submitted to NJDEP and that describes the basis for closure. For the sake of brevity, we have not included these reports for UHOTs where NFA has already been approved. However, these reports are available within the FTMM environmental records.

In the Attachment C table, the term "Case Closed" has been used (consistent with previous FTMM procedures) to indicate the Army determined that no further sampling or remedial actions were warranted for a specific UST site. “Case Open” indicates the Army previously determined that ongoing monitoring, reporting or possibly even remedial action was warranted. In contrast, "No Further Action" has been reserved for NJDEP approval that no further sampling or remedial actions are warranted. “Case Open” sites previously identified within the 800 Area in Attachment C can now be considered as “Closed” by this submittal.

Most of the 800 Area UHOTs were steel fuel oil tanks associated with previously demolished former barracks. Geophysical surveys were performed to locate potential UHOTs that may have remained after the buildings were removed, as described in Attachment E. A combination of geophysical surveys as well as historical maps and field use of metal detectors were used to locate multiple UHOTs within the 800 Area, which were subsequently removed.

We are submitting the following documentation for the multiple UHOTs that were previously removed from the 800 Area, and we request a No Further Action determination for each site (sites that have been previously approved for NFA by NJDEP are highlighted in green):

- UST 800A NFA was approved by NJDEP on 1/10/2003 (Attachment D).
- UST 800-1 investigation report is presented in Attachment F.
- UST 800-2 File Review summary and analyses is presented in Attachment G.
- UST 800-9 investigation report is presented in Attachment H. NJDEP’s comment letter of 12/31/2007 (provided in Attachment A) indicated that additional groundwater analysis was required; see Section 4.0 below.
- UST 800-10 File Review summary and analyses is presented in Attachment I.

- UST 800-12 investigation report is presented in Attachment J. NJDEP's comment letter of 12/31/2007 (provided in Attachment A) indicated that additional groundwater analysis was required; see Section 4.0 below.
- UST 800-14 File Review summary and analyses is presented in Attachment K.
- UST 800-15 File Review summary and analyses is presented in Attachment L.
- UST 800-16 File Review summary and analyses is presented in Attachment M.
- UST 800-19 File Review summary and analyses is presented in Attachment N.
- UST 800-20 File Review summary and analyses is presented in Attachment O.
- UST 800-21 investigation report is presented in Attachment P.
- UST 800-22 File Review summary and analyses is presented in Attachment Q.
- UST 801A NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 801B NFA was approved by NJDEP on 1/10/2003 (Attachment D).
- UST 804A NFA was approved by NJDEP on 1/10/2003 (Attachment D).
- UST 804B NFA was approved by NJDEP on 7/10/1998 (Attachment D).
- UST 810 NFA was approved by NJDEP on 8/29/2000 (Attachment D).
- UST 811 NFA was approved by NJDEP on 8/29/2000 (Attachment D).
- UST 812 NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 813 File Review summary and analyses is presented in Attachment R.
- UST 814 investigation report is presented in Attachment S.
- UST 826 NFA was approved by NJDEP on 7/10/1998 (Attachment D).
- UST 828 NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 850 File Review summary and analyses is presented in Attachment T.
- UST 864 NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 866 NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 875 NFA was approved by NJDEP on 1/10/2003 (Attachment D).
- UST 876A NFA was approved by NJDEP on 2/24/2000 (Attachment D).
- UST 876B NFA was approved by NJDEP on 1/10/2003 (Attachment D).
- UST 884 File Review summary and analyses is presented in Attachment U.
- UST 886 NFA was approved by NJDEP on 1/10/2003 (Attachment D).
- UST 888 File Review summary and analyses is presented in Attachment V.
- UST 1006 NFA was approved by NJDEP on 8/29/2000 (Attachment D).

2.0 RESIDENTIAL COMMUNITIES INITIATIVE ACTIVITIES AT THE 700 AREA

Extensive soil sampling was performed in 2003 under the RCI to support an evaluation of privatized housing (Reference 1; see excerpts of this report pertaining to the 800 Area in Attachment W). Three areas of the Main Post were evaluated: the 400 Area, the 700 Area, and the 800 Area (see Figure 2 of Attachment W). The 800 Area as designated by the RCI program consisted of a 33 acre area that generally corresponds to ECP Parcel 56. The RCI studies included environmental assessment of soil using Geoprobe borings (at 100 ft centers; see Figure 3 of Attachment M), and full-suite analysis of soil samples for VOCs, SVOCs, pesticides, PCBs, and metals (provided in Appendix C of Reference 1). In addition, geophysical investigations were performed to delineate UHOTs historically used for fuel oil from former barracks that had been previously demolished, as discussed in Section 1.0 above (see also Attachment E). As a

result, multiple UHOTs were removed from the 800 Area from 2004 to 2011 with associated site assessment sampling, as discussed in Section 1.0 above.

Under the RCI program, the analytical results from the 75 initial 800 Area Geoprobe soil sampling locations were compared to then-current (2003) NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC), as reported in Attachment W. The rationale for residential criteria was based on the planned future use of the 800 Area for residential housing under the RCI/EUL. SVOCs, pesticides, and PCBs were found to exceed the RDCSCCs in certain discrete areas within the 800 Area (see Figures 4a and 4b in Attachment W), and therefore the impacted soils were excavated and removed for offsite disposal. Multiple rounds of additional step-out characterization sampling, soil excavation, and post-excavation sampling were performed to ensure that adequate soil was removed to meet the RDCSCCs. Final post-excavation soil sample results confirm that soils with SVOCs, pesticides, and PCBs concentrations in excess of the 2003 RDCSCCs were removed for offsite disposal (see Figures 5a and 5b in Attachment W).

The RCI/EUL results confirm that NFA is appropriate for the Parcel 56 soils.

3.0 GROUNDWATER INVESTIGATION AT 800 AREA

As previously described above, a report (Reference 1; see Attachment W) was submitted to NJDEP in 2005 that requested No Further Action for the RCI sites, including Parcel 56 which was designated as the 800 Area under the RCI. In 2007, NJDEP commented (Attachment A) that NFA could not be granted for the 800 Area because the USTs were not adequately addressed (this requirement has been met in Section 1.0), and because additional groundwater monitoring was required for the 800 Area (discussed in this Section). Attachment X includes documentation of previous groundwater monitoring activities for the 800 Area.

Well construction information for two groundwater monitoring wells (800MW01 and 800MW02) located downgradient of the 800 Area is presented in Enclosure 1 of Attachment X. Enclosure 2 of Attachment X presents the result of 2010 groundwater modeling and water elevation measurements for the area of Ft. Monmouth encompassing the 800 Area, which demonstrate that these two wells are located downgradient of the 800 Area. Shallow groundwater flow direction was primarily towards the north-northwest from the 800 Area towards these wells. Monitor well records and boring logs are provided in Enclosure 3 of Attachment X; shallow groundwater was typically encountered at approximately 6 to 9 ft bgs.

Monitoring well 800MW01 was installed in 2000 to evaluate the adequacy of closure of UST 800A. This well was monitored quarterly for VOCs and SVOCs from 2000 to 2001, and UST 800A was subsequently approved for NFA by NJDEP on 1/10/2003 (Attachment D). Well 800MW01 was more recently sampled in May 2010, and analytical results were non-detected for all VOC and SVOC analytes (Enclosure 4 of Attachment X).

Monitoring well 800MW02 was installed in 2010 and was sampled in February 2011. Analytical results were non-detected for all VOCs and for most SVOC analytes. Select Ion Monitoring (SIM) analysis of polynuclear aromatic hydrocarbons (PAHs) was performed for more sensitive detection of PAHs. The only analytes detected by SVOC-SIM were naphthalene (0.150 µg/L) and phenanthrene (0.136 µg/L), which were well below the applicable NJDEP groundwater quality criteria of 300 and 100 µg/L, respectively.

In summary, there were no indications of a contaminant release to groundwater from the 800 area. This conclusion is based on two shallow monitoring wells completed within a UST source area and in a downgradient portion of the parcels. Groundwater contamination associated with USTs 812 (FTMM-64) and 886 (FTMM-66) will be addressed under separate cover.

4.0 SUMMARY

This information supports the conclusion that UHOTs and RCI program issues identified within the 800 Area have been adequately addressed by previous environmental activities. Multiple UHOT sites were identified within Parcels 55 and 56, as well as adjoining areas of Parcels 54, 57, 58, and 59 that comprise the 800 Area, that were addressed under the FTMM tank removal and assessment program. The RCI program identified several areas where individual sample results for PCBs and SVOCs exceeded the residential cleanup criteria in soils; however, the affected soils were subsequently excavated and removed from the site for offsite disposal.

In summary, we submit that the Army has provided adequate due diligence with regards to the environmental condition of the Parcels represented within the 800 Area, and we request that NJDEP approve No Further Action. The technical Point of Contact (POC) for this matter is Kent Friesen at (732) 383-7201 or by email at kent.friesen@parsons.com. Should you have any questions or require additional information, please contact me by phone at (732) 383-5104 or by email at john.e.occhipinti.civ@mail.mil.

Sincerely,

John E. Occhipinti
Fort Monmouth Site Manager

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

ATTACHMENT A

Correspondence

Contents:

- NJDEP letter to the Army dated September 5, 2007, re: *Remedial Action Report for the 800, 700, and 400 Areas, Ft. Monmouth, NJ.*
- NJDEP letter to the Army dated December 31, 2007, re: *Underground Storage Tank Closure & Remedial Investigation Reports, 800 Area UST No. 9, 800 Area UST No. 12, Ft. Monmouth, NJ.*

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
Division of Remediation Management & Response
P.O. Box 413
Trenton, New Jersey 08625-0413

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

SEP 5 2007

Mr. Joseph Fallon, CHMM
Directorate of Public Works
ATTN: IMNE-MON-PWE
167 Riverside Ave.
Fort Monmouth, NJ 07703

RE: Remedial Action Report for the 800, 700, and 400 Areas
Fort Monmouth, NJ

Dear Mr. Fallon:

The NJDEP Division of Remediation Management & Response (DRMR) has completed its review of the report titled "Remedial Action Report for the 800, 700, and 400 Areas", dated October 2005, by Tetra Tech EM Inc. Our comments are attached.

NJDEP cannot make No Further Action (NFA) determinations for soil or ground water at the 800, 700, and 400 Areas at this time, based upon the report. Our comments describe the additional investigations or actions that would be needed before NFAs could be considered.

You or your staff may contact me at 609-633-0766 with any questions on the enclosed comments, or any other site remediation matters at Fort Monmouth.

Sincerely,

Larry Quinn

Larry Quinn, P.E., CHMM, Case Manager
Bureau of Design and Construction

Attachment

NJDEP COMMENTS ON
REMEDIAL ACTION REPORT FOR THE 800, 700, AND 400 AREAS
FORT MONMOUTH, NJ

1. General - The report states that during the soil investigation in the 800 Area, seven 1,000 gallon USTs and one 550 gallon UST were removed from the site. A subsequent investigation via backhoe identified four additional USTs in the 800 Area outside of the original site footprint. The document further states that the investigation and remediation/closure of those USTs is not part of this RAR. Documentation must be provided in the RAR (as an addendum) that confirms the remediation and closure of all USTs associated with the 800, 700, and 400 Areas (the former UST locations are not shown on any of the Figures).

2. 700 Area - The Report states that soils were delineated and remediated to the NJDEP **non-residential** direct contact soil cleanup criteria (NRDCSCC). However, soil contamination must be delineated to the level of the residential criteria (RDCSCC), since the future use of this area is now unknown. Additional sampling may not be necessary if adequate soil data can be used to extrapolate both horizontally and vertically for delineation (NJDEP Technical Requirements for Site Remediation, 7:26E 4.1). However, if soils contaminated above the RDCSCC remain in place, a deed notice will be required to document the contaminated soil, and appropriate engineering controls must be implemented and documented.

3. 400 Area, page 20 - The Report discusses the electromagnetic (EM) and ground penetrating radar (GPR) surveys conducted as part of the 400 Area investigation. The GPR and the EM survey both produced data that suggested the presence of USTs. It was reported that one EM location produced laterally restricted, high amplitude, parabolic reflections consistent with a UST. Another EM anomaly centered on the mapped location of a former tank suggested that the tank still existed beneath the 400 Area. No further investigation was performed at these suspected UST locations. These locations must be properly investigated.

4. 400 Area - As discussed regarding the 700 Area in comment #2 above, soil contamination must be delineated to the level of the RDCSCC, since the future use of this area is now unknown. Extrapolation may be possible in lieu of additional sampling. If soils contaminated above the RDCSCC remain in place, a deed notice will be required to document the contaminated soil, and appropriate engineering controls must be implemented and documented.

NJDEP COMMENTS ON
REMEDIAL ACTION REPORT FOR THE 800, 700, AND 400 AREAS
FORT MONMOUTH, NJ

5. Ground Water – Due to the reported evidence of releases at the 800, 700, and 400 Areas, a site investigation (SI) for ground water is required at all 3 areas. Ground water sampling by Geoprobe® at the 400 Area (Parcel 79) was included in the ECP Phase II Site Investigation Workplan and approved by NJDEP. Therefore, NJDEP would accept a similar Geoprobe® ground water investigation of the 800 and 700 Areas, provided that the sample locations provide complete coverage of all former UST locations within those Areas, including upgradient and downgradient samples. A remedial investigation for ground water may be required based upon the results of the ground water SIs.

State of New Jersey
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF REMEDIATION MANAGEMENT & RESPONSE
P.O. BOX 413
TRENTON, NJ 08625 -0413

JON S. CORZINE
Governor

LISA P. JACKSON
Commissioner

December 31, 2007

Mr. Joseph Fallon, CHMM
Directorate of Public Works
ATTN: IMNE-MON-PWE
167 Riverside Ave.
Fort Monmouth, NJ 07703

RE: Underground Storage Tank Closure & Remedial Investigation Reports
800 Area UST No. 9
800 Area UST No. 12
Fort Monmouth, NJ

Dear Mr. Fallon:

The NJDEP Division of Remediation Management & Response (DRMR) has completed its review of the reports titled "Underground Storage Tank Closure & Remedial Investigation Report", for 800 Area UST No. 9 and 800 Area UST No. 12, both dated January 2006.

NJDEP's comments are attached. NJDEP cannot make No Further Action (NFA) determinations for these 2 areas of concern at this time, based upon the reports. Our comments describe the additional investigations or actions that would be needed before NFA could be considered.

You or your staff may contact me at 609-633-0766 with any questions on the enclosed comments, or any other site remediation matters at Fort Monmouth.

Sincerely,

Larry Quinn

Larry Quinn, P.E., CHMM, Case Manager
Bureau of Design and Construction

Attachment

NJDEP COMMENTS on
UST CLOSURE and RI REPORTS for 800 AREA UST 9 & 800 AREA UST 12
FORT MONMOUTH, NJ

1. Soil. Based upon the remedial actions and post-excavation sample results presented in the reports, no additional investigation or remedial action for soils is needed at either AOC.

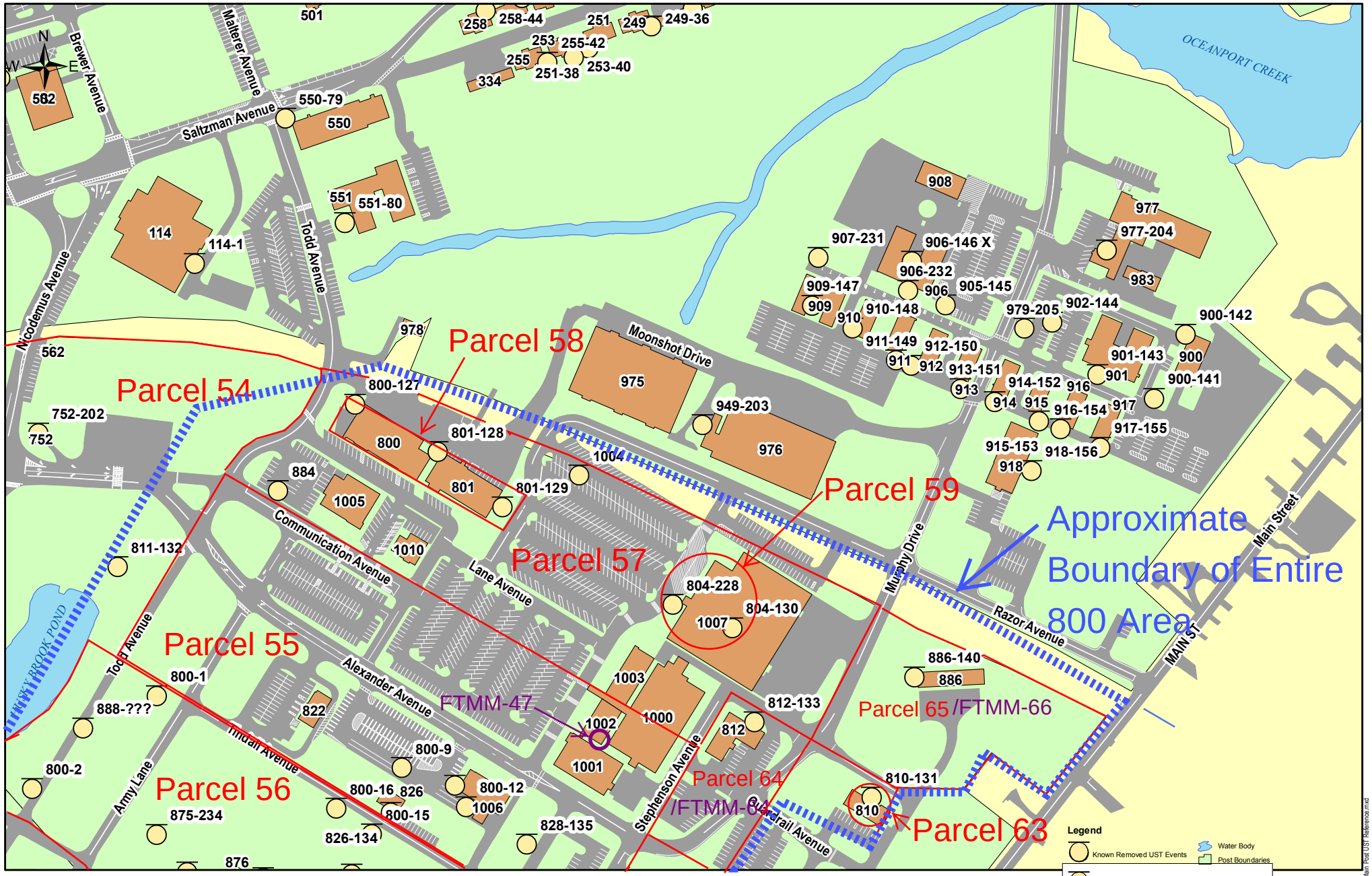
2. Ground Water. Due to the reported evidence of releases at both USTs, a site investigation (SI) for ground water is required. As stated in our September 5, 2007 comments on the RAR for the 800, 700, and 400 Areas, NJDEP would accept a Geoprobe® ground water investigation, provided that the sample locations provide complete coverage of the former UST locations. A remedial investigation for ground water may be required based upon the results of the ground water SI.

Bc:
K. Petrone, BIDC
J. Prendergast, BEERA
D. Clark, BGWPA
B. Venner, BIDC
S. Maybury, BCM
K. Koschek, Environmental Regulation

ATTACHMENT B

Site Layout Drawings of 800 Area

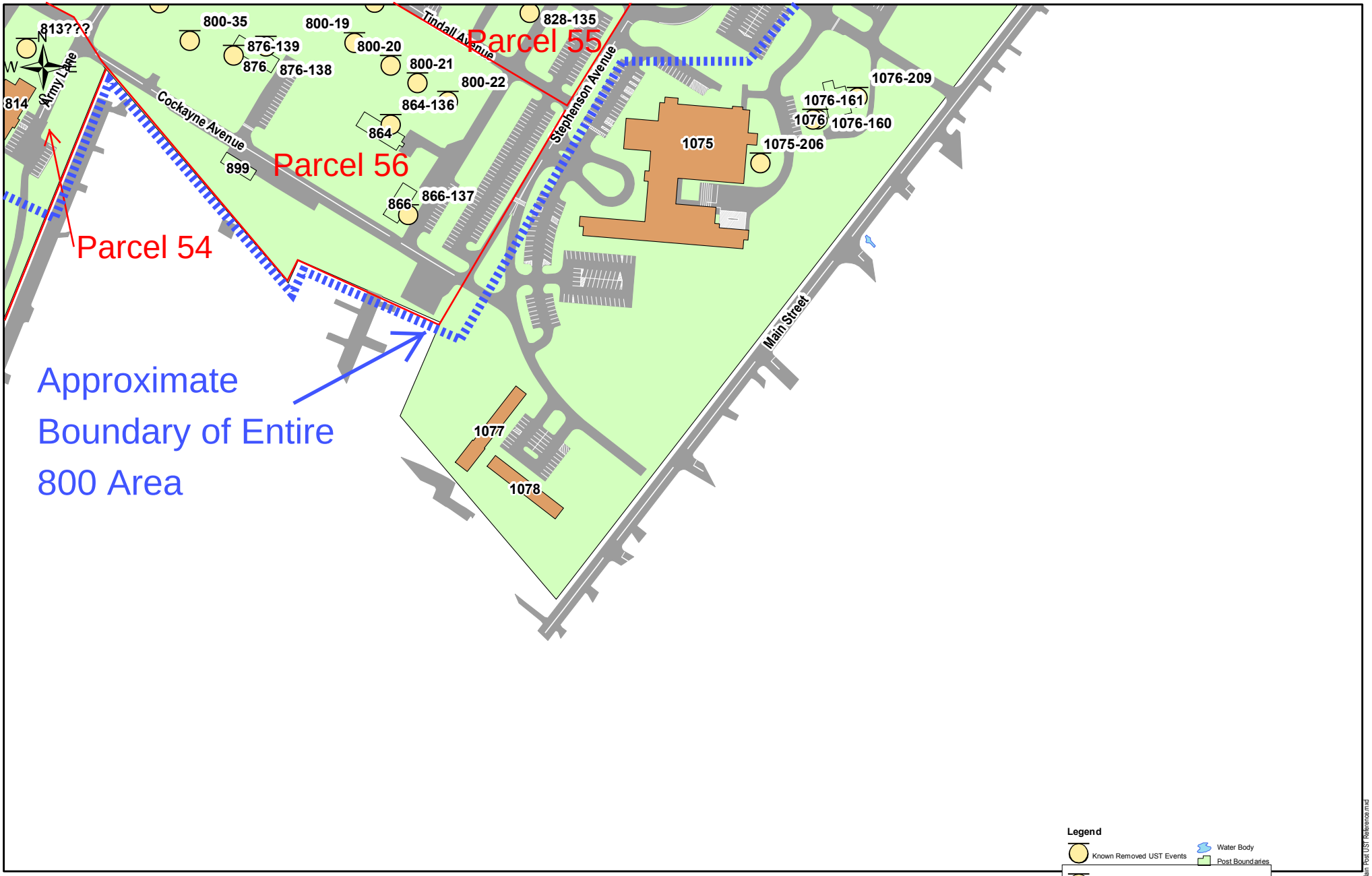
(Recent and Historical)



UST Removal Reference Map
Grid C3; Main Post
Fort Monmouth, New Jersey
FOUO

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

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



Legend

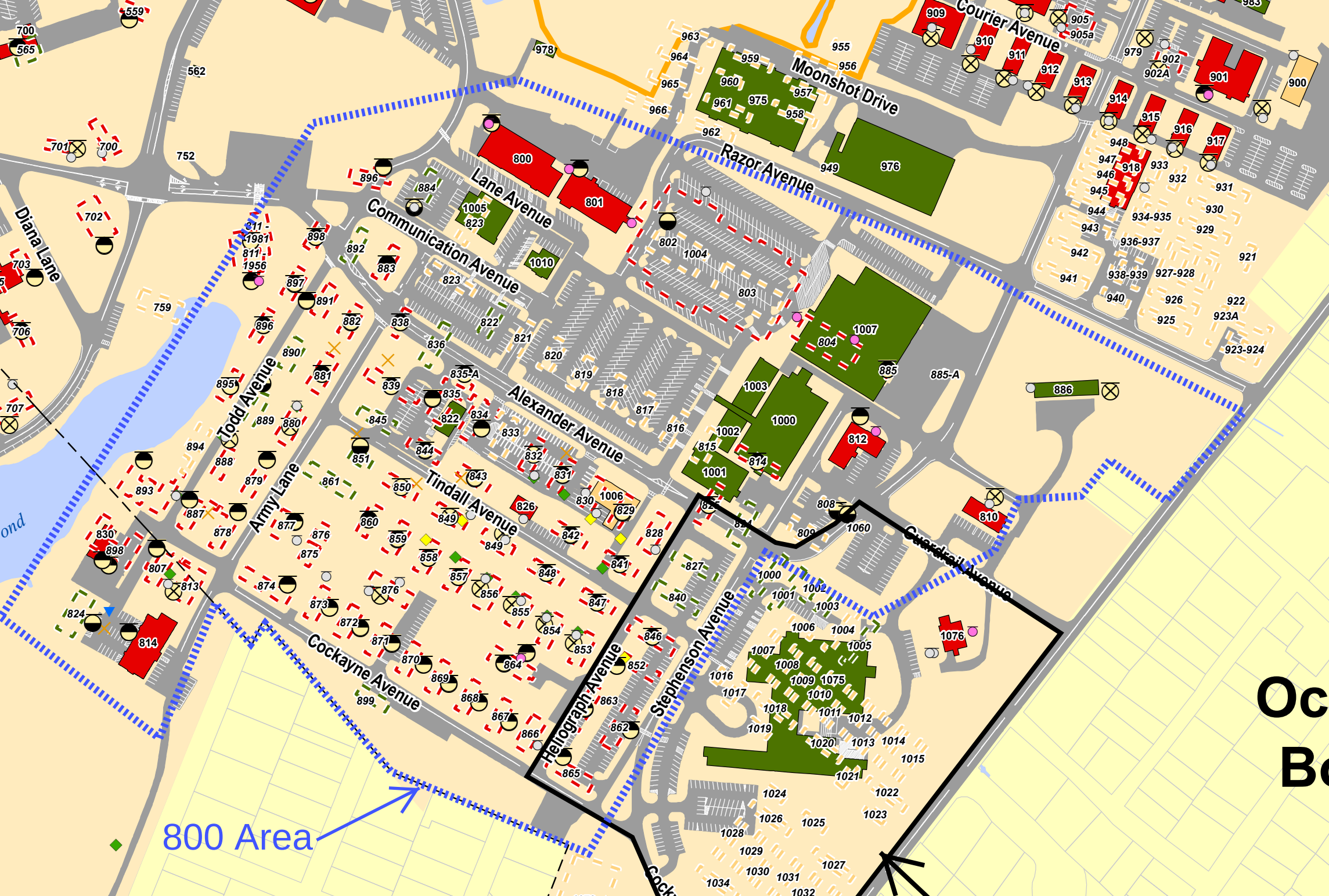
- Known Removed UST Events
- Water Body
- Post Boundaries
- Known_Removed_UST Events
- Reference Map Links
- Demolished Bulding
- Existing Building
- Roadway & Parking

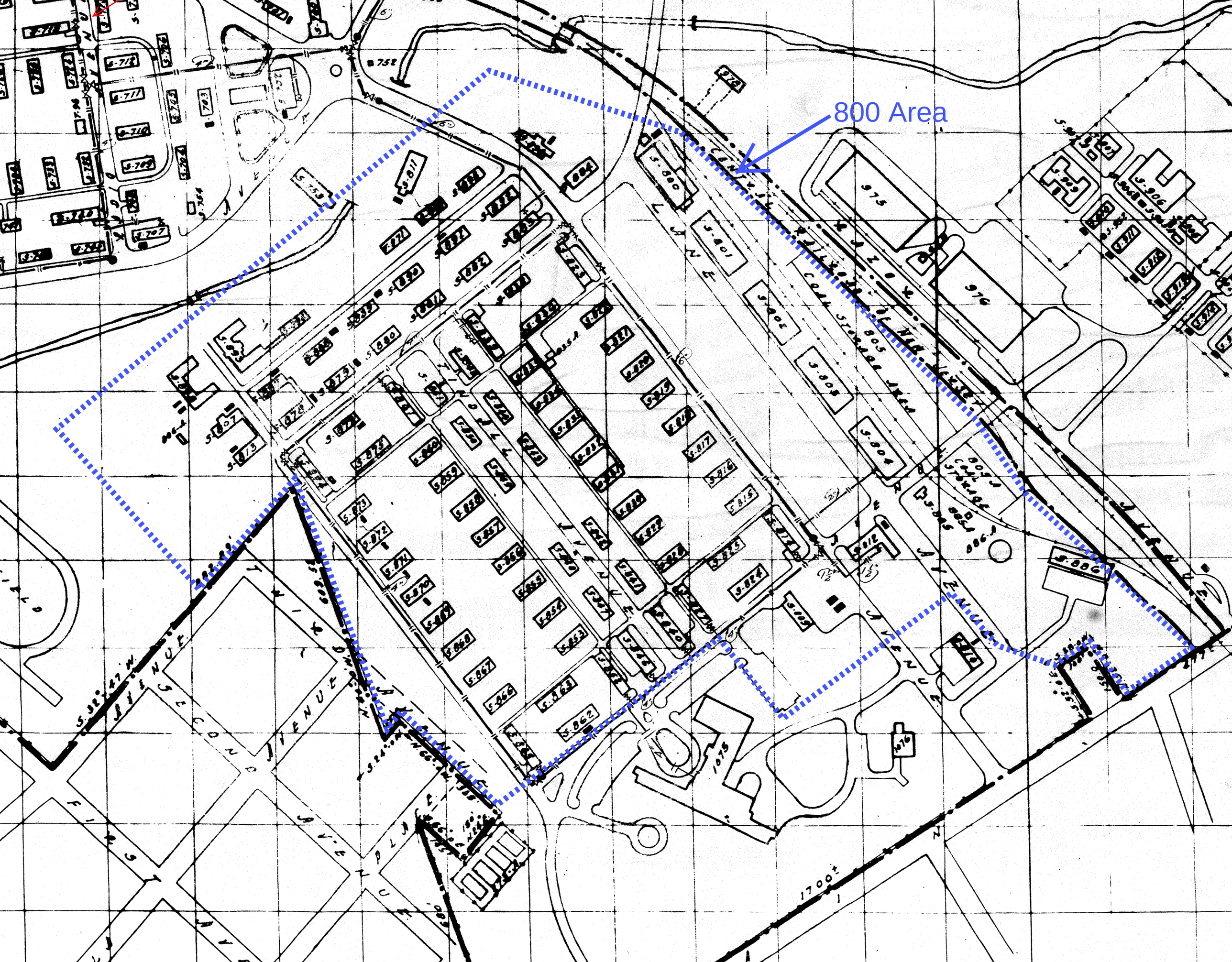
0 150 300 600 Feet

UST Removal Reference Map
Grid C4; Main Post
Fort Monmouth, New Jersey
FOUO

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

August 10, 2011 H:\GIS\GIS Maps\CH2M\UST Linked PDF\Main Post UST Reference.mxd


800 Area
Moonshot Drive
Courier Avenue
Razor Avenue
Lane Avenue
Communication Avenue
Diana Lane
Todd Avenue
Army Lane
Alexander Avenue
Tindall Avenue
Cockayne Avenue
Heliograph Avenue
Stephenson Avenue
Guardrail Avenue


800 Area

ATTACHMENT C

Summary Table of 800 Area Underground Storage Tanks

Summary Table of 800 Area USTs

Site Name	RESIDENTIAL	RegistrationID	DICAR	Tank Size and Type	Product	Army Case Status	Parcel	Comments on Current or Requested NJDEP Status
800 A	NO	81533-127		2000 gallon fiberglass	#2 FUEL OIL	Case Closed	58	NFA approved per 1/10/2003 NJDEP letter
800 1	YES	-	03-07-30-1431	1000 gallon steel	#2 FUEL OIL	Case Open	56	Submit TVS report and request NFA
800 2	YES	-		500 gallon steel	#2 FUEL OIL	Case Closed	56	Submit review summary and data; request NFA
800 9	YES	-	04-05-20-1615-42	1000 gallon steel	#2 FUEL OIL	Case Open	55	Submit TVS report and request NFA; see also NJDEP's 12/31/07 comment letter (Attachment A)
800 10	YES	-		1000 gallon steel	#2 FUEL OIL	Case Closed	55	Submit review summary and data; request NFA
800 12	YES	-	04-05-25-1623-31	1000 gallon steel	#2 FUEL OIL	Case Open	55	Submit TVS report and request NFA; see also NJDEP's 12/31/07 comment letter (Attachment A)
800 14	YES	-		1000 gallon steel	#2 FUEL OIL	Case Closed	55	Submit review summary and data; request NFA
800 15	YES	-		1000 gallon steel	#2 FUEL OIL	Case Closed	55	Submit review summary and data; request NFA
800 16	YES	-		1000 gallon steel	#2 FUEL OIL	Case Closed	56	Submit review summary and data; request NFA
800 19	YES	-		1000 gallon steel	#2 FUEL OIL	Case Closed	56	Submit review summary and data; request NFA
800 20	YES	-	03-07-30-1431	1000 gallon steel	#2 FUEL OIL	Case Open	56	Submit review summary and data; request NFA. There are two (redundant) 800-20 entries in the FTMM UST database.
800 21	YES	-	03-09-11-0906-50	1000 gallon steel	#2 FUEL OIL	Case Open	56	Submit TVS report and request NFA
800 22	YES	-		1000 gallon steel	#2 FUEL OIL	Case Closed	56	Submit review summary and data; request NFA
801A	NO	81533-128		2000 gallon fiberglass	#2 FUEL OIL	Case Closed	58	NFA approved per 2/24/2000 NJDEP letter
801B	NO	81533-129	95-11-13-1007-23	1000 gallon fiberglass	#2 FUEL OIL	Case Closed	58	NFA approved per 1/10/2003 NJDEP letter
804A	NO	81533-130	95-11-09-1328-28	1000 gallon fiberglass	#2 FUEL OIL	Case Closed	59	NFA approved per 1/10/2003 NJDEP letter
804B	NO	81533-228		1000 gallon fiberglass	#2 FUEL OIL	Case Closed	59	NFA approved per 7/10/1998 NJDEP letter
810	NO	81533-131		1000 gallon steel	#2 FUEL OIL	Case Closed	63	NFA approved per 8/29/2000 NJDEP letter

Summary Table of 800 Area USTs

Site Name	RESIDENTIAL	RegistrationID	DICAR	Tank Size and Type	Product	Army Case Status	Parcel	Comments on Current or Requested NJDEP Status
811	NO	81533-132	97-11-05-1445-58	2000 gallon fiberglass	#2 FUEL OIL	Case Closed	54	NFA approved per 8/29/2000 NJDEP letter
812	NO	81533-133		2000 gallon fiberglass	#2 FUEL OIL	Case Closed	64/ FTMM-64	NFA approved per 2/24/2000 NJDEP letter
813	YES	-	10-12-17-1533-15	1000 gallon steel	#2 FUEL OIL	Case Open	54	Submit review summary and data; request NFA
814	NO			1,500 gallon steel	#2 FUEL OIL		54	Submit Weston report and request NFA.
826	NO	81533-134		550 gallon steel	#2 FUEL OIL	Case Closed	56	NFA approved per 7/10/1998 NJDEP letter
828	NO	81533-135		1000 gallon steel	#2 FUEL OIL	Case Closed	55	NFA approved per 2/24/2000 NJDEP letter
850	YES	-		-	#2 FUEL OIL	Case Closed	56	Submit review summary and data; request NFA
864	NO	81533-136		1000 gallon fiberglass	#2 FUEL OIL	Case Closed	56	NFA approved per 2/24/2000 NJDEP letter
866	NO	81533-137		1000 gallon steel	#2 FUEL OIL	Case Closed	56	NFA approved per 2/24/2000 NJDEP letter
875	NO	81533-234		1000 gallon steel	#2 FUEL OIL	Case Closed	56	NFA approved per 1/10/2003 NJDEP letter
876A	NO	81533-138		550 gallon steel	#2 FUEL OIL	Case Closed	56	NFA approved per 2/24/2000 NJDEP letter
876B	NO	81533-139	98-06-02-1047-31	550 gallon steel	#2 FUEL OIL	Case Closed	56	NFA approved per 1/10/2003 NJDEP letter
884	YES	-	03-10-07-1347-49	1000 gallon steel	#2 FUEL OIL	Case Open	57	Submit review summary and data; request NFA.
886	NO	81533-140		1000 gallon steel	#2 FUEL OIL	Case Closed	65/ FTMM-66	NFA approved per 1/10/2003 NJDEP letter
888	YES	-	11-01-05-1416-41	1000 gallon steel	#2 FUEL OIL	Case Open	56	Submit review summary and data; request NFA.
1006	NO	81533-159		2000 gallon steel	#2 FUEL OIL	Case Closed	55	NFA approved per 8/29/2000 NJDEP letter

ATTACHMENT D

No Further Action Letters from NJDEP

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. James Ott
Director – Public Works
U.S. Army, Fort Monmouth
Fort Monmouth, NJ 07703

JUL 10 1998

Re: UST Closure Reports
Fort Monmouth Army Base
Tinton Falls, Monmouth County

Dear Mr. Ott:

The NJDEP is in receipt of UST closure reports noted below. These documents have been reviewed by the NJDEP throughout the closure process and the documents submitted were discussed throughout their drafting and in great detail upon submittal. Based on these steps and the final review conducted by me, the NJDEP accepts the closure reports and all of the NFA requests commensurate with these submittals.

NJDEP REG. NO.	BUILDING	CONTENTS	CAPACITY	PROPOSAL	DEP APPROVAL
90010-10	116C-MP/E	No. 2 Fuel Oil	2000	NFA	YES
81533-134	826-MP/W	No. 2 Fuel Oil	550	NFA	YES
81533-144	902-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81515-20	2529-CW	No. 2 Fuel	1000	NFA	YES
81515-22	2532-CW	No. 2 Fuel Oil	550	NFA	YES
81515-23	2533-CW	No. 2 Fuel Oil	1000	NFA	YES
81515-31	2561-CW	No. 2 Fuel Oil	550	NFA	YES
90010-27	410-MP/E	No. 2 Fuel Oil	1080	NFA	YES
81533-206	1075	NOT	SUBMITTED	WITH	PACKAGE
81515-16	2504B-CW	No. 2 Fuel Oil	1000	NFA	YES
81515-18	2507-CW	No. 2 Fuel Oil	1080	NFA	YES
81515-26	2536-CW	No. 2 Fuel Oil	1000	NFA	YES
81515-14	2503-CW	No. 2 Fuel Oil	1000	NFA	YES
90010-12	117B-MP/E	No. 2 Fuel Oil	2000	NFA	YES
90010-34	418-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-36	420-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-38	422-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-41	427-MP/E	No.2 Fuel Oil	1080	NFA	YES
90010-44	430A-MP/E	No. 2 Fuel Oil	550	NFA	YES
90010-50	453-MP/E	No. 2 Fuel Oil	1080	NFA	YES
90010-51	454-MP/E	No. 2 Fuel Oil	1080	NFA	YES
81533-76	501-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81533-141	900A-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81515-17	2506-CW	No. 2 Fuel Oil	1000	NFA	YES
90010-8	116A-MP/E	No. 2 Fuel Oil	1000	NFA	YES
90010-11	117A-MP/E	No. 2 Fuel Oil	2000	NFA	YES
90010-53	480-MP/E	No. 2 Fuel Oil	1000	NFA	YES

81515-19	2508-CW	No. 2 Fuel Oil	550	NFA	YES
81533-228	804B-MP/W	No. 2 Fuel Oil	1000	NFA	YES
81533-142	900B-MP/W	No. 2 Fuel Oil	1000	NFA	YES

The efforts made to assure protection of human health and the environment as well as the efforts made to make the entire closure process efficient and consistent with the NJDEP's Technical Requirements for Site Remediation (N.J.A.C. 7:9-6 et seq.) has been exceptional.

If I can be of any assistance, please do not hesitate to contact me should you have any questions or comments.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Federal Case Management
ICURTIS@DEP.STATE.NJ.US

cc. Kevin Kratina, BUST

FTMMTH51.DOC

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. James Ott
C/O: Dinker Desai
Director – Public Works
U.S. Army, Fort Monmouth
Fort Monmouth, NJ 07703

FEB 24 2000

Re: UST Closure Reports - Closure Approvals
Fort Monmouth Army Base
Fort Monmouth, Monmouth County

Dear Mr. Ott:

The NJDEP has reviewed the UST Closure and Site Investigation Reports for the Fort Monmouth underground storage tank sites noted below. Based on the NJDEP review of these documents, your request that the NJDEP approve the closure reports for those tanks listed below.

The following tanks were removed, sampled and analyzed in accordance with State and Federal requirements. Additionally, the reports consistently state the Fort Monmouth Public Works Department policy of removing all soils which are determined to have total petroleum hydrocarbon contamination (TPHC) greater than 1000 ppm. NJDEP criteria requires similar removal for TPHC contamination greater than 10,000 ppm. These activities are conservative and therefore further assure the NJDEP that no further action is necessary at these sites.

NJDEP Reg. #	Bldg. #	NJDEP Reg. #	Bldg. #
0081533-59	283B	*0081533-135	828
0090010-46	430C	0081533-136	864A
0081533-111	695	0081533-137	866
0081533-117	739	*0081533-231	907
0081533-118	744	0081533-154	916
0081533-121	747	0081533-156	918
0081533-124	787	0081533-170	1110
0081533-125	788	0081533-172	1123
0081533-128	801A	0081533-207	1150
0081533-133	812		

* No product lines were found during the excavation of the UST due to the fact the buildings were removed prior to the USTs. Based on a review of available maps and drawings, the product lines were less than 15 feet in length at each of the locations. Thus, no additional sampling was required.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH062IRC.DOC

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. James Ott
C/O: Dinker Desai
Director – Public Works
U.S. Army, Fort Monmouth
Fort Monmouth, NJ 07703

FEB 24 2000

Re: UST Closure Reports - Closure Approvals
Fort Monmouth Army Base
Fort Monmouth, Monmouth County

Dear Mr. Ott:

The NJDEP has reviewed the UST Closure and Site Investigation Reports for the Fort Monmouth underground storage tank sites noted below. Based on the NJDEP review of these documents, your request that the NJDEP approve the closure reports for those tanks listed below.

The following tanks were removed, sampled and analyzed in accordance with State and Federal requirements. Additionally, the reports consistently state the Fort Monmouth Public Works Department policy of removing all soils which are determined to have total petroleum hydrocarbon contamination (TPHC) greater than 1000 ppm. NJDEP criteria requires similar removal for TPHC contamination greater than 10,000 ppm. These activities are conservative and therefore further assure the NJDEP that no further action is necessary at these sites.

NJDEP Req. #	Bldg. #	NJDEP Req. #	Bldg. #
0090016–16	165	0081533–151	913
0090010–69	170D	0081533–155	917
0090010–20	197	0081533–165	1105
0081533–54	270	0081533–169	1109
0081533–60	286	0081533–173	1213A
0081533–65	291	0081533–208	1221
0090010–70	400	00192486–34	2018
0081533–103	671A	00192486–35	2021A
0081533–138	876A	0081515–30	2543
0081533–149	911	0081515–40	2707
0081533–150	912		

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH06\ICURC.DOC

State of New Jersey

Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

Mr. Dinkerrai Desai
DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY COMMUNICATIONS-ELECTRONIC COMMAND
FORT MONMOUTH, NJ 07703-5000

AUG 2 9 2000

Re: UST Closure Approval/NFA
Fort Monmouth Main Post
Monmouth County

Dear Mr. Desai:

The NJDEP is in receipt of twenty-five (25) UST closure reports dated August 1, 2000. The Army has requested to receive No Further Action approval letters for each of these reports. This letter approves the NFA requests for the following 25 UST located on the Main Post of the Fort Monmouth site:

NJDEP Req. #	Bldg. #	NJDEP Req. #	Bldg. #
0090010-03	64	0081533-80	551
0090010-05	65	0081533-81	552
0090010-05	74	0081533-120	746
0081533-03	205	0081533-122	748
0090010-29	412	0081533-123	749
0090010-30	413	0081533-131	810
0090010-31	414	0081533-132	811
0090010-33	417	0081533-232	906B
0090010-42	428	0081533-159	1006
0090010-47	434	0081533-206	1075
0090010-47	447	0081515-21	2531
0090010-57	485	00192486-02	2018
0090010-59	492		

The NJDEP has determined that the Army has performed the remedial actions in a manner consistent or in excess of the regulatory requirements, specifically the Technical Requirements For Site Remediation (N.J.A.C. 7:26E et seq.). Soils with contamination in excess of the NJDEP residential cleanup criteria have been excavated and the Army has taken great care to provide documentation which assures us that all sources of contamination have been remediated.

The NJDEP has one comment in that we request that future reports provide ground water flow direction indications on the well location maps.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

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State of New Jersey

James E. McGreevey
Governor

Department of Environmental Protection

Bradley M. Campbell
Commissioner

Mr. Dinkerrai Desai
DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY COMMUNICATIONS-ELECTRONIC COMMAND
FORT MONMOUTH, NJ 07703-5000

JAN 10 2003

Re: UST Closure Approval/NFA
Fort Monmouth Main Post
Monmouth County

Dear Mr. Desai:

The NJDEP is in receipt of sixty-eight (68) underground storage tank (UST) closure reports dated between July 17, 2001 and May 15, 2002. The Army has requested to receive No Further Action (NFA) approval letters for each of these reports. This letter approves the NFA requests for the following 68 UST that are located on the Main Post of the Fort Monmouth site:

Submittal Date	Building No.	NJDEP Reg. #	Residential
07/17/2001	104	90010-75	NO
07/17/2001	699A	81533-112	NO
07/17/2001	800A	81533-127	NO
07/17/2001	875	81533-234	NO
07/17/2001	949	81533-203	NO
07/17/2001	1220A	81533-184	NO
07/17/2001	2000B	192486-38	NO
01/02/2002	257	81533-200	NO
01/02/2002	283C	81533-229	NO
01/02/2002	290B	81533-224	NO
01/02/2002	290B	81533-225	NO
01/02/2002	491	90010-71	NO
01/02/2002	605	81533-85	NO
01/02/2002	678	81533-105	NO
01/02/2002	699	81533-236	NO
01/02/2002	699	81533-238	NO
01/02/2002	699	81533-237	NO
01/02/2002	699	81533-235	NO
01/02/2002	801B	81533-129	NO
01/02/2002	804A	81533-130	NO
01/02/2002	2337	81515-65	NO
01/02/2002	2562A	81515-41	NO
01/02/2002	2707	81515-50	NO
01/02/2002	2707	81515-49	NO
01/02/2002	2707	81515-51	NO
01/02/2002	2707	81515-47	NO
01/02/2002	2707	81515-48	NO

Submittal Date	Building No.	NJDEP Reg. #	Residential
02/13/2002	2044	192486-24	NO
02/13/2002	2044	192486-32	NO
02/13/2002	2044	192486-33	NO
02/26/2002	208B	81533-210	YES
03/05/2002	246	N/A	YES
03/05/2002	261B	N/A	YES
05/15/2002	106	90010-74	NO
05/15/2002	164	90010-15	NO
05/15/2002	173	90010-19	NO
05/15/2002	200	81533-2	NO
05/15/2002	208A	81533-6	YES
05/15/2002	233	81533-21	YES
05/15/2002	237	81533-25	YES
05/15/2002	271	81533-55	YES
05/15/2002	277	90010-24	NO
05/15/2002	296B	81533-217	NO
05/15/2002	296B	81533-223	NO
05/15/2002	296B	81533-221	NO
05/15/2002	296B	81533-220	NO
05/15/2002	296B	81533-222	NO
05/15/2002	296B	81533-218	NO
05/15/2002	296B	81533-216	NO
05/15/2002	296B	81533-215	NO
05/15/2002	296B	81533-214	NO
05/15/2002	296B	81533-213	NO
05/15/2002	296B	81533-219	NO
05/15/2002	426	90010-40	NO
05/15/2002	482	90010-54	NO
05/15/2002	600 A	81533-83	NO
05/15/2002	600 B	81533-212	NO
05/15/2002	611	81533-87	NO
05/15/2002	615	81533-89	NO
05/15/2002	618	81533-91	NO
05/15/2002	619	81533-92	NO
05/15/2002	621	81533-94	NO
05/15/2002	634	N/A	NO
05/15/2002	638	N/A	NO
05/15/2002	639-2	N/A	NO
05/15/2002	640	N/A	NO
05/15/2002	641	N/A	NO
05/15/2002	644	N/A	NO
05/15/2002	664	N/A	NO
05/15/2002	666	N/A	NO
05/15/2002	686	81533-107	NO
05/15/2002	697	81533-194	NO
05/15/2002	697	81533-195	NO

Submittal Date	Building No.	NJDEP Reg. #	Residential
05/15/2002	697	81533-196	NO
05/15/2002	876B	81533-139	NO
05/15/2002	886	81533-140	NO
05/15/2002	905	81533-145	NO
05/15/2002	1102	81533-162	NO
05/15/2002	1104	81533-164	NO
05/15/2002	2067	192486-37	NO
05/15/2002	2534	81515-24	NO
05/15/2002	2603	81515-60	NO
05/15/2002	2700 2,6	81515-61	NO

The NJDEP has determined that the Army has performed the remedial actions in a manner consistent with the regulatory requirements, specifically the Technical Requirements For Site Remediation (N.J.A.C. 7:26E et seq.). Soils with contamination in excess of the NJDEP residential cleanup criteria have been excavated and the Army has taken great care to provide documentation that assures us that all sources of contamination have been remediated.

If you should have any questions or comments, please do not hesitate to contact me at (609) 633-7232 or via E-mail.

Sincerely,

Ian R. Curtis, Case Manager
Bureau of Case Management
ICURTIS@DEP.STATE.NJ.US

FTMMTH116IRC.DOC

ATTACHMENT E

Geophysical Survey Reports

Contents:

- Enviroscan. 2003. *Geophysical Survey, Buried Construction Debris and UST Detection/Delineation, 33-Acre Area, Ft. Monmouth, NJ.* June 10.
- Enviroscan. 2011. *Final Report: Geophysical Survey, Compilation and Re-Evaluation of Previous Survey Data, Fort Monmouth, Oceanport, NJ.* March 10.

ENVIROSCAN, INC.

June 10, 2003

Mr. Douglas Guenther
US Army, Fort Monmouth
Director of Public Works
ATTN: SELFM-PW-EV-Building 173
Fort Monmouth, NJ 07703

RE: Geophysical Survey
Buried Construction Debris and UST Detection/Delineation
33-Acre Area
Fort Monmouth, NJ
Enviroscan Project Number 030301

Dear Mr. Guenther:

Pursuant to our proposal dated March 4, 2003, Enviroscan, Inc. (Enviroscan) has completed a geophysical survey of the above-referenced site. The methods and results of the survey are described below. Fieldwork was completed on May 22, 2003.

Survey Purpose and Site Description

The purpose of the survey was to detect and delineate possible buried materials, including areas of construction debris, piping, utilities, and underground storage tanks (USTs). The first component of the field effort involved an electromagnetic (EM) terrain conductivity survey of the entire site. Ground penetrating radar scanning was then performed in order to further characterize specific targets identified in the EM survey.

The area surveyed (Figure 1) consisted of 33 acres, located in and around the 800 Area of the Main Post. The designated area of concern comprised open grass-covered areas, asphalt-covered parking lots, buildings, and a football field. The chain link fence and bleachers surrounding the football field, picnic tables and benches located at Buildings 822 and 836, automobiles in parking lots, and overhead power lines are examples of cultural interference or surficial debris which were present at the time the survey was completed and may preclude detection of buried materials in their immediate vicinity.

The EM inphase and terrain conductivity data were contoured using the statistical kriging routine in SURFER for WINDOWS by Golden Software. The terrain conductivity and inphase response contours are depicted in Figures 2 and 3, respectively.

Each anomaly indicated by the EM-31 was then scanned with the Fisher TW-6 EM pipe and cable locator/tracer to more accurately define its location. In pipe and cable search mode, the TW-6 is essentially a deep-sensing metal detector that detects any highly electrically conductive materials (e.g. metals) by creating an electromagnetic field with a transmitting coil. A receiving coil at a fixed separation from the transmitter measures the field strength. As the instrument is swept along the ground surface, subsurface metallic bodies distort the transmitted field. The change in field strength/orientation is sensed by the receiver, setting off an audible alarm and/or causing deflection of an analog meter. The TW-6 can nominally detect a 2-inch metal pipe to a depth of 8 feet and a 10-inch metal pipe to a depth of 14 feet. In some locations the presence of subsurface metal, such as concrete reinforcing, metallic fill, and/or nearby utilities saturated the TW-6, rendering it ineffective.

In order to further characterize any field-identified EM anomalies, Enviroscan mobilized a ground penetrating radar (GPR) system. GPR systems produce cross-sectional images of subsurface features and layers by continuously emitting pulses of radar frequency energy from a scanning antenna as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are displayed on a video monitor as a continuous cross section in real time. Since the electrical properties of metallic tanks, pipes, and wastes are often distinctly different from soil and backfill materials, metallic targets produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra-cotta targets as well as subsurface voids, rock surfaces, soil type changes, and concentrations of many types of non-metallic wastes also produce recognizable, but less dramatic reflections. In cases where the TW-6 could not be used due to abundant subsurface metal, GPR was used to scan along profiles defining a rough 5-foot grid in order to locate any anomalies indicative of a metallic UST.

Results

The results of the EM survey are shown in Figures 2 and 3. Figure 2 presents the terrain conductivity data and Figure 3 presents the inphase data.

In the terrain conductivity data (Figure 2), high levels of metallic interference are common throughout the site. The areas bordering Husky Brook Lake, on the western edge of the survey area, display evidence of deep or wet soils. North of Building 814 the levels are more indicative of metallic interference, possibly due to contaminated fill material. Linear features identified in the western portion of the designated area of concern correspond with mapped utilities, according to information provided by the Director of Public Works, U.S. Army. Scanning beneath asphalt-paved parking lots in the areas of Buildings 822, 826, 899, 1006 and 1075 (Medical Center to the southeast – not shown) also showed levels of metallic interference, which may be caused by fill material.

The inphase data (Figure 3) indicate multiple targets with high metallic response. After accounting for surficial metal, cultural interference, and linear features caused by utility lines, there were a total of 24 anomalous targets. These targets are delineated and numbered on Figures 2 and 3, and summarized in Appendix B, with coordinates corresponding to the approximate center of each target.

GPR scanning to further characterize targets in the parking lots of Buildings 814, 1006, and 1075 was not possible, due to signal attenuation. This may be a result of disturbed soils or the high level of conductivity in the soils. Targets described as high-amplitude parabolic reflectors in the following chart may be indicative of USTs or other buried material. Reinforced concrete structures are indicated as targets in the cases where metallic reinforcing led to both saturation of the TW-6 and GPR signal attenuation. In these cases, it was not possible to determine if there was any metallic or otherwise anomalous response from below the concrete slab.

Limitations

The geophysical survey described above was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions.

We have appreciated this opportunity to work with you. If you have any questions, please do not hesitate to contact the undersigned.

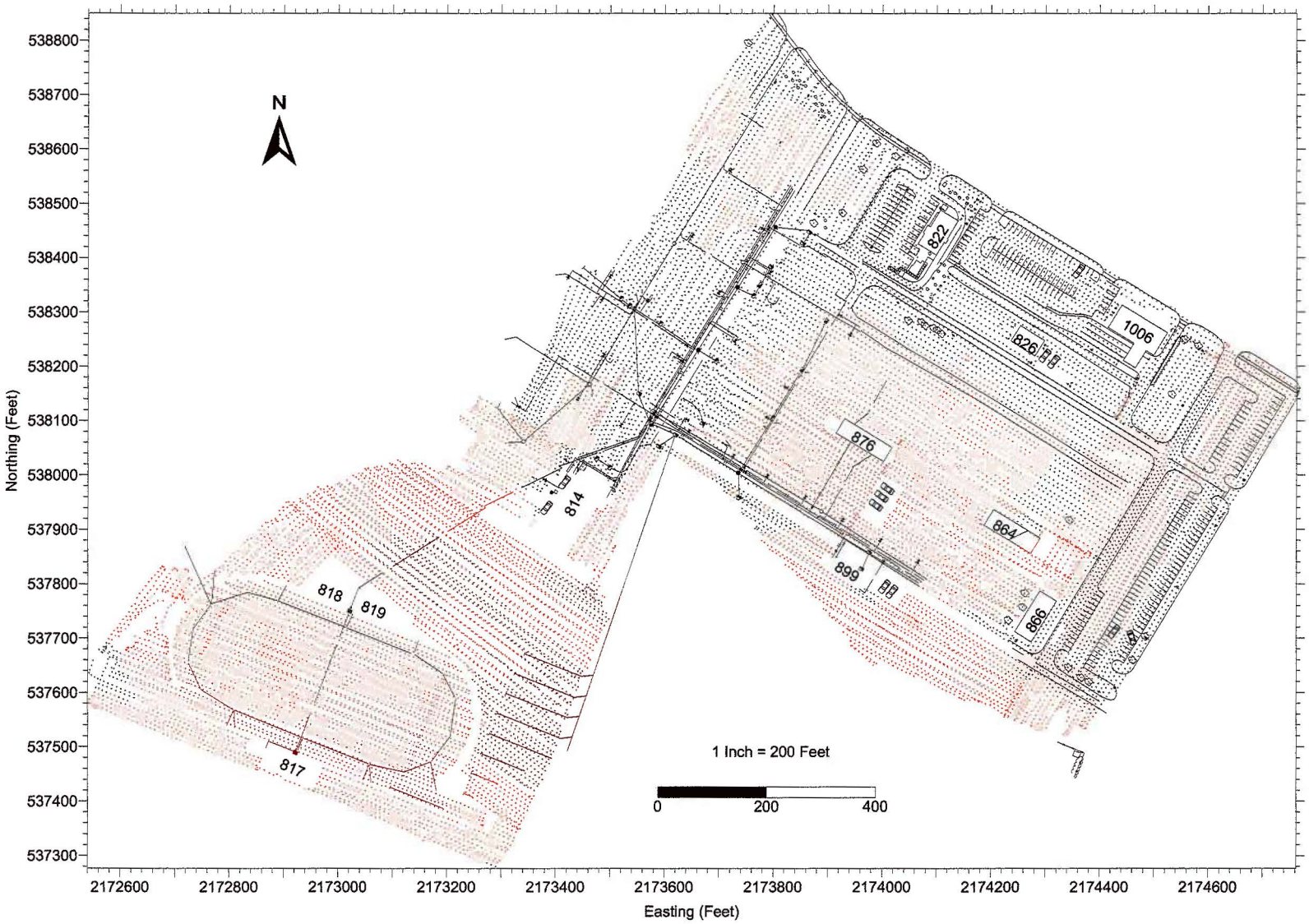
Sincerely,
Enviroscan, Inc.

Mark J. Villa
Project Geophysicist

Technical Review By:
Enviroscan, Inc.

Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: Figure 1: Geophysical Survey EM-31 Data Coverage
Figure 2: EM-31 Terrain Conductivity Contours
Figure 3: EM-31 Inphase Response Data Contours
Appendix A: EM-31 Vertical Dipole Mode Depth Response
Appendix B: GPR Survey Results
References



Notes:

Coordinates in New Jersey State Plane Grid, NAD-27 geodetic datum.

Survey station locations from DGPS survey by Enviroscan, Inc.

Base map features from information provided by Director of Public Works, U.S. Army.

Every second survey station is shown for clarity.

LEGEND

Survey Data Point

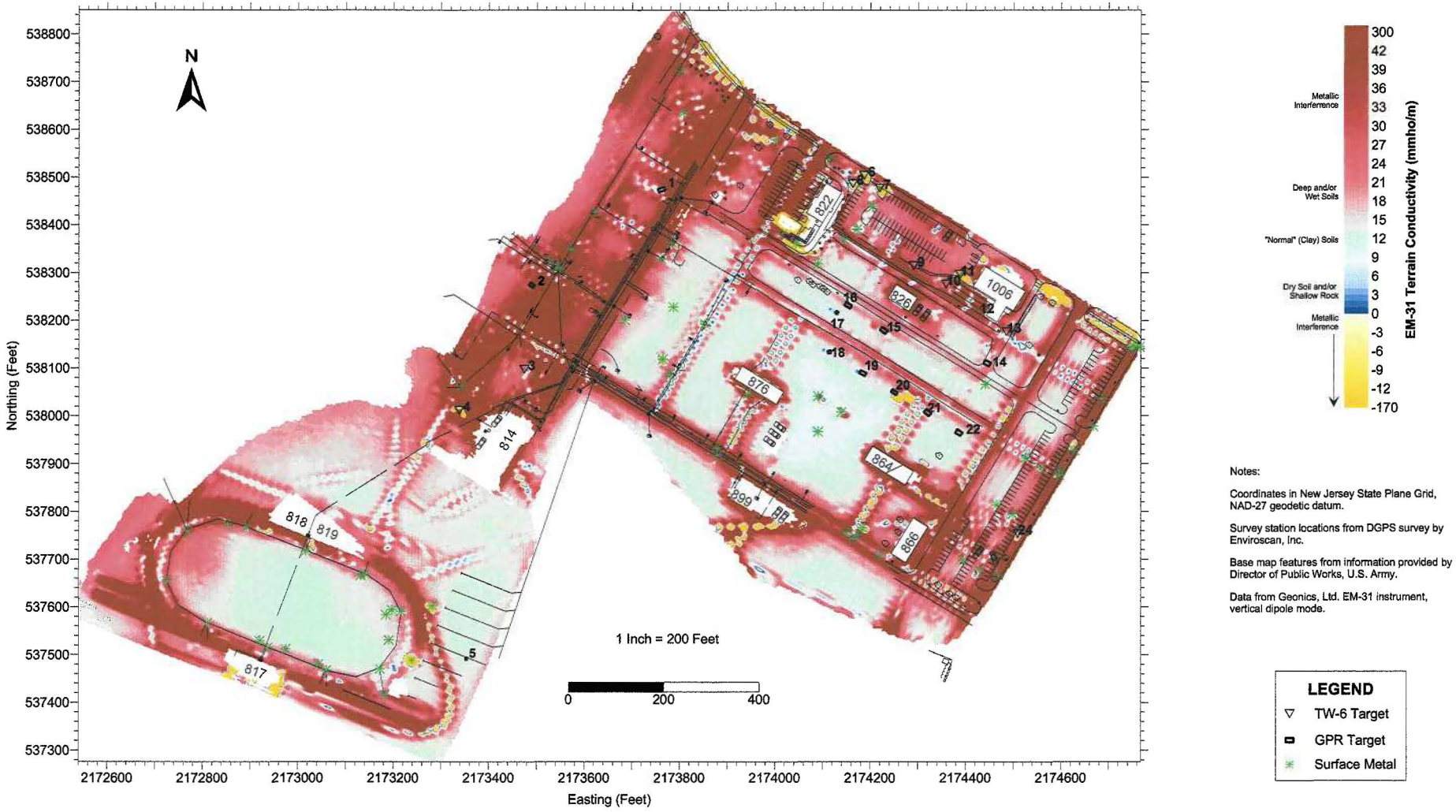
Figure 1

Geophysical Survey
EM-31 Data Coverage

US Army
Fort Monmouth, NJ

Enviroscan, Inc.
Project No. 030301
Rev. 05/19/03

ENVIROSCAN, INC.



Notes:

Coordinates in New Jersey State Plane Grid, NAD-27 geodetic datum.

Survey station locations from DGPS survey by Enviroscan, Inc.

Base map features from information provided by Director of Public Works, U.S. Army.

Data from Geonics, Ltd. EM-31 instrument, vertical dipole mode.

LEGEND

- ▽ TW-6 Target
- ▭ GPR Target
- ✳ Surface Metal

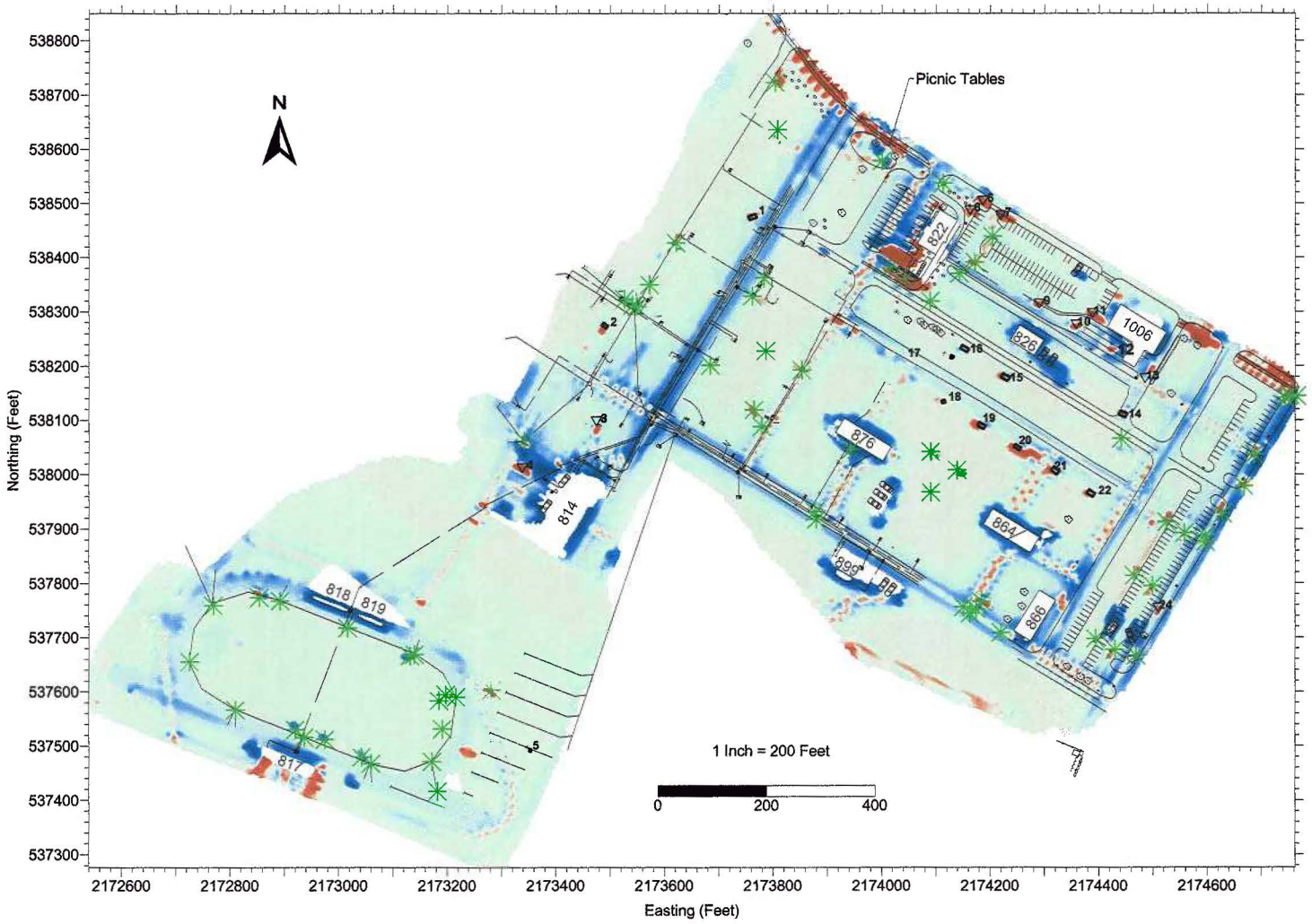
Figure 2

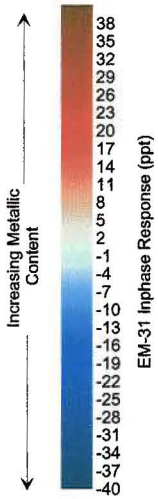
EM-31 Terrain Conductivity Data Contours

US Army
Fort Monmouth, NJ

Enviroscan, Inc.
Project No. 030301
Rev. 05/19/03

ENVIROSCAN, INC.





Notes:

Coordinates in New Jersey State Plane Grid, NAD-27 geodetic datum.

Survey station locations from DGPS survey by Enviroscan, Inc.

Base map features from information provided by Director of Public Works, U.S. Army.

Data from Geonics, Ltd. EM-31 instrument, vertical dipole mode.

LEGEND

- TW-6 Target
- GPR Target
- Surface Metal

Figure 3

EM-31 Inphase Response Data Contours

US Army
Fort Monmouth, NJ

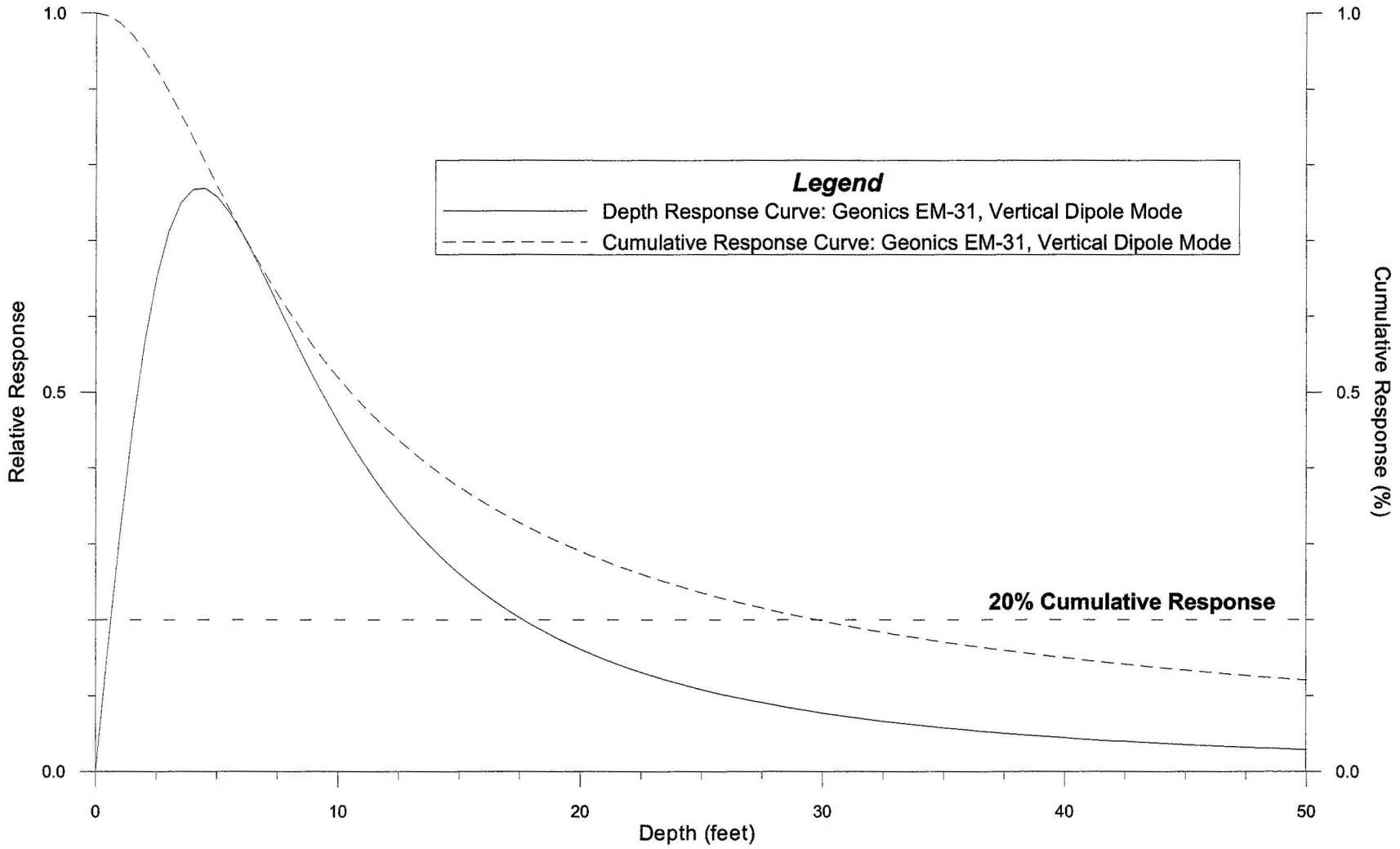
Enviroscan, Inc.
Project No. 030301
Rev. 05/19/03

ENVIROSCAN, INC.

Appendix A

EM-31 Vertical Dipole Mode Depth Response

1051 Columbia Avenue•Lancaster, Pennsylvania•717/396 8922•Fax 717/396 8746•email@enviroscan.com•www.enviroscan.com



EM-31 Vertical Dipole Mode Depth Response

Revised 01/2001

ENVIROSCAN, INC.

Appendix B

GPR Survey Results

Project No. 030301, Fort Monmouth, NJ

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR

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References

McNeill, J.D. (1980a) Electromagnetic Terrain Conductivity Measurement at Low Induction Numbers, Technical Note TN-6, Geonics, Ltd.

Final Report
Geophysical Survey
Compilation and Re-evaluation of Previous Survey Data
Fort Monmouth, Oceanport, NJ
Enviroscan Project Number 111019

Prepared for: US Army, Fort Monmouth
Prepared By: Enviroscan, Inc.
March 10, 2011

(Only 800 Area tables and figures included, for brevity)

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March 10, 2011

Mr. Joseph Fallon
US Army, Fort Monmouth
Directorate of Public Works
ATTN: IMNE-MON-PWE
Building 173
Fort Monmouth, NJ 07703

RE: Geophysical Survey
Compilation and Re-evaluation of Previous Survey Data
Fort Monmouth, Oceanport, NJ
Enviroscan Project Number 111019

Dear Mr. Fallon:

Pursuant to our phone conversations, meetings, and subsequent email communications, Enviroscan, Inc. (Enviroscan) has completed a compilation and reevaluation of all projects performed to date at Fort Monmouth, Oceanport, NJ. The methods and results of this work are described below.

Survey Purpose

The purpose of this survey and report is twofold:

1. To compile the final reports from all work performed by Enviroscan on this site into a single resource document and organize all findings into a single uniform database. This report consolidates Enviroscan projects numbered:

    i. 030301
    ii. 080303
    iii. 060421
    iv. 070521
    v. 060706d
    vi. 100814

2. To perform a final reevaluation of the data and results from previous surveys, leading to a final site visit to scan areas requiring further investigation based on the data reevaluation.

The site project history below summarizes the timing of all work done to date on the site and describes the decision-making processes through time that drove the reevaluation of the survey data, and the further investigative actions required as a result of these processes.

Site Project History

Enviroscan has performed multiple surveys for the Directorate of Public Works (DPW) of Fort Monmouth. The table below lists these surveys in order of completion.

Project #	Location(s)	Purpose	Field Survey End Date
030301	800 Area	Detect and delineate possible underground storage tanks (USTs) and construction debris	05/22/2003
080303	700 Area	Same	10/08/2003
060421	400 Area	Same	08/04/2004
070521	200 Area	Same	08/18/2005
060706d	Parcels 13, 14, 15, 28, 27, 51, 76, and 79	Same	10/11/2007
100814	200, 400, 700, 800	Re-evaluate data to locate anomalies not identified in previous reports	09/18/2008
111019	All previous areas	Scan areas found in final data reevaluation	10/27/2010

Projects 030301, 080303, 060421, 070521 were performed for Douglas Guenther, formerly of the Fort Monmouth DPW. Project 060706d was performed for Shaw Environmental, Inc. for the Environmental Condition of Property (ECP) report under the current Fort Monmouth DPW, Joseph Fallon.

For all of these projects, the areas of concern were first digitally mapped with an EM instrument, either an EM-31 or an EM-61 (described in the Methods section). The processed EM data were then utilized to identify EM anomalies characteristic of underground storage tanks (USTs) and buried debris. Identified anomalies were then re-acquired and further characterized with a TW-6 handheld metal detector and ground penetrating radar (GPR). The classification of anomalies was determined utilizing the results of the handheld metal detector and GPR data. Classifications of anomalies varied with each project depending on the project manager; however, a general scheme can be pulled from the original project findings. EM anomalies were generally classified as: Surface Metal, Possible Subsurface Metallic Debris, and Possible UST. The main distinction between metallic debris and possible UST was the presence of a characteristic hyperbolic-shaped GPR reflection pattern of the type commonly associated with USTs. The full, detailed survey methods are described below.

Field verification, by the DPW, of the data for Project 060706d commenced some time after submittal of the report in March of 2008. Discrepancies between data collected in the 400 Area during Projects 060421 and 060706d were identified and discussed between the DPW and Enviroscan in April of 2008. Several anomalies present in the 060706d data were not apparent in the 060421 data. The major difference between these two projects was the software used to process the data. It was decided that all work pre-dating Project 060706d would be re-processed with the new software package (Oasis Montaj© by Geosoft, Inc.) that was used in the processing of the data for Project 060706d. This software package has different and improved processing and contouring routines than those used in the past (Excel by Microsoft Corp. and Surfer by Golden Software, Inc.). The newly processed and contoured data were then re-examined for EM anomalies that may not have been previously delineated and which exhibited characteristics of a UST. Fieldwork was performed (under Project 100814) to re-acquire and characterize any anomalies identified in the reprocessing of the older data. The results of this project were submitted, and were verified by subsequent fieldwork.

During this period, the DPW also compiled and geo-referenced historic data concerning the location of fuel oil tanks on the base. These data were compared to the results of Enviroscan's surveys in April 2009 and subsequent field verifications, and revealed the need for further evaluation including:

1) The presence of USTs at EM anomalies classified as "possible subsurface debris", and
2) The presence of USTs at locations directly adjacent to buildings and underground utilities, in which the EM-31 anomaly created by the utility or building completely overwhelmed any UST anomaly.

Discussions between the DPW and Enviroscan following these findings resulted in solutions as follows: Regarding Issue 1, it was determined that GPR data were not reliable for determining whether an EM/metal detector anomaly should be characterized as a possible UST. It was concluded that any TW-6 metal detector anomaly with sufficient continuous plan-view dimensions should be classified as a possible UST, even without a confirming hyperbolic GPR reflection. Discussions regarding Issue 2 concluded that areas adjacent to buildings and utilities in which the EM-31 data were saturated were to be scanned with a handheld TW-6 metal detector. The actions agreed upon to accommodate these decisions were:

1) to re-evaluate the findings of all previous surveys with the intent of upgrading any metallic debris anomaly of sufficient size to a possible UST, and

2) to scan with a TW-6 the EM anomalies near buildings and utilities, with particular focus on locations where there is geo-referenced historic data indicating the possible presence of a UST.

3) The TW-6 re-investigation (#2) does not include locations of geo-referenced historic UST data at which cultural interference (i.e. fences, buildings, concrete pads) impedes the survey and locations at which the original EM survey was not affected by interference.

The work done to satisfy these issues was performed under Enviroscan Project 111019. Following the fieldwork for the 111019 survey, it was decided to compile all projects and data into this single, comprehensive report and database.

Survey Objectives

The objectives of each of the surveys performed on site were:

- Projects 030301, 080303, 0604021, and 070521 – to delineate possible USTs and areas of buried debris within client-designated portions of the 800, 700, 400, and 200 Areas respectively.

- Project 060706d – to detect and delineate possible USTs in Parcels 13, 14, 15, 28, 51, 76, and 79; and to detect and delineate possible former debris burial areas in Parcel 27; and to detect and delineate possible former septic tanks and dry wells in Parcel 28.

Each survey consisted of two phases. The first phase involved a reconnaissance-level electromagnetic (EM) digital mapping survey to detect any buried metallic material within the survey boundaries. The second phase consisted of a follow-up metal detection and ground penetrating radar (GPR) investigation to further characterize any anomalies detected by the EM survey. Additionally, two small areas within the Parcel 28 Survey Area (060706d) were to be completely scanned with GPR to delineate suspected, possibly non-metallic, septic systems. The following is a summary in chronological order (see table above) of the site descriptions at the time of the initial EM surveys.

800 Area – Project 030301

The area surveyed (Figure 800 A) consisted of 33 acres, located in and around the 800 Area of the Main Post of Fort Monmouth, NJ. The designated area of concern comprised open grass-covered areas, asphalt-covered parking lots, buildings, and a football field. The chain link fence and bleachers surrounding the football field, picnic tables and benches located at Buildings 822 and 836, automobiles in parking lots, and overhead power lines are examples of cultural interference or surficial debris which were present at the time the survey was completed and may preclude detection of buried materials in their immediate vicinity.

700 Area – Project 080303

The area surveyed (Figure 700 A) consisted of two parcels, located in the 700 Area of the Main Post of Fort Monmouth, NJ. The larger parcel encompassed primarily open, mowed fields with a few buildings (mostly along the southern boundary) and stands of trees. The smaller parcel included paved parking areas and grassy areas between buildings.

400 Area – Project 060421

The area surveyed (Figure 400 A) was located in the 400 Area of the Main Post of Fort Monmouth, NJ. The site encompassed open mowed fields extending south-southeast from Parker's Creek to Tilly Avenue. South of Allen Avenue, the fields were populated with various buildings and other structures.

200 Area – Project 070521

The survey area, as shown in Figure 200 A, consisted of a large parade ground (approximately 17 acres in size), two areas north and south of Building 286 (totaling approximately 2 acres), and Cowan Park, located east of Building 286 (totaling approximately 5 acres). Prior to data collection on or near the roadways within the survey area, a handheld metal detector was utilized to determine the presence or absence of metallic reinforcing. All the roadways within the survey area contained metallic reinforcing; therefore, no data were collected on the roadways. The parking areas and regions adjacent to Building 286 were excluded from the survey due to cultural interference (see Figure 200 A). Note that all former structures have been removed and the ground cover consists of manicured grass.

ECP Report – Project 060706d

Parcels 13, 15, 28, 51, 76, and 79 consisted of a mixture of mowed lawns, meadows, paved parking lots, and roadways (Figures 13 A, 15 A, 28 A, 51 A, 51 D, 51 G, 400 A (Parcel 76 inclusive), and 79 A). Parcels 14 and 27 consisted of wooded and overgrown areas (Figures 14 A and 27). At the time of the survey, the vegetation in Parcel 14 had been brush-hogged to a height of several inches. Many of the areas contained active parking lots that had to be cordoned off into smaller sections to perform the survey. Note that this site description has been modified from the original report to fit the format of this report.

Survey Methods

In order to provide detection of large subsurface metallic targets (e.g. USTs) while minimizing interference from surficial debris, Enviroscan performed a combined reconnaissance-level digital EM mapping and follow-up GPR survey.

Enviroscan first performed an EM terrain conductivity and metal detection survey in each area by either hand-carrying or vehicle-towing a Geonics, Ltd. EM-31 or EM-61 instrument. The 200, 400, 800, and 700 Areas were scanned only with the EM-31. For the ECP survey, the instrument utilized depended on the amount of metallic surface clutter (i.e. fences, cars, metallic debris). The survey areas included in the ECP survey contained crowded parking lots. In such cases where the entire parking lot could be scanned at one time or the survey area was clear of obstructions (Parcel 13, Parcel 14, Parcel 28, the northern two sections of Parcel 51, Parcel 76, and Parcel 79) the EM-31 was utilized because it has a larger footprint and depth of sensitivity (it was originally designed as a "drum finder"), but the towing rig requires a large area in which to turn. In cases where only portions of the parking lot could be cleared or there was metallic surface clutter (Parcel 15, the motorpool section of Parcel 51, and the entrance road section of Parcel 14) the EM-61 was used since it is less sensitive to nearby interference sources, and has a smaller turning radius (but has a reduced footprint and depth of sensitivity).

EM-31

The EM-31 employs an electromagnetic transmitter coil to induce an electric current in the earth. This current creates a secondary electromagnetic field that is measured by a receiver coil at a fixed separation of 3.7 meters from the transmitter coil. The secondary electromagnetic field has two components: the quadrature component which is proportional to the bulk electrical conductivity or terrain conductivity (in millimhos per meter or mmho/m) of the subsurface materials, and the inphase component (in parts per thousand or ppt) which is primarily a measure of the relative concentration of metallic material in the subsurface. Note that in the presence of extremely high terrain conductivity material, the dynamic range of the EM-31 can be exceeded (or "saturated"), and the instrument will register spurious negative conductivities (a physical impossibility). These negative conductivities therefore actually represent very high positive conductivities. Similar saturation in the presence of significant metal can cause a spurious negative inphase response that should also be interpreted as a very high positive value.

For this survey, Enviroscan employed an EM-31 in vertical dipole mode. The instrument is almost completely insensitive to small/scattered material at the ground surface, and has a peak sensitivity to material at a depth of approximately five feet. Below five feet, the sensitivity diminishes approximately logarithmically. Approximately 80 percent of the signal originates at depths of less than 25 feet. Therefore, the terrain conductivity or inphase response measured by the EM-31 in vertical dipole mode represents primarily subsurface electrical properties at a depth of five feet (plus or minus), with little contribution from material at the ground surface, and moderate (and diminishing) contribution from materials down to approximately 25 feet. The vertical dipole EM-31 was selected to screen out the potentially time-varying effects of surficial variations in ground cover, while maintaining a significant effective survey depth.

The EM survey was completed by collecting vertical dipole mode terrain conductivity and inphase data along profiles spaced roughly 10 feet apart. Along survey profiles, measurement stations were defined by automatically triggering matching inphase and conductivity readings at 1 to 10 readings per second as the instrument was hand-carried or towed. Areas 200, 400, 700, and 800 were collected a 1 reading per second due to instrument datalogger limitations during those time periods. This results in a data spacing of 3 to 4 feet. The ECP survey data were collected at rates from 5 to 10 readings per second resulting in a data spacing of 1 to 2 feet.

The actual location of each measurement station was digitally recorded using either a backpack-mounted Trimble ProXR (for pre-ECP data) or a Topcon GMS-110 (for ECP and post-ECP data) global positioning system (GPS) receiver in contact with six to eight position-fixing satellites. The GPS positions were differentially corrected using data from a U.S. Coast Guard radio beacon located in Sandy Hook, NJ. The resulting differential GPS (DGPS) positions have a nominal accuracy of better than 3 feet (+/-). The EM stations are depicted as small yellow dots in the data coverage for Figures 200A, 700A, 800A, 13A, 14A, 15, A, 28A, 51A, 51 D, 79A. For Figure 400 A, the data coverage appears as dots colored yellow for data collected during the ECP survey (060706d), orange for data collected during the 400 Area survey (060421), and pink for data collected during the first data re-evaluation survey (100814).

The EM-31 inphase and terrain conductivity data were contoured using minimum curvature gridding routines in Geosoft Oasis Montaj ™. The inphase response and terrain conductivity contours area are depicted in Figures 200 B and C, 400 B and C, 700 B and C, 800 B and C, 13 B and C, 14 B and C, 28 B and C, 51 B and C, 51 E and F, 79 B and C, respectively. Note that the inphase contour levels, in parts per trillion (ppt) are presented as shades of green to red to yellow for increasing positive values and green to blue for increasingly negative values (the equivalent of very high positive values — see above). The conductivity contour levels, in milliSiemens per meter (mS/m), are presented as shades of green to yellow to orange for increasing positive values and green to blue for increasingly negative values (the equivalent of very high positive values — see above).

EM-61

In some areas, Enviroscan also utilized a Geonics EM-61 MK2 instrument. The EM-61 uses a one-meter by ½-meter coil to transmit 150 electromagnetic pulses per second into the ground at each measurement station. A second coil directly above the transmitter, as well as the transmitter itself between pulses, record the decay of transient electrical currents induced by the transmitted pulses at three fixed time gates. Electrical currents in moderately conductive earth materials (e.g. electrolytic soils) dissipate rapidly, leaving the more prolonged currents due to buried metallic objects. The EM-61 measures the surficial electrical potential due to the prolonged subsurface currents, providing a digital read-out of the relative metallic content of the subsurface. Note that the differential response between the top and bottom coils can be used to minimize (but not entirely eliminate) the response from surficial metallic reinforcing or debris that would mask the presence of deeper metal from standard EM, magnetic, metal detector, or GPR instruments.

To complete the EM-61 survey, a system of 5-foot profiles (depicted as rows of tiny yellow dots in Figures 15 A, 51 G, and a small portion of 14 A) was scanned by hand- or vehicle- towing the trailer-mounted EM-61 through all accessible areas of the site. A handheld computer digitally recorded EM-61 station measurements at 5 to 8 readings per second along each profile (for an average station spacing of approximately 8 to 10 inches). The location of each measurement was digitally recorded using a trailer-mounted Topcon GMS-110 geographic positioning system (GPS) receiver in contact with six to eight position-fixing satellites. The GPS positions were differentially corrected using data from a U.S. Coast Guard radio beacon located in Sandy Hook, NJ. The resulting differential GPS (DGPS) positions have a nominal accuracy of better than 3 feet. The EM-61 scanning results are depicted as contours of the individual EM-61 station measurements in Figures 15 B, 51 H and 14 B and C. The contours represent the differential coil response and therefore depict subsurface metal with positive values (in millivolts or mV), with the effect of particularly massive surficial metal targets represented by spurious negative values. The contours were calculated using the minimum curvature algorithm in Oasis Montaj™ by Geosoft, Inc.

TW-6

The Fisher TW-6 pipe and cable locator was utilized in several ways during all of the site surveys. In particular, during the EM data collection phase of the ECP surveys the TW-6 was used to:

- scan areas in which the GPS signal needed for proper location of the EM survey data was insufficient to provide effective location control (such as areas directly adjacent to buildings and heavily wooded areas on Parcels 13, 15, 27, 51, and the motorpool).

- scan in locations not previously scanned by other EM equipment due to the presence of surface obstructions, such as unmoved cars, during the initial EM surveys.

During the follow-up GPR survey the TW-6 was utilized to:

- assist in relocation and delineation of targets identified during digital EM-31 or EM-61 mapping (all surveys).

Finally, during the data reevaluation (100814, and 111019) surveys, the TW-6 was utilized to:

- scan within a 20-foot apron around buildings and along utility corridors to identify possible USTs that could have been masked by the anomalies resulting from the proximity (nearby or below) of metal in the building structures and metallic piping/wiring in subsurface utility corridors, and

- scan in locations found in the data re-evaluation of Areas 200, 400, 700, and 800 that had not previously scanned by other EM equipment due to the presence of surface obstructions, such as cars, during the initial EM mapping surveys (i.e. to fill "data gaps"). Please note that in Parcels 700 and 800 there were several buildings present during the initial EM surveys in 2003 that were subsequently removed before the data re-evaluations surveys (2008 and 2010). The footprints of those former buildings were also scanned with the TW-6.

In pipe and cable search mode, the TW-6 is essentially a deep-sensing metal detector that detects any highly electrically conductive materials (e.g. metals) by creating an electromagnetic field with a transmitting coil. A receiving coil at a fixed separation from the transmitter measures the field strength. As the instrument is swept along the ground surface, subsurface metallic bodies distort the transmitted field. The change in field strength/orientation is sensed by the receiver, setting off an audible alarm and/or causing deflection of an analog meter. The TW-6 can nominally detect a 2-inch metal pipe to a depth of 8 feet and a 10-inch metal pipe to a depth of 14 feet.

Data Evaluation and GPR Follow-up

The EM mapping data were inspected for strong anomalies with distinct boundaries and footprint dimensions sufficient to be consistent with a buried metallic UST. For the EM-31, typically the values of the inphase and terrain conductivity reading over a large concentration of metal are both elevated; however, in some cases the inphase reading may not significantly deviate from background levels while the terrain conductivity readings deviate significantly. Therefore, both the inphase and terrain conductivity data were inspected for anomalies consistent with buried metal. For the ECP survey (060706d), these anomalies were compared to high-resolution aerial photos to identify any obvious surficial sources for the EM anomalies, such as catch basins and manhole covers. For the ECP survey, anomalies with no obvious source were designated as targets, and positions for these anomalies were uploaded into the GPS controller for later navigation/reacquisition during the GPR follow-up survey. For the pre-ECP surveys, all EM anomalies consistent with a buried metallic object were designated as targets because high-resolution aerial photos were not available at the time of the surveys.

Electronic maps of the contoured EM data were generated and utilized in concert with GPS navigation to determine the possible sources of the target anomalies in each survey area. Each anomaly location was inspected and its source was determined. Common sources included metallic surface debris not seen on the aerial photos (i.e. metal scraps and debris, metallic equipment), subsurface utilities as evidenced by associated surface objects (catchbasins, manholes), and subsurface metal of unknown source. The most common source of metallic surface debris was manhole covers, storm catch basins, and metal road signs. In the case of an unknown possible subsurficial source, a Fisher Labs TW-6 handheld metal detector was utilized to reacquire and characterize the plan-view footprint of that target. The TW-6 was utilized because it has a similar sensitivity and response to subsurface metal as the EM-61. The TW-6 has an audible alarm and visual meters that indicate the strength of the response, allowing the operator to mark the location of the EM anomaly's outer boundary.

Following navigation to EM anomalies (using DGPS) and delineation with the TW-6 handheld metal detector, the EM targets were then scanned with GPR to identify any continuous, high-amplitude hyperbolic reflections of the type commonly associated with USTs. GPR systems produce cross-sectional images of subsurface features and layers by continuously emitting pulses of radar-frequency energy from a scanning antenna as it is towed along a survey profile. The radar pulses are reflected by interfaces between materials with differing dielectric properties. The reflections return to the antenna and are displayed on a color monitor as a continuous cross section in real time. Since the electrical properties of metal are distinctly different from soil and backfill materials, metallic pipes and other structures produce dramatic and characteristic reflections. Fiberglass, plastic, concrete, and terra-cotta pipes and structures also produce recognizable, but less dramatic reflections. Scanning was performed using a GSSI SIR-2000 GPR unit with a color display and internal hard-drive, and a 400 or 500 MegaHertz (MHz) antenna nominally capable of scanning to depths of up to 10 feet, depending on soil conditions. In the southern two areas of Parcel 51, much of the paved areas were underlain by fill material containing suspected slag. GPR signal penetration was limited to less than 3 to 5 feet in these areas.

GPR scanning was performed by hand-towing the antenna along numerous and variously-oriented profiles crossing the footprints of EM anomalies defined by the TW-6. The GPR profiles were inspected in real time to identify reflections of the type commonly associated with cylindrical targets like tanks and drums.

Targets that were positively re-acquired with the TW-6 that did not result from surface metallic features, and had a recognizable GPR reflection associated with the metallic anomaly were then classified in several ways. The final classification regarding the possible UST and suspected UST classes was decided at the meeting between Enviroscan and the DPW in June of 2010, as follows:

- Surface Metal (SM) – target re-acquisition revealed a surface metal source for the EM anomaly.

- False Positive (FP) – target re-acquisition resulted in no detectable surface metal source and no TW-6 response associated with the mapped EM anomaly. These could be caused by very small buried debris, transient EM interference from passing cars, operator-induced spikes such as from inadvertently jerking or twisting the instrument, causing the GPS antenna or the operator's body to move within the field of sensitivity.

- Identified Metal (IM) – target re-acquisition resulted in subsurface metal with an indentified source such as utility pipe or line.

- Metallic Debris (MD) – a singular metallic target without the sufficient footprint dimensions to be a UST, and showing no GPR reflection characteristics indicative of a UST.

- Possible UST (PT) – a singular metallic target with sufficient size and shape for a UST, but that **does not have** GPR reflections characteristic of a UST.

- Suspected UST (ST) – A singular metallic target with the proper size, shape, and high-amplitude hyperbolic GPR reflections characteristic of a UST.

Anomalies that did not fit into the above categories, for various reasons, are described individually below. Also note the anomalies classified as Surface Metal, False Positive, and Identified Metal are depicted as a singular symbol on all maps. This was done because all three of these classifications will not result in the need to revisit any of these anomalies types and also to simplify the maps.

200 Area Results

(Formerly 070521)

The EM inphase and terrain conductivity survey results are depicted on Figures 200 B and 200 C, respectively. Enviroscan initially reported 19 anomalies in the original survey for the 200 Area (070521). The data re-evaluations delineated no additional targets (100814 and 111019) and upgraded two former targets to Possible USTs. Additionally, four large area terrain conductivity anomalies (labeled A through D, Figures 2 and 3) were delineated within the survey area. The color scheme for the terrain conductivity for this area was altered from the original to enhance these four anomalies. Anomalies A and B could be related to former structures although no known former structures were located at those locations. Anomaly C, directly adjacent to Wallington Avenue, is located very close to a known former structure. Anomaly D is coincident with a former parking lot. Multiple linear high-amplitude anomalies consistent with utilities (see green dash-dot lines, Figures 200 B and 200 C) are visible within the data set.

The TW-6 was utilized to scan the utility corridors in which the saturated EM data may have masked the presence of a UST. The scanning found no additional targets.

Results of the GPR/TW-6 follow-up scanning are given in Table 1. In summary, GPR scanning of the 19 targets revealed:

- 9 targets that were associated with surface metal (SM);
- 2 targets that could not be relocated with the TW-6 (FP);
- 1 target with the characteristics of an abandoned-in-place utility (IM);
- 4 targets that are interpreted as buried manhole covers (IM);
- 2 targets with TW-6 anomalies large enough to be a UST; however, the GPR showed only multiple high-amplitude near-surface reflections. These anomalies are classified as possible USTs (PT); and
- 1 target that had continuous, high-amplitude parabolic reflections indicative of a suspected buried intact UST (ST).

400 Area Results

(Formerly 060421 and ECP Parcel 79)

The EM-31 survey results for the 400 Area also include the results for Parcel 79 of the ECP Report (060706d). The results are depicted in Figures 400 B and 400 C, showing the inphase and terrain conductivity results, respectively. Enviroscan initially reported one GPR anomaly consistent with a UST and 215 anomalies associated with surface metal in the original survey for the 400 Area (060421). The scanning performed for the ECP - Parcel 76 survey showed 34 anomalies (060706d). Multiple linear high-amplitude anomalies consistent with utilities (see green dash-dot lines, Figures 400 B and 400 C) are visible within the data set.

The data re-evaluations added seven additional targets and upgraded eight former targets to possible USTs (100814 and 111019).

The TW-6 was utilized to scan the utility corridors and building perimeters in which the saturated EM data may have masked the presence of a UST. The scanning found three additional targets with a TW-6 footprint large enough to be a UST. GPR scanning was not performed for these anomalies.

Results of the GPR/TW-6 follow-up scanning for all targets are listed in Table 1. In summary, follow-up scanning of the 261targets revealed:

- 222 targets that were associated with surface metal (SM);
- 2 targets that could not be relocated with the TW-6 (FP);
- 6 target with the characteristics of an in place utility (IM);
- 12 targets with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD);
- 15 targets with TW-6 anomalies large enough to be a UST; however, the GPR showed only multiple high-amplitude near-surface reflections. These anomalies are classified as possible USTs (PT); and
- 4 targets with high-amplitude parabolic reflections indicating a possible UST (ST).

700 Area

(Formerly 080303)

The EM-31 survey results are depicted in Figures 700 B and 700 C, showing the inphase and terrain conductivity results, respectively. Enviroscan initially reported 60 anomalies in the original survey for the 700 Area (080303). Multiple linear high-amplitude anomalies consistent with utilities (see green dash-dot lines in Figures 700 B and 700 C) are visible within the data set.

The data re-evaluations delineated six additional targets (100814), two of which showed characteristics consistent with the Possible UST classification, and 19 former unknowns that were upgraded to Possible USTs (see explanation below).

Please note that the original field notes for this survey (080303) do not indicate TW-6 footprint size of the re-acquired EM anomalies. The original report text does indicate that GPR scanning of the anomalies did not delineate any high-amplitude parabolic features characteristic of USTs. As a result, 19 of the EM targets have to be classified as Possible USTs (PT). Also note that seven of those anomalies are in close proximity to the DPW's geo-referenced fuel tank data.

The TW-6 was utilized to scan the utility corridors and former building perimeters in which the saturated EM data may have masked the presence of a UST. Please note that in the time between the original EM-31 survey (2003) and the most recent survey, many of the buildings present in the 2003 survey area were removed (see buildings with red "X", Figures 700 B and C). Subsequently, these former building footprints were also scanned with the TW-6. The TW-6 scanning found two additional targets with a TW-6 footprint large enough to be a UST. GPR scanning was not performed for these anomalies.

The results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of the 68 targets revealed:

- 38 targets that were associated with surface metal (SM);
- 3 target with the characteristics of an in-place utility (IM);
- 4 targets with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD);
- 19 targets with unknown TW-6 anomaly footprint, and GPR anomalies not characteristic of USTs. These anomalies are classified as possible USTs (PT). and;
- 4 targets with TW-6 anomalies large enough to be USTs; however, the GPR showed only multiple high-amplitude near-surface reflections. These anomalies are classified as possible USTs (PT).

800 Area

(Formerly 030301)

The EM-31 survey results are depicted in Figures 800 B and 800 C, showing the inphase and terrain conductivity results, respectively. Enviroscan initially reported 93 anomalies in the original survey for the 800 Area (030301). Multiple linear high amplitude anomalies consistent with utilities (see green dash dot lines in Figures 700 B and 700 C) are visible within the data set.

The TW-6 was utilized to scan the utility corridors and former building perimeters in which the saturated EM data may have masked the presence of a UST. Please note that in the time between the original EM-31 survey (2003) and the most recent survey, many of the buildings present in the 2003 survey area were removed (see buildings with red "X", Figures 800 B and C). Subsequently, these former building footprints were also scanned with the TW-6.

The data re-evaluations and TW-6 scanning delineated 11 additional targets (100814 and 111019) and upgraded 3 anomalies to Possible USTs.

The results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of the 104 targets revealed:

- 75 targets that were associated with surface metal (SM);
- 1 target with the characteristics of an in place utility (IM);
- 8 targets with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD);
- 5 targets with TW-6 anomalies large enough to be a UST; however the GPR showed only multiple high-amplitude near-surface reflections. These anomalies are classified as possible USTs (PT). and;
- 15 targets with high-amplitude parabolic reflections indicating a possible UST (ST).

ECP Survey

(Formerly 060706d)

Parcel 13

The EM survey results are depicted in Figures 13B and 13C, showing the inphase and terrain conductivity results, respectively. Enviroscan identified a total of 19 target EM anomalies. Three small portions of this area had to be scanned with the TW-6 due to tree cover and surface obstructions. No metallic anomalies large enough to be a UST were delineated. Four large linear anomalies (suspected utilities) were delineated within this area (green dash-dot lines).

The TW-6 was utilized to scan the utility corridors in which the saturated EM data may have masked the presence of a UST. The scanning found no additional targets.

The results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of the 19 targets revealed:

- 8 targets that were associated with surface metal (SM);
- 6 target with the characteristics of an in place utility (IM);
- 1 target with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD)
- 2 targets that could not be relocated with the TW-6 (FP); and
- 2 targets with TW-6 anomalies large enough to be a UST; however the GPR showed only multiple high-amplitude near-surface reflections. These anomalies are classified as possible USTs (PT).

Parcel 14

The EM survey results are depicted in Figures 14B and 14C, showing the inphase and terrain conductivity results, respectively. Enviroscan identified a total of 136 target EM anomalies. The majority of the area was scanned with the EM-31. The entrance road, security checkpoint, and areas adjacent to them were scanned with the EM-61 due to the amount of surface metal and tight confines.

The TW-6 was utilized to scan the utility corridors in which the saturated EM data may have masked the presence of a UST. The scanning found no additional targets.

The results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of these 136 targets revealed:

- 91 targets that were associated with surface metal/debris (previously unaccounted for);
- 9 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 metallic debris, not USTs;
- 6 targets with the characteristics of an abandoned-in-place utility;
- 29 targets with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD) ;
- 1 target with a low-amplitude parabolic GPR reflection that could be a possible UST.

Parcel 15

The EM-61 survey results are depicted in Figures 15B and 15 C, showing the data coverage and differential response contours respectively. Enviroscan identified a total of 41 target EM anomalies. This area was scanned with the EM-61 because the parking lots compromising most of the area could only be cordoned off in small portions and the EM-61 towing rig is better suited for the necessary tight turns. Several areas in this parcel were scanned, during the initial survey (060706d), with only the TW-6 due to interference of the GPS signal by nearby buildings and trees and the presence of parked cars during the EM survey. Multiple linear high-amplitude anomalies consistent with utilities (see green dash-dot lines in Figures 15 B and 15 C) are visible within the data set.

Scanning of the utility corridors in which the saturated EM data may have masked the presence of a UST was not needed in this area because the EM-61 instrument is not as highly effected by nearby utilities.

The results of the GPR/TW-6 follow-up scanning are listed in Table 15. In summary, GPR scanning of the 41 targets revealed:

- 9 targets that were associated with surface metal/debris (SM) ;
- 31 targets with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD) and;
- 1 target with TW-6 anomaly large enough to be a UST; however the GPR showed only multiple high-amplitude near-surface reflections. This anomaly is classified as a possible UST (PT).

Parcel 27

The Parcel 27 area (depicted in Figure 27) was small and heavily wooded, and GPS signal could not be received within the entire area. The area was cleared of brush and scanned with the TW-6 on a 5-foot line spacing. No anomalies indicative of debris or UST burials were delineated.

Parcel 28

The EM-31 survey results are depicted in Figures 28B and 28C, showing the inphase and terrain conductivity results, respectively. Enviroscan identified a total of 23 EM anomalies. Multiple linear high amplitude anomalies consistent with utilities (see green dash dot lines in Figures 28 B and 28 C) are visible within the data set.

The TW-6 was utilized to scan the utility corridors in which the saturated EM data may have masked the presence of a UST. The scanning found no additional targets.

The results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of the 23 targets revealed:

- 8 targets that were associated with surface metal/debris (SM);
- 5 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 not a UST, nor the drywell originally sought by this survey (MD);
- 5 targets with the characteristics of a utility (IM);
- 4 targets with TW-6 footprints too small to be a UST and GPR images not characteristic of USTs (MD) and;;
- 1 target with the high-amplitude parabolic reflections indicating a possible UST (ST).

Additional GPR scanning was conducted in the small, roughly square areas labeled A and B in the Parcel 28 figures. These areas are thought to contain possible remnant septic system features. Several anomalies were delineated. In Area A, a roughly 4-foot x 6-foot non-metallic anomaly was delineated, which may represent a former septic holding tank reported to have been left in place in that area (labeled P28_23). In Area B, GPR showed a 10-foot x 10-foot high-amplitude flat anomaly characteristic of a box-shaped septic tank. Additionally, a high-amplitude non-metallic linear anomaly was partially delineated leading west from the suspected septic tank. This linear anomaly is suspected to be the former supply pipe to a septic distribution box. No other features of the suspected septic systems in Areas A and B were observed.

Parcel 51 Area 1 - Adjacent to Building 600

The EM-31 survey results are depicted in Figures 51 B and 51 C, showing the inphase and terrain conductivity results, respectively. Enviroscan identified a total of 34 EM anomalies. 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. Multiple linear high-amplitude anomalies consistent with utilities (see green dash-dot lines in Figures 51 B and 51 C) are visible within the data set.

The data re-evaluations upgraded four anomalies to Possible USTs (111019).

The TW-6 was utilized to scan the utility corridors in which the saturated EM data may have masked the presence of a UST. The scanning found no additional targets.

The results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of the 35 targets revealed:

- 16 targets that were associated with surface metal/debris (SM);
- 8 targets that could not be relocated with the TW-6 (FP);
- 5 targets with the characteristics of a utility (IM);
- 1 target with TW-6 footprint too small to be UST and GPR image not characteristic of a UST (MD);
- 4 targets with TW-6 anomalies large enough to be a UST; however the GPR showed only multiple high-amplitude near-surface reflections. These anomalies are classified as possible USTs (PT);
- 1 target with high-amplitude parabolic reflections indicating a possible UST (ST).

Parcel 51 Area 2 – Between Semaphore Ave. and Avenue of Memories

The EM-31 survey results are depicted in Figures 51 E and 51 F, showing the inphase and terrain conductivity results, respectively. Enviroscan identified a total of 15 EM anomalies. 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. Multiple linear high amplitude anomalies consistent with utilities (see green dash-dot lines in Figures 51 B and 51 C) are visible within the data set.

The TW-6 was utilized to scan the utility corridors in which the saturated EM data may have masked the presence of a UST. The scanning found no additional targets.

The results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of the 15 targets revealed:

- 6 targets that were associated with surface metal/debris (SM);
- 5 targets that could not be relocated with the TW-6 (FP);
- 2 targets with the characteristics of a utility (IM);
- 2 targets with high-amplitude parabolic reflections indicating a possible UST (ST).

Parcel 51 Area 3 - Motorpool

The EM-61 survey results are depicted in Figure 51 H, showing the differential response contours. Enviroscan identified a total of 75 EM anomalies. This area was scanned with the EM-61 because of a large amount of surface metal and the parking lots compromising most of the area could only be cordoned off in small portions and the EM-61 towing rig is 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. Multiple linear high-amplitude anomalies consistent with utilities (see green dash-dot lines in Figure 51 H) are visible within the data set.

Scanning of the utility corridors in which the saturated EM data may have masked the presence of a UST was not needed in this area because the EM-61 instrument is not as highly affected by nearby utilities; however, during the data re-evaluations it was noted that several geo-referenced fuel tank locations coincided within high-amplitude anomalies caused by fencing around the motorpool facility. Scanning along the northern fence boundary resulted in one TW-6 anomaly with a size characteristic of a UST. Scanning along the southern fence boundary was not successful. The possible fuel tank locations were too close to the fence, resulting in interference with the TW-6.

The data re-evaluations upgraded six anomalies to Possible USTs (111019).

Results of the GPR/TW-6 follow-up scanning are listed in Table 1. In summary, GPR scanning of the 75 targets revealed:

- 36 targets that were associated with surface metal/debris (SM);
- 12 targets that could not be relocated with the TW-6 (FP);
- 4 targets with the characteristics of a utility (IM);
- 7 targets with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD);
- 7 targets with TW-6 anomalies large enough to be a UST; however the GPR showed only multiple high-amplitude near-surface reflections. These anomalies are classified as possible USTs (PT);
- 9 targets with high-amplitude parabolic reflections indicating a possible UST (ST).

Targets located on the asphalt-covered portions within this area could not be scanned with the TW-6 due to suspected high metal content fill material (e.g. slag); therefore, only GPR was utilized in these areas.

Parcel 76

The EM-31 survey results are depicted in Figures 76 B and 76 C, showing the inphase and terrain conductivity results, respectively. Enviroscan identified a total of 24 target EM anomalies. Multiple linear high-amplitude anomalies consistent with utilities (see green dash-dot lines in Figures 76 B and 76 C) are visible within the data set.

The TW-6 was utilized to scan the utility corridors in which the saturated EM data may have masked the presence of a UST. The scanning found no additional targets.

Results of the GPR/TW-6 follow-up scanning are listed in Table 76. In summary, GPR scanning of the 24 targets revealed:

- 14 targets that were associated with surface metal/debris (SM);
- 2 targets with TW-6 footprints too small to be USTs and GPR images not characteristic of USTs (MD);
- 1 target with TW-6 anomaly large enough to be a UST; however, GPR showed only multiple high-amplitude near-surface reflections. This anomaly is classified as a possible UST (PT). Please see **Note** Below;
- 7 targets with high-amplitude parabolic reflections indicating a possible UST (ST).

Note: During the data re-evaluation (100814), Enviroscan was tasked with confirming that an eighth UST located near Anomaly 7610 (Figure 76 B), not found during the ECP survey, was in-fact no longer present. Enviroscan employed an EM-61 to scan the area directly adjacent to the suspected location of the UST. The results of that scan are depicted in Figure 76 D. The results show only anomalies consistent with utilities. As a visual comparison, Enviroscan also scanned several known suspected USTs to compare the resulting anomalies with the area scanned for Anomaly 7610. The target 7610 classification will remain a possible UST due to the close proximity of the utilities to the possible UST location.

Survey Results Summary

The following table summarizes the total number of Metallic Debris, Possible USTs, Suspected USTs and Suspected septic tanks. A more detailed tabulation is included as Table 2.

Area	Metallic Debris	Possible USTs	Suspected USTs	Suspected Septic Tanks
200	0	2	1	0
400 and ECP Parcel 79	12	15	4	0
700	4	23	0	0
800	8	5	15	0
ECP Parcel - 13	1	2	0	0
ECP Parcel - 14	29	1	0	0
ECP Parcel - 15	31	1	0	0
ECP Parcel - 27	NA	NA	NA	NA
ECP Parcel - 28	4	0	1	2
ECP Parcel - 51	8	11	12	0
ECP Parcel - 76	2	1	7	0
Total	99	61	40	2

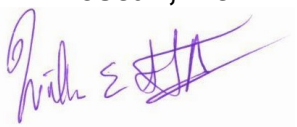
Limitations

The geophysical survey described above was completed using standard and/or routinely accepted practices of the geophysical industry and equipment representing the best available technology. Enviroscan does not accept responsibility for survey limitations due to inherent technological limitations or site-specific conditions. However, we make every effort to identify and notify the client of such limitations or conditions.

Note that by re-processing older data with current software, and revisiting identified anomalies with current instruments, Enviroscan has reached the limit of the current best available technology for detecting USTs and discriminating them from remnants of structures, utilities, debris and other clutter.

We have appreciated this opportunity to have worked with you. If you have any questions, please do not hesitate to contact the undersigned.

Sincerely,
Enviroscan, Inc.



William E. Steinhart III, M.Sc., P.G.
Geophysics Project Manager

Technical Review By:
Enviroscan, Inc.



Felicia Kegel Bechtel, M.Sc., P.G.
President

enc.: Figure 200A: Parcel 13, EM-31 Data Coverage
Figure 200B: Parcel 13, EM-31 Inphase Response
Figure 200C: Parcel 13, EM-31 Terrain Conductivity Response

Figure 400A: Parcel 13, EM-31 Data Coverage
Figure 400B: Parcel 13, EM-31 Inphase Response
Figure 400C: Parcel 13, EM-31 Terrain Conductivity Response

Figure 700A: Parcel 13, EM-31 Data Coverage
Figure 700B: Parcel 13, EM-31 Inphase Response
Figure 700C: Parcel 13, EM-31 Terrain Conductivity Response

Figure 800A: Parcel 13, EM-31 Data Coverage
Figure 800B: Parcel 13, EM-31 Inphase Response
Figure 800C: Parcel 13, EM-31 Terrain Conductivity Response

Figure 13A: Parcel 13, EM-31 Data Coverage
Figure 13B: Parcel 13, EM-31 Inphase Response
Figure 13C: Parcel 13, EM-31 Terrain Conductivity Response

Figure 14A: Parcel 14, EM-31 Data Coverage
Figure 14B: Parcel 14, EM-31 Inphase Response
Figure 14C: Parcel 14, EM-31 Terrain Conductivity Response

Figure 15A: Parcel 15, EM-61 Data Coverage
Figure 15B: Parcel 15, EM-61 Differential Response

Figure 27: Parcel 27, TW-6 Investigation

Figure 28A: Parcel 28, EM-31 Data Coverage
Figure 28B: Parcel 28, EM-31 Inphase Response
Figure 28C: Parcel 28, EM-31 Terrain Conductivity Response

Figure 51 A: Parcel 51-Adjacent to Building 600, EM-31 Data Coverage
Figure 51 B: Parcel 51-Adjacent to Building 600, EM-31 Inphase Response
Figure 51 C: Parcel 51-Adjacent to Building 600, EM-31 Terrain Conductivity Response

Figure 51 D: Parcel 51– Between Semaphore Ave and Avenue of Memories, EM-31 Data Coverage
Figure 51 E: Parcel 51 – Between Semaphore Ave and Avenue of Memories, EM-31 Inphase Response
Figure 51 E: Parcel 51– Between Semaphore Ave and Avenue of Memories, EM-31 Terrain Conductivity Response

Figure 51 G: Parcel 51- Motorpool, EM-61 Data Coverage
Figure 51 H: Parcel 51- Motorpool, EM-61 Differential Response

Figure 76A: Parcel 76, EM-31 Data Coverage
Figure 76B: Parcel 76, EM-31 Inphase Response
Figure 76C: Parcel 76, EM-31 Terrain Conductivity Response
Figure 76D: Parcel 76, EM-61 Test Results

Table 1: GPR and Metal Detection Follow-up Survey Results
Table 2: Tabulation of Targets resulting in a classification of:
Metallic Debris, Possible UST, and Suspected UST



Notes:

Coordinates in New Jersey State Plane Grid, NAD83 datum.

Data collected with Geonics, Ltd. EM-31.

Aerial photo supplied by Shaw Environmental, Inc.

Prepared For:

Enviroscan, Inc.
1051 Columbia Avenue
Lancaster, PA
(717) 396-8922
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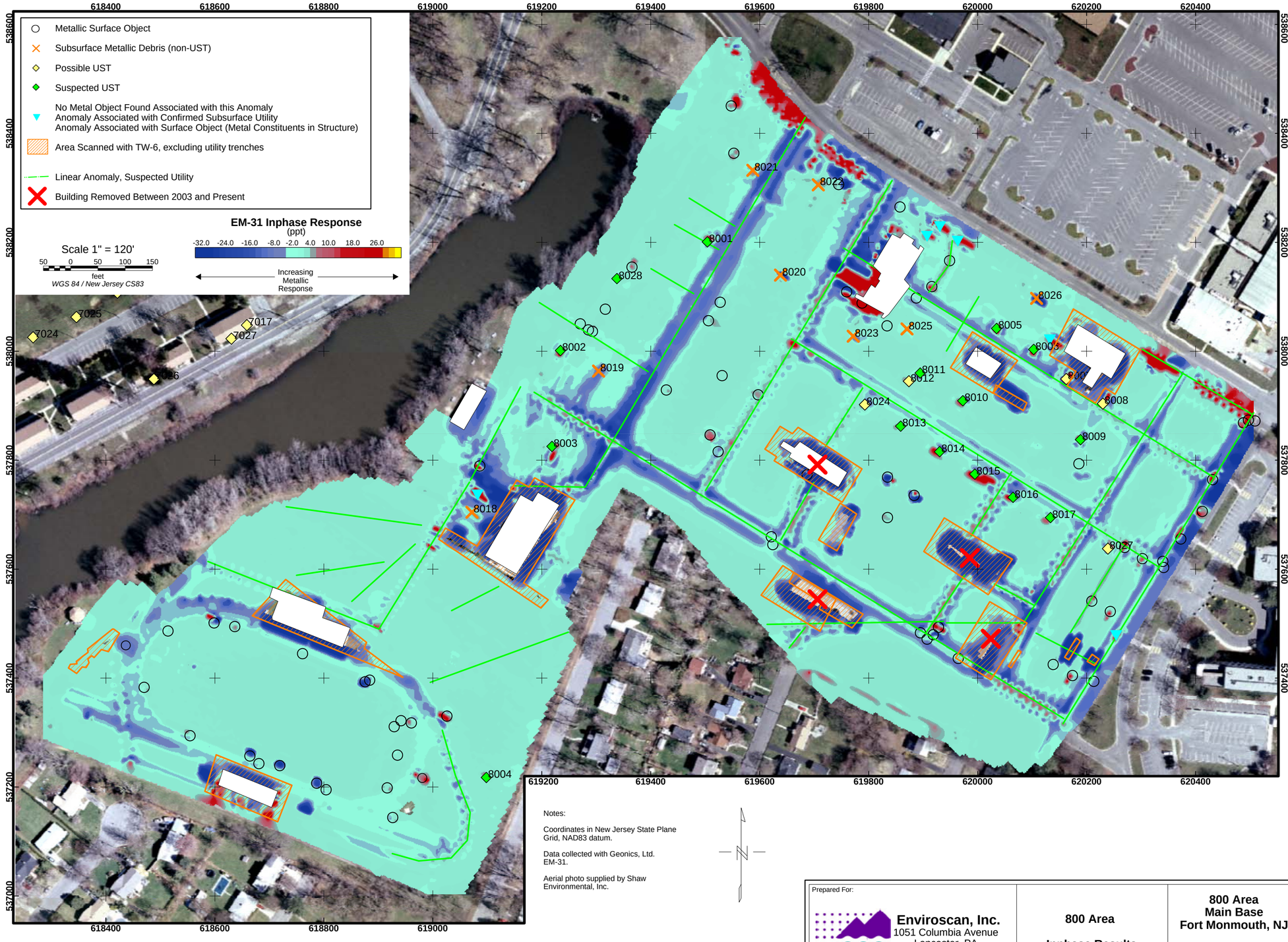
800 Area

Data Coverage

800 Area
Main Base
Fort Monmouth, NJ

Figure **800 A**

Project Number	Survey Ending Date:	Drawn By:
111019 Original 030301	10/28/10	WES
Original Scale	**Revision/Issue:**	**Approved By:**
1"=120'	12/01/10 Original 05/22/03	FKB



Notes:

Coordinates in New Jersey State Plane Grid, NAD83 datum.

Data collected with Geonics, Ltd. EM-31.

Aerial photo supplied by Shaw Environmental, Inc.

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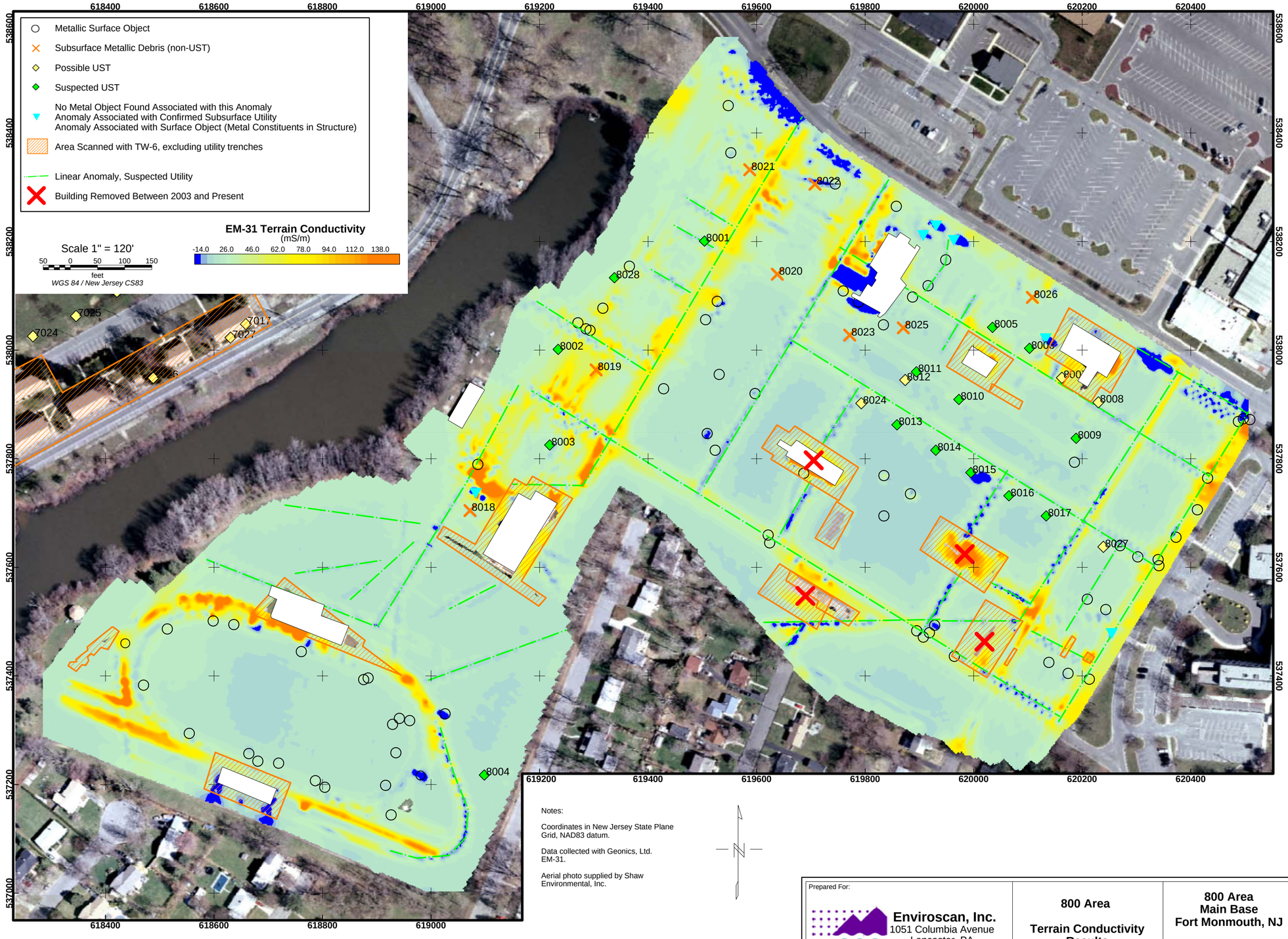
800 Area

Inphase Results

800 Area
Main Base
Fort Monmouth, NJ

Figure **800 B**

Project Number	Survey Ending Date:	Drawn By:
111019 Original 030301	10/28/10	WES
Original Scale	**Revision/Issue:**	**Approved By:**
1"=120'	03/10/11 Original 05/22/03	FKB



Notes:

Coordinates in New Jersey State Plane Grid, NAD83 datum.

Data collected with Geonics, Ltd. EM-31.

Aerial photo supplied by Shaw Environmental, Inc.

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800 Area

Terrain Conductivity Results

800 Area
Main Base
Fort Monmouth, NJ

Figure **800 C**

Project Number	Survey Ending Date:	Drawn By:
111019 Original 030301	10/28/10	WES
Original Scale	**Revision/Issue:**	**Approved By:**
1"=120'	03/10/11 Original 05/22/03	FKB

Table 1
Ground Penetrating Radar and
Metal Detection
Follow-up Survey Results

Anomaly ID	Former Anomaly ID	Original Project #	Anomaly Re-Acquired by Small Area Metal Detection	Metal Detection (MD) Anomaly Size (feet)	GPR Anomaly Size (feet)	Description From Original Report	Easting	Northing	New Classification	Upgraded to PT from MD	Notes
800 Area											
8001	1	030301	Yes	Not Recorded	7' x 14'	7' x 14' High-Amplitude Parabolic Reflector	619503.9	538200.8	ST		
8002	2	030301	Yes	Not Recorded	6' x 10'	6' x 10' High-Amplitude Parabolic Reflector	619234.3	538001.4	ST		
8003	3	030301	Yes	Not Recorded	6' x 10'	6' x 10' Low-Amplitude Parabolic Reflector, Poor GPR Penetration	619218.7	537825.3	ST		
	4	030301	Yes	Not Recorded	N/A	Linear anomaly from storm sewer line towards Building 814	619082.2	537739.3	IM		
8004	5	030301	Yes	Not Recorded	3' x 4'	3' x 4' High-Amplitude Parabolic Reflector	619098.2	537217.5	ST		
	6	030301	Yes	Not Recorded		Reinforced concrete sidewalk, poor signal penetration using GPR.	619930.8	538231.8	SM		
	7	030301	Yes	Not Recorded		Reinforced concrete sidewalk, poor signal penetration using GPR.	619963.5	538205.1	SM		
	8	030301	Yes	Not Recorded		Reinforced concrete sidewalk, poor signal penetration using GPR.	619907.1	538214.1	SM		
8005	9	030301	Yes	8' x 13'	N/A	8' x 13' EM anomaly	620034.7	538041.9	ST		
8006	10	030301	Yes	8' x 12'	N/A	8' x 12' EM anomaly	620102.9	538003.4	ST		
	11	030301	Yes	N/A	N/A	Reinforced Concrete Sidewalk	620132.6	538024.1	SM		
8007	12	030301	Yes	Not Recorded	N/A	Multiple point target EM anomalies	620162.6	537949.1	PT	Upgrade	
8008	13	030301	Yes	5' x 5'	N/A	5' x 5' EM anomaly	620229.8	537903.9	PT	Upgrade	
8009	14	030301	Yes	Not Recorded	8' x 14'	8' x 14' High-Amplitude Parabolic Reflector	620188.8	537837.7	ST		
8010	15	030301	Yes	Not Recorded	8' x 14'	8' x 14' High-Amplitude Parabolic Reflector	619972.8	537909.2	ST		
8011	16	030301	Yes	Not Recorded	7' x 14'	7' x 14' High-Amplitude Parabolic Reflector	619894.5	537960.1	ST		
8012	17	030301	Yes	Not Recorded	4' x 5'	4' x 5' High-Amplitude Parabolic Reflector, near surface	619873.8	537945.0	PT	Upgrade	
8013	18	030301	Yes	Not Recorded	5' x 6'	5' x 6' High-Amplitude Parabolic Reflector	619858.7	537862.5	ST		
8014	19	030301	Yes	Not Recorded	7' x 13'	7' x 13' High-Amplitude Parabolic Reflector	619930.2	537815.7	ST		
8015	20	030301	Yes	Not Recorded	6' x 12'	6' x 12' High-Amplitude Parabolic Reflector	619994.8	537774.5	ST		
8016	21	030301	Yes	Not Recorded	8' x 13'	8' x 13' High-Amplitude Parabolic Reflector	620065.0	537731.8	ST		
8017	22	030301	Yes	Not Recorded	6' x 14'	6' x 14' High-Amplitude Parabolic Reflector	620133.7	537694.7	ST		
	23	030301	Yes	N/A	N/A	Reinforced Concrete Sidewalk	620254.3	537481.1	SM		
8018	801	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619071.8	537704.5	MD		
8019	802	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619304.2	537963.6	MD		
8020	803	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619638.1	538139.8	MD		
8021	804	100814	Yes	3 x 3	3 x 3	Moderate-amplitude point target/anomaly, buried debris.	619587.3	538332.2	MD		
8022	805	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619707.5	538305.5	MD		
8023	806	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619771.6	538027.7	MD		
8024	807	100814	Yes	7 x 13	7 x 13	TW-6 target large enough to be UST. GPR image was large coherent target; however, not consistent with UST, Possible UST.	619793.0	537902.1	PT		
8025	808	100814	Yes	< 2 x 2	< 2 x 2	Near-surface scattered metallic debris.	619870.4	538041.0	MD		
8026	809	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	620108.2	538097.1	MD		
8027	810	100814	Yes	7 x 11	7 x 11	GPR image was characteristic of an excavation scar; metal target may to deep to image with GPR; Possible UST.	620239.1	537637.7	PT		
8028	811	None	Yes	5 x 12	Not Performed	TW-6 target large enough to be UST. Coincident with White Card UST Location	619337.9	538133.4	ST		
	NA	030301	N/A	N/A	N/A	Surface Metal	619552.4	538363.5	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619547.7	538450.4	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619365.5	538154.5	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619316.6	538077.2	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619293.0	538036.5	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619285.6	538039.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619270.6	538050.3	SM		

Table 1
Ground Penetrating Radar and
Metal Detection
Follow-up Survey Results

Anomaly ID	Former Anomaly ID	Original Project #	Anomaly Re-Acquired by Small Area Metal Detection	Metal Detection (MD) Anomaly Size (feet)	GPR Anomaly Size (feet)	Description From Original Report	Easting	Northing	New Classification	Upgraded to PT from MD	Notes
	NA	030301	N/A	N/A	N/A	Surface Metal	619086.2	537789.5	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618935.2	537258.6	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618929.1	537310.8	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618941.6	537321.8	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618960.6	537317.7	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618884.1	537396.2	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618875.8	537393.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618760.9	537444.8	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618636.5	537494.6	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618598.5	537501.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618513.9	537486.5	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618470.1	537383.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618554.4	537294.2	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618664.2	537257.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618680.7	537243.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618719.0	537239.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618786.8	537207.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618804.1	537195.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618926.4	537144.1	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	618916.2	537198.5	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619025.8	537330.2	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619508.9	537846.4	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619428.6	537928.9	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619506.0	538056.1	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619527.4	538089.9	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620431.1	537764.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620509.1	537872.1	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620496.8	537873.6	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620487.8	537868.6	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620412.3	537706.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620372.9	537655.4	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620339.8	537614.2	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620341.4	537603.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620213.1	537394.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620174.0	537404.7	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620138.6	537425.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620209.4	537541.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620243.4	537522.2	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620302.4	537619.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620269.8	537639.9	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619834.5	537694.7	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619621.2	537659.4	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619624.0	537645.1	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619523.6	537815.7	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619530.9	537955.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619597.0	537920.1	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619834.5	537769.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619883.4	537735.4	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619894.9	537483.1	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619907.1	537471.5	SM		

Table 1
Ground Penetrating Radar and
Metal Detection
Follow-up Survey Results

Anomaly ID	Former Anomaly ID	Original Project #	Anomaly Re-Acquired by Small Area Metal Detection	Metal Detection (MD) Anomaly Size (feet)	GPR Anomaly Size (feet)	Description From Original Report	Easting	Northing	New Classification	Upgraded to PT from MD	Notes
	NA	030301	N/A	N/A	N/A	Surface Metal	619918.4	537479.6	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619928.1	537493.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619964.3	537436.1	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	620185.8	537793.5	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619948.5	538166.3	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619915.9	538118.7	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619887.3	538097.8	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619833.7	538046.7	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619787.9	538088.6	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619759.6	538109.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619744.8	538306.0	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619857.4	538264.9	SM		
	NA	030301	N/A	N/A	N/A	Surface Metal	619686.9	537807.1	SM		

Table 2
Tabulation of Targets resulting in a classification of: Metallic Debris, Possible UST, and Suspected UST

Anomaly ID	Former Anomaly ID	Original Project #	Anomaly Re-Acquired by Small Area Metal Detection	Metal Detection (MD) Anomaly Size (feet)	GPR Anomaly Size (feet)	Description From Original Report	Easting	Northing	New Classification	Upgraded to PT from MD	Notes
800 Area											
8001	1	030301	Yes	Not Recorded	7' x 14'	7' x 14' High-Amplitude Parabolic Reflector	619503.9	538200.8	ST		
8002	2	030301	Yes	Not Recorded	6' x 10'	6' x 10' High-Amplitude Parabolic Reflector	619234.3	538001.4	ST		
8003	3	030301	Yes	Not Recorded	6' x 10'	6' x 10' Low-Amplitude Parabolic Reflector, Poor GPR Penetration	619218.7	537825.3	ST		
8004	5	030301	Yes	Not Recorded	3' x 4'	3' x 4' High-Amplitude Parabolic Reflector	619098.2	537217.5	ST		
8005	9	030301	Yes	8' x 13'	N/A	8' x 13' EM anomaly	620034.7	538041.9	ST		
8006	10	030301	Yes	8' x 12'	N/A	8' x 12' EM anomaly	620102.9	538003.4	ST		
8007	12	030301	Yes	Not Recorded	N/A	Multiple point target EM anomalies	620162.6	537949.1	PT	Upgrade	
8008	13	030301	Yes	5' x 5'	N/A	5' x 5' EM anomaly	620229.8	537903.9	PT	Upgrade	
8009	14	030301	Yes	Not Recorded	8' x 14'	8' x 14' High-Amplitude Parabolic Reflector	620188.8	537837.7	ST		
8010	15	030301	Yes	Not Recorded	8' x 14'	8' x 14' High-Amplitude Parabolic Reflector	619972.8	537909.2	ST		
8011	16	030301	Yes	Not Recorded	7' x 14'	7' x 14' High-Amplitude Parabolic Reflector	619894.5	537960.1	ST		
8012	17	030301	Yes	Not Recorded	4' x 5'	4' x 5' High-Amplitude Parabolic Reflector, near surface	619873.8	537945.0	PT	Upgrade	
8013	18	030301	Yes	Not Recorded	5' x 6'	5' x 6' High-Amplitude Parabolic Reflector	619858.7	537862.5	ST		
8014	19	030301	Yes	Not Recorded	7' x 13'	7' x 13' High-Amplitude Parabolic Reflector	619930.2	537815.7	ST		
8015	20	030301	Yes	Not Recorded	6' x 12'	6' x 12' High-Amplitude Parabolic Reflector	619994.8	537774.5	ST		
8016	21	030301	Yes	Not Recorded	8' x 13'	8' x 13' High-Amplitude Parabolic Reflector	620065.0	537731.8	ST		
8017	22	030301	Yes	Not Recorded	6' x 14'	6' x 14' High-Amplitude Parabolic Reflector	620133.7	537694.7	ST		
8018	801	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619071.8	537704.5	MD		
8019	802	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619304.2	537963.6	MD		
8020	803	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619638.1	538139.8	MD		
8021	804	100814	Yes	3 x 3	3 x 3	Moderate-amplitude point target/anomaly, buried debris.	619587.3	538332.2	MD		
8022	805	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619707.5	538305.5	MD		
8023	806	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	619771.6	538027.7	MD		
8024	807	100814	Yes	7 x 13	7 x 13	TW-6 target large enough to be UST. GPR image was large coherent target; however, not consistent with UST, Possible UST.	619793.0	537902.1	PT		
8025	808	100814	Yes	< 2 x 2	< 2 x 2	Near-surface scattered metallic debris.	619870.4	538041.0	MD		
8026	809	100814	Yes	< 2 x 2	< 2 x 2	Moderate-amplitude point target/anomaly, buried debris.	620108.2	538097.1	MD		
8027	810	100814	Yes	7 x 11	7 x 11	GPR image was characteristic of an excavation scar; metal target may to deep to image with GPR; Possible UST.	620239.1	537637.7	PT		
8028	811	None	Yes	5 x 12	Not Performed	TW-6 target large enough to be UST. Coincident with White Card UST Location	619337.9	538133.4	ST		

ATTACHMENT F

UST 800-1 Report

U.S. Army Garrison
Fort Monmouth, New Jersey

NJDEP UST Registration No. 081533
NJDEP Case No. 03-07-30-1431
UST No. 800-1

November 2005

UNDERGROUND STORAGE TANK CLOSURE AND REMEDIAL INVESTIGATION REPORT

MAIN POST - 800 AREA (UST NO. 1)
NJDEP UST REGISTRATION NO. 081533
NJDEP CASE NO. 03-07-30-1431

NOVEMBER 2005

PROJECT NO.: 03-38200

PREPARED FOR:

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EXECUTIVE SUMMARY

UST Closure

On July 30, 2003, a single wall steel underground storage tank (UST) was closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the U S Army Garrison, Fort Monmouth, New Jersey The UST was located in an open field in the 800 area on the Main Post of Fort Monmouth UST No 800-1 was a 1,000-gallon No 2 heating oil tank for residential use The fill port, vent pipe and associated supply/return piping was not present in the excavation The tank closure was performed by TECOM-Vinnell Services, Inc (TVS)

Site Assessment

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N J A C 7 26E) and the NJDEP *Field Sampling Procedures Manual* Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination Following removal, the UST was inspected for holes Holes were noted in the UST and potentially contaminated soils were observed surrounding the tank Groundwater was not encountered in the bottom of the excavation

Post-remediation soil samples were collected after the removal of the UST and approximately 15 cubic yards of potentially contaminated soils were excavated Post-remediation samples 800-1A, 800-1B, 800-1C, 800-1D, 800-1E and a 800-1 Duplicate were collected from a total of five (5) locations along the sidewalls and bottom of the excavation All samples were analyzed for total petroleum hydrocarbons (TPH)

Findings

All of the post-remediation soil samples collected from the UST excavation associated with former UST No 800-1, contained TPH concentrations below the NJDEP health based criterion of 10,000 milligrams per kilogram (mg/kg) for total organic contaminants (N J A C 7 26E and revisions dated February 3, 1994) Sample 800-1B contained a TPH concentration of 246 mg/kg All other sample results indicated that TPH concentrations were Not Detected No samples exhibited concentrations exceeding 1,000 mg/kg and therefore were not analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO+ 15)

Site Restoration

Following receipt of all post-remediation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and clean fill in compacted lifts The excavation site was then restored to its original grade with four inches of topsoil, seeded and mulched

Conclusions and Recommendations

Based on the post-remediation soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants do not remain in the former location of the UST

No Further Action is proposed in regard to the closure and site assessment of UST No 800-1 in the 800 area of the Main Post

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No 081533, was closed in the 800 area of Main Post at U S Army Garrison, Fort Monmouth, New Jersey on July 30, 2003 Refer to site location map on Figure 1 This report presents the results of the implementation of the DPW's UST Management Plan, March, 1996 The UST was a 1,000-gallon, single-walled steel tank containing No 2 heating oil

Decommissioning activities for UST No 800-1 complied with all applicable federal, state and local laws and ordinances in effect at the date of decommissioning These laws included but were not limited to N J A C 7 14B-1 et seq , N J A C 5 23-1 et seq , and Occupational Safety and Health Administration (OSHA) 1910 146 & 1910 10 The closure and subsurface evaluation of the UST was conducted by a NJDEP licensed TVS employee

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

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

1.2 SITE DESCRIPTION

The 800 area is located in the eastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1 UST No 800-1 was located approximately 300 feet west of Building 822 (Burger King) The fill port, vent pipe and appurtenant piping was not encountered in the excavation A site map is provided on Figure 2 The 800 area was assessed for potential abandoned USTs using a geophysical survey (electromagnetic and ground penetrating radar) and historical maps

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 800 area Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area

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 (Zapecza, 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 gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite

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

Hydrogeology

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

Based on records of wells drilled in the Main Post area, water is typically encountered at depths of 2 to 9 feet below ground surface (bgs) According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce 2 to 25 gallons per minute (gpm) Some well owners have reported acidic water that requires treatment to remove iron

Due to the proximity of the Atlantic Ocean to Fort Monmouth, shallow groundwater may be tidally influenced and may flow toward creeks and brooks as the tide goes out, and away from creeks and brooks as the tide comes in However, an abundance of clay lenses and sand deposits were noted in borings installed throughout Fort Monmouth Therefore the direction of shallow groundwater should be determined on a case by case basis

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
- local groundwater recharge areas (e g , streams, lakes)

Due to the fluvial nature of the overburden deposits (e g , 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 gravel silt and/or clay

The 800-1 UST Area is located approximately 200 feet southeast of Husky Brook, the nearest water body, which flows into Oceanport Creek Based on the Main Post topography, the groundwater flow in the area of the 800 Area is anticipated to be to the northwest

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities All areas which posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionizer detector Thermo Instruments Organic Vapor Monitor (OVM) – Model #580-B The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA All work areas were properly vented to insure that there were no contaminants present in the breathing zone above permissible exposure limits (PEL's)

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- All underground utilities were marked out by the respective trade shops or utility contractor prior to excavation activities
- All activities were carried out with great regard to safety and health and the safeguarding of the environment
- All excavated soils were visually examined and screened with an OVA for evidence of contamination Potentially contaminated soils were identified and logged during closure activities
- An NJDEP certified Subsurface Evaluator was present during all closure and remediation activities

1.4.2 Underground Storage Tank Excavation

During decommissioning activities, surficial soil was carefully removed to expose the UST The tank was emptied of all liquids prior to removal from the ground Approximately 800 gallons of liquid was pumped out of the UST by Lorco Petroleum Services, Inc into a tank truck and transported to their NJDEP-approved petroleum recycling and disposal facility located in Elizabeth, New Jersey Refer to Appendix B for non-hazardous waste manifest (No NJZ-49683)

After the UST was removed from the excavation, it was staged on an impervious surface, labeled and examined for holes Holes in the tank were observed during the inspection by the Subsurface Evaluator Soils surrounding the UST were screened visually and with an OVA for evidence of

contamination Soil staining and an odor of petroleum hydrocarbons were observed It was determined that remedial soil excavation would be conducted prior to sampling DPW personnel was made aware of the field conditions. The DPW called the NJDEP Spill Hotline and Case No 03-07-30-1431 was assigned to the site

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

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

The cleaned tank was then transported by TVS to Recycling Technology Center, Inc , Shafto Rd , Tinton Falls, NJ for disposal in compliance with all applicable regulations and laws Refer to Appendix C for UST disposal certificate

The Subsurface Evaluator labeled the UST with the following information

- site of origin
- NJDEP UST Facility ID number
- date of removal
- size of tank
- previous contents of tank

Photographic documentation of the UST is included in Appendix D

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and visual observations, approximately 15 cubic yards of potentially contaminated soil were excavated from the area surrounding the UST All potentially contaminated soil was loaded into a truck and transported to the Main Post ID 27 Soil Staging Area (located behind Bldg 166) prior to ultimate recycling at Soil Remediation of Philadelphia Soils that did not exhibit signs of contamination were separated during the excavation and used as backfill following removal of the UST

2.0 REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Remedial Investigation was managed by U S Army DPW personnel All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory, a NJDEP-certified testing laboratory All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (1992) Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation, 7 26E-3 9* (June 7, 1993 and revisions dated February 3, 2003) which was the applicable regulation at the date of the closure All records of the Remedial Investigation activities are maintained by the Fort Monmouth DPW Environmental Office

The following Parties participated in Closure and Remedial Investigation Activities

- Ft Monmouth Directorate of Public Works-Environmental Division
  Contact Person Douglas Guenther
  Phone Number (732) 532-0986

- Subsurface Evaluator Frank Accorsi
  Employer TECOM-Vinnell Services, Inc (TVS)
  Phone Number (732) 532-5241
  NJDEP License No 0010042
  (TVS)NJDEP License No US252302

- Analytical Laboratory Fort Monmouth Environmental Testing Laboratory
  Contact Person Dan Wright
  Phone Number (732) 532-4359
  NJDEP Laboratory Certification No 13461

- Hazardous Waste Hauler Lorco Petroleum Services, Inc , Elizabeth, NJ
  Contact Person Dan MacKay
  Phone Number (908) 820-8800
  US EPA ID No NJR000023036

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP certified Subsurface Evaluator using an OVM and visual observations to identify potentially contaminated material Soils were removed from the excavation surrounding UST No 800-1 until no evidence of contamination remained

2.3. SOIL SAMPLING

On July 30, 2003, post-remediation soil samples 1A, 1B, 1C, 1D, 1E and 1-Duplicate were collected from a total of five (5) locations along the sidewalls and the bottom of the UST excavation Groundwater was not encountered in the excavation Refer to soil sampling location map in Figure 2 All samples were analyzed for TPH. No samples exhibited concentrations exceeding 1,000 mg/kg and therefore were not analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO+ 15)

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* and the NJDEP *Field Sampling Procedures Manual* A summary of sampling activities including the sampling parameters is provided in Table 1 The post-remediation soil samples were collected using stainless steel trowels After collection, the samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory for analysis

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Post-remediation soil samples were collected from a total of five locations on July 30, 2003, to evaluate soil conditions following removal of the UST All samples were analyzed for TPH The post-remediation soil sample results were compared to the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants (N J A C 7 26D and revisions dated February 3, 1994) A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2 The analytical data package, including associated quality control data, is provided in Appendix E

Post-remediation soil samples collected on July 30, 2003 from the UST remedial excavation contained concentrations of TPH well below the NJDEP soil cleanup criteria No samples exhibited concentrations exceeding 1,000 mg/kg and therefore were not analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO+ 15) The only sample that had a TPH concentration above the method detection limit was 800-1B, which was 246 mg/kg

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all of post-remediation soil samples collected from the UST closure excavation at UST No 800-1 were below the NJDEP soil cleanup criteria for total organic contaminants

Based on the post-remediation soil sampling results, No Further Action is proposed in regard to the closure and remedial investigation of UST No 800-1 in the 800 Area of the Main Post

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, 800 AREA, UST No.800-1
30-July-2003

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
800-1A	4037101	30-July-03	SOIL	TPH	OQA-QAM-25
800-1B	4037102	30-July-03	SOIL	TPH	OQA-QAM-25
800-1C	4037103	30-July-03	SOIL	TPH	OQA-QAM-25
800-1D	4037104	30-July-03	SOIL	TPH	OQA-QAM-25
800-1E	4037105	30-July-03	SOIL	TPH	OQA-QAM-25
800-1Dupl.	4037106	30-July-03	SOIL	TPH	OQA-QAM-25
TRIP BLANK	4037107	30-July-03	METHANOL	VOA	SW-846, 8260

ABBREVIATIONS
TPH = Total Petroleum Hydrocarbons, NJDEP Method OQA-QAM-025 (10/97)
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
FT. MONMOUTH, 800 AREA, UST No.800-1
30-July-2003

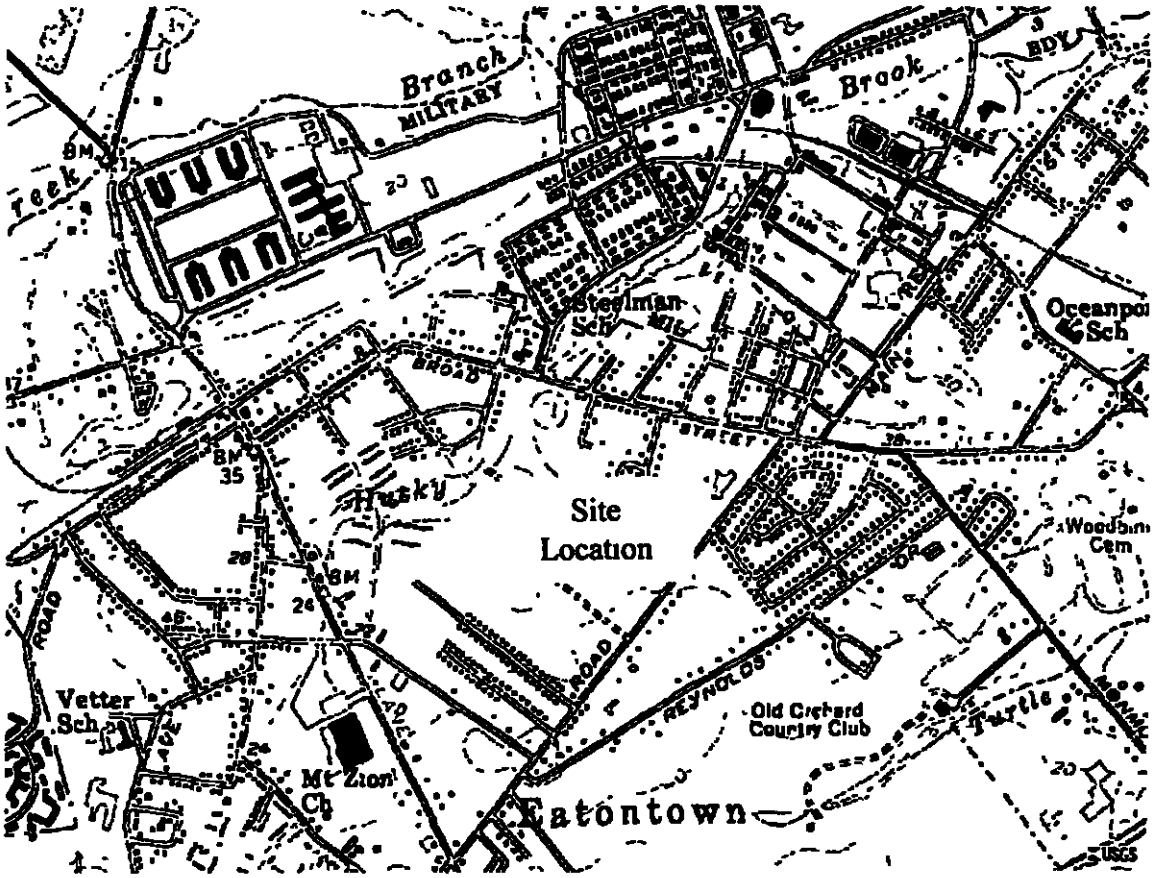
TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULT S
			(in feet)		mg/kg
800-1A	3044701	NORTH WALL	80 – 85	Soil	ND
800-1B	3044702	EAST WALL	80 – 85	Soil	246
800-1C	3044703	SOUTH WALL	80 – 85	Soil	ND
800-1D	3044704	WEST WALL	80 – 85	Soil	ND
800-1E	3044705	CENTER	80 – 85	Soil	ND
800-1 Dupl.	3044706	DUPLICATE (CENTER)	80 – 85	Soil	ND

ABBREVIATIONS
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatiles

Gray shading indicates exceedance of NJDEP
health based criterion of 10,000 ppm total organic contaminants

FIGURES



SCALE 1 24,000

1 0 5 0 1 MILE

1 0 5 0 1 KILOMETER

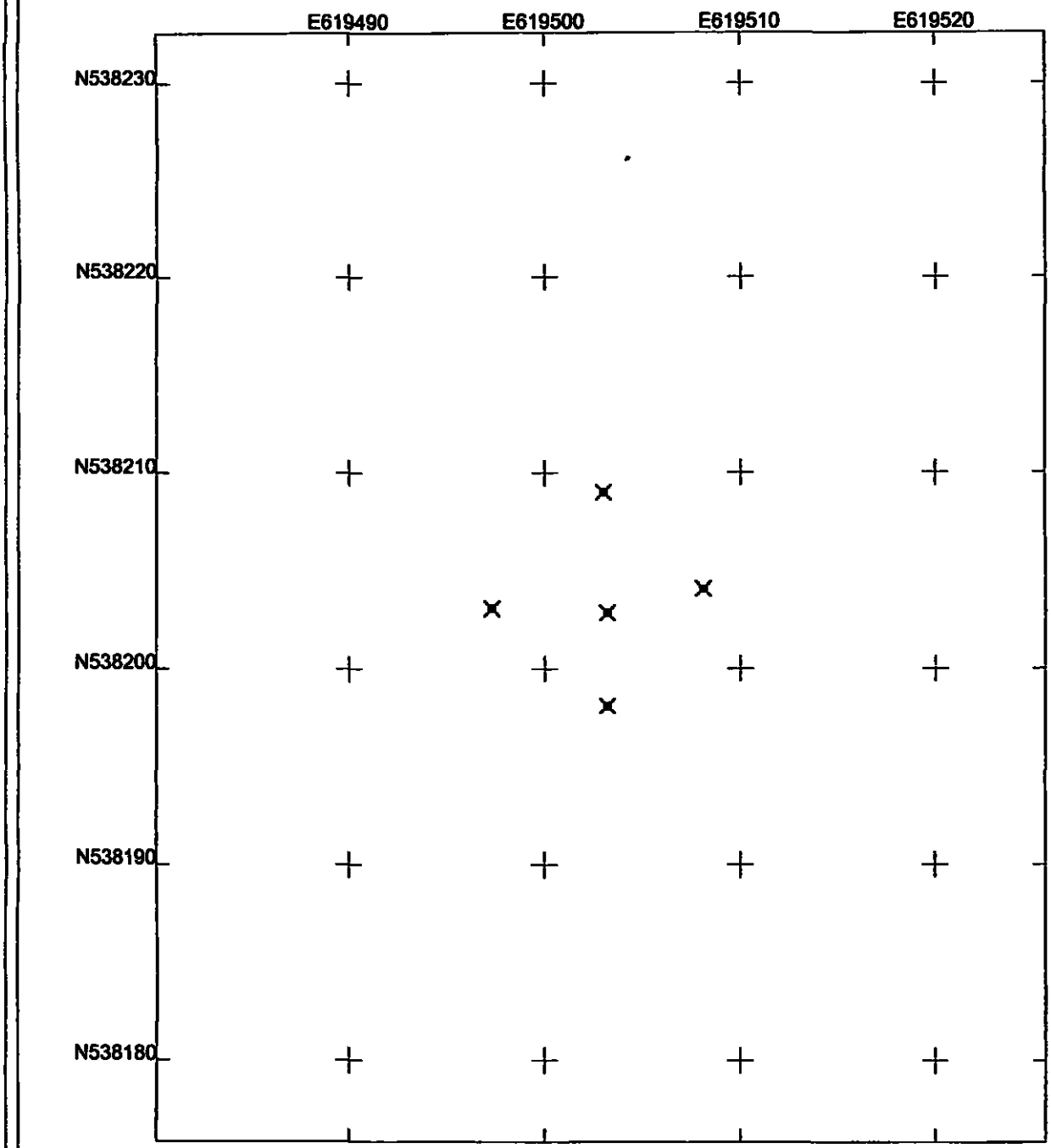
1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

CONTOUR INTERVAL 10 FEET
NATIONAL GEODETIC VERTICAL DATUM OF 1929

N

SOURCE: USGS 7½-MINUTE SERIES (TOPOGRAPHIC)
LONG BRANCH QUADRANGLE, NEW JERSEY, 1981.

FIGURE 1
SITE LOCATION MAP
800 AREA, UST 800-1
FT. MONMOUTH, NJ



U.S. Army - Ft. Monmouth 800 Area
UST #800-1 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1 100
0 0 002
Miles

800usts cor
11/28/2005
GPS Pathfinder
Trimble

APPENDIX A

CERTIFICATIONS

Site Remediation Program

UST Site Remedial Investigation Report

A. Facility Name Ft Monmouth, Main Post, 800 Area, near Building 1006

Facility Street Address Alexander Ave

Municipality Oceanport County Monmouth

Block N/A Lot(s) N/A Telephone Number 732-532-6223

B. Owner (RP)'s Name U S Army Garrison - Directorate of Public Works

Street Address 173 Riverside Dr City Ft Monmouth

State NJ Zip 07703 Telephone Number 732-532-6226

C. (Check as appropriate)

☐ Site Investigation Report (SIR) $500 Fee

☐ Remedial Investigation Report (RIR) $1000 Fee

D. (Complete all that apply)

Assigned Case Manager Greg Zalaskus

UST Registration Number N/A - Residential UST (7 digits)

- Incident Report Number 03-07-30-1431 (10 or 12 digits)
- Tank Closure Number C(N)9____-____ C 9-____ C9____-_____(7 characters)

E. Certification by the Subsurface Evaluator:

The attached report conforms to the specific reporting requirements of N J A C 7 26E Yes No

Name Frank Accorsi Signature _____ UST Cert No 0010042

Firm TECOM-Vinnell Services, Inc Firm's UST Cert Number US252302

Firm Address P O Box 60 City Ft Monmouth

State NJ Zip 07724 Telephone Number 732-532-2577

(NOTE Certification numbers required only if work was conducted on USTs regulated per N J S A 58 10A-2 1 et seq)

F. Certification by the Responsible Party(ies) of the Facility:

The following certification shall be signed [according to the requirements of N J A C 7 14B-1 7(b)]as follows

1. For a Corporation by a person authorized by a resolution of the board of directors to sign the document A copy of the resolution, certified as a true copy by the secretary of the corporation, shall be submitted along with the certification, or
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 a principal executive officer or ranking elected Official

"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 responsible for obtaining the information, 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 "

Name (Print or Type) James Ott Title Dir. Public Works

Signature _____

Company Name _____ Date _____

APPENDIX B

WASTE MANIFEST

APPENDIX C

UST DISPOSAL CERTIFICATE

APPENDIX D

PHOTO DOCUMENTATION

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

US ARMY, FORT MONMOUTH

DAILY UST CLOSURE LOG

BLDG #: 800-1 REG #: NA -

DATE. 7-30-03 TOA 10:00 TOD 14:30

CLOSURE TECH: Harold Hornung NJDEP CERT.# 00111047

PERSONNEL Anthony Forgione, Mark 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 ~~CLEANED~~ Pumped out 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)	NA
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP, CW, EV) HWSA	NA
800 GALLONS OF water WASTE WERE Liquid Product REMOVED (MANIFEST# NHZ 49688)	Y
15 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) Doug Guenther	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 HH	Y
THE UST WAS TRANSPORTED TO Bldg 166 Concrete Pad 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): Harold Hornung

SIGNATURE: _____ DATE. 7-30-03

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 800-1 REG.#: NA -

DATE: 7 30-03 TOA 10:00 TOD:

SSE: Harold Hornung NJDEP CERT #. 0011047

REMOVAL CONTRACTOR TVS Inc. PWS-007

CLOSURE SUPERVISOR. Harold Hornung NJDEP CERT #: 0011047

WEATHER: Cloudy Low 80's, low Humidity 0-5mph east wind

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 BT THE DPW TO THE NJDEP (609-292-7172), CASE# Doug Gwenthler	Y
PHOTOS HAVE UST#, BLDG #, DATE, TIME, NAME OF SSE AND DESCR WRITTEN ON BACK	Y
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)	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, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A C. 7 14B-9 2(b)3 and 7 26 et seq. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment

Closure Tech (print Name): Harold Hornung Date 7-30-03

SIGNATURE Harold Hornung

Upon removal of the 1,000 gallon UST stained soil was found along the bottom of the excavation and along the southern wall. The UST has many holes and rusting on all sides.

11:00 AM Excavate 5 cu yds of petro contaminated soil and transport to 166 pad. (Stack piling clean over burden soil separately)

1200 Excavate next 5 cu yds of contaminated " "

1330 Excavate next 5 cu yds of contaminated " "

1340 Sampled excavation

1415 Backfilled

800 AREA,

UST's Known as

800-1

800-2

etc...

ENVIROSCAN, INC

Appleby

DPW

10-22-08

Compare Survey to Actual USTs Removed.

Appendix B

GPR Survey Results

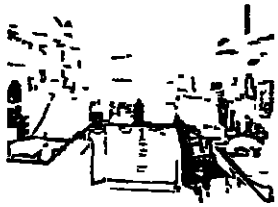
Project No. 030301, Fort Monmouth, NJ

Target Number	Easting	Northing	Description	Method	Confirmed UST
1	2173762.327	538474 106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275 903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474 031	538098 7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338 893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350 905	537492 1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185 76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218 794	538480 112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161 736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290 868	538314 943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356 935	538275 903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386 966	538296 9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419 548	538221 331	Multiple point target EM anomalies	TW-6	1K Removed
13	2174486 068	538176 8014	5' x 5' EM anomaly	TW-6	
14	2174444 025	538107 7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227 803	538176 8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230 8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
17	2174128 702	538215 8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113 686	538131 7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185 76	538089 7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254 831	538047 6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320 899	538002 6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386 966	537963 5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
23	2174510 092	537756 371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509 92368	537754 6006	Reinforced Concrete Sidewalk	TW-6/GPR	

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: 03-38200

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
800-1A, North Wall	3044701	Soil	30-July-03 13 40	07/30/03
800-1B, East Wall	3044702	Soil	30-July-03 13 45	07/30/03
800-1C, South Wall	3044703	Soil	30-July-03 13 55	07/30/03
800-20D, West Wall	3044704	Soil	30-July-03 14 10	07/30/03
800-20E, Center	3044705	Soil	30-July-03 14 00	07/30/03
800-1, Duplicate	3044706	Soil	30-July-03 14 00	07/30/03

FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

11-28-05
Daniel Wright/Date
Laboratory Director

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

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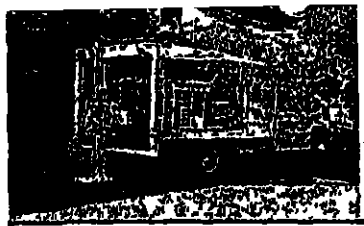
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail appleby@mail1 monmouth army mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon	Project No 03-38200	Analysis Parameters							Comments:
Phone #: (732) 532-6223	Location 800 Area								Methanol/ 4C
(X)DERA ( )OMA ( )Other: UST Assessment									
Samplers Name/Company: Harold Hornung/TVS	Sample	#	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Remarks / Preservation Method
Lims I D # / Sample Location / Date / Time / Type / bottles										
30447 01 800-1A North wall 7.30-03 1340 Soil 2			X	X	X			3484	0	Ice Depth 8.5 bgs
02 800-1B East wall 1345 2			X	X	X			3485	0	
03 800-1C South wall 1355 2			X	X	X			3486	0	
04 800-1D West wall 1410 2			X	X	X			3487	0	
05 800-1E Center 1400 2			X	X	X			3488	0	
06 800-1 Duplicate 1400 2			X	X	X			3489	0	
07 Trip Blank 1340 Liquid 1				X	X			3490	0	NA

Relinquished by (signature)	Date/Time	Received by (signature)	Relinquished by (signature)	Date/Time	Received by (signature)
	7-30-03 1555				
Relinquished by (signature)	Date/Time	Received by (signature)	Relinquished by (signature)	Date/Time	Received by (signature)

Report Type ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ___ Hrs

Remarks: TPHC all below 1000 no VOA

print legibly

800 Area rle7/29/2003

200002

US ARMY - FT MONMOUTH, NJ

800 AREA - UST #800-1
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

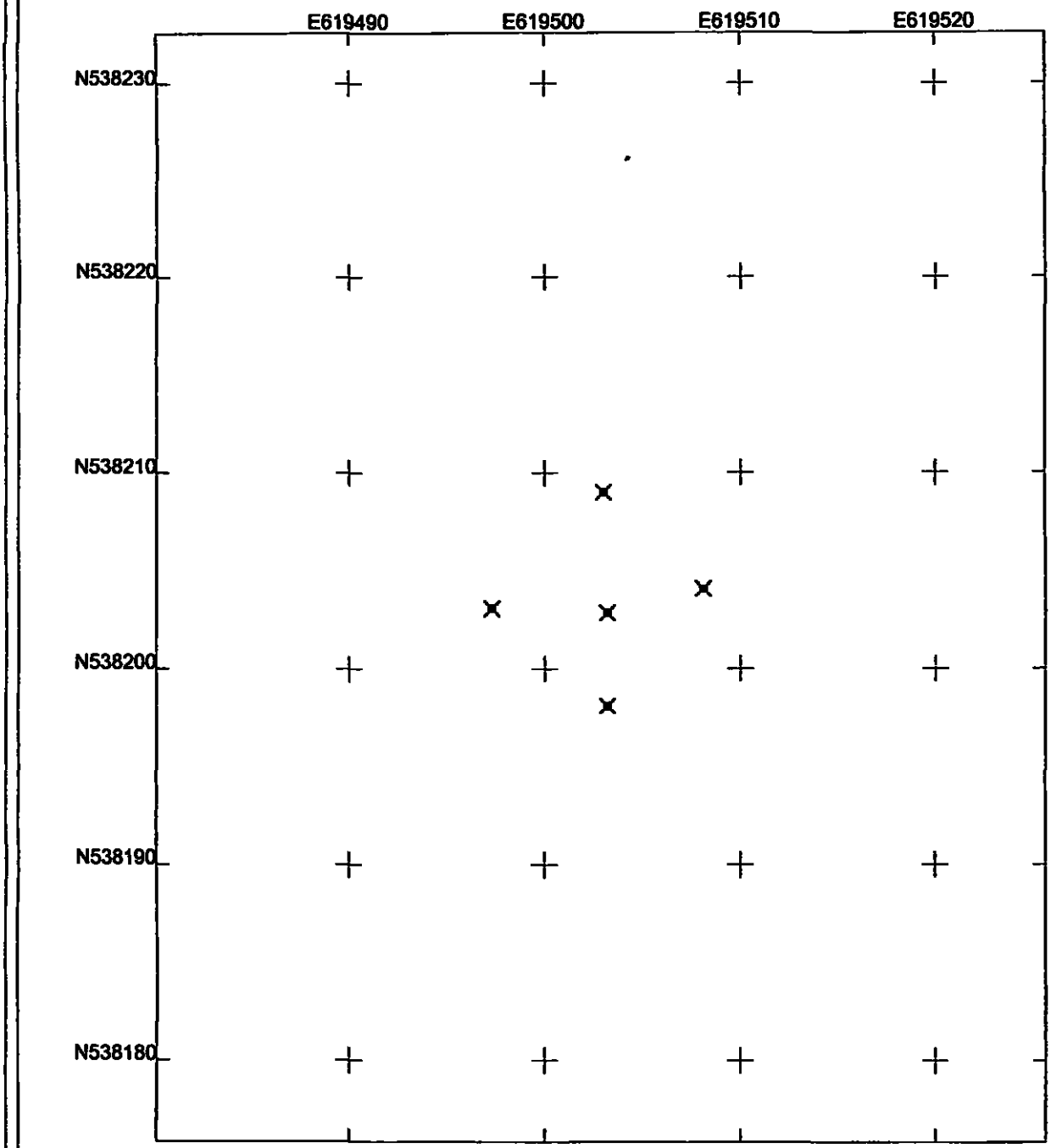
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-1A North Wall	538209 04	619502 967
800-1B East Wall	538204 135	619508 073
800-1C South Wall	538198 129	619503 168
800-1D West Wall	538203 134	619497 262
800-1E Center	538202 913	619503 166

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998 865	620157 192
B1006 CREDIT UNION NORTH CORNER	538043 64	620183 645
B1006 CREDIT UNION EAST CORNER	537988 336	620271 865
B1006 CREDIT UNION SOUTH CORNER	537943 187	620244 315



U.S. Army - Ft. Monmouth 800 Area
UST #800-1 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1 100
0 0 002
Miles

800usts cor
11/28/2005
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

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 30447

Site: 800 Area
UST #1

	Date	Hold Time
Date Sampled	07/30/03	NA
Receipt/Refrigeration	07/30/03	NA
Extraction		
1 TPHC	07/31/03	14 days
Analyses		
1 TPHC	08/07/03	40 days

CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

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

Additional comments _____
_____
_____

Laboratory Manager _____ Date 11-28-05

TPHC

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

Client :	U S Army	**Project #**	30447
	DPW SELFM-PW-EV	**Location :**	800 Area
	Bldg 173	**UST Reg. #**	
	Ft Monmouth, NJ 07703		

Analysis	OQA-QAM-025	**Date Received :**	30-Jul-03
Matrix :	Soil	**Date Extracted :**	31-Jul-03
Inst. ID	GC TPHC INST #1	**Extraction Method .**	Shake
Column Type :	*RTX-5, 0 32mm ID, 30M*	***Analysis Complete***	*07-Aug-03*
Injection Volume .	1uL	**Analyst :**	B Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3044701	800-1A	1 00	15 11	77 15	194	ND
3044702	800-1B	1.00	15 01	83 96	180	246.00
3044703	800-1C	1 00	15 18	84 10	177	ND
3044704	800-1D	1 00	15 07	86 71	173	ND
3044705	800-1E	1.00	15 54	70 62	206	ND
3044706	800-1 Duplicate	1.00	15 38	71.50	206	ND
METHOD BLANK	MB-073103	1.00	15 00	100 00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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 11/24/03

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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



Daniel K Wright
Laboratory Manager

ATTACHMENT G

UST 800-2 File Review and Analyses

PARSONS

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

Date: *June 1, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-2*** Registration ID: *None*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): _____

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

Tank Description: [X] Steel [ ] Fiberglass Size: 500 gals. Contents: No. 2 Fuel Oil

[X] Residential [ ] Commercial/Industrial

Tank Removed? [X] Yes [ ] No If "yes," removal date: 7/31/2003

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

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank.

Following tank removal and excavation of approximately 4 cubic yards of contaminated soil in 2003, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Five soil samples from the excavation (plus one field duplicate) were collected on July 31, 2003. All but one of the soil sample results from this excavation were non-detected (ND) for TPH; 292 mg/kg TPH was detected in one sample. The final 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 the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: _____

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 800 2 *NJDEP REG ID:* -

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 500 *CONSTRUCTION:* STEEL

PRODUCT: #2 FUEL OIL *YEAR INSTALLED:* 1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 10/3/2004 *REMOVAL CONTRACTOR:* TVS

SRF SEND DATE: *TMS:*

DICAR NO. *LEAK DETECT:*

REMEDIATION COMMENTS: 800 Area RCI project. UST removed. Soil samples below criteria. Clean closure. No Report required.

REGISTRATION COMMENTS:

SAS DONE: *CONSULTANT:* TVS

MWs NEEDED: 0 *MONITORING WELLS:* 0

SUB-SURFACE EVALUATOR: Frank Accorsi

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. *CASE STATUS:* Case Closed

SUBMITTAL DATE: *APPROVAL DATE:*

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 800-2 REG.#: _____

DATE: 7-31-03 TOA: 945 TOD: 12:00

SSE: Harold Hornung NJDEP CERT.#: 0011047

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: Harold Hornung NJDEP CERT.#: 0011047

WEATHER: Clear/Sunny 85-90°F 0-5mph east wind

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 BT 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 ____ 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)	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	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 YDS³), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Closure Tech (print Name): Harold Hornung Date: 7-31-03

SIGNATURE: _____

US ARMY, FORT MONMOUTH
DAILY UST CLOSURE LOG

BLDG.#: 800-2 REG.#: _____

DATE: 7-31-03 TOA: 945 TOD: _____

CLOSURE TECH: Harold Hornung NJDEP CERT.#: 001104 T

PERSONNEL: Harold Hornung 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 ~~CLEANED~~ pumped out 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)	NA
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP, CW, EV) HWSA	NA
115 GALLONS OF oily water WASTE WERE REMOVED (MANIFEST#: NHZ 49688)	Y
4 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) Doug Gwathe	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: HH	Y
THE UST WAS TRANSPORTED TO Bldg 166 Concrete Pad FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
ADDITIONAL NOTES WERE TAKEN AND RECORDED ON THE BACK OF THIS FORM	Y
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): Harold Hornung

SIGNATURE: Harold Hornung DATE: 7-31-03

34.0 units on OVM

Contamined soil 1 was located on the bottom North end of the tank. It appeard to be from overfill. No holes were found in the Tank. Approximately 4 cubic yards of petro-cont. soil was excavated from the bottom North & west sides of the excavation. The soil was re checked w/ the ovm and received BG readings.

the excavation was sampled & backfilled

800 AREA,

UST's Known as

800-1

800-2

etc....

ENVIROSCAN, INC.

C. Appleby
DPW
10-22-08

Compare Survey to Actual USTs Removed

Appendix B

GPR Survey Results

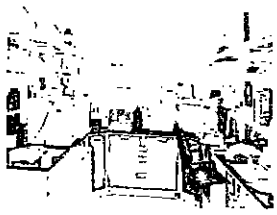
Project No. 030301, Fort Monmouth, NJ

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1K Removed
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

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: 800 Area

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-2A, North End	3045601	Soil	31-July-03 10:45	07/31/03
800-2B, South End	3045602	Soil	31-July-03 10:50	07/31/03
800-2, Duplicate	3045603	Soil	31-July-03 10:45	07/31/03
800-2C,East End	3045605	Soil	31-July-03 11:00	07/31/03
800-2D, West End	3045606	Soil	31-July-03 11:10	07/31/03
800-2E, Center	3045607	Soil	31-July-03 11:15	07/31/03

FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

11-28-05

Daniel Wright/Date
Laboratory Director

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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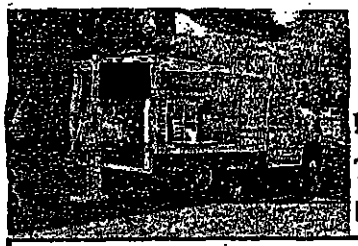
CHAIN OF CUSTODY



Fo t M onmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon | Project No: 03-38200
Phone #: (732) 532-6223 | Location: 800 Area
(X)DERA ( )OMA ( )Other: USTAssessment | 800-2
Samplers Name/Company :

Lims I. D. #	Sample Location	Date	Time	Sample Type	# bottles	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Comments: Methanol/ 4C Remarks / Preservation Method
30456 01	800-2A North end	7-31-03	10 45	Soil	2	X	X	X			3491	0	4°C 7'2"
02	800-2B South end		10:50		2	X	X	X			3492	0	7'2"
03	800-2 Duplicate		10:45		2	X	X	X			3493	0	7'2"
04	Trip Blank		10:20	Water	1		X				3494		
05	800-2C East End		11:00	Soil	2	X	X	X			3495	0	
06	800-2D West End		11:10		2	X	X	X			3496	0	
07	800-2E Center		11:15		2	X	X	X			3497	0	
08	800-19A North end		13 30		2	X	X	X			3498	0	8' 3"
09	800-19B Middle		13 35		2	X	X	X			3499	0	8' 3"
10	800-19C South end		13 40		2	X	X	X			3500	0	8' 3"
	~~800-20A East wall~~				2	X	X	X			~~3501~~		
	~~800-20B South wall~~				2	X	X	X			~~3502~~		
	~~800-20C West wall~~				2	X	X	X			~~3503~~		
	~~800-20D North wall~~				2	X	X	X			~~3504~~		
	~~800-20E Center~~				2	X	X	X			~~3505~~		

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	7-31-03 15:30				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks:

000002

print legibly

800 Area

US ARMY - FT. MONMOUTH, NJ

800 AREA - UST #800-2
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

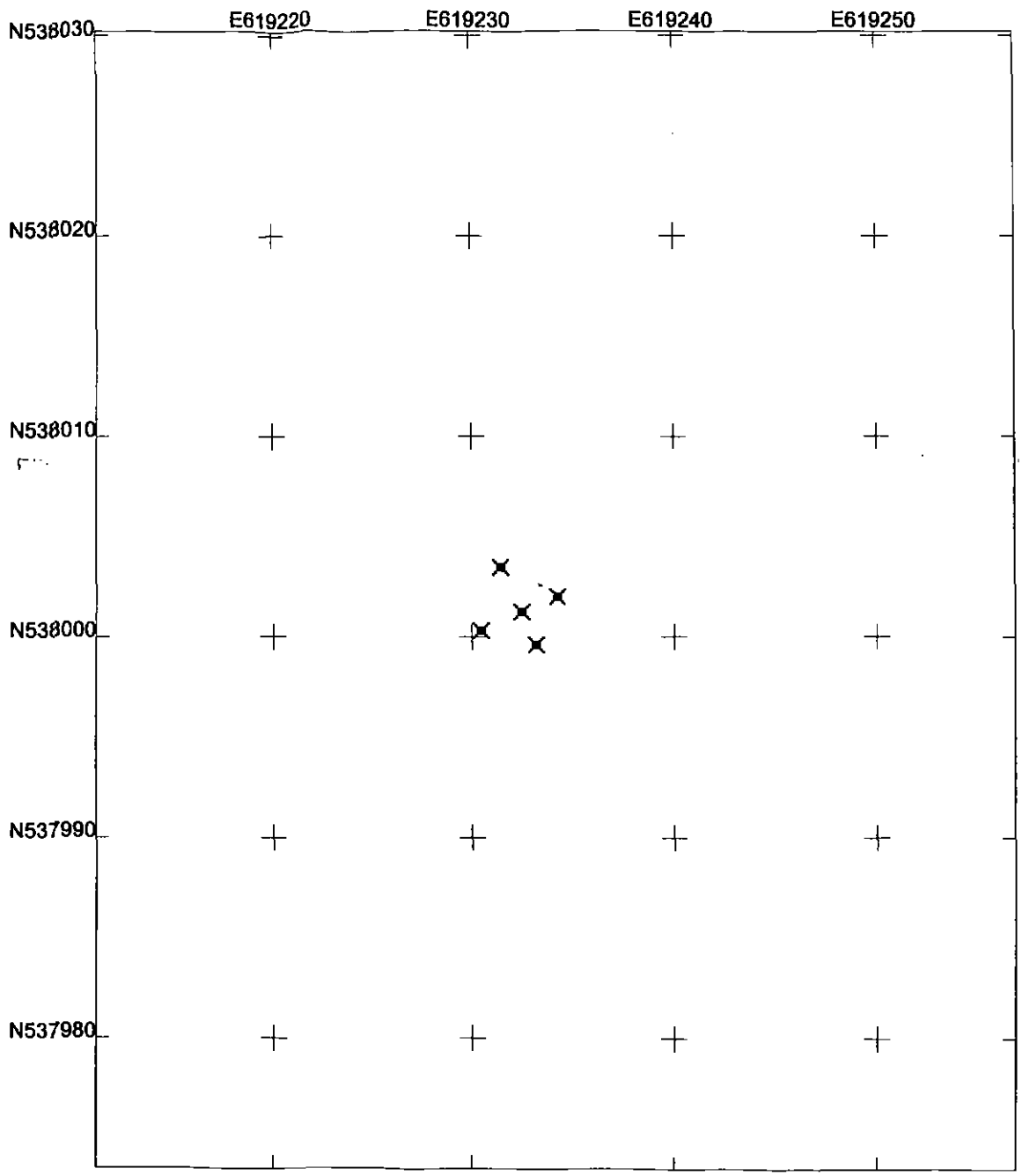
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-2A north end	538003.509	619231.421
800-2B south end	537999.655	619233.122
800-2C east end	538002.058	619234.173
800-2D west end	538000.356	619230.42
800-2E center	538001.288	619232.412

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998.865	620157.192
B1006 CREDIT UNION NORTH CORNER	538043.64	620183.645
B1006 CREDIT UNION EAST CORNER	537988.336	620271.865
B1006 CREDIT UNION SOUTH CORNER	537943.187	620244.315



U.S. Army - Ft. Monmouth 800 Area
UST#800-2 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:100
0 0.002
Miles

800usts.cor
11/28/2005
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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 30456

Site: 800 Area
UST #2

	Date	Hold Time
Date Sampled	07/31/03	NA
Receipt/Refrigeration	07/31/03	NA
Extraction		
1. TPHC	08/08/03	14 days
Analyses		
1. TPHC	08/12/03	40 days

CONFORMANCE/ NON-CONFORMANCE SUMMARY

d

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

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

Additional comments: _____

Laboratory Manager: _____ Date: 11-28-05

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 # :**	30456
		Location :	800 Area
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	31-Jul-03
Matrix :	Soil	**Date Extracted :**	08-Aug-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	12-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3045601	800-2A	1.00	15.03	81.85	184	ND
3045602	800-2B	1.00	15.16	82.56	181	ND
3045603	800-2 Duplicate	1.00	15.14	82.42	182	ND
3045605	800-2C	1.00	15.06	81.79	184	292.32
3045606	800-2D	1.00	15.09	82.00	183	ND
3045607	800-2E	1.00	15.11	82.96	181	ND
3045608	800-19A	1.00	15.15	89.69	167	ND
3045609	800-19B	1.00	15.14	89.09	168	ND
3045610	800-19C	1.00	15.18	91.02	164	3003.39
METHOD BLANK	MB-080803	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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: 11 / 26 / 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.

Daniel K. Wright
Laboratory Manager

ATTACHMENT H

UST 800-9 Report

U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Remedial Investigation Report

Main Post – 800 Area (UST No. 9)
Credit Union (B.1006) parking lot

NJDEP Case No. 04-05-20-1615-42
UST No. 800-9

April 2005

UNDERGROUND STORAGE TANK CLOSURE AND REMEDIAL INVESTIGATION REPORT

MAIN POST - 800 AREA (UST#9)
NJDEP CASE NO. 04-05-20-1615-42

APRIL 2005

PROJECT NO.: 04-24949

PREPARED FOR:

U.S. ARMY GARRISON, FORT MONMOUTH, NJ
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

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

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EXECUTIVE SUMMARY

UST Closure

On May 18, 2004, a single wall steel underground storage tank (UST) was closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the U.S. Army Garrison, Fort Monmouth, New Jersey. The UST was located near Building 1006 (Credit Union) in the Main Post area of Fort Monmouth. UST No. 800-9 was a 1,000-gallon No. 2 heating oil tank. The fill port and associated supply/return piping was not present in the excavation. The tank closure was performed by TECOM-Vinnell Services, Inc. (TVS).

Site Assessment

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for holes. Holes were noted in the UST and potentially contaminated soils were observed surrounding the tank.

Post-excavation soil samples were collected after the removal of the UST and approximately 10 cubic yards of potentially contaminated soils. Post-excavation samples A, B, C, D, E and F-Duplicate were collected from a total of five (5) locations along the sidewalls and bottom of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPH).

On May 21, 2004, an additional 10 cubic yards of potentially contaminated soils was removed from the northeast wall of the excavation. Two post-excavation soil samples were collected from the northeast sidewall and bottom of the expanded portions of the excavation immediately above groundwater and were analyzed for TPH. Groundwater was present at approximately 11 feet below ground surface (bgs).

Findings

The initial post-excavation soil samples collected from the UST excavation associated with former UST No. 800-9, contained TPH concentrations above the NJDEP health based criterion of 10,000 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E and revisions dated February 3, 1994). Samples A, E, and F-Duplicate contained TPH concentrations of 14,911 mg/kg, 11,567 mg/kg and 14,242 mg/kg, respectively. Subsequently, after further excavation of the two areas which had these results, analytical results of samples G and H had TPH concentrations of 4,540 mg/kg and not detected, respectively.

Site Restoration

Following receipt of all post-excavation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and clean fill. The excavation site was then restored to its original condition with four inches of stone and four inches of asphalt.

Conclusions and Recommendations

Based on the post-excavation soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants do not remain in the former location of the UST. Of the samples analyzed for volatile organics, there are no detected compounds that exceed the NJDEP Residential Direct Contact Soil Cleanup Criteria.

No further action is proposed in regard to the closure and site assessment of UST No. 800-9 at Building 1006.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533, was closed in the 800 area of Main Post at US Army Garrison, Fort Monmouth, New Jersey on May 18, 2003. Refer to site location map on Figure 1. This report presents the results of the implementation of the DPW's UST Management Plan, March, 1996. The UST was a 1,000-gallon, single-walled steel tank containing No. 2 heating oil.

Decommissioning activities for UST No. 800-9 complied with all applicable federal, state and local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to: N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. The closure and subsurface evaluation of the UST was conducted by a NJDEP licensed TVS employee.

This UST Closure and Remedial Investigation Report has been prepared by TVS to assist the US Army Garrison DPW in complying with the NJDEP - Underground Storage Tanks regulations. The applicable NJDEP regulations at the date of closure were the *Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-9 et seq. September 1990 and revisions dated May 19, 2003).

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

1.2 SITE DESCRIPTION

Building 1006, First Atlantic Federal Credit Union, is located in the eastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 800-19 was located west of Building 1006. The fill port and appurtenant piping was not encountered in the excavation. A site map is provided on Figure 2. The area surrounding Building 1006 was assessed for abandoned USTs using a geophysical survey and historical maps.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 800 Area. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

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 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 (Zapecza, 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 gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

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

Hydrogeology

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

Based on records of wells drilled in the Main Post area, water is typically encountered at depths of 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Due to the proximity of the Atlantic Ocean to Fort Monmouth, shallow groundwater may be tidally influenced and may flow toward creeks and brooks as the tide goes out, and away from creeks and brooks as the tide comes in. However, an abundance of clay lenses and sand deposits were noted in borings installed throughout Fort Monmouth. Therefore the direction of shallow groundwater should be determined on a case by case basis.

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
- local groundwater recharge areas (e.g., streams, lakes)

Due to the fluvial nature of the overburden deposits (e.g., 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 gravel silt and/or clay.

The 800 Area is located approximately 500 feet southeast of Husky Brook, the nearest water body, which flows into Oceanport Creek. Based on the Main Post topography, the groundwater flow in the area of the 800 Area is anticipated to be to the northwest.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas which posed a vapor hazard were monitored by a qualified individual utilizing an organic vapor analyzer (OVA). The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA. All work areas were properly vented to insure that there were no contaminants present in the breathing zone above permissible exposure limits (PEL's).

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- All underground utilities were marked out by the respective shops or utility contractor prior to excavation activities.
- All activities were carried out with great regard to safety and health and the safeguarding of the environment.
- All excavated soils were visually examined and screened with an OVA for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.
- Surface materials (i.e., asphalt, concrete, etc.) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws.
- A certified Subsurface Evaluator was present during all closure activities.

1.4.2 Underground Storage Tank Excavation and Cleaning

During decommissioning activities, surficial soil was removed to expose the UST. The tank was completely emptied of all liquids prior to removal from the ground. Approximately 900 gallons of liquid was pumped out of the UST and transported by Lorco Petroleum Services, Inc. to their NJDEP-approved petroleum recycling and disposal facility located in Elizabeth, New Jersey. Refer to Appendix C for non-hazardous waste manifest (No. NJZ-49683).

After the UST was removed from the excavation, it was staged on polyethylene sheeting, labeled and examined for holes. Holes were observed during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of

contamination. Soil staining and an odor of fuel was observed. It was determined that soil excavation would be conducted prior to sampling. DPW personnel were made aware of the field conditions that existed, prompting them to call the NJDEP Spill Hotline, in which Case No. 04-05-20-1615-42 was assigned.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

Subsequent to disposal, the UST was purged with air to remove vapors prior to cutting. An access hole was made in the UST to allow for cleaning using squeeges and adsorbents. The tank was then transported by TVS to Recycling Technology Center, Inc., Shafto Rd., Tinton Falls, NJ for disposal in compliance with all applicable regulations and laws. Refer to Appendix C for UST disposal certificate.

The Subsurface Evaluator labeled the UST with the following information:

- site of origin
- NJDEP UST Facility ID number
- date of removal
- size of tank
- previous contents of tank

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and visual observations, approximately 20 cubic yards of potentially contaminated soil was excavated from the area surrounding the UST. All potentially contaminated soil was loaded into a truck and transported to the Main Post ID 27 Soil Staging Area (located behind Bldg.166) prior to ultimate disposal at Soil Remediation of Philadelphia. Soils that did not exhibit signs of contamination were separated during the excavation and used as backfill following removal of the UST.

2.0 REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Remedial Investigation was managed and carried out by US Army DPW personnel. All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory, a NJDEP-certified testing laboratory. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (1992). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation, 7:26E-3.9* (December 17, 2002 and revisions dated February 3, 2003) which was the applicable regulation at the date of the closure. All records of the Remedial Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Remedial Investigation Activities.

- Ft. Monmouth Directorate of Public Works-Environmental Division
  Contact Person: Douglas Guenther
  Phone Number: (732) 532-0986

- Subsurface Evaluator: Frank Accorsi
  Employer: TECOM-Vinnell Services, Inc. (TVS)
  Phone Number: (732) 532-2577
  NJDEP License No.: 0010042

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

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

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP certified Subsurface Evaluator using an OVA and visual observations to identify potentially contaminated material. Soils were removed from the excavation surrounding UST No. 800-9 until no evidence of contamination remained.

2.3 SOIL SAMPLING

On May 18, 2004, post-excavation soil samples A, B, C, D, E and Duplicate F were collected from a total of five (5) locations along the sidewalls and the bottom of the UST excavation. Groundwater was present at approximately 11 feet below ground surface (bgs). On May 21, 2004, two (2) post-excavation soil samples (G and H) were also collected representing additional soil remediation that occurred along the bottom and northeast sidewall of the excavation. Refer to soil sampling location map in Figure 3. All samples were analyzed for TPH. Samples 800-9A and 800-9F exhibited a concentration exceeding 1,000 mg/kg and were analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO+ 15).

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* and the NJDEP *Field Sampling Procedures Manual*. A summary of sampling activities including parameters analyzed is provided on Table 1. The post-excavation soil samples were collected using stainless steel trowels. After collection, the samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Post-excavation soil samples were collected from a total of five locations on May 18, 2004 and from a total of two locations on May 21, 2004, to evaluate soil conditions following removal of the UST. All samples were analyzed for TPH. The post-excavation soil sample results were compared to the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix E.

Post-excavation soil samples collected on May 18, 2004, from the UST remedial excavation contained concentrations of TPH below the NJDEP soil cleanup criteria, with the exception of 9A, 9E and 9F-Duplicate which contained TPH concentrations of 14,911 mg/kg, 11,567 mg/kg and 14,242 mg/kg, respectively. Soil samples 9A and 9F were further analyzed for VOA in which all detected compounds were below the NJDEP Redidential Direct Contact Soil Cleanup Criteria.

All post-excavation soil samples collected on May 21, 2004 from the expanded UST remedial excavation contained concentrations of contaminants below the NJDEP soil cleanup criteria. Post-excavation samples G and H contained TPH concentrations of 4,540 mg/kg and Not Detected, respectively.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all of post-excavation soil samples collected from the UST closure excavation at UST No. 800-9 were below the NJDEP soil cleanup criteria for total organic contaminants and volatile organic compounds.

Based on the post-excavation soil sampling results, soils with TPH concentrations exceeding the NJDEP soil cleanup criteria for total organic contaminants of 10,000 mg/kg have been excavated from the former location of UST No. 800-9.

No further action is proposed in regard to the closure and site assessment of UST No. 800-9 at Building 1006.

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, BUILDING 1006, UST No.800-9
Sample Collection Dates-18 May 2004, 21 May 2004

SAMPLE ID	LABORATORY SAMPLE ID	LOCATION	SAMPLE MATRIX	ANALYSIS
800-9A	4036601	NORTHEAST WALL	SOIL	TPH, VOA
800-9B	4036602	SOUTHWEST WALL	SOIL	TPH
800-9C	4036603	SOUTHEAST WALL	SOIL	TPH
800-9D	4036604	NORTHWEST WALL	SOIL	TPH
800-9E	4036605	BOTTOM	SOIL	TPH
800-9F	4036606	DUPLICATE (BOTTOM)	SOIL	TPH, VOA
800-9G	4038401	NORTHEAST WALL	SOIL	TPH, VOA
800-9H	4038402	BOTTOM	SOIL	TPH
TRIP BLANK	4036607	N/A	METHANOL	VOA

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, Method NJDEPOQA-25
VOA = Volatile Organic Analysis, Method EPA 8260

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
FT. MONMOUTH, BUILDING 1006, UST No.800-9
Sample Analysis Date-21 May 2004

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	NJDEP ACTION LEVEL	LOCATION	DEPTH (IN FEET)	RESULT IN mg/kg
800-9A	10,000	NORTHEAST WALL	6.0 – 6.5	14,911*
800-9B	10,000	SOUTHWEST WALL	6.0 – 6.5	1,584
800-9C	10,000	SOUTHEAST WALL	6.0 – 6.5	3,266
800-9D	10,000	NORTHWEST WALL	6.0 – 6.5	5,545
800-9E	10,000	BOTTOM	7.0 – 6.5	11,567
800-9F	10,000	DUPLICATE (BOTTOM)	7.0 – 6.5	14,242*
800-9G	10,000	NORTHEAST WALL	10.5 – 11.0	4,540
800-9H	10,000	BOTTOM	10.0 – 10.5	ND

ABBREVIATIONS:
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatiles

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS

FT. MONMOUTH, BUILDING 1006, UST No. 800-9
Sample Analysis Dates-18, 21 May 2004

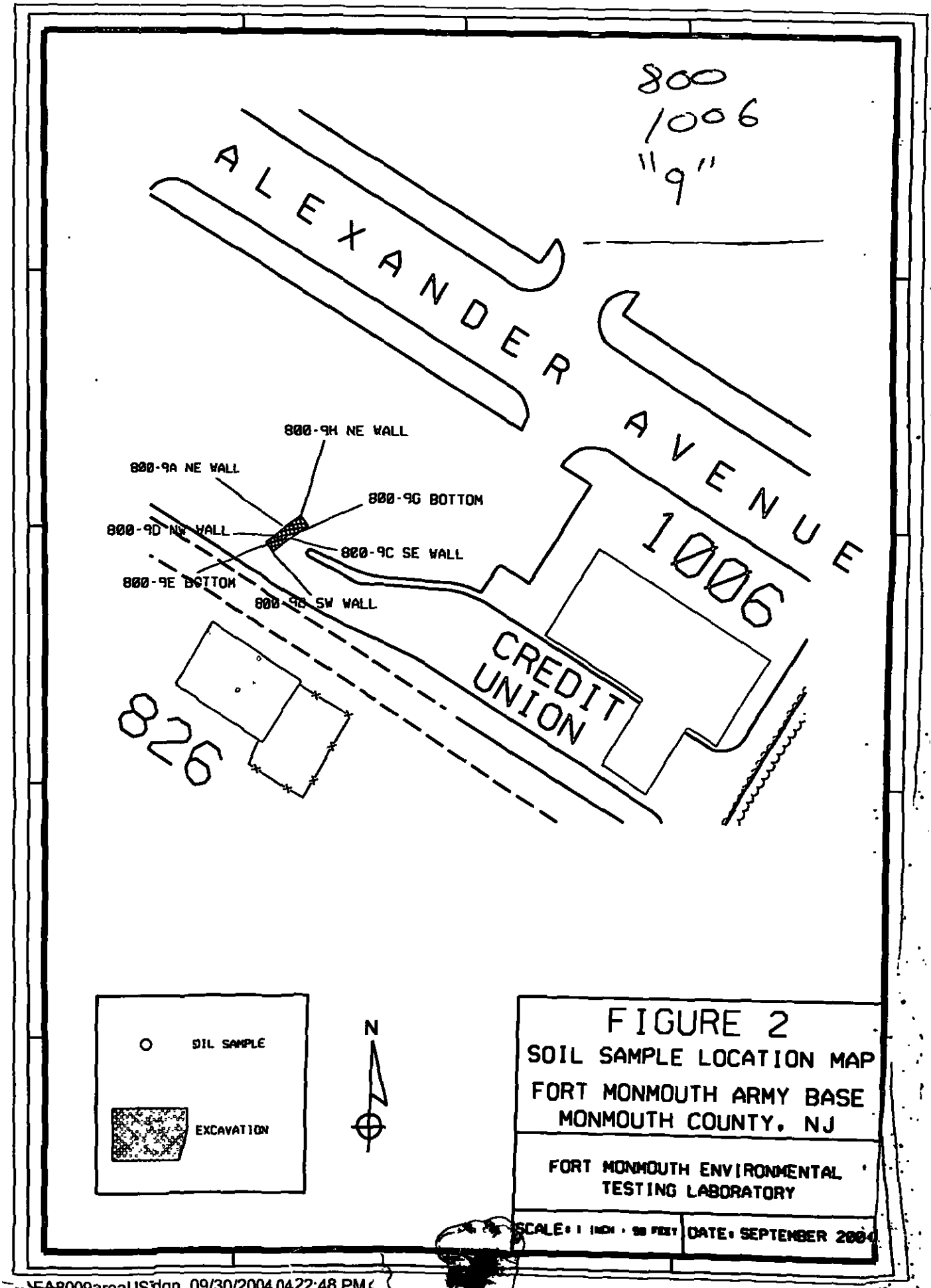
VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	SAMPLE DATE	Benzene	Toluene	Ethylbenzene	Xylenes (total)
UNITS		mg/kg	mg/kg	mg/kg	mg/kg
800-9A	18 May 2004	0.3	4.2	4.6	320
800-9F	18 May 2004	ND	1.0	1.6	15.8
800-9G	21 May 2004	ND	ND	ND	ND
NJDEP Criteria	Residential	3	1,000	1,000	410

ABBREVIATIONS:
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed

Notes:
Gray shading indicates exceedance of NJDEP
Residential Direct Contact Soil Cleanup Criteria

FIGURES



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APPENDIX A

CERTIFICATIONS

APPENDIX B

WASTE MANIFEST

APPENDIX C

UST DISPOSAL CERTIFICATE

APPENDIX D

PHOTO DOCUMENTATION



Location of UST No. 800-9 in Building 1006 (Credit Union) parking lot. View looking north.



Location of former UST No. 800-9
after soil samples were collected.
Facing sidewall (northeast) was excavated
an additional six feet.



UST No. 800-9 : 1,000 gallon single wall steel

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

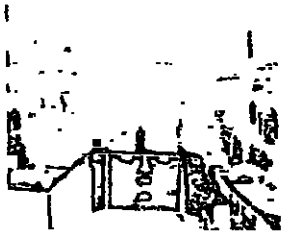
FORT MO ENVIRONMENTAL TESTING LABORATORY

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: 800 Area

800 Area/UST #9

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-9A, NE Wall	4036601	Soil	18-May-04 13:50	05/18/04
800-9B, SW Wall	4036602	Soil	18-May-04 14:12	05/18/04
800-9C, SE Wall	4036603	Soil	18-May-04 14:25	05/18/04
800-9D, NW Wall	4036604	Soil	18-May-04 14:43	05/18/04
800-9E, Bottom	4036605	Soil	18-May-04 15:00	05/18/04
800-9F, Duplicate	4036606	Soil	18-May-04 15:00	05/18/04
Trip Blank	4036607	Methanol	18-May-04	05/18/04

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

6-8-04
Daniel Wright/Date
Laboratory Director

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

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CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DOUG GUENTHER | Project No: 04-24929
Phone #: X20986 | Location: 800 AREA - (6,1005) CRANTONAN UST #9
( )DERA ( )OMA (X)Other: ACI
Samplers Name / Company: FRANK ACCORSI / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOA's					Depth (ft)	VOA #	Comments: Remarks / Preservation Method
40366 01	800-9A, NE WALL	5-18-04	1350	SOIL	2	X	X					6-6.5	3982	ICE
02	800-9B, SW WALL		1412		2	X	X					6-6.5	3983	
03	800-9C, SE WALL		1425		2	X	X					6-6.5	3984	
04	800-9D, NW WALL		1443		2	X	X					6-6.5	3985	
05	800-9E, BOTTOM		1500		2	X	X					7-7.5	3986	
06	800-9F-DUPLICATE		1500		2	X	X					7-7.5	3987	
07	TRIP BLANK		-		1		X					-	3988	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	5/18/04 1610				
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 Days. (_)ASAP Verbal ___Hrs.

Remarks: VOA'S ON 25% 71,000 PPM TPH, ON HIGHEST

print legibly

Coc8/7/02

Change of Chain of Custody

Lab Project ID#: 4036606 Site/Project Name: 800 Area

Date Received: 5/18 Date of Change: 5/26

Requested by: D Guenthe Sign:

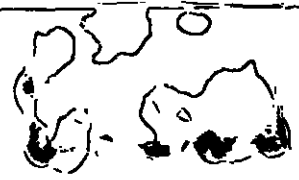
Turnaround Time: Stand

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: Sign:

Sample ID#	New Analysis		Sample ID#	New Analysis
4036601	VOA+15			
4036607	〃			
+06	VOA			

Comments:



US ARMY - FT. MONMOUTH, NJ

BUILDING 1006-800 AREA-UST #800-9
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

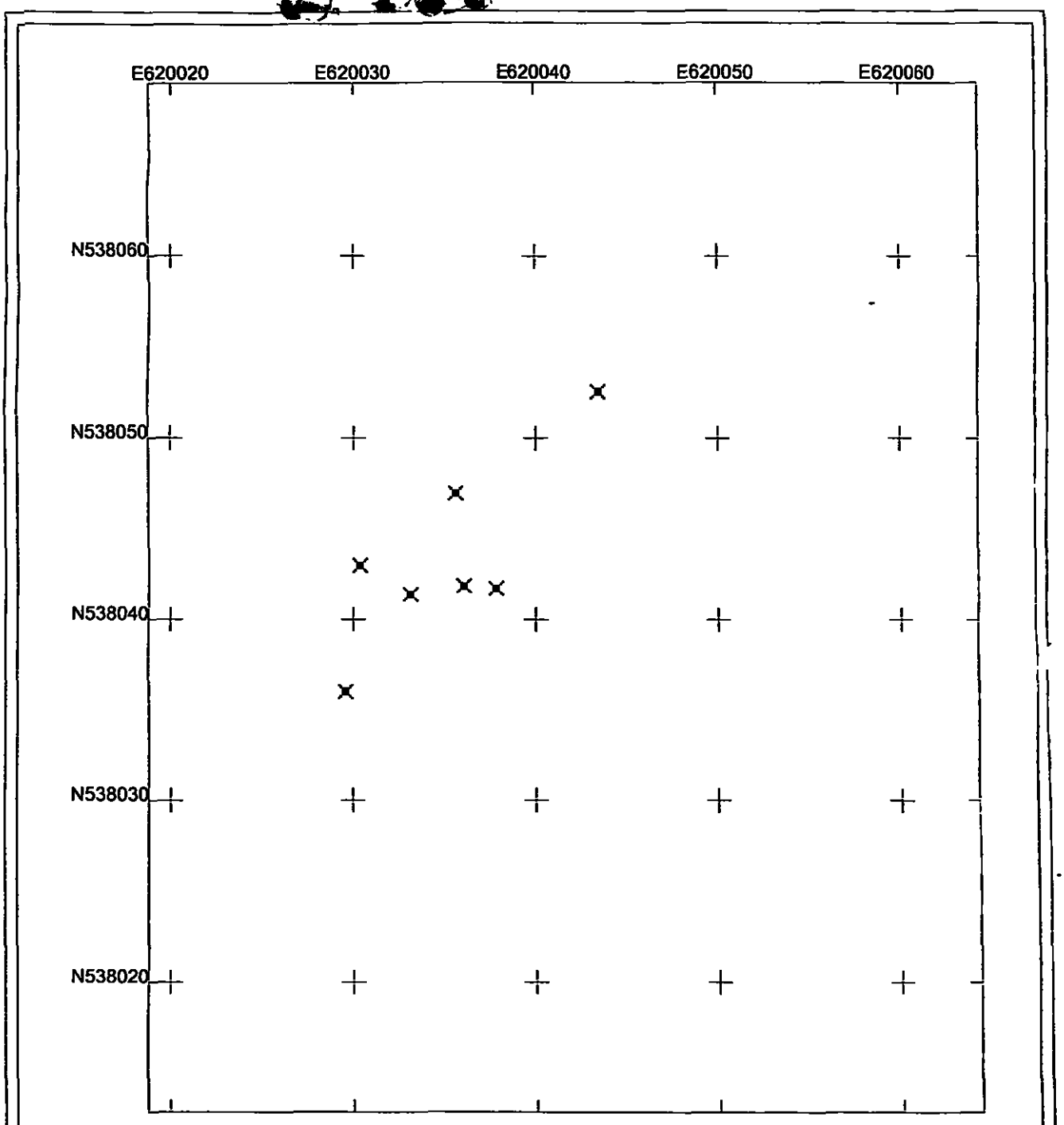
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-9A NE WALL	538047.058	620035.588
800-9B SW WALL	538036.037	620029.519
800-9C SE WALL	538041.798	620037.798
800-9D NW WALL	538043.065	620030.326
800-9E BOTTOM	538041.457	620033.068
800-9G BOTTOM	538041.931	620036.008
800-9H NE WALL	538052.627	620043.401

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998.865	620157.192
B1006 CREDIT UNION NORTH CORNER	538043.64	620183.645
B1006 CREDIT UNION EAST CORNER	537988.336	620271.865
B1006 CREDIT UNION SOUTH CORNER	537943.187	620244.315



U.S. Army-Ft. Monmouth UST #800-9
Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:100
0 0.002
Miles

800CU.cor
11/16/2005
GPS Pathfinder
Trimble

METHOD SUMMARY

Method Summary

EPA SW-846 Method 8260
Gas Chromatographic Determination of Volatiles in Methanol

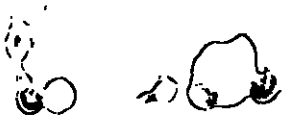
A 10-gram volume of soil is combined with 25-ml of Methanol and surrogates in the field. Internal standards are added and the sample is placed on a purge and trap concentrator. The sample as purged and desorbed into a GC/MS system. Volatiles are identified and quantitated. The final concentration is 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: 40366

Site: 800 Area
UST #9

	Date	Hold Time
Date Sampled	05/18/04	NA
Receipt/Refrigeration	05/18/04	NA
Extraction		
1. TPHC	05/19/04	14 days
Analyses		
1. VOA	5/26,28/04	14 days
2. TPHC	05/20/04	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	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 (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	Yes
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 — No
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction IS high in 1st run reanalysis all within criteria
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: 6-8-04

O.

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 RPD high 27%	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: _____

Laboratory Manager: _____ Date: 6-8-04

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

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 26May04

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 26May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016590.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 26May04

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 26May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016590.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 26May04**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 26May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016590.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

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

100016

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 28May04

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 28May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016625.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 28May04

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 28May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016625.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 28May04**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 28May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016625.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9A

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036601

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB016591.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.13 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	670	U
107131	Acrylonitrile	670	U
75650	tert-Butyl alcohol	1200	U
1634044	Methyl-tert-Butyl ether	290	U
108203	Di-isopropyl ether	190	U
75718	Dichlorodifluoromethane	380	U
74-87-3	Chloromethane	96	U
75-01-4	Vinyl Chloride	290	U
74-83-9	Bromomethane	190	U
75-00-3	Chloroethane	290	U
75-69-4	Trichlorofluoromethane	190	U
75-35-4	1,1-Dichloroethene	96	U
67-64-1	Acetone	190	U
75-15-0	Carbon Disulfide	96	U
75-09-2	Methylene Chloride	190	U
156-60-5	trans-1,2-Dichloroethene	190	U
75-34-3	1,1-Dichloroethane	96	U
108-05-4	Vinyl Acetate	290	U
78-93-3	2-Butanone	290	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	190	U
71-43-2	Benzene	290	
107-06-2	1,2-Dichloroethane	190	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	190	U
10061-01-5	cis-1,3-Dichloropropene	96	U
108-10-1	4-Methyl-2-Pentanone	190	U
108-88-3	Toluene	5600	E
10061-02-6	trans-1,3-Dichloropropene	190	U
79-00-5	1,1,2-Trichloroethane	190	U
127-18-4	Tetrachloroethene	96	U
591-78-6	2-Hexanone	190	U
124-48-1	Dibromochloromethane	190	U
108-90-7	Chlorobenzene	96	U
100-41-4	Ethylbenzene	4600	

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9A

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036601

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB016591.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.13 Date Analyzed: 5/26/2004

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	29000	E
95-47-6	o-Xylene	14000	E
100-42-5	Styrene	190	U
75-25-2	Bromoform	190	U
79-34-5	1,1,2,2-Tetrachloroethane	190	U
541-73-1	1,3-Dichlorobenzene	290	U
106-46-7	1,4-Dichlorobenzene	290	U
95-50-1	1,2-Dichlorobenzene	290	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9A DI

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036601

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB016628.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.13 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	670	U
107131	Acrylonitrile	670	U
75650	tert-Butyl alcohol	1200	U
1634044	Methyl-tert-Butyl ether	290	U
108203	Di-isopropyl ether	190	U
75718	Dichlorodifluoromethane	380	U
74-87-3	Chloromethane	96	U
75-01-4	Vinyl Chloride	290	U
74-83-9	Bromomethane	190	U
75-00-3	Chloroethane	290	U
75-69-4	Trichlorofluoromethane	190	U
75-35-4	1,1-Dichloroethene	96	U
67-64-1	Acetone	190	U
75-15-0	Carbon Disulfide	96	U
75-09-2	Methylene Chloride	190	U
156-60-5	trans-1,2-Dichloroethene	190	U
75-34-3	1,1-Dichloroethane	96	U
108-05-4	Vinyl Acetate	290	U
78-93-3	2-Butanone	290	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	190	U
71-43-2	Benzene	350	
107-06-2	1,2-Dichloroethane	190	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	190	U
10061-01-5	cis-1,3-Dichloropropene	96	U
108-10-1	4-Methyl-2-Pentanone	190	U
108-88-3	Toluene	4200	
10061-02-6	trans-1,3-Dichloropropene	190	U
79-00-5	1,1,2-Trichloroethane	190	U
127-18-4	Tetrachloroethene	96	U
591-78-6	2-Hexanone	190	U
124-48-1	Dibromochloromethane	190	U
108-90-7	Chlorobenzene	96	U
100-41-4	Ethylbenzene	3700	

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9A DI

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036601

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB016628.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.13 Date Analyzed: 5/28/2004

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	19000	E
95-47-6	o-Xylene	13000	E
100-42-5	Styrene	190	U
75-25-2	Bromoform	190	U
79-34-5	1,1,2,2-Tetrachloroethane	190	U
541-73-1	1,3-Dichlorobenzene	290	U
106-46-7	1,4-Dichlorobenzene	290	U
95-50-1	1,2-Dichlorobenzene	290	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 800-9A

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036601

Sample wt/vol: 11.1 (g/ml) G Lab File ID: VB016591.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.13 Date Analyzed: 5/26/2004

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9F

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036606

Sample wt/vol: 10.2 (g/ml) G Lab File ID: VB016592.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.82 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	740	U
107131	Acrylonitrile	740	U
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	320	U
108203	Di-isopropyl ether	210	U
75718	Dichlorodifluoromethane	420	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	320	U
74-83-9	Bromomethane	210	U
75-00-3	Chloroethane	320	U
75-69-4	Trichlorofluoromethane	210	U
75-35-4	1,1-Dichloroethene	110	U
67-64-1	Acetone	210	U
75-15-0	Carbon Disulfide	110	U
75-09-2	Methylene Chloride	210	U
156-60-5	trans-1,2-Dichloroethene	210	U
75-34-3	1,1-Dichloroethane	110	U
108-05-4	Vinyl Acetate	320	U
78-93-3	2-Butanone	320	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	210	U
71-43-2	Benzene	110	U
107-06-2	1,2-Dichloroethane	210	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	210	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-Pentanone	210	U
108-88-3	Toluene	1000	
10061-02-6	trans-1,3-Dichloropropene	210	U
79-00-5	1,1,2-Trichloroethane	210	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	210	U
124-48-1	Dibromochloromethane	210	U
108-90-7	Chlorobenzene	110	U
100-41-4	Ethylbenzene	1600	

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9F

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036606

Sample wt/vol: 10.2 (g/ml) G Lab File ID: VB016592.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.82 Date Analyzed: 5/26/2004

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	8900	
95-47-6	o-Xylene	5400	E
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	210	U
541-73-1	1,3-Dichlorobenzene	320	U
106-46-7	1,4-Dichlorobenzene	320	U
95-50-1	1,2-Dichlorobenzene	320	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9F DI

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036606

Sample wt/vol: 10.2 (g/ml) G Lab File ID: VB016629.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.82 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	740	U
107131	Acrylonitrile	740	U
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	320	U
108203	Di-isopropyl ether	210	U
75718	Dichlorodifluoromethane	420	U
74-87-3	Chloromethane	110	U
75-01-4	Vinyl Chloride	320	U
74-83-9	Bromomethane	210	U
75-00-3	Chloroethane	320	U
75-69-4	Trichlorofluoromethane	210	U
75-35-4	1,1-Dichloroethene	110	U
67-64-1	Acetone	210	U
75-15-0	Carbon Disulfide	110	U
75-09-2	Methylene Chloride	210	U
156-60-5	trans-1,2-Dichloroethene	210	U
75-34-3	1,1-Dichloroethane	110	U
108-05-4	Vinyl Acetate	320	U
78-93-3	2-Butanone	320	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	210	U
71-43-2	Benzene	150	
107-06-2	1,2-Dichloroethane	210	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	210	U
10061-01-5	cis-1,3-Dichloropropene	110	U
108-10-1	4-Methyl-2-Pentanone	210	U
108-88-3	Toluene	1600	
10061-02-6	trans-1,3-Dichloropropene	650	
79-00-5	1,1,2-Trichloroethane	210	U
127-18-4	Tetrachloroethene	110	U
591-78-6	2-Hexanone	210	U
124-48-1	Dibromochloromethane	210	U
108-90-7	Chlorobenzene	110	U
100-41-4	Ethylbenzene	1800	

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9F DI

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036606

Sample wt/vol: 10.2 (g/ml) G Lab File ID: VB016629.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.82 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	9300	
95-47-6	o-Xylene	6500	E
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	210	U
541-73-1	1,3-Dichlorobenzene	320	U
106-46-7	1,4-Dichlorobenzene	320	U
95-50-1	1,2-Dichlorobenzene	320	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 800-9F

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036606

Sample wt/vol: 10.2 (g/ml) G Lab File ID: VB016592.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 6.82 Date Analyzed: 5/26/2004

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

100629

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036607

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016593.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036607

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016593.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036607

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016593.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036607

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016626.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID: **Trip Blank**

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40366 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4036607

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016626.D

Level: (low/med) MED Date Received: 5/18/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

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 # :**	40366
		Location :	800 Area Bl.1006
		UST Reg. # :	04-24929

Analysis :	OQA-QAM-025	**Date Received :**	18-May-04
Matrix :	Soil	**Date Extracted :**	19-May-04
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	20-May-04
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4036601	800-9A	5.00	15.02	93.87	161	14910.56
4036602	800-9B	1.00	15.05	94.68	159	1583.90
4036603	800-9C	1.00	15.09	92.86	162	3266.09
4036604	800-9D	1.00	15.03	95.39	158	5545.14
4036605	800-9E	2.00	15.05	93.07	162	11567.05
4036606	800-9F	2.50	15.01	93.18	162	14241.87
METHOD BLANK	MB-051904-01	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

ECKLIST AND NON-CONFOR SUMMARY

THIS FOR LABORATORY OR ENVIR ATAL CONSULTANT
ALL DATA SUBMISSIONS

The following Laboratory Deliverables Check... submission. All deviations from the accepted... acceptable ranges shall be summarized in t... Remediation, effective June 7, 1993, provic... table of contents, and all pages shall be leg... until the data package is completed.

...onformance Summary sl... included in the data ...and procedures, of perf...ce values outside ...nance Summary. The T...ical Requirements for Site ...s. The document shall...ound and paginated, contain a ...data packages will be...ned or held without review

It is recommended that the analytical res...y sheets listing all tar...ed and non-targeted compounds with the method detection limits, practic... quantitation limits, d the laboratory and/or sample numbers be included in one section of the data packag... and in the main bly of the report.

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

Laboratory Manager or Environmental Consultant's Signature

Date: 6/8/04

Laboratory Certification # 13461

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

...00104

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

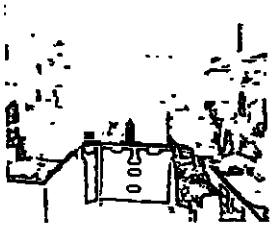
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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: 800 Area

800 Area/UST # 9

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-9G, Bottom	4038401	Soil	21-May-04 13:50	05/21/04
800-9H, NE Wall	4038402	Soil	21-May-04 14:56	05/21/04

ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, % SOLIDS

6-8-04
Daniel Wright/Date
Laboratory Director

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

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CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DOUG GUENTHER
Phone #: X 20986
( )DERA ( )OMA (X)Other: RCI

Project No: 04-21929
Location: 800 AREA (B,1000)
UST # 9

Samplers Name / Company : FRANK ACCORSI - TVS

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOH15*					DEPTH (FT.)	VOA #	Comments: Remarks / Preservation Method
40384 01	800-9G, BOTTOM	5-21-04	1350	SOIL	2	X	X					10.5-11	4014	ICE
d 02	800-9H, NE WALL	"	1956	"	2	X	X					10-10.5	4015	"

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	5-21-04 1605	J. Vergara			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 1 WK Days, ( )ASAP Verbal ___ Hrs.

Remarks: X VOH15 ON 25% > 1,000 PPM TPH, ON HIGH.

Page 1 of 1

print legibly

000002

Change of Chain of Custody

Lab Project ID#: 40384 Site/Project Name: 600 AREA
Date Received: 5/21 Date of Change: 5/25
Requested by: *(print)* S. Gunther Sign: _____
Turnaround Time: Std

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

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

Sample ID#	New Analysis	Sample ID#	New Analysis
40384 01	VOA +15		

Comments: _____

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 as 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: 40384

Site: 800 Area
UST #9

	Date	Hold Time
Date Sampled	05/21/04	NA
Receipt/Refrigeration	05/21/04	NA
Extraction		
1. TPHC	05/24/04	14 days
Analyses		
1. VOA	05/26,28/04	14 days
2. TPHC	05/25/04	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	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 (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	Yes
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 — NO
(If not met, list those compounds, which fall outside the acceptable range)

a. VOA Fraction 1520FB+153CB2 high in initial run reran diluted - OK.
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: 6-8-04

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: 6-8-04

VOLATILE ORGANICS

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 26May04

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 26May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016590.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 26May04

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 26May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016590.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 26May04**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 26May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016590.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 28May04

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 28May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016625.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID: **MB 28May04**

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 28May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016625.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 28May04**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 28May04

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016625.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9G

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4038401

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB016596.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 14.32 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	690	U
107131	Acrylonitrile	690	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	99	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	99	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	99	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	99	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	99	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	99	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	99	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	99	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	99	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9G

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4038401

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB016596.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 14.32 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 800-9G

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4038401

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB016596.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 14.32 Date Analyzed: 5/26/2004

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: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000111-84-2	Nonane	25.51	1900	JN
2.	unknown	27.23	1700	J
3. 005911-04-6	Nonane, 3-methyl-	27.50	3200	JN
4. 000124-18-5	Decane	28.13	8600	JN
5.	unknown	29.36	7100	J
6. 000091-17-8	Naphthalene, decahydro-	30.36	2400	JN
7. 001120-21-4	Undecane	30.41	4400	JN
8.	unknown	31.61	9000	J
9. 000629-59-4	Tetradecane	31.92	1900	JN
10.	unknown	32.02	3400	J

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-9G DI

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40384 Location: 800 Ar SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4038401

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB016631.D

Level: (low/med) MED Date Received: 5/21/2004

% Moisture: not dec. 14.32 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	6900	U
107131	Acrylonitrile	6900	U
75650	tert-Butyl alcohol	13000	U
1634044	Methyl-tert-Butyl ether	3000	U
108203	Di-isopropyl ether	2000	U
75718	Dichlorodifluoromethane	4000	U
74-87-3	Chloromethane	990	U
75-01-4	Vinyl Chloride	3000	U
74-83-9	Bromomethane	2000	U
75-00-3	Chloroethane	3000	U
75-69-4	Trichlorofluoromethane	2000	U
75-35-4	1,1-Dichloroethene	990	U
67-64-1	Acetone	2000	U
75-15-0	Carbon Disulfide	990	U
75-09-2	Methylene Chloride	2000	U
156-60-5	trans-1,2-Dichloroethene	2000	U
75-34-3	1,1-Dichloroethane	990	U
108-05-4	Vinyl Acetate	3000	U
78-93-3	2-Butanone	3000	U
156-59-2	cis-1,2-Dichloroethene	990	U
67-66-3	Chloroform	990	U
71-55-6	1,1,1-Trichloroethane	990	U
56-23-5	Carbon Tetrachloride	2000	U
71-43-2	Benzene	990	U
107-06-2	1,2-Dichloroethane	2000	U
79-01-6	Trichloroethene	990	U
78-87-5	1,2-Dichloropropane	990	U
75-27-4	Bromodichloromethane	990	U
110-75-8	2-Chloroethyl vinyl ether	2000	U
10061-01-5	cis-1,3-Dichloropropene	990	U
108-10-1	4-Methyl-2-Pentanone	2000	U
108-88-3	Toluene	990	U
10061-02-6	trans-1,3-Dichloropropene	2000	U
79-00-5	1,1,2-Trichloroethane	2000	U
127-18-4	Tetrachloroethene	990	U
591-78-6	2-Hexanone	2000	U
124-48-1	Dibromochloromethane	2000	U
108-90-7	Chlorobenzene	990	U
100-41-4	Ethylbenzene	2000	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: 800-9G DI

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40384 Location 800 Ar SDG No

Matrix (soil/water) SOIL Lab Sample ID 4038401

Sample wt/vol 11 7 (g/ml) G Lab File ID VB016631 D

Level (low/med) MED Date Received 5/21/2004

% Moisture not dec 14 32 Date Analyzed 5/28/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 10 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	3000	U
95-47-6	o-Xylene	2000	U
100-42-5	Styrene	2000	U
75-25-2	Bromoform	2000	U
79-34-5	1,1,2,2-Tetrachloroethane	2000	U
541-73-1	1,3-Dichlorobenzene	3000	U
106-46-7	1,4-Dichlorobenzene	3000	U
95-50-1	1,2-Dichlorobenzene	3000	U

TPHC

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

Client	U S Army	Project #	40384
	DPW SELFM-PW-EV	Location	800 Area
	Bldg 173	UST Reg #	04-24929
	Ft Monmouth, NJ 07703		

Analysis :	OQA-QAM-025	Date Received	21-May-04
Matrix	Soil	Date Extracted	24-May-04
Inst. ID	GC TPHC INST #1	Extraction Method .	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete .	25-May-04
Injection Volume	1uL	Analyst	B Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4038401	800-9G	1 00	15 03	85 68	176	4539.72
4038402	800-9H	1 00	15 09	86 12	174	ND
METHOD BLANK	MB-052404-01	1 00	15 00	100 00	151	ND

ND = Not Detected

MDL = Method Detection Limit

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature _____

Date: 6/5/04

Laboratory Certification # 13461

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

Laboratory Authentication Statement

I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Aralysis. 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
LaboratoryManager

ATTACHMENT I

UST 800-10 File Review and Analyses

PARSONS

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

Date: *June 1, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-10*** Registration ID: *None*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): _____

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: 5/18/2004

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

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank. The location of this tank was not shown on the FTMM UST Database maps; however, based on the coordinates of the geophysical anomaly, it was located approximately 50 ft southeast of UHOT 800-9.

Following tank removal in 2004, five soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Soil sample results from this excavation ranged from non-detected (ND) to 925 mg/kg for TPH. 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 the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: _____

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 800 10 ***NJDEP REG ID:***

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 1000 ***CONSTRUCTION:*** STEEL

PRODUCT: #2 FUEL OIL ***YEAR INSTALLED:*** 1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: ***REMOVAL CONTRACTOR:*** TVS

SRF SEND DATE: ***TMS:***

DICAR NO. ***LEAK DETECT:***

REMEDIATION COMMENTS: 800 Area RCI project. UST removed. Soil samples below criteria. Clean closure. No Report required.

REGISTRATION COMMENTS: Residential. No registration.

SAS DONE: ***CONSULTANT:*** TVS

MWs NEEDED: 0 ***MONITORING WELLS:*** 0

SUB-SURFACE EVALUATOR: Frank Accorsi

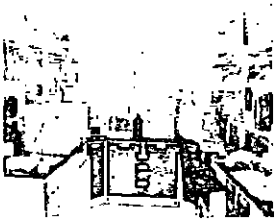
CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. ***CASE STATUS:*** Case Closed

SUBMITTAL DATE: ***APPROVAL DATE:***

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: 800 Area

800 Area/UST # 10

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
800-10A, NE Wall	4036501	Soil	18-May-04 15:15	05/18/04
800-10B, SW Wall	4036502	Soil	18-May-04 15:27	05/18/04
800-10C, SE Wall	4036503	Soil	18-May-04 15:38	05/18/04
800-10D, NW Wall	4036504	Soil	18-May-04 15:50	05/18/04
800-10E, Bottom	4036505	Soil	18-May-04 16:00	05/18/04

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

5-20-04
Daniel Wright/Date
Laboratory Director

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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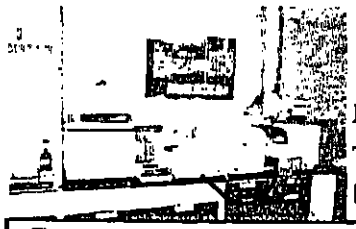
CHAIN OF CUSTODY



For 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: DOUG GUENTHER | Project No: 04-24949
Phone #: X20986 | Location: 900 AREA-B-1005 CREDIT UNION - UST #10
( )DERA ( )OMA (X)Other: RCI
Samplers Name / Company: FRANK ACCORSI / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOTS					DEPTH (FT)	VOA #	Comments: Remarks / Preservation Method
40365 01	900-10A, NE WALL	5-18-04	1515	SOIL	2	X	X					7-7.5	3989	ICE
02	900-10B, SW WALL		1527		2	X	X					6.5-7	3990	
03	900-10C, SE WALL		1538		2	X	X					6.5-7	3991	
04	900-10D, NW WALL		1550		2	X	X					6.5-7	3993	
05	900-10E, BOTTOM		1600		2	X	X					7.5-8	3992	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	5/18/04 1610				
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 Days, (_)ASAP Verbal ___Hrs.

Remarks: VOA+15 ON 25% > 1,200 PPM TPH, ON HIGHEST, MIN. ONE

000002

print legibly

Coc8/7/02

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.

LABORATORY CHRONICLE

000005

Ex. 2

Laboratory Chronicle

Lab ID: 40365

Site: 800 Area
UST # 10

	Date	Hold Time
Date Sampled	05/18/04	NA
Receipt/Refrigeration	05/18/04	NA
Extraction		
1. TPHC	05/19/04	14 days
Analyses		
1. TPHC	05/20/04	40 days

CONFORMANCE/ NON-CONFORMANCE SUMMARY

(5 2)

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 RPD 27%	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: _____

Laboratory Manager: _____ Date: 5-20-04

TPHC

000009

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 # :**	40365
		Location :	800 Area Bl.1006
		UST Reg. # :	04-24949
Analysis :	OQA-QAM-025	**Date Received :**	18-May-04
Matrix :	Soil	**Date Extracted :**	19-May-04
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	20-May-04
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4036501	800-10A	1.00	15.17	95.98	156	925.11
4036502	800-10B	1.00	15.05	96.39	156	ND
4036503	800-10B	1.00	15.09	94.75	158	ND
4036504	800-10D	1.00	15.05	89.58	168	ND
4036505	800-10E	1.00	15.17	95.51	156	329.52
METHOD BLANK	MB-051904-01	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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: 5/28/04

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

800 AREA,

UST's Known as
800-1
800-2
etc....

ENVIROSCAN, INC.

C. Appleby
DPW
10-22-08

Compare Survey to Actual USTs Removed

Appendix B

GPR Survey Results

Project No. 030301, Fort Monmouth, NJ

Target Number	Easting	Northing	Description	Method	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1 K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1K Removed
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

ATTACHMENT J

UST 800-12 Report

U.S. Army Garrison
Fort Monmouth, New Jersey

Underground Storage Tank Closure and Remedial Investigation Report

Main Post – 800 Area (UST No. 12)
Credit Union (Bldg.1006) parking lot

NJDEP UST Registration No. 081533
NJDEP Case No. 04-05-25-1623-31
UST No. 800-12

September 2004

UNDERGROUND STORAGE TANK CLOSURE AND REMEDIAL INVESTIGATION REPORT

MAIN POST - 800 AREA (UST NO. 12)
NJDEP UST REGISTRATION NO. 081533
NJDEP CASE NO. 04-05-25-1623-31

SEPTEMBER 2004

PROJECT NO.: 04-24949

PREPARED FOR:

U.S. ARMY GARRISON, FORT MONMOUTH, NJ
DIRECTORATE OF PUBLIC WORKS
BUILDING 167
FORT MONMOUTH, NJ 07703

PREPARED BY:

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

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APPENDICES

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EXECUTIVE SUMMARY

UST Closure

On May 18, 2004, a single wall steel underground storage tank (UST) was closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the U.S. Army Garrison, Fort Monmouth, New Jersey. The UST was located under an asphalt parking lot near Building 1006 (Credit Union) in the Main Post area of Fort Monmouth. UST No. 800-12 was a 1,000-gallon No. 2 heating oil tank. The fill port, vent pipe and associated supply/return piping was not present in the excavation. The tank closure was performed by TECOM-Vinnell Services, Inc. (TVS).

Site Assessment

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for holes. Holes were noted in the UST and potentially contaminated soils were observed surrounding the tank.

Post-remediation soil samples were collected after the removal of the UST and approximately 12 cubic yards of potentially contaminated soils were excavated. Post-remediation samples A, B, C, D, E and F-Duplicate were collected from a total of five (5) locations along the sidewalls and bottom of the excavation. All samples were analyzed for total petroleum hydrocarbons (TPH).

On May 24, 2004, an additional 6 cubic yards of potentially contaminated soils was removed from the bottom of the excavation, due to exceedance of TPH concentrations of the sample from that location. One post-remediation soil sample were collected from the bottom of the expanded portion of the excavation and was analyzed for TPH. Groundwater was not encountered in the bottom of the excavation.

Findings

The initial post-remediation soil samples collected from the UST excavation associated with former UST No. 800-12, contained TPH concentrations above the NJDEP health based criterion of 10,000 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E and revisions dated February 3, 1994). Samples E and F-Duplicate contained TPH concentrations of 11,946 mg/kg and 10,111 mg/kg, respectively. Subsequently, after further excavation of the area which had these results, analytical results of sample G had a TPH concentration of Not Detected.

Site Restoration

Following receipt of all post-remediation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and clean fill in compacted lifts. The excavation site was then restored to its original condition with four inches of compacted stone and four inches of asphalt.

Conclusions and Recommendations

Based on the post-remediation soil sampling results, soils with TPH concentrations exceeding the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants do not remain in the former location of the UST. In the sample analyzed for volatile organics, there are no detected compounds that exceed the NJDEP Residential Direct Contact Soil Cleanup Criteria.

No Further Action is proposed in regard to the closure and site assessment of UST No. 800-12 at Building 1006.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533, was closed in the 800 area of Main Post at U.S. Army Garrison, Fort Monmouth, New Jersey on May 18, 2003. Refer to site location map on Figure 1. This report presents the results of the implementation of the DPW's UST Management Plan, March, 1996. The UST was a 1,000-gallon, single-walled steel tank containing No. 2 heating oil.

Decommissioning activities for UST No. 800-12 complied with all applicable federal, state and local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to: N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. The closure and subsurface evaluation of the UST was conducted by a NJDEP licensed TVS employee.

This UST Closure and Remedial Investigation Report has been prepared by TVS to assist the US Army Garrison DPW in complying with the NJDEP - Underground Storage Tanks regulations. The applicable NJDEP regulations at the date of closure were the *Closure Requirements for Underground Storage Tank Systems* (N.J.A.C. 7:14B-9 et seq. September 1990 and revisions dated May 19, 2003).

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

1.2 SITE DESCRIPTION

Building 1006, First Atlantic Federal Credit Union, is located in the eastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 800-12 was located west of Building 1006. The fill port, vent pipe and appurtenant piping was not encountered in the excavation. A site map is provided on Figure 2. The area surrounding Building 1006 was assessed for abandoned USTs using a geophysical survey (electromagnetic and ground penetrating radar) and historical maps.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 800 Area. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

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 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 (Zapecza, 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 gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

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

Hydrogeology

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

Based on records of wells drilled in the Main Post area, water is typically encountered at depths of 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Due to the proximity of the Atlantic Ocean to Fort Monmouth, shallow groundwater may be tidally influenced and may flow toward creeks and brooks as the tide goes out, and away from creeks and brooks as the tide comes in. However, an abundance of clay lenses and sand deposits were noted in borings installed throughout Fort Monmouth. Therefore the direction of shallow groundwater should be determined on a case by case basis.

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
- local groundwater recharge areas (e.g., streams, lakes)

Due to the fluvial nature of the overburden deposits (e.g., 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 gravel silt and/or clay.

The 800 Area is located approximately 500 feet southeast of Husky Brook, the nearest water body, which flows into Oceanport Creek. Based on the Main Post topography, the groundwater flow in the area of the 800 Area is anticipated to be to the northwest.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas which posed a vapor hazard were monitored by a qualified individual utilizing an organic vapor analyzer (OVA). The individual ascertained if the area was properly vented to render the area safe, as defined by OSHA. All work areas were properly vented to insure that there were no contaminants present in the breathing zone above permissible exposure limits (PEL's).

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- All underground utilities were marked out by the respective trade shops or utility contractor prior to excavation activities.
- All activities were carried out with great regard to safety and health and the safeguarding of the environment.
- All excavated soils were visually examined and screened with an OVA for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.
- Surface materials (i.e., asphalt, concrete, etc.) were excavated and staged separately from all soil and recycled in accordance with all applicable regulations and laws.
- An NJDEP certified Subsurface Evaluator was present during all closure and remediation activities.

1.4.2 Underground Storage Tank Excavation and Cleaning

During decommissioning activities, asphalt and surficial soil was carefully removed to expose the UST. The tank was emptied of all liquids prior to removal from the ground. Approximately 800 gallons of liquid was pumped out of the UST and transported by Lorco Petroleum Services, Inc. to their NJDEP-approved petroleum recycling and disposal facility located in Elizabeth, New Jersey. Refer to Appendix C for non-hazardous waste manifest (No. NJZ-49683).

After the UST was removed from the excavation, it was staged on an impervious surface, labeled and examined for holes. Holes were observed during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an OVA for evidence of contamination. Soil staining and an odor of petroleum hydrocarbons was observed. It was determined that soil excavation would be conducted prior to sampling. DPW personnel was made aware of the field conditions that existed, prompting them to call the NJDEP Spill Hotline, in which Case No. 04-05-25-1623-31 was assigned.

1.5 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

Subsequent to disposal, the UST was purged with air to remove vapors prior to cutting. An access hole was made in the UST to allow for cleaning using squeeges and adsorbents. The tank was then transported by TVS to Recycling Technology Center, Inc., Shafto Rd., Tinton Falls, NJ for disposal in compliance with all applicable regulations and laws. Refer to Appendix C for UST disposal certificate.

The Subsurface Evaluator labeled the UST with the following information:

- site of origin
- NJDEP UST Facility ID number
- date of removal
- size of tank
- previous contents of tank

Photographic documentation of the UST in included in Appendix D.

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and visual observations, approximately 18 cubic yards of potentially contaminated soil was excavated from the area surrounding the UST. All potentially contaminated soil was loaded into a truck and transported to the Main Post ID 27 Soil Staging Area (located behind Bldg.166) prior to ultimate disposal at Soil Remediation of Philadelphia. Soils that did not exhibit signs of contamination were separated during the excavation and used as backfill following removal of the UST.

2.0 REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Remedial Investigation was managed by U.S. Army DPW personnel. All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory, a NJDEP-certified testing laboratory. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (1992). Sampling frequency and parameters analyzed complied with the NJDEP document *Technical Requirements for Site Remediation, 7:26E-3.9* (December 17, 2002 and revisions dated February 3, 2003) which was the applicable regulation at the date of the closure. All records of the Remedial Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Remedial Investigation Activities.

- Ft. Monmouth Directorate of Public Works-Environmental Division
  Contact Person: Douglas Guenther
  Phone Number: (732) 532-0986

- Subsurface Evaluator: Frank Accorsi
  Employer: TECOM-Vinnell Services, Inc. (TVS)
  Phone Number: (732) 532-2577
  NJDEP License No.: 0010042

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

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

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP certified Subsurface Evaluator using an OVA (Thermo Instruments-Photo-ionization Detector model 580B) and visual observations to identify potentially contaminated material. Soils were removed from the excavation surrounding UST No. 800-12 until no evidence of contamination remained.

2.3 SOIL SAMPLING

On May 19, 2004, post-remediation soil samples 12A, 12B, 12C, 12D, 12E and 12F-Duplicate were collected from a total of five (5) locations along the sidewalls and the bottom of the UST excavation. Groundwater was not encountered in the excavation. On May 24, 2004, one (1) post-remediation soil sample (G) was also collected representing additional soil remediation that occurred along the bottom of the excavation. Refer to soil sampling location map in Figure 2. All samples were analyzed for TPH. Samples 12E and 12F duplicate exhibited concentrations exceeding 1,000 mg/kg and were further analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO+ 15).

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* and the NJDEP *Field Sampling Procedures Manual*. A summary of sampling activities including parameters analyzed is provided on Table 1. The post-remediation soil samples were collected using stainless steel trowels. After collection, the samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Post-remediation soil samples were collected from a total of five locations on May 19, 2004 and from one location on May 24, 2004, to evaluate soil conditions following removal of the UST. All samples were analyzed for TPH. The post-remediation soil sample results were compared to the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix E.

Post-remediation soil samples collected on May 19, 2004, from the UST remedial excavation contained concentrations of TPH below the NJDEP soil cleanup criteria, with the exception of 12E and 12F-Duplicate which contained TPH concentrations of 14,911 mg/kg, 11,946 mg/kg and 10,111 mg/kg, respectively. Soil sample 12E were further analyzed for VOA in which all detected compounds were below the NJDEP Redidential Direct Contact Soil Cleanup Criteria.

One post-remediation soil sample collected on May 24, 2004 from the expanded UST remedial excavation contained concentrations of contaminants below the NJDEP soil cleanup criteria. Post-remediation samples G contained a TPH concentration of Not Detected.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all of post-remediation soil samples collected from the UST closure excavation at UST No. 800-12 were below the NJDEP soil cleanup criteria for total organic contaminants and volatile organic compounds.

Based on the post-remediation soil sampling results, soils with TPH concentrations exceeding the NJDEP soil cleanup criteria for total organic contaminants of 10,000 mg/kg have been excavated from the former location of UST No. 800-12.

No Further Action is proposed in regard to the closure and remedial investigation of
UST No. 800-12 at Building 1006.

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, BUILDING 1006, UST No.800-12
19 May 2004, 24 May 2004

SAMPLE ID	LABORATORY SAMPLE ID	LOCATION	SAMPLE MATRIX	ANALYSIS
800-12A	4037101	NORTHEAST WALL	SOIL	TPH
800-12B	4037102	SOUTHWEST WALL	SOIL	TPH
800-12C	4037103	SOUTHEAST WALL	SOIL	TPH
800-12D	4037104	NORTHWEST WALL	SOIL	TPH
800-12E	4037105	BOTTOM	SOIL	TPH
800-12F	4037106	DUPLICATE (BOTTOM)	SOIL	TPH, VOA
800-12G	4038501	BOTTOM	SOIL	TPH
TRIP BLANK	4037107	N/A	METHANOL	VOA

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, NJDEP Method OQA-QAM-025 10/97
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
FT. MONMOUTH, BUILDING 1006, UST No.800-12
19 May 2004

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	NJDEP ACTION LEVEL	LOCATION	DEPTH (IN FEET)	RESULT IN mg/kg
800-12A	10,000	NORTHEAST WALL	7.0 – 7.5	6,723
800-12B	10,000	SOUTHWEST WALL	7.0 – 7.5	2,493
800-12C	10,000	SOUTHEAST WALL	7.0 – 7.5	ND
800-12D	10,000	NORTHWEST WALL	7.0 – 7.5	ND
800-12E	10,000	BOTTOM	8.0 – 8.5	11,946*
800-12F	10,000	DUPLICATE (BOTTOM)	8.0 – 8.5	10,111
800-12G	10,000	BOTTOM	11.0 – 11.5	ND

ABBREVIATIONS:
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatiles

Gray shading indicates exceedance of NJDEP
Residential Direct Contact Soil Cleanup Criteria

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS

FT. MONMOUTH, BUILDING 1006, UST No. 800-12
19 May 2004

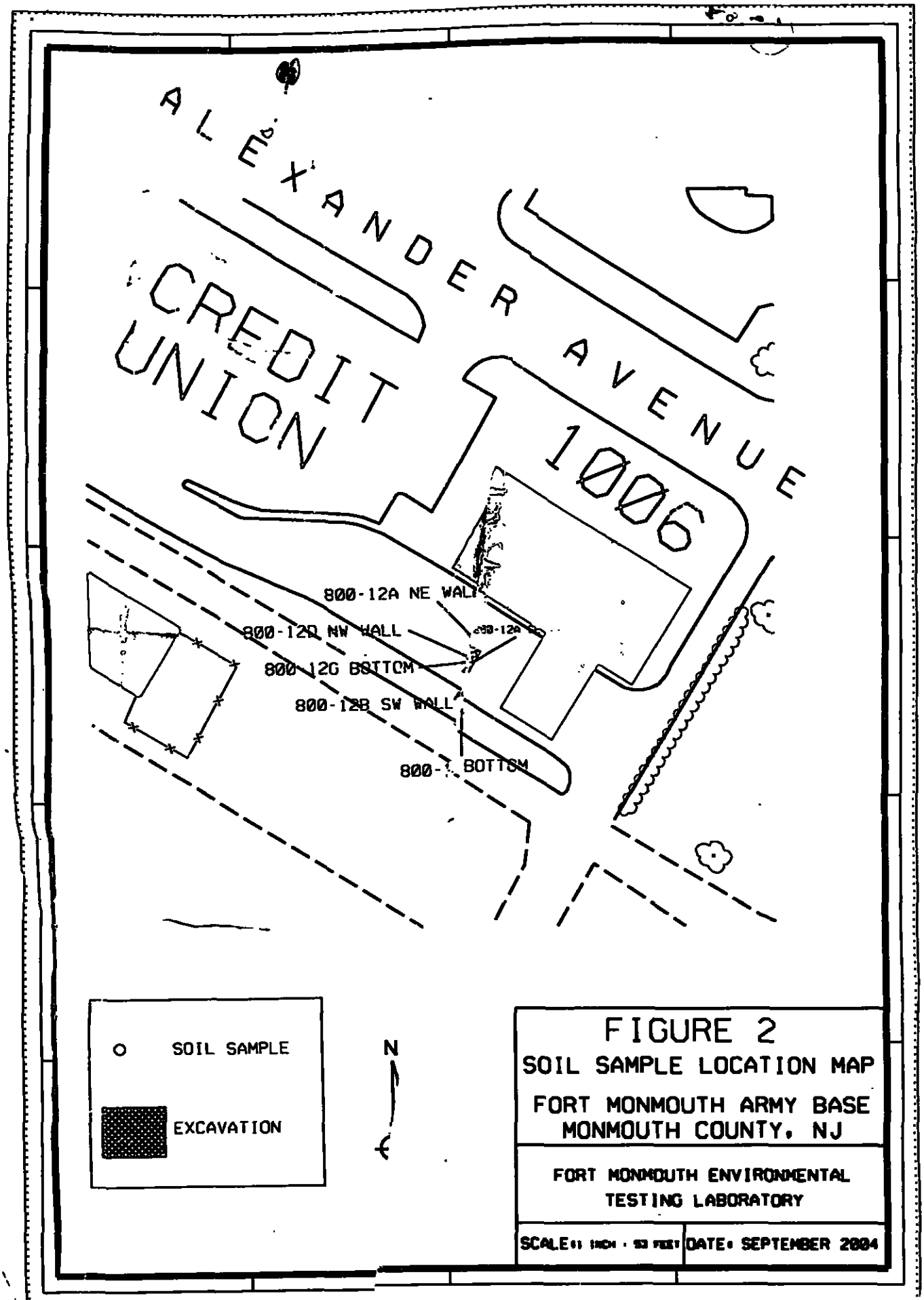
VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	SAMPLE DATE	Benzene	Toluene	Ethylbenzene	Xylenes (total)
UNITS		mg/kg	mg/kg	mg/kg	mg/kg
800-12E	19 May 2004	0.47	4.20	65.00	269
NJDEP Criteria	Residential	3	1,000	1,000	410

ABBREVIATIONS:
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed

Notes:
Gray shading indicates exceedance of NJDEP
Residential Direct Contact Soil Cleanup Criteria

FIGURES



...\FA80012areaUST.dgn 09/30/2004 04:06:3M

APPENDIX A

CERTIFICATIONS

APPENDIX B

WASTE MANIFEST

APPENDIX C

UST DISPOSAL CERTIFICATE

APPENDIX D

PHOTO DOCUMENTATION



Location of UST No. 800-12 at Building 1006 (Credit Union) parking lot. View looking north.



Location of former UST No. 800-12
after soil samples were collected.
Bottom was excavated an additional four feet.



UST No. 800-12 : 1,000 gallon single wall steel.
Credit Union drive-thru in background.

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

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: 800 Area

800 Area/UST #12

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-12A, NE Wall	4037101	Soil	19-May-04 09:50	05/19/04
800-12B, SW Wall	4037102	Soil	19-May-04 09:18	05/19/04
800-12C, SE Wall	4037103	Soil	19-May-04 09:35	05/19/04
800-12D, NW Wall	4037104	Soil	19-May-04 09:47	05/19/04
800-12E, Bottom	4037105	Soil	19-May-04 10:10	05/19/04
800-12F, Duplicate	4037106	Soil	19-May-04 10:10	05/19/04
Trip Blank	4037107	Methanol	19-May-04	05/19/04

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

Daniel Wright/Date
Laboratory Director

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

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CHAIN OF CUSTODY

Fort Monmouth Environmental Testing Laboratory

Bldg 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail wrightd@mail1 monmouth army mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DOUG GUENTHER
Phone #. X20986
( )DERA ( )OMA (x)Other: RCI

Project No 04-24929
Location 800 AREA (B,1006) CREDIT UNION-UST #12

Samplers Name / Company: FRANK ACCORSI - TVS

Analysis Parameters

Comments:

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOA*					DEPTH (ft)	VOA #	Remarks / Preservation Method
40371 01	800-12A, NE WALL	5-19-04	0900	SOIL	2	X	X					7-7.5	3994	ICE
02	800-12B, SW WALL		0918			X	X					7-7.5	3995	
03	800-12C, SE WALL		0935			X	X					7-7.5	3996	
04	800-12D, NW WALL		0947			X	X					7-7.5	3997	
05	800-12E, BOTTOM		1010			X	X					8-8.5	3998	
06	800-12F, DUPLICATE		1010			X	X					8-8.5	3999	
07	TRIP BLANK		—	AO.	1		X					—	4000	

Relinquished by (signature)	Date/Time	Received by (signature)	Relinquished by (signature)	Date/Time	Received by (signature)
Frank Accorsi	5-19-04 1445	J. Vergara			
Relinquished by (signature)	Date/Time	Received by (signature)	Relinquished by (signature)	Date/Time	Received by (signature)

Report Type (_)Full, (X)Reduced, (_)Standard, (_)Screen / non-certified, (_)EDD
Turnaround time (_)Standard 3 wks (X)Rush 3 Days, (_)ASAP Verbal ___Hrs

Remarks VO+15 ON 25% > 1,000 PPM TPH, ON HIGHEST

000002

Change of Chain of Custody

Lab Project ID#: 40871 Site/Project Name: 500 Area

Date Received: 5/19 Date of Change: 5/21

Requested by: D Guenther Sign:

Turnaround Time: Stand.

1 Were the correct containers and/or preservatives used for the tests indicated? Yes No

2 Was a sufficient amount of sample sent for the tests indicated? Yes No

3 Are samples Within Holding time for new analysis? Yes No

4. Was the change documented in the sample receipt log book? Yes No

Received by: Sign:

Sample ID#	New Analysis		Sample ID#	New Analysis
40871 05	VOA+15			
07	1			

Comments:

\\lcp-system\c\My Documents\Change of Chain of Custody doc 09/14/98



o

US ARMY - FT MONMOUTH, NJ

BUILDING 1006-800 AREA-UST # 800-12
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

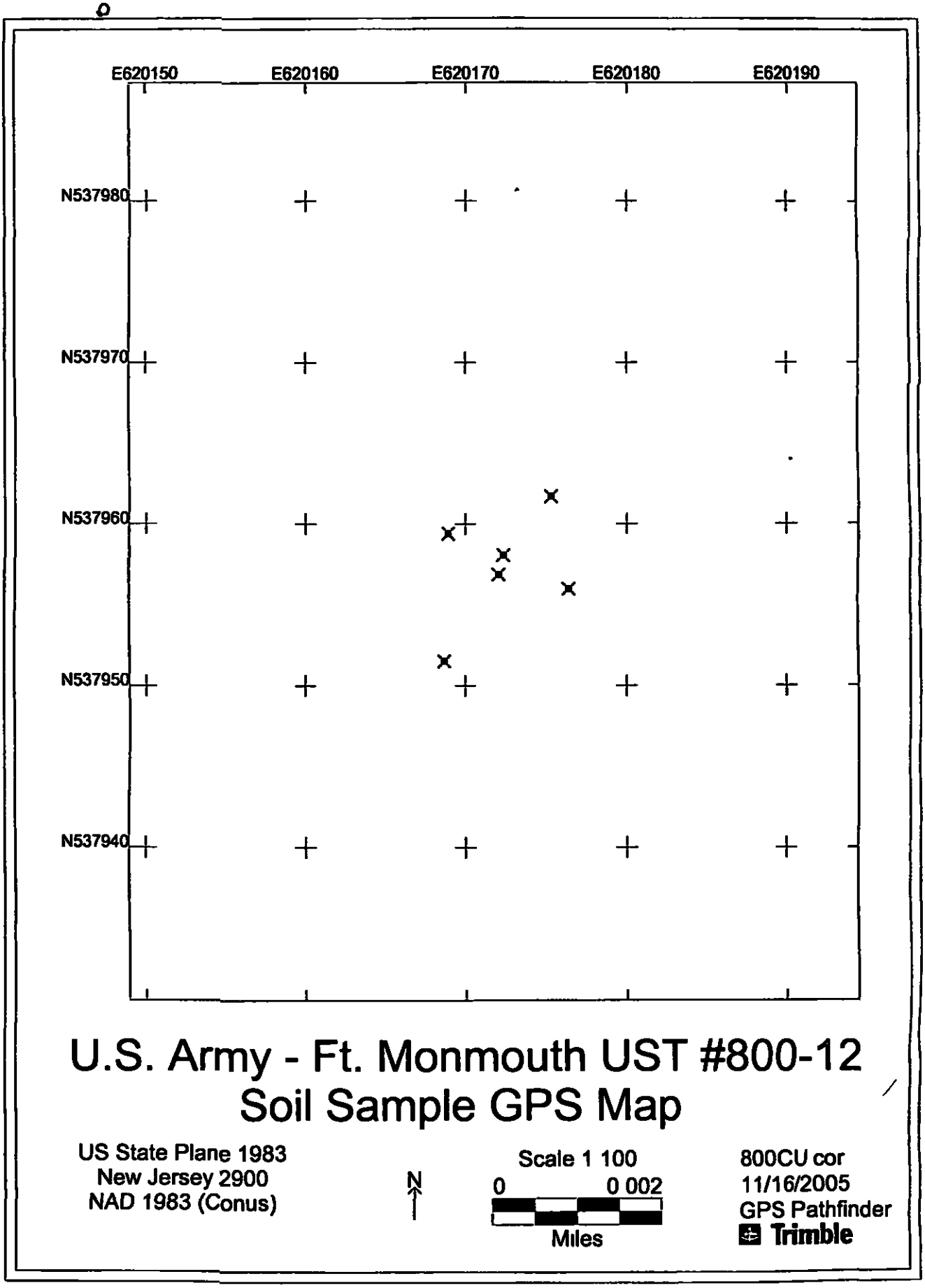
SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-12A NE WALL	537961 753	620175 29
800-12B SW WALL	537951 548	620168 602
800-12C SE WALL	537956 017	620176 39
800-12D NW WALL	537959 438	620168 85
800-12E BOTTOM	537958 12	620172 326
800-12G BOTTOM	537956 917	620172 052

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998 865	620157 192
B1006 CREDIT UNION NORTH CORNER	538043 64	620183 645
B1006 CREDIT UNION EAST CORNER	537988 336	620271 865
B1006 CREDIT UNION SOUTH CORNER	537943 187	620244 315

000003A



U.S. Army - Ft. Monmouth UST #800-12
Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1 100
0 0 002
Miles

800CU cor
11/16/2005
GPS Pathfinder
Trimble

000003 B

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 as 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: 40371

Site: 800 Area
UST #12

	Date	Hold Time
Date Sampled	05/19/04	NA
Receipt/Refrigeration	05/19/04	NA
Extraction		
1 TPHC	05/20/04	14 days
Analyses		
1 VOA	05/26,28/04	14 days
2 TPHC	05/21/04	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	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 (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	Yes
	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)	NO
	a VOA Fraction is high in initial analysis reran diluted all within	
	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 6-20-04

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) MS Low 47% LCS included	NO
4	Duplicate Results Summary Meet Criteria RPD High 32% LCS included	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 _____

Laboratory Manager _____ Date 6-8-04

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

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 26May04

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID MB 26May04

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016590 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed. 5/26/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 1 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID

MB 26May04

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name. FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID MB 26May04

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016590.D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed 5/26/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 1 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

MB 26May04

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID MB 26May04

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016590 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed 5/26/2004

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

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 28May04

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID MB 28May04

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016625 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed 5/28/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 1 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 28May04

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No.

Matrix (soil/water) SOIL Lab Sample ID MB 28May04

Sample wt/vol 10 0 (g/ml) G Lab File ID: VB016625 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec. 0 Date Analyzed 5/28/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor. 1 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

MB 28May04

Lab Name FMETL NJDEP#: 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID MB 28May04

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016625 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed 5/28/2004

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

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-12E

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID 4037105

Sample wt/vol 10 3 (g/ml) G Lab File ID VB016594 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 6 13 Date Analyzed 5/26/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 1 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	730	U
107131	Acrylonitrile	730	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	310	U
108203	Di-isopropyl ether	210	U
75718	Dichlorodifluoromethane	410	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	310	U
74-83-9	Bromomethane	210	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	210	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	210	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	210	U
156-60-5	trans-1,2-Dichloroethene	210	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	310	U
78-93-3	2-Butanone	310	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	210	U
71-43-2	Benzene	470	
107-06-2	1,2-Dichloroethane	210	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	210	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	210	U
108-88-3	Toluene	4200	
10061-02-6	trans-1,3-Dichloropropene	210	U
79-00-5	1,1,2-Trichloroethane	210	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	210	U
124-48-1	Dibromochloromethane	210	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	6900	E

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-12E

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID 4037105

Sample wt/vol 10 3 (g/ml) G Lab File ID VB016594 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 6 13 Date Analyzed 5/26/2004

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	18000	E
95-47-6	o-Xylene	9900	E
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	210	U
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID.

800-12E

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID 4037105

Sample wt/vol 10 3 (g/ml) G Lab File ID VB016594 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 6 13 Date Analyzed 5/26/2004

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

000022

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-12E DI

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID 4037105

Sample wt/vol 10 3 (g/ml) G Lab File ID VB016627 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 6 13 Date Analyzed 5/28/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 10 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	7300	U
107131	Acrylonitrile	7300	U
75650	tert-Butyl alcohol	13000	U
1634044	Methyl-tert-Butyl ether	3100	U
108203	Di-isopropyl ether	2100	U
75718	Dichlorodifluoromethane	4100	U
74-87-3	Chloromethane	1000	U
75-01-4	Vinyl Chloride	3100	U
74-83-9	Bromomethane	2100	U
75-00-3	Chloroethane	3100	U
75-69-4	Trichlorofluoromethane	2100	U
75-35-4	1,1-Dichloroethene	1000	U
67-64-1	Acetone	2100	U
75-15-0	Carbon Disulfide	1000	U
75-09-2	Methylene Chloride	2100	U
156-60-5	trans-1,2-Dichloroethene	2100	U
75-34-3	1,1-Dichloroethane	1000	U
108-05-4	Vinyl Acetate	3100	U
78-93-3	2-Butanone	3100	U
156-59-2	cis-1,2-Dichloroethene	1000	U
67-66-3	Chloroform	1000	U
71-55-6	1,1,1-Trichloroethane	1000	U
56-23-5	Carbon Tetrachloride	2100	U
71-43-2	Benzene	4400	D
107-06-2	1,2-Dichloroethane	2100	U
79-01-6	Trichloroethene	1000	U
78-87-5	1,2-Dichloropropane	1000	U
75-27-4	Bromodichloromethane	1000	U
110-75-8	2-Chloroethyl vinyl ether	2100	U
10061-01-5	cis-1,3-Dichloropropene	1000	U
108-10-1	4-Methyl-2-Pentanone	2100	U
108-88-3	Toluene	37000	D
10061-02-6	trans-1,3-Dichloropropene	2100	U
79-00-5	1,1,2-Trichloroethane	2100	U
127-18-4	Tetrachloroethene	1000	U
591-78-6	2-Hexanone	2100	U
124-48-1	Dibromochloromethane	2100	U
108-90-7	Chlorobenzene	1000	U
100-41-4	Ethylbenzene	65000	D

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-12E DI

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID 4037105

Sample wt/vol. 10 3 (g/ml) G Lab File ID VB016627 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 6 13 Date Analyzed 5/28/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 10 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	170000	D
95-47-6	o-Xylene	89000	D
100-42-5	Styrene	2100	U
75-25-2	Bromoform	2100	U
79-34-5	1,1,2,2-Tetrachloroethane	2100	U
541-73-1	1,3-Dichlorobenzene	3100	U
106-46-7	1,4-Dichlorobenzene	3100	U
95-50-1	1,2-Dichlorobenzene	3100	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID 4037107

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016595 D

Level (low/med) MED Date Received 5/19/2004

% Moisture. not dec 0 Date Analyzed 5/26/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 1.0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No. 40371 Location 800 SDG No.:

Matrix (soil/water) SOIL Lab Sample ID 4037107

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016595 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed. 5/26/2004

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	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No .

Matrix (soil/water) SOIL Lab Sample ID 4037107

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016595 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed 5/26/2004

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

030527

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No

Matrix (soil/water) SOIL Lab Sample ID 4037107

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016630 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed 5/28/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 10 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	7000	U
107131	Acrylonitrile	7000	U
75650	tert-Butyl alcohol	13000	U
1634044	Methyl-tert-Butyl ether	3000	U
108203	Di-isopropyl ether	2000	U
75718	Dichlorodifluoromethane	4000	U
74-87-3	Chloromethane	1000	U
75-01-4	Vinyl Chloride	3000	U
74-83-9	Bromomethane	2000	U
75-00-3	Chloroethane	3000	U
75-69-4	Trichlorofluoromethane	2000	U
75-35-4	1,1-Dichloroethene	1000	U
67-64-1	Acetone	2000	U
75-15-0	Carbon Disulfide	1000	U
75-09-2	Methylene Chloride	2000	U
156-60-5	trans-1,2-Dichloroethene	2000	U
75-34-3	1,1-Dichloroethane	1000	U
108-05-4	Vinyl Acetate	3000	U
78-93-3	2-Butanone	3000	U
156-59-2	cis-1,2-Dichloroethene	1000	U
67-66-3	Chloroform	1000	U
71-55-6	1,1,1-Trichloroethane	1000	U
56-23-5	Carbon Tetrachloride	2000	U
71-43-2	Benzene	1000	U
107-06-2	1,2-Dichloroethane	2000	U
79-01-6	Trichloroethene	1000	U
78-87-5	1,2-Dichloropropane	1000	U
75-27-4	Bromodichloromethane	1000	U
110-75-8	2-Chloroethyl vinyl ether	2000	U
10061-01-5	cis-1,3-Dichloropropene	1000	U
108-10-1	4-Methyl-2-Pentanone	2000	U
108-88-3	Toluene	1000	U
10061-02-6	trans-1,3-Dichloropropene	2000	U
79-00-5	1,1,2-Trichloroethane	2000	U
127-18-4	Tetrachloroethene	1000	U
591-78-6	2-Hexanone	2000	U
124-48-1	Dibromochloromethane	2000	U
108-90-7	Chlorobenzene	1000	U
100-41-4	Ethylbenzene	2000	U

1A

FIELD ID

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name FMETL NJDEP# 13461

Project 04-24929 Case No 40371 Location 800 SDG No .

Matrix (soil/water) SOIL Lab Sample ID 4037107

Sample wt/vol 10 0 (g/ml) G Lab File ID VB016630 D

Level (low/med) MED Date Received 5/19/2004

% Moisture not dec 0 Date Analyzed 5/28/2004

GC Column RTX502 ID 0 25 (mm) Dilution Factor 10 0

Soil Extract Volume 25000 (uL) Soil Aliquot Volume 125 (uL)

CAS NO	COMPOUND	CONCENTRATION UNITS (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	3000	U
95-47-6	o-Xylene	2000	U
100-42-5	Styrene	2000	U
75-25-2	Bromoform	2000	U
79-34-5	1,1,2,2-Tetrachloroethane	2000	U
541-73-1	1,3-Dichlorobenzene	3000	U
106-46-7	1,4-Dichlorobenzene	3000	U
95-50-1	1,2-Dichlorobenzene	3000	U



VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **800-12E DI**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40371 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4037105

Sample wt/vol: 10.3 (g/ml) G Lab File ID: VB016627.D

Level: (low/med) MED Date Received: 5/19/2004

% Moisture: not dec. 6.13 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	170000	D
95-47-6	o-Xylene	89000	D
100-42-5	Styrene	2100	U
75-25-2	Bromoform	2100	U
79-34-5	1,1,2,2-Tetrachloroethane	2100	U
541-73-1	1,3-Dichlorobenzene	3100	U
106-46-7	1,4-Dichlorobenzene	3100	U
95-50-1	1,2-Dichlorobenzene	3100	U



VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40371 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4037107

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016595.D

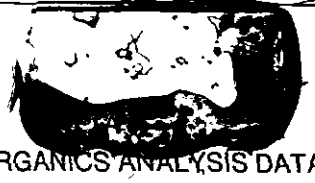
Level: (low/med) MED Date Received: 5/19/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U



VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40371 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4037107

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016595.D

Level: (low/med) MED Date Received: 5/19/2004

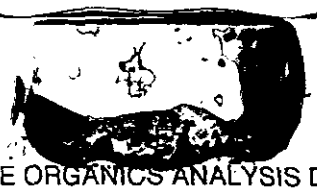
% Moisture: not dec. 0 Date Analyzed: 5/26/2004

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	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U



VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40371 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4037107

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016595.D

Level: (low/med) MED Date Received: 5/19/2004

% Moisture: not dec. 0 Date Analyzed: 5/26/2004

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

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40371 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4037107

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016630.D

Level: (low/med) MED Date Received: 5/19/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	7000	U
107131	Acrylonitrile	7000	U
75650	tert-Butyl alcohol	13000	U
1634044	Methyl-tert-Butyl ether	3000	U
108203	Di-isopropyl ether	2000	U
75718	Dichlorodifluoromethane	4000	U
74-87-3	Chloromethane	1000	U
75-01-4	Vinyl Chloride	3000	U
74-83-9	Bromomethane	2000	U
75-00-3	Chloroethane	3000	U
75-69-4	Trichlorofluoromethane	2000	U
75-35-4	1,1-Dichloroethene	1000	U
67-64-1	Acetone	2000	U
75-15-0	Carbon Disulfide	1000	U
75-09-2	Methylene Chloride	2000	U
156-60-5	trans-1,2-Dichloroethene	2000	U
75-34-3	1,1-Dichloroethane	1000	U
108-05-4	Vinyl Acetate	3000	U
78-93-3	2-Butanone	3000	U
156-59-2	cis-1,2-Dichloroethene	1000	U
67-66-3	Chloroform	1000	U
71-55-6	1,1,1-Trichloroethane	1000	U
56-23-5	Carbon Tetrachloride	2000	U
71-43-2	Benzene	1000	U
107-06-2	1,2-Dichloroethane	2000	U
79-01-6	Trichloroethene	1000	U
78-87-5	1,2-Dichloropropane	1000	U
75-27-4	Bromodichloromethane	1000	U
110-75-8	2-Chloroethyl vinyl ether	2000	U
10061-01-5	cis-1,3-Dichloropropene	1000	U
108-10-1	4-Methyl-2-Pentanone	2000	U
108-88-3	Toluene	1000	U
10061-02-6	trans-1,3-Dichloropropene	2000	U
79-00-5	1,1,2-Trichloroethane	2000	U
127-18-4	Tetrachloroethene	1000	U
591-78-6	2-Hexanone	2000	U
124-48-1	Dibromochloromethane	2000	U
108-90-7	Chlorobenzene	1000	U
100-41-4	Ethylbenzene	2000	U



VOLATILE ORGANICS ANALYSIS DATA SHEET

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-24929 Case No.: 40371 Location: 800 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 4037107

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB016630.D

Level: (low/med) MED Date Received: 5/19/2004

% Moisture: not dec. 0 Date Analyzed: 5/28/2004

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 10.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	3000	U
95-47-6	o-Xylene	2000	U
100-42-5	Styrene	2000	U
75-25-2	Bromoform	2000	U
79-34-5	1,1,2,2-Tetrachloroethane	2000	U
541-73-1	1,3-Dichlorobenzene	3000	U
106-46-7	1,4-Dichlorobenzene	3000	U
95-50-1	1,2-Dichlorobenzene	3000	U

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 # :**	40371
		Location :	800 Area/ Bl.1006
		UST Reg. # :	04-24929

Analysis :	OQA-QAM-025	**Date Received :**	19-May-04
Matrix :	Soil	**Date Extracted :**	20-May-04
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	21-May-04
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4037101	800-12A	1.00	15.11	95.51	157	6723.14
4037102	800-12B	1.00	15.01	93.00	162	2493.38
4037103	800-12C	1.00	15.03	93.15	162	ND
4037104	800-12D	1.00	15.01	93.19	162	ND
4037105	800-12E	2.00	15.06	93.87	160	11945.75
4037106	800-12F	2.00	15.03	94.38	160	10111.18
METHOD BLANK	MB-052004-01	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

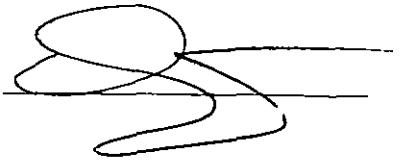
LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature 

Date: 6/16/04

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

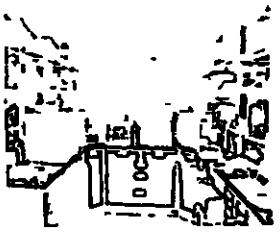
FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

DIRECTORATE OF PUBLIC WORKS

PHONE. (732) 532-4359 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 800 Area

800 Area/UST #12

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-12G, Bottom	4038501	Soil	24-May-04 10 40	05/24/04

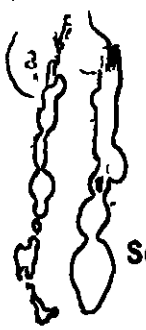
ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

5-26-04

Daniel Wright/Date
Laboratory Director

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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Surrogate Results Summary	18
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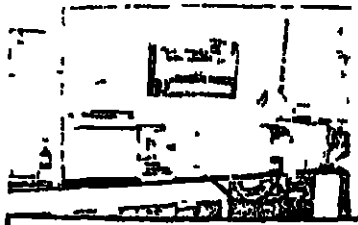
CHAIN OF CUSTODY



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

| | | |

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

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 40385

Site: 800 Area
UST #12

	Date	Hold Time
Date Sampled	05/24/04	NA
Receipt/Refrigeration	05/24/04	NA
Extraction		
1 TPHC	05/24/04	14 days
Analyses		
1 TPHC	05/25/04	40 days

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 _____ Date 5-26-04

TPHC

000009

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

Client	U S Army	Project #	40385
	DPW SELFM-PW-EV	Location	800 Area
	Bldg 173	UST Reg #	04-24929
	Ft Monmouth, NJ 07703		

Analysis	OQA-QAM-025	Date Received	24-May-04
Matrix	Soil	Date Extracted	24-May-04
Inst. ID	GC TPHC INST #1	Extraction Method	Shake
Column Type	RTX-5, 0 32mm ID, 30M	Analysis Complete	25-May-04
Injection Volume	1uL	Analyst :	B Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4038501	800-12G	1 00	15 35	90 05	164	ND
METHOD BLANK	MB-052404-01	1 00	15 00	100 00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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 o Environmental Consultant's Signature _____

Date: 5/26/04

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

ATTACHMENT K

UST 800-14 File Review and Analyses

PARSONS

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

Date: *June 2, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-14*** Registration ID: *None*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): _____

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: 5/19/2004

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

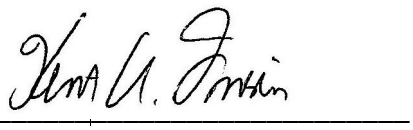
Brief Narrative

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank. The location of this tank was not shown on the FTMM UST Database maps; however, based on the coordinates of the geophysical anomaly, it was located approximately 100 ft south-southeast of UHOT 800-12 (between Bldg. 1006 and Tindall Ave.).

Following tank removal in 2004, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Three soil samples from the excavation were collected on May 19, 2004. All of the soil sample results from this excavation were non-detected (ND) for TPH. The final 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 the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: 

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION:	800 14	*NJDEP REG ID:*	-
RESIDENTIAL?	YES		

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS):	1000	*CONSTRUCTION:*	STEEL
PRODUCT:	#2 FUEL OIL	*YEAR INSTALLED:*	1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE:		*REMOVAL CONTRACTOR:*	TVS
SRF SEND DATE:		*TMS:*	
DICAR NO.		*LEAK DETECT:*	
REMEDIATION COMMENTS:	800 Area RCI project. UST removed. Soil samples below criteria. Clean closure. No Report required. Credit Union area.		
REGISTRATION COMMENTS:			
SAS DONE:		*CONSULTANT:*	TVS
MWs NEEDED:	0	*MONITORING WELLS:*	0
SUB-SURFACE EVALUATOR:	Frank Accorsi		

CURRENT UST STATUS

UST STATUS:	Removed; Report Submitted/Not Nec.	*CASE STATUS:*	Case Closed
SUBMITTAL DATE:		*APPROVAL DATE:*	

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: 800 AREA

800 Area/UST #14

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
800-14A, NW End	4037201	Soil	19-May-04 13:50	05/19/04
800-14B, Center	4037202	Soil	19-May-04 14:10	05/19/04
800-14C, SE End	4037203	Soil	19-May-04 14:20	05/19/04

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

5-25-04

Daniel Wright/Date
Laboratory Director

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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Surrogate Results Summary	21
MS/MSD Results Summary	22-23
Raw Sample Data	24-31
Laboratory Deliverables Checklist	32
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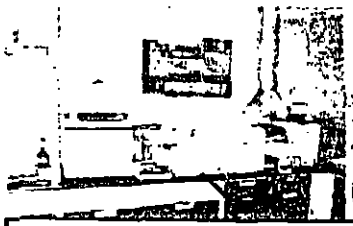
CHAIN OF CUSTODY



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: DOUG GUENTHER
Phone #: X20986
( )DERA ( )OMA (x)Other: RCI

Project No: 04-24929
Location: 800 AREA (B.1005) CREDIT UNION - UST# M

Samplers Name / Company: FRANK ACCORSI, TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOA+15					DEPTH (ft)	VOA #	Comments: Remarks / Preservation Method
40372 01	800-14A, NW END	5-19-04	1350	SOIL	2	X	X					6.5-7	4001	ICE
02	800-14B, CENTER		1410		2	X	X					6.5-7	4002	
03	800-14C, SE END		1420		2	X	X					6.5-7	4003	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	5/19/04 1445				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: VOA+15 ON 25% > 1,000 PPM TPH, OR HIGHEST

000002

print legibly

Coc8/7/02

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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 40372

Site: 800 Area
UST # 14

	Date	Hold Time
Date Sampled	05/19/04	NA
Receipt/Refrigeration	05/19/04	NA
Extraction		
1. TPHC	05/20/04	7 days
Analyses		
1. TPHC	05/21/04	40 days

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) MS 47%	NO
4.	Duplicate Results Summary Meet Criteria RPD 65%	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: _____

Laboratory Manager: _____ Date: 5-25-04

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 # :**	40372
		Location :	800 Area/ Bl.1006
		UST Reg. # :	04-24929
Analysis :	OQA-QAM-025	**Date Received :**	19-May-04
Matrix :	Soil	**Date Extracted :**	20-May-04
Inst. ID. :	GC-TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	21-May-04
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
4037201	800-14A	1.00	15.10	94.15	159	ND
4037202	800-14B	1.00	15.02	87.35	173	ND
4037203	800-14C	1.00	15.10	91.27	164	ND
METHOD BLANK	MB-052004-01	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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 _____

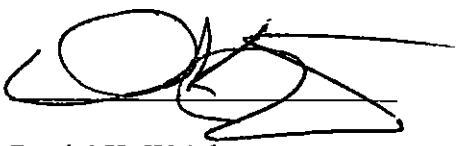
Date: 5/27/04

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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



Daniel K. Wright
Laboratory Manager

800 AREA,
USTs Known as
800-1
800-2
etc....

ENVIROSCAN, INC.

C. Appleby
DPW
10-22-08

Compare Survey to Actual USTs Removed

Appendix B

GPR Survey Results

Project No. 030301, Fort Monmouth, NJ

Target Number	Easting	Northing	Description	Method	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1K Removed
~~13~~	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

800

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY GARRISON FORT MONMOUTH
FORT MONMOUTH, NEW JERSEY 07703-5101

REPLY TO
ATTENTION OF

Directorate of Public Works

May 6, 2005

State of New Jersey
Department of Environmental Protection
Division of Responsible Party Site Remediation
Bureau of Case Management
401 East State Street, 5th Fl., West Wing
ATTN: Mr. Greg Zalaskus
PO Box 028
Trenton, New Jersey 08625-0028

RE: **800 and 400 Area Remedial Action Report Meeting Summary**

Dear Mr. Zalaskus:

The following summary is based on the meeting between USAG Fort Monmouth Directorate of Public Works (FMDPW) personnel and New Jersey Department of Environmental Protection (NJDEP) personnel on April 19, 2005.

Attendees:
Greg Zalaskus - Case Manager (NJDEP)
John Prendergast (NJDEP)
Doug Guenther (FMDPW)
Dinker Desai (FMDPW)
Joe Fallon (FMDPW)
Lou Benevides (FMDPW)

Discussed assessment and remediation activities performed at the "800" and "400" Areas in support of the Army's Residential Communities Initiative (RCI) which entails future family housing construction. Ft. Monmouth has contracted Tetra-Tech EM, Inc to prepare a Remedial Action Report (RAR) for the 800/700/400 Areas assessment and soil cleanup actions.

Site actions discussed:

800 Area

Objectives

- Investigate and characterize environmental conditions at the 800 Area site, which has been designated for future residential housing construction (footprint approximately 13 acres).

Underground Storage Tanks and Closures

- Geophysical study performed (total area approximately 32 acres)-Eight anomalies confirmed as USTs in Area of Concern.
- Tanks #1, #15, #16, #19, #20, #21, and #22 - 1,000-Gallon, Steel, Heating Oil USTs. Supplied fuel for barracks around 1940s-60s. Unregulated, residential. Tank #2 - 500-Gallon, Steel Heating Oil UST.
- Eight tanks removed. Three tank locations indicated releases and over-excavation performed as required. Soil closure samples collected. NJDEP contacted; reported three UST releases.
- All areas of petroleum impacted soils above NJDEP criteria removed.

Geoprobe Investigation

- Geoprobe survey at approximately 100' Intervals (75 borings) within RCI footprint area. Soil samples collected and logged from a 4' core.
- 0 to 6" below ground surface (bgs) analyzed for semi-volatile organic compounds (SVOCs); Pesticides/PCBs; TAL Metals; 18-24" analyzed for volatile organic aromatics (VOAs); Below 24", PID reads 50 ppm or below collected one sample at highest reading, analyzed for total petroleum hydrocarbon concentrations (TPHC).

Geoprobe Follow-up

- Seven boring locations (19, 32, 35, 39, 44, 45, and 75) had soil above NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC) for SVOCs, Pesticides/PCBs, and/or arsenic.
- The SVOCs may be present from the breakdown of petroleum-based products historically used as a delivery matrix during normal application of pesticides to the ground. One boring had an exceedence of PCBs and one other boring had an exceedence of arsenic above the RDCSCC. No volatiles were reported above criteria in any soil sample.
- As follow-up, collected four soil samples 0-6" bgs on each side of a 10' x 10' square area around each of 6 boring locations and one soil sample from directly adjacent to the original borehole at a depth of 12-18" for a vertical extent. Continued step outs until NJDEP RDCSCC concentrations were met. Boring 35 had an exceedence of Dinitrotoluene 2,4 at a concentration of 1.6 ppm which was left in place (at the time of this meeting) as the concentration was just over the cleanup criteria of 1.0 ppm and was not identified in any of the other soil samples collected at the site. Delineation of soil at all other locations was completed.
- Excavated delineated areas of concern. Work completed in November 2003.

NOTE: *As follow-up, on April 28, 2005, DPW personnel excavated a 10'x10' square by 18" deep area centered on Boring 35 to remove soils above NJDEP RDCSCC. One post excavation soil sample was collected and results indicate SVOC concentrations below RDCSCC.*

800 Area – Outside of RCI footprint.

Objectives

- Investigate remaining geophysical anomalies identified in First Atlantic Federal Credit Union Parking lot and drive-thru area (Main Post).

Underground Storage Tanks and Closures

- Geophysical study performed-Four anomalies confirmed as USTs in Area of Concern.
- Tanks #9, #10, #12, and #14 - 1,000-Gallon, Steel, Heating Oil USTs. Supplied fuel for barracks around 1940s-60s. Unregulated, residential.
- Four tanks removed. Two tank locations indicate releases and over-excavation performed as required. Soil closure samples collected. NJDEP contacted; reported two UST releases.
- All identified areas of petroleum impacted soils above NJDEP criteria removed. Work completed in May 2004.

400 Area

Objectives

- Investigate and characterize environmental conditions at the 400 Area site, which has been designated for future maintenance building construction (footprint approximately one acre).

Geophysical Survey

- Geophysical study performed on approximately 30 acres in and around the "400 Area"- only one anomaly identified which may be a UST in Area of Concern. After investigation, no UST found.

Geoprobe Investigation

- Geoprobe survey at approximately 50' Intervals (17 borings) within the one acre footprint. Soil samples collected and logged from an 8' core.
- 0 to 6" bgs and analyzed for SVOCs; Pesticides/PCBs; TAL Metals, TPHC; 18-24" analyzed for VOAs +15; Below 24", collected one sample analyzed for TPHC.

Geoprobe Follow-up

- Five boring locations have soil above NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) for SVOCs and PCBs.
- As stated previously, the SVOCs may be present from the breakdown of petroleum-based products which may have been used as a delivery matrix during normal application of pesticides to the ground. One boring had PCBs above the NRDCSCC (source unknown). No other contaminants were reported above criteria in any soil sample.
- As follow-up, collected four soil samples 0-6" bgs on each side of a 10' x 10' square area around each of the 5 boring locations and continued step outs until NJDEP criteria concentrations were met. Also, collected one soil sample at each of the five borings from 12-18" bgs for vertical delineation of pertinent constituent.
- All delineated areas of impacted soils above NJDEP NRDCSCC were removed. Work completed in November 2004.

Final Tasks

- Prepare and submit required report to NJDEP.

The 700 Area Enhanced Use Lease project site which is part of the RAR was not discussed at the meeting, however this site will be discussed with NJDEP when the Final RAR is submitted.

Upon receipt of the Final RAR, based on supporting documentation demonstrating compliance with soil cleanup standards as discussed during this meeting, Mr. Zalaskus indicated the NJDEP would provide a No Further Action letter for the 800 Area site and a No Further Action with Restrictions for the 400 Area (due to cleanup to non-residential standards) regarding soil conditions at these sites.

UST Closure reports for the tanks with case numbers that were removed from the 800 Area (three tanks), the 800 Area Credit Union lot (two tanks) and the former Building 884 site (one tank) will be submitted in the near future. As demonstrated in the meeting, cleanup of soils for all these cases has been completed in compliance with NJDEP requirements and, as discussed, closure will be approved by NJDEP upon receipt of said reports.

Sincerely,

Douglas C. Guenther
Environmental Protection Specialist
Directorate of Public Works

cc: File

ATTACHMENT L

UST 800-15 File Review and Analyses

PARSONS

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

Date: *June 2, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-15*** Registration ID: *None*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): None assigned

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: 7/29/2003

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

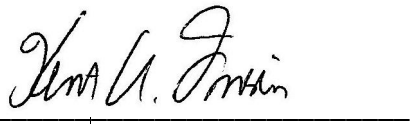
Brief Narrative

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank.

Following tank removal in 2003, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Three soil samples (and one field duplicate) were collected from the excavation on July 29, 2003. Two of the soil sample results from this excavation were non-detected (ND) for TPH. The sample from the west end of the excavation contained 3765 mg/kg TPH, and this sample was also analyzed for volatile organic compounds; no VOCs were detected. The final 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 the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: 

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION:	800 15	*NJDEP REG ID:*	-
RESIDENTIAL?	YES		

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS):	1000	*CONSTRUCTION:*	STEEL
PRODUCT:	#2 FUEL OIL	*YEAR INSTALLED:*	1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE:	10/4/2004	*REMOVAL CONTRACTOR:*	TVS
SRF SEND DATE:		*TMS:*	
DICAR NO.		*LEAK DETECT:*	
REMEDIATION COMMENTS:	800 Area RCI project. UST removed. Soil samples below criteria. Clean closure. No Report required.		
REGISTRATION COMMENTS:			
SAS DONE:		*CONSULTANT:*	TVS
MWs NEEDED:	0	*MONITORING WELLS:*	0
SUB-SURFACE EVALUATOR:	Frank Accorsi		

CURRENT UST STATUS

UST STATUS:	Removed; Report Submitted/Not Nec.	*CASE STATUS:*	Case Closed
SUBMITTAL DATE:		*APPROVAL DATE:*	

US. ARMY, FORT MONMOUTH

DAILY UST CLOSURE LOG

BLDG.#: 800 -15 REG.#: NA

DATE: 7-29-03 TOA: TOD:

CLOSURE TECH: Harold Hornung NJDEP CERT.#: 001047

PERSONNEL: Anthony Frigione

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	Y
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS ~~CLEANED~~ Pumped out 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)	NA
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP, CW, EV) HWSA	NA
500 GALLONS OF Water WASTE WERE REMOVED (MANIFEST#: NHZ 49691)	Y
_____ CUBIC YARDS OF PETROL. CONT. SOIL WERE EXCAVATED+TRANS TO (T-30, 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: _____	Y
THE UST WAS TRANSPORTED TO Bldg 166 Concrete Pad FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
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, NA	

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): Harold Hornung

SIGNATURE: _____ DATE: 7-29-03

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 800-15 REG.#: NA -

DATE: 7-29-03 TOA: 1000 TOD: 16:00

SSE: Harold Hornung NJDEP CERT.#: 2011047

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: Harold Hornung NJDEP CERT.#: 0011047

WEATHER: 80's Clear Sunny 0-5 mph east wind

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 BT THE DPW TO THE NJDEP (609-292-7172), CASE# _____	
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT ____ 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)	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	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^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Closure Tech (print Name): Harold Hornung Date: 7-29-03

SIGNATURE: _____

800 AREA,

UST's Known as

800-1

800-2

etc....

ENVIROSCAN, INC.

C. Appleby

DPW

10-22-08

Compare Survey to Actual USTs Removed.

Appendix B

GPR Survey Results

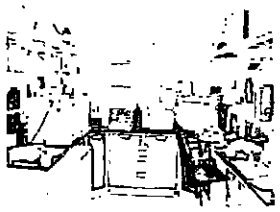
Project No. 030301, Fort Monmouth, NJ

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1K Removed
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

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: 800 Area

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-15, East End	3043801	Soil	29-July-03 11:30	07/29/03
800-15, Center	3043802	Soil	29-July-03 11:35	07/29/03
800-15, West End	3043803	Soil	29-July-03 11:40	07/29/03
Duplicate	3043804	Soil	29-July-03 11:40	07/29/03

FORT MONMOUTH ENVIRONMENTAL LAB
VOA, TPHC, % SOLIDS

11-29-05

Daniel Wright/Date
Laboratory Director

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

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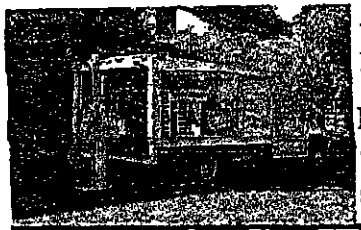
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon | Project No: 03-38200
Phone #: (732) 532-6223 | Location: 800 Area
(X)DERA (X)OMA ( )Other: UST Assessment | 800-15
Samplers Name/Company : Harold Hornung

Lims I. D. #	Sample Location	Date	Time	Sample Type	# bottles	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Comments: Methanol/ 4C Remarks / Preservation Method
30438 01	800-15 East End	7-29-03	11:30	Soil	2	X	X	X			3477	0	Ice 7' BGS
02	800-15 Center		11:35		2	X	X	X			3478	0	7' BGS
03	800-15 West End		11:40		2	X	X	X			3479	0	7' BGS
04	Duplicate 7-29-03		11:40		2	X	X	X			3480	0	7' BGS
05	800-16 East End		15:25		2	X	X	X			3482		7.5' BGS
06	800-16 Center		15:30		2	X	X	X			3481		7.5' BGS
07	800-16 West End		15:35		2	X	X	X			3483		7.5' BGS

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	7-29-03 16 10				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ____ Hrs.

Remarks:

Change of Chain of Custody

Lab Project ID#: 30438 Site/Project Name: 800 Area

Date Received: 7/29 Date of Change: 8/7

Requested by: print Doug G. Sign:

Turnaround Time: Standard

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: print Sign:

Sample ID#	New Analysis		Sample ID#	New Analysis
3043803	VOA+15			
1 07	1			

Comments:

US ARMY - FT. MONMOUTH, NJ

800 AREA - UST #800-15
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

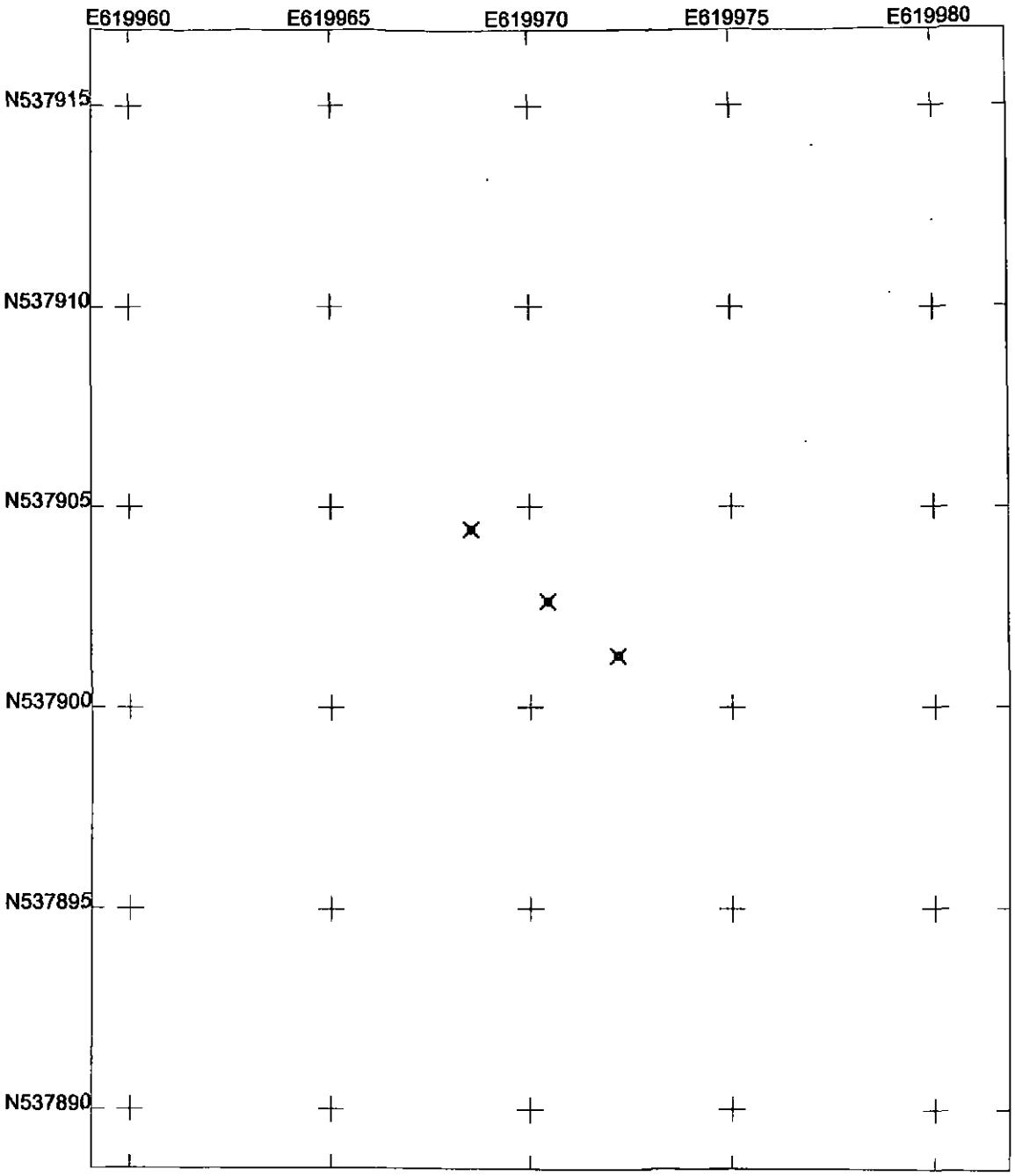
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-15 east end	537901.294	619972.175
800-15 center	537902.659	619970.427
800-15 west end	537904.447	619968.521

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998.865	620157.192
B1006 CREDIT UNION NORTH CORNER	538043.64	620183.645
B1006 CREDIT UNION EAST CORNER	537988.336	620271.865
B1006 CREDIT UNION SOUTH CORNER	537943.187	620244.315



U.S. Army - Ft. Monmouth 800 Area
UST #800-15 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:50.0
0 0.001
Miles

800usts.cor
11/28/2005
GPS Pathfinder
Trimble

METHOD SUMMARY

Q. 9

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 as 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

9

Laboratory Chronicle

Lab ID: 30438

Site: 800 Area
UST #15

	Date	Hold Time
Date Sampled	07/29/03	NA
Receipt/Refrigeration	07/29/03	NA
Extraction		
1. TPHC	07/31/03	14 days
Analyses		
1. VOA	08/08/03	14 days
2. TPHC	08/07/03	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	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	
c. Acid Fraction	
8. Surrogate Recoveries Meet Criteria	Yes
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction	
b. B/N Fraction	
c. Acid Fraction	
If not met, were the calculations checked and the results qualified as "estimated"?	
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	Yes
a. VOA Fraction	
b. B/N Fraction	A
c. Acid Fraction	A

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

Indicate
Yes, No, N/A

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

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

11. Extraction Holding Time Met — No

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:

Laboratory Manager: [signature] Date: 11-29-05

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)	NO
4.	Duplicate Results Summary Meet Criteria	NO
5.	IR Spectra submitted for standards, blanks and samples	NO
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted	Yes
7.	Analysis holding time met (If not met, list number of days exceeded for each sample)	Yes

Additional comments: _____

Laboratory Manager: _____ Date: 11-29-05

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

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 08Aug03

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 08Aug03

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 08Aug03**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-15WestEnd

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30438 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043803

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB014036.D

Level: (low/med) MED Date Received: 7/29/2003

% Moisture: not dec. 8.88 Date Analyzed: 8/8/2003

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	730	U
107131	Acrylonitrile	730	U
75650	tert-Butyl alcohol	1400	U
1634044	Methyl-tert-Butyl ether	310	U
108203	Di-isopropyl ether	210	U
75718	Dichlorodifluoromethane	420	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	310	U
74-83-9	Bromomethane	210	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	210	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	210	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	210	U
156-60-5	trans-1,2-Dichloroethene	210	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	310	U
78-93-3	2-Butanone	310	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	210	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	210	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	210	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	210	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	210	U
79-00-5	1,1,2-Trichloroethane	210	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	210	U
124-48-1	Dibromochloromethane	210	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	210	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-15WestEnd

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30438 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043803

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB014036.D

Level: (low/med) MED Date Received: 7/29/2003

% Moisture: not dec. 8.88 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	310	U
95-47-6	o-Xylene	210	U
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	210	U
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **800-15WestEnd**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30438 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043803

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB014036.D

Level: (low/med) MED Date Received: 7/29/2003

% Moisture: not dec. 8.88 Date Analyzed: 8/8/2003

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

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 # :**	40438
		Location :	800 Area
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	29-Jul-03
Matrix :	Soil	**Date Extracted :**	31-Jul-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	07-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3043801	800-15 East End	1.00	15.10	90.23	166	ND
3043802	800-15 Center	1.00	15.07	91.94	163	ND
3043803	800-15 West End	1.00	15.17	91.12	164	3765.90
3043804	Duplicate	1.00	15.13	92.05	163	2667.41
3043805	800-16 East End	1.00	15.15	94.97	157	244.51
3043806	800-16 Center	1.00	15.12	94.41	159	280.47
3043807	800-16 West End	1.00	15.21	92.68	161	1591.06
METHOD BLANK	MB-073103	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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: ____/____/____

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Daniel K. Wright
Laboratory Manager

ATTACHMENT M

800-16 File Review and Analyses

PARSONS

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

Date: *June 2, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-16*** Registration ID: *None*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): None assigned

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: 7/29/2003

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

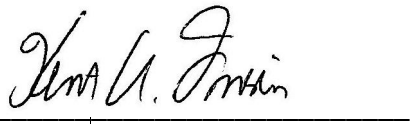
Brief Narrative

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank.

Following tank removal in 2003, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Three soil samples were collected from the excavation on July 29, 2003. TPH results ranged from 244 mg/kg to 1591 mg/kg. The sample with the highest TPH was from the west end of the excavation, and this sample was also analyzed for volatile organic compounds (VOCs); no VOCs indicative of fuel hydrocarbons were detected (acetone was detected at 640 ug/kg). The final 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 the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: 

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 800 16 *NJDEP REG ID:* -

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 1000 *CONSTRUCTION:*

PRODUCT: #2 FUEL OIL *YEAR INSTALLED:* 1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 10/20/2003 *REMOVAL CONTRACTOR:* TVS

SRF SEND DATE: *TMS:*

DICAR NO. *LEAK DETECT:*

REMEDIATION COMMENTS: 800 Area RCI project. UST removed. Soil samples below criteria. Clean closure and Residential. No Report required.

REGISTRATION COMMENTS:

SAS DONE: *CONSULTANT:* TVS

MWs NEEDED: 0 *MONITORING WELLS:* 0

SUB-SURFACE EVALUATOR: Frank Accorsi

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. *CASE STATUS:* Case Closed

SUBMITTAL DATE: *APPROVAL DATE:*

US ARMY, FORT MONMOUTH

DAILY UST CLOSURE LOG

BLDG.#: 800 - 16 REG.#: _____ - _____

DATE: 7-29-03 TOA: _____ TOD: _____

CLOSURE TECH: Harold Harnung NJDEP CERT.#: 0011047

PERSONNEL: Anthony Forgione

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 ~~CLEANED~~ pumped out 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)	NA
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP,CW,EV) HWSA	NA
450 GALLONS OF water/oil WASTE WERE REMOVED (MANIFEST#: NHZ 49691)	Y
_____ 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: _____	Y
THE UST WAS TRANSPORTED TO Bldg 166 Concrete Pad 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): Harold Harnung

SIGNATURE: Harold Harnung DATE: 7-29-03

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: Bldg 800-16 REG.#: _____ - _____

DATE: 7-29-03 TOA: _____ TOD: _____

SSE: Harold Hornung NJDEP CERT.#: 001047

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: Harold Hornung NJDEP CERT.#: 001047

WEATHER: Clear Sunny 80's 0-5mph wind

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 BT THE DPW TO THE NJDEP (609-292-7172), CASE# _____	NA
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
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)	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	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^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Closure Tech (print Name): Harold Hornung Date: 7-29-03

SIGNATURE: _____

800 AREA,

UST's Known as

800-1

800-2

etc....

ENVIROSCAN, INC.

C. Appleby

DPW

10-22-08

Compare Survey to Actual USTs Removed

Appendix B

GPR Survey Results

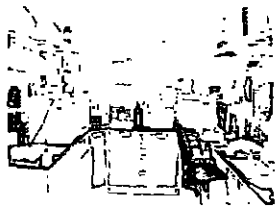
Project No. 030301, Fort Monmouth, NJ

Target Number	Easting	Northing	Description	Method	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1K Removed
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

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: 800 Area

Field Sample Location	Laboratory *Sample ID*	Matrix	Date and Time of Collection	Date Received
800-16, East End	3043805	Soil	29-July-03 15:25	07/29/03
800-16, Center	3043806	Soil	29-July-03 15:30	07/29/03
800-16, West End	3043807	Soil	29-July-03 15:35	07/29/03

FORT MONMOUTH ENVIRONMENTAL LAB
VOA, TPHC, % SOLIDS

11-29-05

Daniel Wright/Date
Laboratory Director

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

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon | Project No: 03-38200
Phone #: (732) 532-6223 | Location: 800 Area
(X)DERA (X)OMA ( )Other: UST Assessment | 800-15
Samplers Name/Company: Harold Hornung

Lims I. D. #	Sample Location	Date	Time	Sample Type	# bottles	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Comments: Methanol/ 4C Remarks / Preservation Method
30438 01	800-15 East End	7-29-03	11:30	Soil	2	X	X	X			3477	0	Ice 7' BGS
02	800-15 Center		11:35		2	X	X	X			3478	0	7' BGS
03	800-15 West End		11:40		2	X	X	X			3479	0	7' BGS
04	Duplicate 7.28.03		11:40		2	X	X	X			3480	0	7' BGS
05	800-16 East End		15:25		2	X	X	X			3482		7.5' BGS
06	800-16 Center		15:30		2	X	X	X			3481		7.5' BGS
07	800-16 West End		15:35		2	X	X	X			3483		7.5' BGS

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	7-29-03 16 10	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		[signature]			

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks:

200000

Change of Chain of Custody

Lab Project ID#: 30438 Site/Project Name: 800 Area

Date Received: 7/29 Date of Change: 8/7

Requested by: print Doug G. Sign:

Turnaround Time: Standard

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: print Sign:

Sample ID#	New Analysis		Sample ID#	New Analysis
3043803	VOA+15			
1 07	1			

Comments:

US ARMY - FT. MONMOUTH, NJ

800 AREA - UST #800-16
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

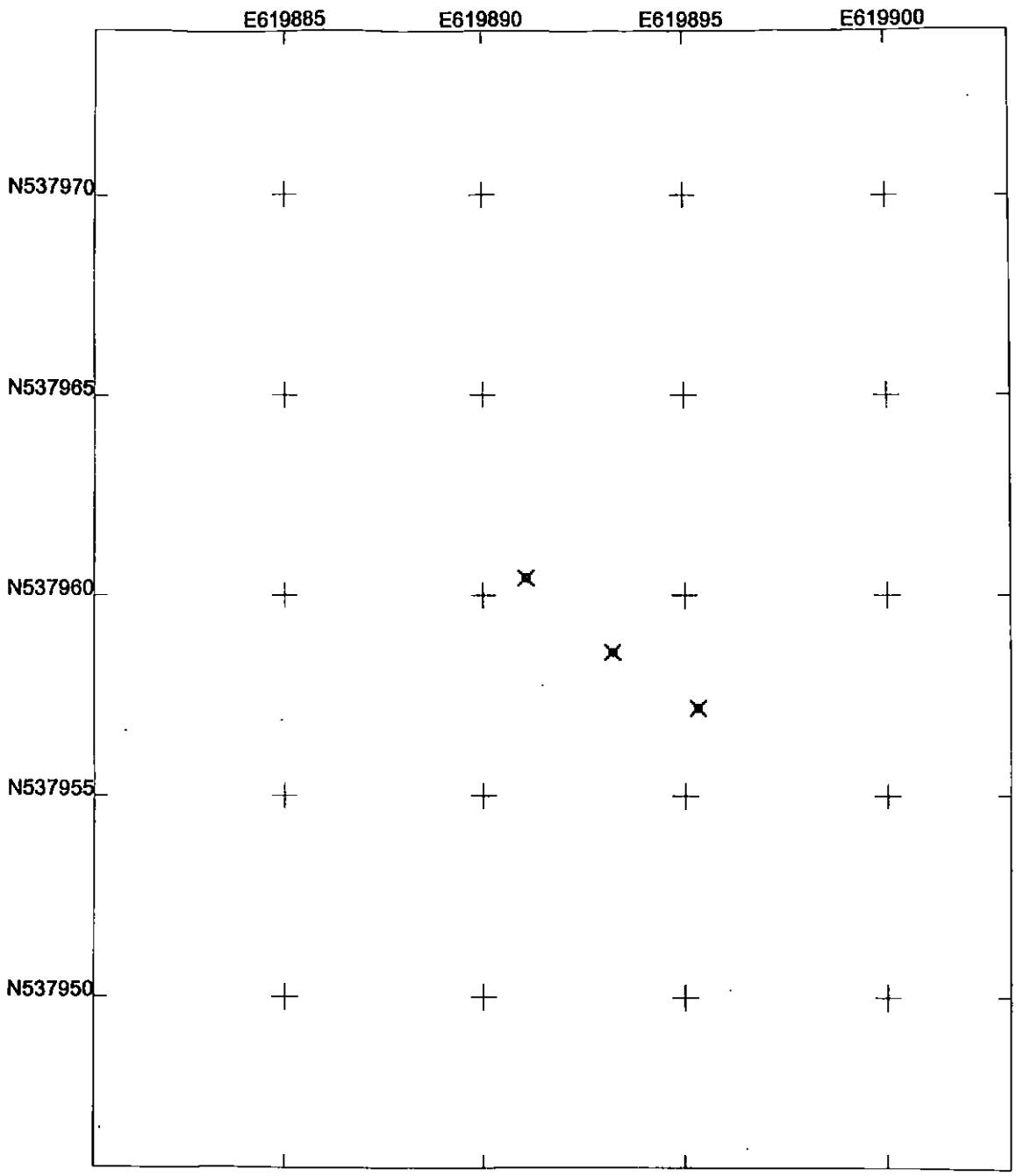
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-16 east end	537957.2	619895.298
800-16 center	537958.604	619893.19
800-16 west end	537960.454	619891.044

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998.865	620157.192
B1006 CREDIT UNION NORTH CORNER	538043.64	620183.645
B1006 CREDIT UNION EAST CORNER	537988.336	620271.865
B1006 CREDIT UNION SOUTH CORNER	537943.187	620244.315



U.S. Army - Ft. Monmouth 800 Area
UST #800-16 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:50.0
0 0.001
Miles

800usts.cor
11/28/2005
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 as 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: 30438

Site: 800 Area
UST #16

	Date	Hold Time
Date Sampled	07/29/03	NA
Receipt/Refrigeration	07/29/03	NA
Extraction		
1. TPHC	07/31/03	14 days
Analyses		
1. VOA	08/08/03	14 days
2. TPHC	08/07/03	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	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	
c. Acid Fraction	
8. Surrogate Recoveries Meet Criteria	yes
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction	
b. B/N Fraction 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 (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	yes
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 — Yes
(If not met, list those compounds, which fall outside the acceptable range)

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

11. Extraction Holding Time Met — 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: 11-29-05

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)	NO
4.	Duplicate Results Summary Meet Criteria	NO
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: 11-29-05

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

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 08Aug03

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

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	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 08Aug03

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 08Aug03**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-16WestEnd

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30438 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043807

Sample wt/vol: 11.6 (g/ml) G Lab File ID: VB014037.D

Level: (low/med) MED Date Received: 7/29/2003

% Moisture: not dec. 7.32 Date Analyzed: 8/8/2003

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	650	U
107131	Acrylonitrile	650	U
75650	tert-Butyl alcohol	1200	U
1634044	Methyl-tert-Butyl ether	280	U
108203	Di-isopropyl ether	190	U
75718	Dichlorodifluoromethane	370	U
74-87-3	Chloromethane	93	U
75-01-4	Vinyl Chloride	280	U
74-83-9	Bromomethane	190	U
75-00-3	Chloroethane	280	U
75-69-4	Trichlorofluoromethane	190	U
75-35-4	1,1-Dichloroethene	93	U
67-64-1	Acetone	640	
75-15-0	Carbon Disulfide	93	U
75-09-2	Methylene Chloride	190	U
156-60-5	trans-1,2-Dichloroethene	190	U
75-34-3	1,1-Dichloroethane	93	U
108-05-4	Vinyl Acetate	280	U
78-93-3	2-Butanone	280	U
156-59-2	cis-1,2-Dichloroethene	93	U
67-66-3	Chloroform	93	U
71-55-6	1,1,1-Trichloroethane	93	U
56-23-5	Carbon Tetrachloride	190	U
71-43-2	Benzene	93	U
107-06-2	1,2-Dichloroethane	190	U
79-01-6	Trichloroethene	93	U
78-87-5	1,2-Dichloropropane	93	U
124-48-1	Bromodichloromethane	93	U
110-75-8	2-Chloroethyl vinyl ether	190	U
10061-01-5	cis-1,3-Dichloropropene	93	U
108-10-1	4-Methyl-2-Pentanone	190	U
108-88-3	Toluene	93	U
10061-02-6	trans-1,3-Dichloropropene	190	U
79-00-5	1,1,2-Trichloroethane	190	U
127-18-4	Tetrachloroethene	93	U
591-78-6	2-Hexanone	190	U
124-48-1	Dibromochloromethane	190	U
108-90-7	Chlorobenzene	93	U
100-41-4	Ethylbenzene	190	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-16WestEnd

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30438 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043807

Sample wt/vol: 11.6 (g/ml) G Lab File ID: VB014037.D

Level: (low/med) MED Date Received: 7/29/2003

% Moisture: not dec. 7.32 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	280	U
95-47-6	o-Xylene	190	U
100-42-5	Styrene	190	U
75-25-2	Bromoform	190	U
79-34-5	1,1,2,2-Tetrachloroethane	190	U
541-73-1	1,3-Dichlorobenzene	280	U
106-46-7	1,4-Dichlorobenzene	280	U
95-50-1	1,2-Dichlorobenzene	280	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **800-16WestEnd**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30438 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043807

Sample wt/vol: 11.6 (g/ml) G Lab File ID: VB014037.D

Level: (low/med) MED Date Received: 7/29/2003

% Moisture: not dec. 7.32 Date Analyzed: 8/8/2003

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

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 # :**	40438
		Location :	800 Area
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	29-Jul-03
Matrix :	Soil	**Date Extracted :**	31-Jul-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	07-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3043801	800-15 East End	1.00	15.10	90.23	166	ND
3043802	800-15 Center	1.00	15.07	91.94	163	ND
3043803	800-15 West End	1.00	15.17	91.12	164	3765.90
3043804	Duplicate	1.00	15.13	92.05	163	2667.41
3043805	800-16 East End	1.00	15.15	94.97	157	244.51
3043806	800-16 Center	1.00	15.12	94.41	159	280.47
3043807	800-16 West End	1.00	15.21	92.68	161	1591.06
METHOD BLANK	MB-073103	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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: 11/29/05

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.

Daniel K. Wright
Laboratory Manager

ATTACHMENT N

UST 800-19 File Review and Analyses

PARSONS

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

Date: *June 2, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-19*** Registration ID: *None*

Recommended Status of Site: ***Case Closed*** ***(no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): None assigned

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: 7/31/2003

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

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank.

Following tank removal in 2003, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Three soil samples were collected from the excavation on July 31, 2003. Two of the soil sample results from this excavation were non-detected (ND) for TPH. The sample from the south end of the excavation contained 3003 mg/kg TPH, and this sample was also analyzed for volatile organic compounds (VOCs); the only VOCs detected were acetone (1500 ug/kg) and 1,1,2,2-tetrachloroethane (82 J ug/kg). The final results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Also, the detected VOCs were below the current Residential Direct Contact Soil Remediation Standards (RDCSRS). Therefore, no additional sampling or remedial action was warranted.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: Kent A. Friesen

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 800 19 *NJDEP REG ID:*

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 1000 *CONSTRUCTION:* STEEL

PRODUCT: #2 FUEL OIL *YEAR INSTALLED:* 1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 10/22/2003 *REMOVAL CONTRACTOR:* TVS

SRF SEND DATE: *TMS:*

DICAR NO. *LEAK DETECT:*

REMEDIATION COMMENTS: 800 Area RCI project. UST removed. Soil samples below criteria. Clean closure and Residential. No Report required.

REGISTRATION COMMENTS:

SAS DONE: *CONSULTANT:* TVS

MWs NEEDED: 0 *MONITORING WELLS:* 0

SUB-SURFACE EVALUATOR: Frank Accorsi

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. *CASE STATUS:* Case Closed

SUBMITTAL DATE: *APPROVAL DATE:*

US ARMY, FORT MONMOUTH

DAILY UST CLOSURE LOG

BLDG.#: 800-19 REG.#: _____

DATE: 7-31-03 TOA: 13:00 TOD: 14:20

CLOSURE TECH: Harold Hornung NJDEP CERT.#: 0011047

PERSONNEL: Harold Hornung, Marc Taylor, Anthony Forgione

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 ~~CLEANED~~ Pumped out 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)	NA
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP, CW, EV) HWSA	NA
1000 GALLONS OF water & oil WASTE WERE REMOVED (MANIFEST#: NAZ 49688)	Y
_____ 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: HH	Y
THE UST WAS TRANSPORTED TO Bldg 166 Concrete Pad 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): Harold Hornung

SIGNATURE: _____ DATE: 7-31-03

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 800-19 REG.#: _____

DATE: 7-31-03 TOA: 1300 TOD: _____

SSE: Harold Hornung NJDEP CERT.#: 0011047

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: Harold Hornung NJDEP CERT.#: 0011047

WEATHER: over cast 5-10 mph east wind

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 BT THE DPW TO THE NJDEP (609-292-7172), CASE# _____	NA
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT ____ 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)	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	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^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Closure Tech (print Name): Harold Hornung Date: 7-31-03

SIGNATURE: _____

800 AREA.

UST's Known as

800-1

800-2

etc....

ENVIROSCAN, INC.

2. Appleby

DPW

10-22-08

Compare Survey to Actual USTs Removed

Appendix B

GPR Survey Results

Project No. 030301, Fort Monmouth, NJ

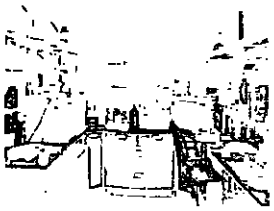
TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1K Removed
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

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: 800 Area

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
Trip Blank	3045604	Methanol	31-July-03	07/31/03
800-19A, North End	3045608	Soil	31-July-03 13:30	07/31/03
800-19B, Middle	3045609	Soil	31-July-03 13:35	07/31/03
800-19C, South End	3045610	Soil	31-July-03 13:40	07/31/03

FORT MONMOUTH ENVIRONMENTAL LAB
VOA, TPHC, % SOLIDS

11-29-05
Daniel Wright/Date
Laboratory Director

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

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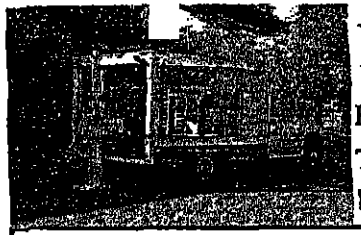
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other: UST Assessment

Project No: 03-38200
Location: 800 Area
800-2

Samplers Name/Company :

Lims I. D. #	Sample Location	Date	Time	Sample Type	# bottles	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Comments: Methanol/ 4C Remarks / Preservation Method
30056 01	800-2A North end	7-31-03	1045	Soil	2	X	X	X			3491	0	4°C 7'2"
02	800-2B South end		10:50		2	X	X	X			3492	0	7'2"
03	800-2 Duplicate		10:45		2	X	X	X			3493	0	7'2"
04	Trip Blank		10:20	Water	1		X				3494		
05	800-2C East End		11:00	Soil	2	X	X	X			3495	0	
06	800-2D West End		11:10		2	X	X	X			3496	0	
07	800-2E Center		11:15		2	X	X	X			3497	0	
08	800-19A North end		13 30		2	X	X	X			3498	0	8' 3"
09	800-19B Middle		13 35		2	X	X	X			3499	0	8' 3"
10	800-19C Southend		13 40		2	X	X	X			3500	0	8' 3"
	~~800-20A East wall~~				2	X	X	X			~~3501~~		
	~~800-20B South wall~~				2	X	X	X			~~3502~~		
	~~800-20C West wall~~				2	X	X	X			~~3503~~		
	~~800-20D North wall~~				2	X	X	X			~~3504~~		
	~~800-20E Center~~				2	X	X	X			~~3505~~		

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	7-31-03 15:30				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks:

print legibly

800 Area xls7/29/2003

U.S. ARMY - FT. MONMOUTH, NJ

800 AREA - UST #800-19
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-19A north end	537817.723	619925.516
800-19B middle	537815.43	619926.785
800-19C south end	537813.219	619928.318

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 Credit Union West Corner	537998.865	620157.192
B1006 Credit Union East Corner	538043.64	620183.645
B1006 Credit Union North Corner	537988.336	620271.865
B1006 Credit Union South Corner	537943.187	620244.315
814 MW1	537743.414	619136.636

Change of Chain of Custody

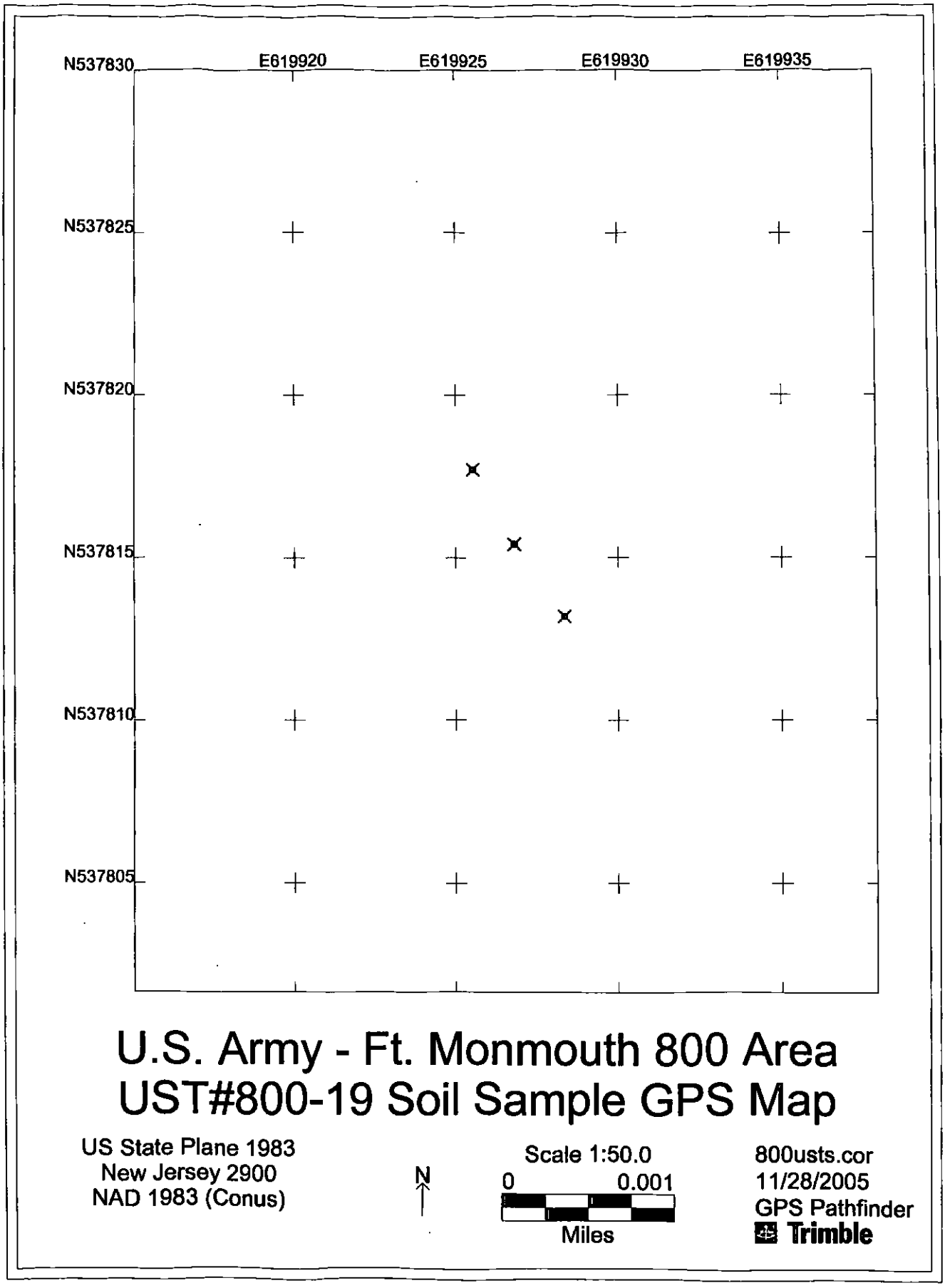
Lab Project ID#: 30456, 464 Site/Project Name: 800 Area
Date Received: 7/31/03 8/1/03 Date of Change: 8-12-03
Requested by: print Sign:
Turnaround Time: Standard

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: print Sign:

Sample ID#	New Analysis		Sample ID#	New Analysis
30456 04	(TB)(VOA15)			
d 10	d			
30464 02	~~VOA15~~			
d 05	d ~~(TB)~~			
	cancelled			
	No sample			
			pt 8/21	

Comments:



U.S. Army - Ft. Monmouth 800 Area
UST#800-19 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:50.0
0 0.001
Miles

800usts.cor
11/28/2005
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 as 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: 30456

Site: 800 Area
UST #19

	Date	Hold Time
Date Sampled	07/31/03	NA
Receipt/Refrigeration	07/31/03	NA
Extraction		
1. TPHC	08/08/03	14 days
Analyses		
1. VOA	08/13/03	14 days
2. TPHC	08/12/03	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) _____

2. Retention times for chromatograms provided _____

3. GC/MS Tune Specifications

   a. BFB Meet Criteria _____
   b. DFTPP Meet Criteria _____

4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series _____

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 _____

6. GC/MS Calibration requirements

   a. Calibration Check Compounds Meet Criteria _____
   b. System Performance Check Compounds Meet Criteria _____

7. Blank Contamination – If yes, List compounds and concentrations in each blank: _____

   a. VOA Fraction_____
   b. B/N Fraction_____
   c. Acid Fraction_____

8. Surrogate Recoveries Meet Criteria _____

   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 yes
   (If not met, list those compounds and their recoveries, which fall outside the acceptable range)

   a. VOA Fraction_____
   b. B/N Fraction_____
   c. Acid Fraction_____

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)

    a. VOA Fraction_____
    b. B/N Fraction_____
    c. Acid Fraction_____

11. Extraction Holding Time Met _____

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

12. Analysis Holding Time Met _____

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

Additional Comments:
_____
_____
_____

Laboratory Manager:_____ Date: 11-29-05

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

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

Additional comments: _____
_____
_____

Laboratory Manager: _____ Date: 11-29-05

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

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 13Aug03

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 13Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014100.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 0 Date Analyzed: 8/13/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 13Aug03

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 13Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014100.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 0 Date Analyzed: 8/13/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 13Aug03**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 13Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014100.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 0 Date Analyzed: 8/13/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3045604

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014101.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 0 Date Analyzed: 8/13/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	1300	
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3045604

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014101.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 0 Date Analyzed: 8/13/2003

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	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3045604

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014101.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 0 Date Analyzed: 8/13/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-19C

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3045610

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB014102.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 8.98 Date Analyzed: 8/13/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	730	U
107131	Acrylonitrile	730	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	310	U
108203	Di-isopropyl ether	210	U
75718	Dichlorodifluoromethane	410	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	310	U
74-83-9	Bromomethane	210	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	210	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	1500	
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	210	U
156-60-5	trans-1,2-Dichloroethene	210	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	310	U
78-93-3	2-Butanone	310	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	210	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	210	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	210	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	210	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	210	U
79-00-5	1,1,2-Trichloroethane	210	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	210	U
124-48-1	Dibromochloromethane	210	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	210	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-19C

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3045610

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB014102.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 8.98 Date Analyzed: 8/13/2003

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	310	U
95-47-6	o-Xylene	210	U
100-42-5	Styrene	210	U
75-25-2	Bromoform	210	U
79-34-5	1,1,2,2-Tetrachloroethane	82	J
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 800-19C

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30456 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3045610

Sample wt/vol: 10.6 (g/ml) G Lab File ID: VB014102.D

Level: (low/med) MED Date Received: 7/31/2003

% Moisture: not dec. 8.98 Date Analyzed: 8/13/2003

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: 5

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	29.28	340	J
2.	unknown	29.74	420	J
3. 002958-76-1	Naphthalene, decahydro-2-methyl	30.07	830	JN
4. 002958-76-1	Naphthalene, decahydro-2-methyl	30.47	1400	JN
5. 000112-40-3	Dodecane	30.90	570	JN

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 # :**	30456
		Location :	800 Area
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	31-Jul-03
Matrix :	Soil	**Date Extracted :**	08-Aug-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	12-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3045601	800-2A	1.00	15.03	81.85	184	ND
3045602	800-2B	1.00	15.16	82.56	181	ND
3045603	800-2 Duplicate	1.00	15.14	82.42	182	ND
3045605	800-2C	1.00	15.06	81.79	184	292.32
3045606	800-2D	1.00	15.09	82.00	183	ND
3045607	800-2E	1.00	15.11	82.96	181	ND
3045608	800-19A	1.00	15.15	89.69	167	ND
3045609	800-19B	1.00	15.14	89.09	168	ND
3045610	800-19C	1.00	15.18	91.02	164	3003.39
METHOD BLANK	MB-080803	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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

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: 11 / 29 / 05

Laboratory Certification # 13461

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

ATTACHMENT O

UST 800-20 File Review and Analyses

PARSONS

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

Date: *June 2, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-20*** Registration ID: *None*

Recommended Status of Site: ***Case Closed*** ***(change from "Case Open")***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): 03-07-30-1431

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: 7/28/2003

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

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank.

Following tank removal in 2003, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Three initial soil samples were collected from the excavation on August 1, 2003. TPH results ranged from non-detected to 10,076 mg/kg along the south sidewall. Additional contaminated soil was excavated, and the excavation was re-sampled on August 4 and 5, 2003. Final sample results ranged from non-detected to 181 mg/kg. The final 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. Approximately 80 cubic yards of petroleum contaminated soil was removed from the excavation.

In conclusion, the analytical results support the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: Kent A. Friesen

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION:	800 20	*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:	10/10/2003	*REMOVAL CONTRACTOR:*	TVS
SRF SEND DATE:		*TMS:*	
DICAR NO.	03-07-30-1431	*LEAK DETECT:*	
REMEDIATION COMMENTS:	800 Area RCI project. UST removed. Overexcavation completed. Soil samples below criteria. Report pending.		
REGISTRATION COMMENTS:			
SAS DONE:		*CONSULTANT:*	TVS
MWs NEEDED:	0	*MONITORING WELLS:*	0
SUB-SURFACE EVALUATOR:	Frank Accorsi		

CURRENT UST STATUS

UST STATUS:	Removed; Report Submitted/Not Nec.	*CASE STATUS:*	Case Open
SUBMITTAL DATE:		*APPROVAL DATE:*	

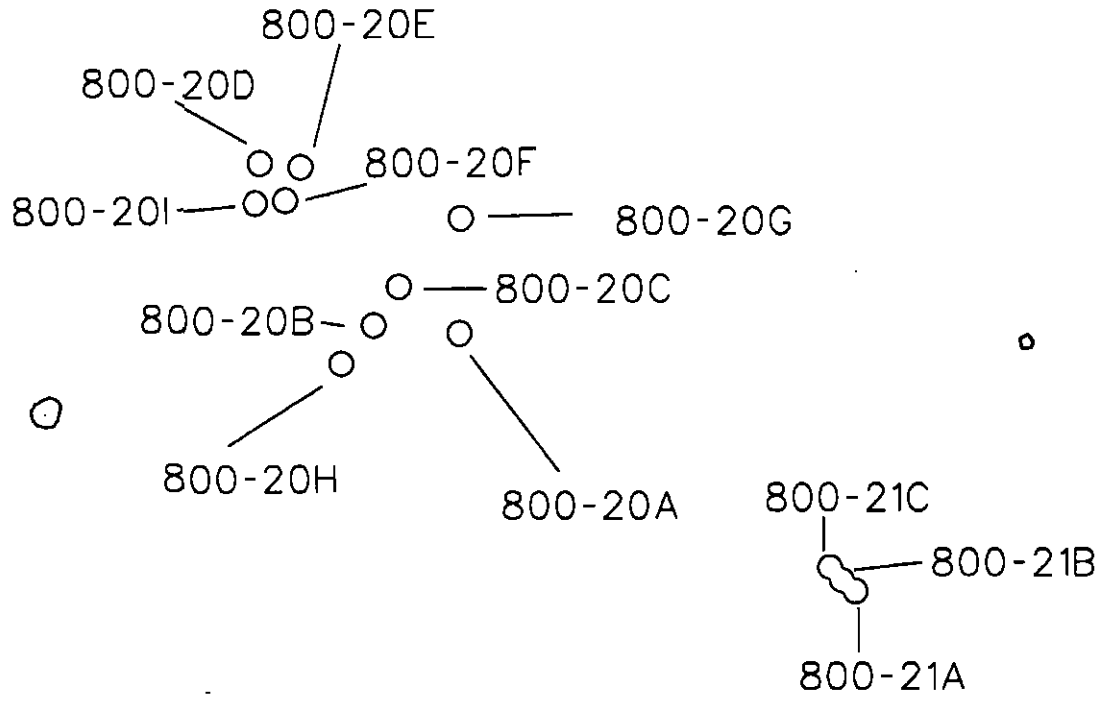


FIGURE 2 - Site Map
800-20 AND 800-21 AREA

U.S. Army Garrison
Fort Monmouth, New Jersey

SCALE: 1" = 28' Approx.

DATE: January 03, 2006

...\Figures\Main Post USTs.dgn 1/3/2006 2:52:23 PM

U.S ARMY, FORT MONMOUTH

DAILY UST CLOSURE LOG

BLDG.#: 800-20 REG.#: _____ - _____

DATE: 7-31-03 TOA: 14:20 TOD: _____

CLOSURE TECH: Harold Hornung NJDEP CERT.#: 0011047

PERSONNEL: Marc Taylor, Anthony Forgione, Harold Hornung

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 ~~CLEANED~~ pumped 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)	NA
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP, CW, EV) HWSA	NA
990 GALLONS OF Used oil WASTE WERE REMOVED (MANIFEST#: NHZ 4960)	Y
_____ CUBIC YARDS OF PETROL. CONT. SOIL WERE EXCAVATED+TRANS TO (T-80, 2624)	
THE DPW WAS NOTIFIED OF ANY DISCHARGE TO THE ENVIRONMENT. (WHO) Doug Guenther	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 Bldg 166 Concrete pad 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): _____

SIGNATURE: _____ DATE: _____

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 800-20 REG.#: _____-____

DATE: 7-31-03 TOA: 14:20 TOD: _____

SSE: Harold Hornung NJDEP CERT.#: 0011047

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: Harold Hornung NJDEP CERT.#: 0011047

WEATHER: overcast 5-10mph east wind 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 BT THE DPW TO THE NJDEP (609-292-7172), CASE# _____ Doug Gunther	Y
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT ____ 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)	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	
ALL SAMPLING WAS BIASED TOWARD HIGHEST OVA/FID RECORDED SITES IAW 7:26E-3.6 et seq.	
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	Y
THE FOLLOWING DOCUMENTS WERE ADDED TO THE PROJECT FOLDER TODAY: (CIRCLE EACH) SCRAP TICKET, CSE PERMIT, ACCIDENT REPORT, HAZ. WASTE MANIFEST, DAILY UST CLOSURE LOG, SCALED SITE MAP (SAMPLING), SRF-CLOSURE, CHAIN OF CUSTODY, SOIL ANALYTICAL RESULTS, CLEAN FILL TICKETS (IN YDS^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Closure Tech (print Name): _____ Date: _____

SIGNATURE: _____



The Tank was initially excavated on 7-28-03 contaminated soil was encountered and the team ran out of Time so the area was fenced off and the Tank was cleaned, labeled, photographed and taken back to the Bldg 166 Concrete pad. 5 yds of petro-contam soil were Transported to the Bldg 166 pad also.

on 7-31-03 the UST Team returned to continue the remediation of the 800-20 excavation.

1430 Excavate 2nd 5yds of petro-cnt. Soil & Transport to Bldg 166 Concrete pad.

15:00 Begins to rain

1530 load out 10yds of petro soil into Tandem Truck

1600 will resume remediation on 8-1-03

8-1-03

800 Continue remediating excavation

10:00 Excavated & Transported 2/10yd. dump Trucks of petro-cnt. Soil to Bldg 166 Concrete pad

10:30 Dump 1 10yd dump Truck of petro-cont. "

11:10 Dump 1 5yd dump Truck of petro cnt "

1140 Dump 1 10yd "

13:20 Dump 1 5yd "

1400 Dump 1 5yd "

1435 Dump 7yds

1450 Dump 1 5yd "

1500 Sample East wall and South wall + bottom (southend). Will need to continue excavating N & W walls on 8-4-03.

116 Cu yds Total

Tank 2 4 yds 15 x

yds	Date/Time	
5	7/28/03	
5	7/31	14:30
10	7/31	1530
10	8/1	9:00
10	8/1	1000
10	8/1	10:30
5	8/1	11:10
10	8/1	11:40
5	8/1	13:20
5	8/1	1400
7	8/1	1435
3	8/4	11:30
4	8/4	13:55
3	8/4	1600
5	8/5	1000

8-4-03
Continue w/ 800-20 excavation, George takes Geoprobe samples approximately 10' from excavation on the north, east & south sides All samples & screening comes up clean.

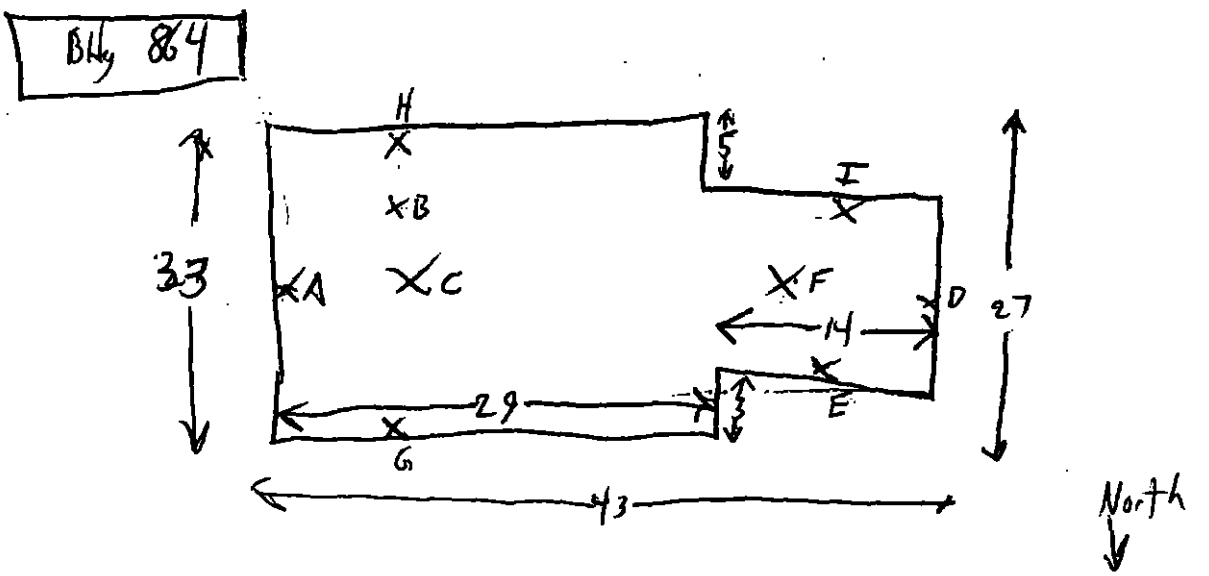
11:00 continue to delineate excavation on NE corner
Remove 3 cubic yds of petro-cont. soil & Transport to Bldg 166 concrete pad

1355 Excavate & Transport 4 cu yds of petro-cont Soil to Bldg 166 pad

1500 fully delineate N & NW corner of excavation and collect samples. one in center of west wall and one 10 feet from the NW corner along the N wall, & one in the bottom center of the N end

8-5-03 Delineate NE & SE walls remove 5 cu yds of petro-cont soil.

Sample East end of North wall & East End of South wall



800 AREA,

USTs Known as

800-1

800-2

etc....

ENVIROSCAN, INC.

C. Appleby DPW 10-22-08

Compare Survey to Actual USTs Removed

Appendix B

GPR Survey Results

Project No. 030301, Fort Monmouth, NJ

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1K Removed
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1- K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

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: 03-38200

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
800-20A, East Wall	3046401	Soil	01-Aug-03 15:20	08/01/03
800-20B, South Wall	3046402	Soil	01-Aug-03 15:25	08/01/03
800-20C, Bottom	3046403	Soil	01-Aug-03 15:30	08/01/03
800-20, Duplicate	3046404	Soil	01-Aug-03 15:30	08/01/03
800-20D, West Wall	3047301	Soil	04-Aug-03 15:15	08/04/03
800-20E, North West Wall	3047302	Soil	04-Aug-03 15:20	08/04/03
800-20, Duplicate	3047303	Soil	04-Aug-03 15:20	08/04/03
800-20F, Bottom North End	3047305	Soil	04-Aug-03 15:40	08/04/03
800-20G, North Wall East End	3047601	Soil	05-Aug-03 11:15	08/05/03
800-20H, South Wall East End	3047602	Soil	05-Aug-03 11:20	08/05/03
800-20, Duplicate	3047603	Soil	05-Aug-03 11:20	08/05/03
800-20I South Wall West End	3047605	Soil	05-Aug-03 11:50	08/05/03

FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

11-28-05
Daniel Wright/Date
Laboratory Director

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

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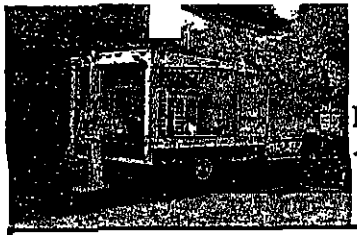
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record



Customer: Joseph Fallon	Project No: 03-38200	Analysis Parameters	Comments:
Phone #: (732) 532-6223	Location: 800 Area		
(X)DERA ( )OMA ( )Other: UST Assessment	Tank 20		Methanol/ 4C

Samplers Name/Company :				Sample	#	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Remarks / Preservation Method
Lims I. D. #	Sample Location	Date	Time	Type	bottles								
30460401	800-20A East wall	8-1-03	1520	Soil	2	X	X	X			3501	1.3	Depth 0 GS 10
02	800-20B South wall		1525		1	X	X	X			3502	6.0	10
03	800-20C Bottom		1530		2	X	X	X			3503	0	10
04	800-20 Duplicate		1530		2	X	X	X			3504	—	10
05	800-20 Trip Blank		1535	Liquid	1		X				3505	—	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	8-1-03 1545				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks:

200002

print legibly

800 Area.xls7/29/2003

Change of Chain of Custody

Lab Project ID#: 30456, 464 Site/Project Name: 800 Area

Date Received: 7/31/03 8/1/03 Date of Change: 8-12-03

Requested by: print _____ Sign: _____

Turnaround Time: Standard

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

Received by: print _____ Sign: _____

Sample ID#	New Analysis		Sample ID#	New Analysis
30456 04	(TB) (VOA'S)			
& 10	"			
30464 02	VOA'S			
& 05	& (TB)			
	cancelled			
	No sample			
			at 8/1	

Comments: _____



For Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon | Project No: 03-38200
Phone #: (732) 532-6223 | Location: 800 Area
(X)DERA ( )OMA ( )Other: UST Assessment | Tank 20

Samplers Name/Company :

Lims I. D. #	Sample Location	Date	Time	Sample Type	# bottles	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Comments: Methanol/ 4C Remarks / Preservation Method
30413 01	800-20D Westwall	8-4-03	15 15	Soil	2	X	X	X			3502	0	9.5' DEPT 865
02	800-20E Northwest wall		1520		2	X	X	X			3506	0	9.5'
03	800-20 Duplicate		1520		2	X	X	X			3507	0	9.5'
04	800-20 Trip Blank		1525		1		X				3508	—	
05	800-20F bottom Northend		1540		2	X	X	X			3509	0	9.5'

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	8/4/03 1600				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks: All results below 1000ppm No VOA

000004

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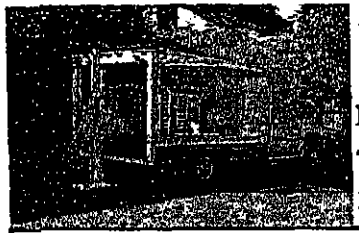

Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-3484 EMail:appleby@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: Joseph Fallon
Phone #: (732) 532-6223
(X)DERA ( )OMA ( )Other: UST Assessment

Project No: 03-38200
Location: 800 Area

Samplers Name/Company :

Comments: Methanol/ 4C

Lims I. D. #	Sample Location	Date	Time	Sample Type	# bottles	TPHC	VOA+15	%SOLIDS			VOA ID NUMBER	PID Reading	Remarks / Preservation Method
30476 01	800-~~6~~ 20G Northwall east end	8-5-03	11:15	Soil	2	X	X	X			3510	0	7.5' BGS
02	800-20H Southwall east end		11:20		2	X	X	X			3511	0	8.5'
03	800-20 Duplicate		11:20		2	X	X	X			3512	0	8.5'
04	800-20 Trip Blank		11:25	liquid	1		X				3513		—
05	800-~~20~~ 20I Southwall west end		1150	Soil	2	X	X	X			3514		8.0'

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	8-5-03 1320	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified
Turnaround time: ( )Standard 4 wks, (X)Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks: All results below 1000ppm no VOA

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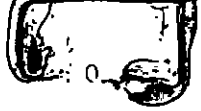
print legibly

Page 1 of 1

800 Area.xls7/29/2003



US ARMY - FT. MONMOUTH, NJ

800 AREA - UST #800-20
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

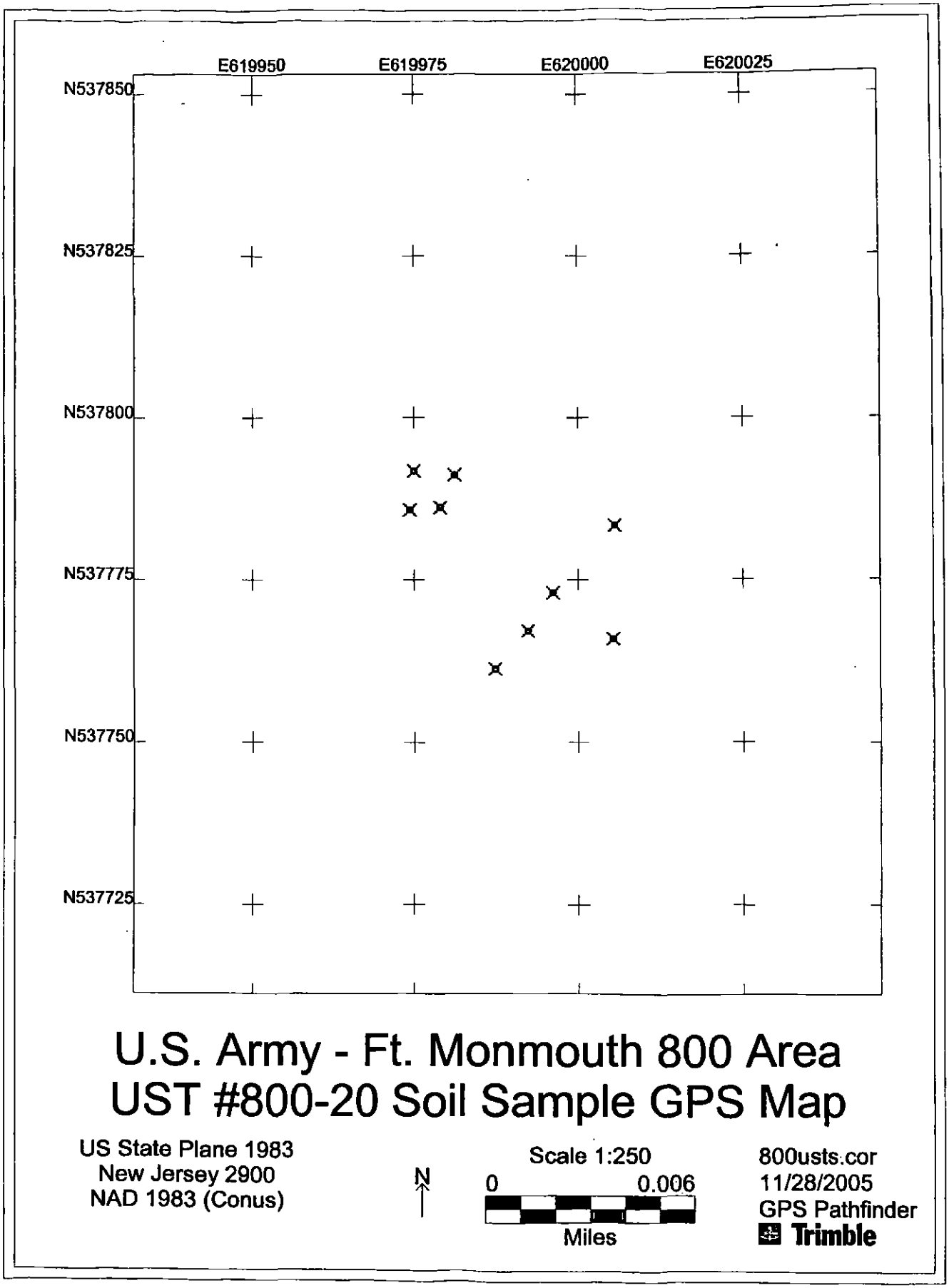
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-20A east wall	537766.046	620005.32
800-20B south wall	537767.248	619992.307
800-20C bottom	537773.108	619996.118
800-20D west wall	537791.872	619974.89
800-20E northwest wall	537791.272	619981.096
800-20F bottom, north end	537786.267	619978.894
800-20G north wall east end	537783.464	620005.521
800-20H south wall east end	537761.442	619987.302
800-20I south wall west end	537785.866	619974.289

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998.865	620157.192
B1006 CREDIT UNION NORTH CORNER	538043.64	620183.645
B1006 CREDIT UNION EAST CORNER	537988.336	620271.865
B1006 CREDIT UNION SOUTH CORNER	537943.187	620244.315



U.S. Army - Ft. Monmouth 800 Area
UST #800-20 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:250
0 0.006
Miles

800usts.cor
11/28/2005
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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 30464, 30473, 30476

Site: 800 Area
UST #20

	Date	Hold Time
Date Sampled	08/01,04,05/03	NA
Receipt/Refrigeration	08/01,04,05/03	NA
Extraction		
1. TPHC	08/08/03	14 days
Analyses		
1. TPHC	08/12/03	40 days

CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

		Indicate Yes, No, N/A
1.	Method Detection Limits Provided	
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank	
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: 11-28-05

TPHC

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

Client :	U.S. Army DPW. SELFM-PW-EV Bldg. 173 Ft. Monmouth, NJ 07703	**Project # :** **Location :** ***UST Reg. # :***	30484 800 Area
Analysis :	OQA-QAM-025	**Date Received :**	01-Aug-03
Matrix :	Soil	**Date Extracted :**	08-Aug-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	12-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3046401	800-20A	1.00	15.10	84.64	177	ND
3046402	800-20B	2.50	15.22	90.89	164	10076.59
3046403	800-20C	1.00	15.29	78.40	189	ND
3046404	800-20 Duplicate	1.00	15.12	78.50	191	ND
METHOD BLANK	MB-080803	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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 # :**	30473
		Location :	800 Area
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	04-Aug-03
Matrix :	Soil	**Date Extracted :**	08-Aug-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	12-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3047301	800-20D	1.00	15.27	85.74	173	ND
3047302	800-20E	1.00	15.02	80.00	188	ND
3047303	800-20 Duplicate	1.00	15.29	84.10	176	181.43
3047305	800-20F	1.00	15.12	77.95	192	ND
METHOD BLANK	MB-080803	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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

Client :	U.S. Army	**Project # :**	30476
	DPW. SELFM-PW-EV	**Location :**	800 Area
	Bldg. 173	**UST Reg. # :**	
	Ft. Monmouth, NJ 07703		
Analysis :	OQA-QAM-025	**Date Received :**	05-Aug-03
Matrix :	Soil	**Date Extracted :**	08-Aug-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	12-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3047601	800-20G	1.00	15.03	85.74	176	ND
3047602	800-20H	1.00	15.25	84.27	176	ND
3047603	800-20 Duplicate	1.00	15.35	84.37	175	ND
3047605	800-20I	1.00	15.31	86.08	172	ND
METHOD BLANK	MB-080803	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit



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: 11 / 29 / 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.

Daniel K. Wright
Laboratory Manager

ATTACHMENT P

UST 800-21 Report

UNDERGROUND STORAGE TANK CLOSURE AND REMEDIAL INVESTIGATION REPORT

MAIN POST - 800 AREA (UST NO. 12)
NJDEP UST REGISTRATION NO. 081533
NJDEP CASE NO. 03-09-11-0906-50

NOVEMBER 2005

PROJECT NO.: 03-38200

PREPARED FOR:

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

PREPARED BY:

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

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APPENDICES

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Appendix B Waste Manifest
Appendix C UST Disposal Certificate
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EXECUTIVE SUMMARY

UST Closure

On July 28, 2003, a single wall steel underground storage tank (UST) was closed by removal in accordance with the Directorate of Public Works (DPW) UST Management Plan for the U.S. Army Garrison, Fort Monmouth, New Jersey. The UST was located in an open field in the 800 area on the Main Post of Fort Monmouth. UST No. 800-21 was a 1,000-gallon No. 2 heating oil tank for residential use. The fill port, vent pipe and associated supply/return piping was not present in the excavation. The tank closure was performed by TECOM-Vinnell Services, Inc. (TVS).

Site Assessment

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* (N.J.A.C. 7:26E) and the NJDEP *Field Sampling Procedures Manual*. Soils surrounding the tank were screened visually and with air monitoring instruments for evidence of contamination. Following removal, the UST was inspected for holes. Holes were noted in the UST and potentially contaminated soils were observed at the east end of the tank excavation.

Closure soil samples were collected after the removal of the UST. Samples 800-21A, 800-21B, 800-21C and 800-21 Duplicate were collected from a total of three (3) locations along the bottom/centerline of the UST excavation. All samples were analyzed for total petroleum hydrocarbons (TPH). Sample 800-21A was also analyzed for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO + 15) because the TPH result was above 1000 milligrams per kilogram (mg/kg).

On October 30, 2003, approximately 12 cubic yards of potentially contaminated soils were removed from the east end and bottom of the excavation, due to exceedance of TPH concentrations of the sample 800-21A from that location. Two post-remediation soil samples were collected from the sidewall and bottom of the expanded portion of the excavation and were analyzed for TPH. Groundwater was not encountered in the bottom of the excavation.

Findings

The initial post-remediation soil samples collected from the UST excavation associated with former UST No. 800-21, contained TPH concentrations above the NJDEP health based criterion of 10,000 milligrams per kilogram (mg/kg) for total organic contaminants (N.J.A.C. 7:26E and revisions dated February 3, 1994). Samples 800-21A and 800-21 Duplicate contained TPH concentrations of 18,052 mg/kg and 18,058 mg/kg, respectively. The contaminated area was excavated further and two post excavation samples were collected. Both of these sample results were below the NJDEP health based criterion of 10,000 mg/kg for TPH.

Site Restoration

Following receipt of all post-remediation soil sampling results, the excavation was backfilled to grade with a combination of uncontaminated excavated soil and clean fill in compacted lifts. The excavation site was then restored to its original grade with four inches of topsoil, seeded and mulched.

Conclusions and Recommendations

Based on the post-remediation soil sampling results, the UST excavation was remediated below the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants. In the sample analyzed for volatile organics, there are no detected compounds that exceed the NJDEP Residential Direct Contact Soil Cleanup Criteria.

No Further Action is proposed in regard to the closure and site assessment of UST No. 800-21 in the 800 Area of the Main Post.

1.0 UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), New Jersey Department of Environmental Protection (NJDEP) Registration No. 081533, was closed in the 800 area of Main Post at U.S. Army Garrison, Fort Monmouth, New Jersey on July 28, 2003. Refer to site location map on Figure 1. This report presents the results of the implementation of the DPW's UST Management Plan, March, 1996. The UST was a 1,000-gallon, single-wall steel tank containing No. 2 heating oil for residential consumption.

Decommissioning activities for UST No. 800-21 complied with all applicable federal, state and local laws and ordinances in effect at the date of decommissioning. These laws included but were not limited to: N.J.A.C. 7:14B-1 et seq., N.J.A.C. 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 1910.146 & 1910.120. The closure and subsurface evaluation of the UST was conducted by a NJDEP licensed TVS employee.

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

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

1.2 SITE DESCRIPTION

The 800 area is located in the eastern portion of the Main Post area of Fort Monmouth, as shown on Figure 1. UST No. 800-21 was located in an open field approximately 300 feet southwest of Building 1006 (First Atlantic Federal Credit Union). Army barracks were previously located in the 800 area. The barracks were demolished in the 1960's. The fill port, vent pipe and appurtenant piping were not encountered in the excavation. A site map is provided on Figure 2. The 800 Area was assessed for potential abandoned USTs using a geophysical survey (electromagnetic and ground penetrating radar) and historical maps.

1.2.1 Geological/Hydrogeological Setting

The following is a description of the geological/hydrogeological setting of the 800 Area. Included is a description of the regional geology of the area surrounding Fort Monmouth as well as descriptions of the local geology and hydrogeology of the Main Post area.

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 (Zapecza, 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 gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite.

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

Hydrogeology

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

Based on records of wells drilled in the Main Post area, water is typically encountered at depths of 2 to 9 feet below ground surface (bgs). According to Jablonski, wells drilled in the Red Bank and Tinton Sands may produce 2 to 25 gallons per minute (gpm). Some well owners have reported acidic water that requires treatment to remove iron.

Due to the proximity of the Atlantic Ocean to Fort Monmouth, shallow groundwater may be tidally influenced and may flow toward creeks and brooks as the tide goes out, and away from creeks and brooks as the tide comes in. However, an abundance of clay lenses and sand deposits were noted in borings installed throughout Fort Monmouth. Therefore the direction of shallow groundwater should be determined on a case by case basis.

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
- local groundwater recharge areas (e.g., streams, lakes)

Due to the fluvial nature of the overburden deposits (e.g., 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 gravel silt and/or clay.

UST No. 800-21 is located approximately 1,000 feet southeast of Husky Brook, the nearest water body, which flows into Oceanport Creek. Based on the Main Post topography, the groundwater flow in the area of 800-21 is anticipated to be to the northwest.

1.3 HEALTH AND SAFETY

Work site health and safety hazards were minimized during all decommissioning activities. All areas which posed a vapor hazard were monitored by a qualified individual utilizing a calibrated photo-ionizer detector : Thermo Instruments Organic Vapor Monitor (OVM) – Model #580-B. The results of the air monitoring indicated that the air in the breathing zone was below OSHA permissible exposure limits (PEL's) during all phases of the UST removal and decommissioning procedures.

1.4 REMOVAL OF UNDERGROUND STORAGE TANK

1.4.1 General Procedures

- All underground utilities were marked out by the respective trade shops or utility contractor prior to excavation activities.
- All activities were carried out with great regard to safety and health and the safeguarding of the environment.
- All excavated soils were visually examined and screened with an OVA for evidence of contamination. Potentially contaminated soils were identified and logged during closure activities.
- An NJDEP certified Subsurface Evaluator was present during all closure and remediation activities.

1.4.2 Underground Storage Tank Excavation

During decommissioning activities, surficial soil was carefully removed to expose the UST. The tank was emptied of all liquids prior to removal from the ground. Approximately 800 gallons of liquid was pumped out of the UST by Lorco Petroleum Services, Inc. into a tank truck and transported to their NJDEP-approved petroleum recycling and disposal facility located in Elizabeth, New Jersey. Refer to Appendix B for non-hazardous waste manifest (No. NJZ-49683).

After the UST was removed from the excavation, it was staged on an impervious surface, labeled and examined for holes. Holes in the tank were observed during the inspection by the Subsurface Evaluator. Soils surrounding the UST were screened visually and with an OVM for evidence of

contamination. Soil staining and an odor of petroleum hydrocarbons were observed. It was determined that remedial soil excavation would not be conducted prior to sampling. DPW personnel were made aware of the field conditions. The DPW called the NJDEP Spill Hotline, and Case No. 03-09-11-0906-50 was assigned to the site.

1.5 UNDERGROUND STORAGE TANK DECOMMISSIONING AND DISPOSAL

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

The tank was then transported by TVS to Recycling Technology Center, Inc., Shafto Rd., Tinton Falls, NJ for disposal in compliance with all applicable regulations and laws. Refer to Appendix C for the UST disposal certificate.

The Subsurface Evaluator labeled the UST with the following information:

- site of origin
- NJDEP UST Facility ID number
- date of removal
- size of tank
- previous contents of tank

Photographic documentation of the UST is included in Appendix D.

1.6 MANAGEMENT OF EXCAVATED SOILS

Based on OVA air monitoring and visual observations, approximately 12 cubic yards of potentially contaminated soil were excavated from the area surrounding the UST. All potentially contaminated soil was loaded into a truck and transported to the Main Post ID 27 Soil Staging Area (located behind Bldg.166) prior to ultimate recycling at Soil Remediation of Philadelphia. Soils that did not exhibit signs of contamination were separated during the excavation and used as backfill following removal of the UST.

2.0 REMEDIAL INVESTIGATION ACTIVITIES

2.1 OVERVIEW

The Remedial Investigation was managed by U.S. Army DPW personnel. All analyses were performed and reported by Fort Monmouth Environmental Testing Laboratory, a NJDEP-certified testing laboratory. All sampling was performed by a NJDEP Certified Subsurface Evaluator according to the methods described in the NJDEP Field Sampling Procedures Manual (1992). The soil sampling frequency and analysis complied with the NJDEP document *Technical Requirements for Site Remediation, 7:26E-3.9* (June 7, 1993 and revisions dated February 3, 2003) which was the applicable regulation at the date of the closure. All records of the Remedial Investigation activities are maintained by the Fort Monmouth DPW Environmental Office.

The following Parties participated in Closure and Remedial Investigation Activities.

- Ft. Monmouth Directorate of Public Works-Environmental Division
  Contact Person: Douglas Guenther
  Phone Number: (732) 532-0986

- Subsurface Evaluator: Frank Accorsi
  Employer: TECOM-Vinnell Services, Inc. (TVS)
  Phone Number: (732) 532-5241
  NJDEP License No.: 0010042
  (TVS)NJDEP License No.: US252302

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

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

2.2 FIELD SCREENING/MONITORING

Field screening was performed by a NJDEP certified Subsurface Evaluator using an OVM and visual observations to identify potentially contaminated material. Soils were removed from the excavation surrounding UST No. 800-21 until no evidence of contamination remained.

2.3 SOIL SAMPLING

On July 28, 2003, closure soil samples 800-21A, 800-21B, 800-21C and 800-21 Duplicate were collected from a total of three (3) locations along the bottom/centerline of the UST excavation. Groundwater was not encountered in the excavation. The results of the closure sampling indicated that further remediation was required. On October 30, 2003, soil remediation occurred along the east end and bottom of the UST excavation. Two (2) post-remediation soil samples 800-21PX1 and 800-21PX2 were collected in the excation. Refer to soil sampling location map in Figure 2. All samples were analyzed for TPH.

The site assessment was performed by TVS personnel in accordance with the NJDEP *Technical Requirements for Site Remediation* and the NJDEP *Field Sampling Procedures Manual.* A summary of sampling activities including the sampling parameters is provided in Table 1. The post-remediation soil samples were collected using stainless steel trowels. After collection, the samples were immediately placed on ice in a cooler and delivered to Fort Monmouth Environmental Testing Laboratory for analysis.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 SOIL SAMPLING RESULTS

Closure soil samples were collected from a total of three locations on July 28, 2003 and post-remediation soil samples from two locations on October 30, 2003, to evaluate soil conditions following removal of the UST. All samples were analyzed for TPH and one sample was further analyzed for VOC's. The soil sample results were compared to the NJDEP health based criterion of 10,000 mg/kg for total organic contaminants (N.J.A.C. 7:26D and revisions dated February 3, 1994). A summary of the analytical results and comparison to the NJDEP soil cleanup criteria is provided on Table 2. The analytical data package, including associated quality control data, is provided in Appendix E.

Closure soil samples collected on July 28, 2003 from the UST remedial excavation contained concentrations of TPH below the NJDEP soil cleanup criteria, with the exception of 800-21A and 800-21 Duplicate which contained TPH concentrations of 18,052 mg/kg and 18,058 mg/kg, respectively. Soil sample 800-21A was further analyzed for for volatile organic compounds with a forward library search for 15 tentatively identified compounds (VO+ 15). The results of these sample indicated that no compounds were found above the detection limits.

One post-remediation soil sample contained concentrations of contaminants below the NJDEP soil cleanup criteria. Post-remediation samples 800-21PX1 and 800-21PX2 were collected on October 30, 2003 from the expanded UST remedial excavation. These samples contained a TPH concentration of Not Detected and 241 mg/kg, respectively.

3.2 CONCLUSIONS AND RECOMMENDATIONS

The analytical results for all closure and post-remediation soil samples collected from the UST excavation at UST No. 800-21 were below the NJDEP soil cleanup criteria for total organic contaminants and volatile organic compounds.

Based on the post-remediation soil sampling results, soils with TPH concentrations exceeding the NJDEP soil cleanup criterion for total organic contaminants of 10,000 mg/kg have been excavated from the former location of UST No. 800-21.

No Further Action is proposed in regard to the closure and remedial investigation of UST No. 800-21 in the 800 Area of the Main Post.

TABLES

TABLE 1

SUMMARY OF LABORATORY ANALYSIS
FT. MONMOUTH, 800 AREA, UST No.800-21
28-July-03, 30-Oct-03

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE DATE	SAMPLE MATRIX	ANALYTICAL PARAMETER	ANALYTICAL METHOD
800-21A	3043205	28-July-03	SOIL	TPH, VOA	OQA-QAM-25; SW-846, 8260
800-21B	3043206	28-July-03	SOIL	TPH	OQA-QAM-25
800-21C	3043207	28-July-03	SOIL	TPH	OQA-QAM-25
800-21Dupl	3043204	28-July-03	SOIL	TPH	OQA-QAM-25
TRIP BLANK	3043208	28-July-03	METHANOL	VOA	SW-846, 8260
800-21PX1	3068901	30-Oct-03	SOIL	TPH	OQA-QAM-25
800-21PX2	3068902	30-Oct-03	SOIL	TPH	OQA-QAM-25

ABBREVIATIONS:
TPH = Total Petroleum Hydrocarbons, NJDEP Method OQA-QAM-025 (10/97)
VOA = Volatile Organic Analysis, EPA SW-846 Method 8260

TABLE 2

SUMMARY OF LABORATORY ANALYTICAL RESULTS
FT. MONMOUTH, BUILDING 1006, UST No.800-21
28-July-03, 30-Oct-03

TOTAL PETROLEUM HYDROCARBONS

SAMPLE ID	LABORATORY SAMPLE ID	SAMPLE LOCATION	SAMPLE DEPTH	MATRIX	TPH RESULT S
			(in feet)		mg/kg
800-21A	3043205	EAST END	6.5 – 7.0	Soil	18,052*
800-21B	3043206	CENTER	6.5 – 7.0	Soil	253
800-21C	3043207	WEST END	6.5 – 7.0	Soil	271
800-21Dupl.	3043204	DUPLICATE(21A)	6.5 – 7.0	Soil	18,058*
800-21PX1	3068901	EAST WALL	7.5 – 8.0	Soil	ND
800-21PX2	3068902	BOTTOM	8.0 – 8.5	Soil	241

ABBREVIATIONS:
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed
*= Further Analyzed for Volatiles

Gray shading indicates exceedance of NJDEP
health based criterion of 10,000 ppm total organic contaminants

TABLE 3

SUMMARY OF LABORATORY ANALYTICAL RESULTS

FT. MONMOUTH, 800 AREA, UST No. 800-21
28-July-03

VOLATILE ORGANIC COMPOUNDS

SAMPLE ID	SAMPLE DATE	Benzene	Toluene	Ethylbenzene	Xylenes (total)
UNITS		mg/kg	mg/kg	mg/kg	mg/kg
800-21A	28-July-03	ND	ND	ND	ND
NJDEP Criteria	Residential	3	1,000	1,000	410

ABBREVIATIONS:
mg/kg = Milligrams Per Kilogram = parts per million
ND = Compound Not Detected
NA = Compound Not Analyzed

Notes:
Gray shading indicates exceedance of NJDEP
Residential Direct Contact Soil Cleanup Criteria

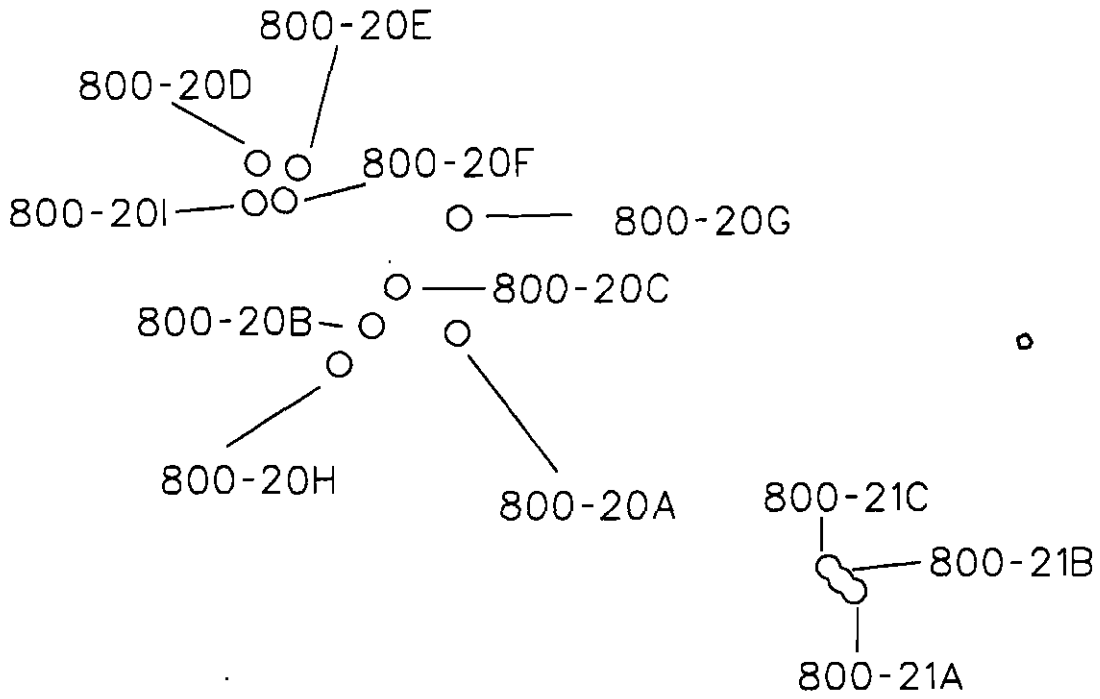


FIGURE 2 - Site Map
800-20 AND 800-21 AREA

U.S. Army Garrison
Fort Monmouth, New Jersey

SCALE: 1" = 28' Approx.
DATE: January 03, 2006

...\Figures\Main Post USTs.dgn 1/3/2006 2:52:23 PM

APPENDIX A

CERTIFICATIONS

APPENDIX B

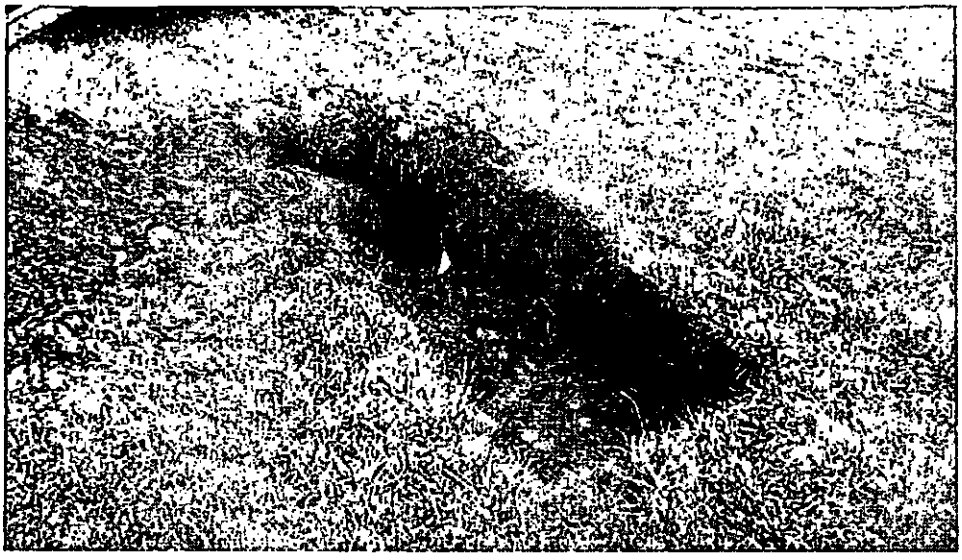
WASTE MANIFEST

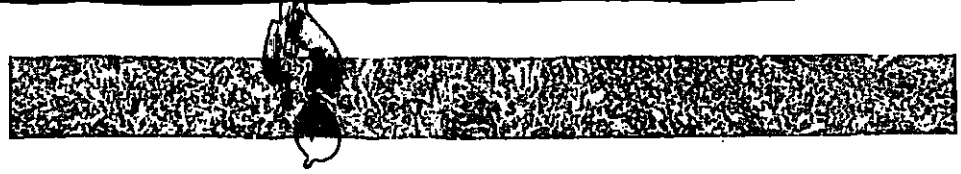
APPENDIX C

UST DISPOSAL CERTIFICATE

APPENDIX D

PHOTO DOCUMENTATION





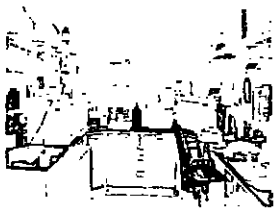
Location of UST No. 800-21 excavation in open field in the 800 Area of Main Post.

APPENDIX E

SOIL ANALYTICAL DATA PACKAGE

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: 03-38200

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Duplicate	3043204	Soil	28-July-03 15:00	07/28/03
800-21A, East End	3043205	Soil	28-July-03 15:00	07/28/03
800-21B, Center	3043206	Soil	28-July-03 15:15	07/28/03
800-21C, West End	3043207	Soil	28-July-03 15:30	07/28/03
Trip Blank	3043208	Methanol	28-July-03	07/28/03

FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, % SOLIDS

ENCLOSURE:
CHAIN OF CUSTODY
RESULTS

11-28-05
Daniel Wright/Date
Laboratory Director

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

For Monmou h Environmen al Testing Labora ory

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 / NYDOH Certification #11699

Chain of Custody Record

Customer: ~~Dinker Desai~~ JOE FALLON
Phone #: ~~X21475~~ X26223
( )DERA (X)OMA UST Assessment

Project No: ~~01-0001~~ 03-38200
Location: 800 AREA
UST# 800-22, 800-21

Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I.D.	Sample Location	Depth	Date	Time	Sample Type	# Bottles	TPHC	% SOLIDS	VOA+10/15 *	VOA ID #	PID Reading	Remarks / Preservation Method
30432 01	800-22A, EAST END	6.5-7.0	7-28-03	1340	SOIL	2	X	X	X	3469	0	ICE
02	800-22B, CENTER	6.5-7.0		1355		2	X	X	X	3470	0	
03	800-22C, WEST END	6.5-7.0		1415		2	X	X	X	3471	0	
04	DUPLICATE	6.5-7.0		1500		2	X	X	X	3472	7.3	
05	800-21A, EAST END	6.5-7.0		1500		2	X	X	X	3473	4.0	
06	800-21B, CENTER	6.5-7.0		1515		2	X	X	X	3474	0	
07	800-21C, WEST END	6.5-7.0		1530		2	X	X	X	3475	0	
08	TRIP BLANK	—		—		1			X	3476	—	

* = Samples Kept <4°C

OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm. 0800 7-28-03 FA (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):	Comments:
Frank Accorsi	7-28-03 1600		* VO+15 ON 25% > 1,000 PPM TPH, ON HIGHEST, MIN. ONE.
Relinquished by (signature):	Date/Time:	Received by (signature):	

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 2 wks, ( )Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks: Dedicated Sampling Tools Used
All sample points have been GPS? (X)YES ( ) NO ( ) NA

200002

print legibly

USTcoc.xls6/22/01

Change of Chain o Custody

Lab Project ID#: 30432 Site/Project Name: 900 ALTA

Date Received: 7/28 Date of Change: 8/7

Requested by: print Doug G. Sign:

Turnaround Time: Standard

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: print Sign:

Sample ID#	New Analysis		Sample ID#	New Analysis
3043201	VOA+15			

Comments:

US ARMY - FT. MONMOUTH, NJ

800 AREA - UST #800-21
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

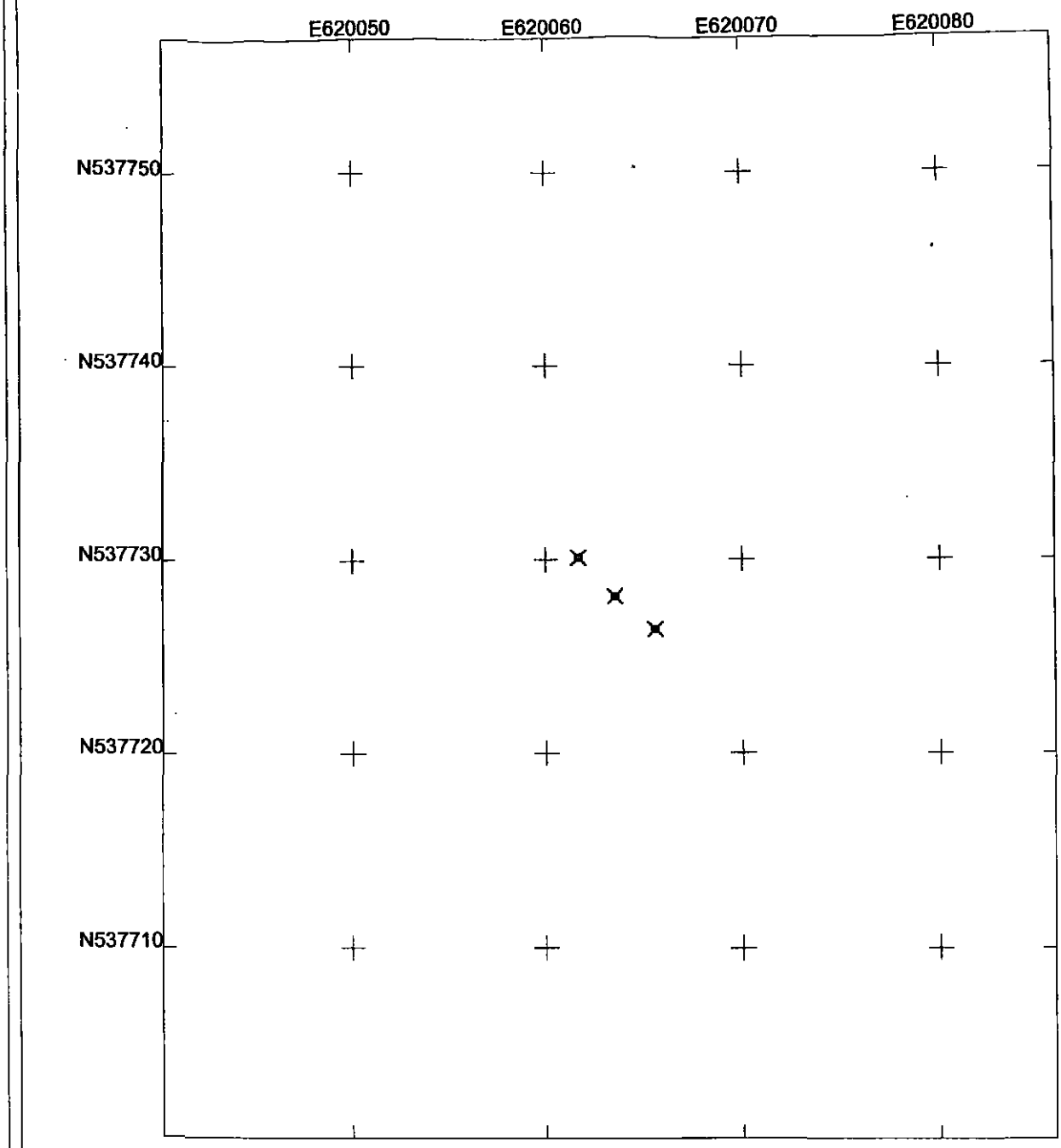
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-21A east end	537726.457	620065.531
800-21B center	537728.162	620063.486
800-21C west end	537730.16	620061.627

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 CREDIT UNION WEST CORNER	537998.865	620157.192
B1006 CREDIT UNION NORTH CORNER	538043.64	620183.645
B1006 CREDIT UNION EAST CORNER	537988.336	620271.865
B1006 CREDIT UNION SOUTH CORNER	537943.187	620244.315



U.S. Army - Ft. Monmouth 800 Area
UST #800-21 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:100
0 0.002
Miles

800usts.cor
11/28/2005
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 as 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: 30432

Site: 800 Area
UST #21

	Date	Hold Time
Date Sampled	07/28/03	NA
Receipt/Refrigeration	07/28/03	NA
Extraction		
1. TPHC	07/31/03	14 days
Analyses		
1. VOA	08/08/03	14 days
2. TPHC	08/07/03	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)	
2. Retention times for chromatograms provided	
3. GC/MS Tune Specifications	
a. BFB Meet Criteria	
b. DFTPP Meet Criteria	
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	
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	
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	
b. System Performance Check Compounds Meet Criteria	
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	
a. VOA Fraction	
b. B/N Fraction	
c. Acid Fraction	
8. Surrogate Recoveries Meet Criteria	
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)	
a. VOA Fraction	
b. B/N Fraction	
c. Acid Fraction	

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

Indicate
Yes, No, N/A

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

a. VOA Fraction_____
b. B/N Fraction_____
c. Acid Fraction_____

11. Extraction Holding Time Met _____

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

12. Analysis Holding Time Met YES

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

Additional Comments:
_____
_____
_____

Laboratory Manager:_____ Date: 11-28-05

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

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

Additional comments: _____

Laboratory Manager: _____ Date: 11-29-05

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

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 08Aug03

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

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	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID: **MB 08Aug03**

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 08Aug03**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432/30 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: MB 08Aug03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014033.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043208

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014035.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043208

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014035.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043208

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014035.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 0 Date Analyzed: 8/8/2003

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: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	22.27	3900	J
2.	unknown	25.10	2100	J
3.	unknown	25.54	820	J
4.	unknown	25.86	4500	J
5.	unknown hydrocarbon	26.68	770	J
6.	unknown	27.19	1300	J
7.	unknown hydrocarbon	27.92	1200	J
8.	unknown hydrocarbon	29.81	660	J
9.	unknown	29.91	1000	J
10.	unknown	30.48	1200	J

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-21A

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043205

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB014034.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 15.85 Date Analyzed: 8/8/2003

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	710	U
107131	Acrylonitrile	710	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	310	U
108203	Di-isopropyl ether	200	U
75718	Dichlorodifluoromethane	410	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	310	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	310	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	860	
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-34-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	310	U
78-93-3	2-Butanone	310	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	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	U
79-01-6	Trichloroethene	100	U
78-87-5	1,2-Dichloropropane	100	U
124-48-1	Bromodichloromethane	100	U
110-75-8	2-Chloroethyl vinyl ether	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
124-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

800-21A

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043205

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB014034.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 15.85 Date Analyzed: 8/8/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	310	U
95-47-6	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	310	U
106-46-7	1,4-Dichlorobenzene	310	U
95-50-1	1,2-Dichlorobenzene	310	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **800-21A**

Lab Name: FMETL NJDEP#: 13461

Project: 03-38200 Case No.: 30432 Location: 800Are SDG No.: UST

Matrix: (soil/water) SOIL Lab Sample ID: 3043205

Sample wt/vol: 11.7 (g/ml) G Lab File ID: VB014034.D

Level: (low/med) MED Date Received: 7/28/2003

% Moisture: not dec. 15.85 Date Analyzed: 8/8/2003

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: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000000-00-0	1-Ethyl-2,2,6-trimethylcyclohexan	28.54	3400	JN
2.	unknown hydrocarbon	28.94	5700	J
3.	unknown	29.26	5900	J
4.	unknown	29.48	2900	J
5.	unknown	29.73	2700	J
6.	unknown	29.88	3300	J
7.	unknown	30.06	2500	J
8.	unknown	30.12	7300	J
9.	unknown	30.47	22000	J
10.	unknown	30.65	3900	J

TPHC

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

Client :	U.S. Army	**Project # :**	30432
	DPW. SELFM-PW-EV	**Location :**	800 Area
	Bldg. 173	**UST Reg. # :**	
	Ft. Monmouth, NJ 07703		
Analysis :	OQA-QAM-025	**Date Received :**	28-Jul-03
Matrix :	*Soil*	**Date Extracted :**	31-Jul-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	07-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3043201	800-22A	1.00	15.06	84.31	178	419.89
3043202	800-22B	1.00	15.06	82.10	183	262.35
3043203	800-22C	1.00	15.36	83.35	177	183.07
3043204	Duplicate	5.00	15.35	82.68	178	18057.64
3043205	800-21A	5.00	15.41	84.15	175	18051.83
3043206	800-21B	1.00	15.33	83.53	177	253.31
3043207	800-21C	1.00	15.36	81.21	182	270.62
METHOD BLANK	MB-073103	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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: 11/29/05

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.

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: 800 Area

800 Area

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-21PX1, East Wall	3068901	Soil	30-Oct-03 13:30	10/30/03
800-21PX2, Bottom	3068902	Soil	30-Oct-03 13:50	10/30/03
800-19PX1	3068903	Soil	30-Oct-03 14:08	10/30/03
800-32PX1	3068904	Soil	30-Oct-03 14:22	10/30/03
800-45PX1	3068905	Soil	30-Oct-03 14:40	10/30/03
800-39/44PX1	3068906	Soil	30-Oct-03 15:00	10/30/03
800-39/44PX2	3068907	Soil	30-Oct-03 15:13	10/30/03
800-39/44PX3	3068908	Soil	30-Oct-03 15:28	10/30/03
800-39/44PX4	3068909	Soil	30-Oct-03 15:40	10/30/03
Duplicate	3068910	Soil	30-Oct-03 15:13	10/30/03
Trip Blank	3068911	Methanol	30-Oct-03	10/30/03

ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB
ABN+25, PESTICIDES, PCB, TPHC, AS, % SOLIDS

11-7-03
Daniel Wright/Date
Laboratory Director

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

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: DOUG GUENTHER
Phone #: X 20986
( )DERA ( )OMA ( )Other: X
Project No:
Location: 800 AREA
Samplers Name / Company: FRANK ACCORSI / ITS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOA +15	PESTICIDES	SVOA	AS	VOA #	PID	DEPTH (FT)	Remarks / Preservation Method
30689 01	800-21 PX1, EAST WALL	10-30-03	1330	SOIL	2	X	X				3566	0	7.5-8	ICE
02	800-21 PX2, BOTTOM		1350		2	X	X				3567	0	8-8.5	
03	800-19 PX1		1408		1						—	—	1.5-2	PCB'S ONLY
04	800-32 PX1		1422		1			X	X	X	—	—	1-1.5	
05	800-45 PX1		1440		1				X		—	—	1-1.5	
06	800-39/44 PX1		1500		1			X	X		—	—	1-1.5	
07	800-39/44 PX2		1513		1			X	X		—	—	1-1.5	
08	800-39/44 PX3		1528		1			X	X		—	—	1-1.5	
09	800-39/44 PX4		1540		1			X	X		—	—	1-1.5	
10	DUPLICATE		1513		1			X	X		—	—	1-1.5	
11	TRIP BLANK		—	AQ.	1		X					—	—	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	10-30-03 1600				
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 1 ~~Days~~ week, ( )ASAP Verbal ___ Hrs.

Remarks: * VOA +15 IF > 1,000

print legibly

COC.XLS9/2/2003

CASE NARRATIVE

CASE NARRATIVE

Site: 800 Area
Lab ID: 30689

Field duplicate performed on 800-39/44PX2 (Lab ID 3068907).

The samples were not analyzed for volatile organics. None of the TPHC results were greater than 1000 ppm.

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 # :**	30689
		Location :	800 Area
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	30-Oct-03
Matrix :	Soil	**Date Extracted :**	04-Nov-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	05-Nov-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3068901	800-21PX1	1.00	15.21	86.11	173	ND
3068902	800-21PX2	1.00	15.00	83.64	181	240.83
METHOD BLANK	MB-110403	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

ATTACHMENT Q

UST 800-22 File Review and Analyses

PARSONS

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

Date: *June 2, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 800-22*** Registration ID: *None*

Recommended Status of Site: ***Case Closed (no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

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

NJDEP Release No. or DICAR (If applicable): _____

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: 7/28/2003

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

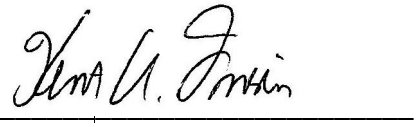
Brief Narrative

This tank was removed after it was identified by a geophysical survey as part of the Residential Communities Initiative (RCI) project within the 800 Area. It was named after the geophysical anomaly target number that led to the discovery of the tank.

Following tank removal in 2003, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Three soil samples from the excavation were collected on July 28, 2003. The soil sample results from this excavation ranged from 183 mg/kg to 419 mg/kg for TPH. The final 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 the UST Case Status of "Case Closed." Since a steel tank was removed from this location, the UHOT Addendum probability of "High" for an additional tank appears overrated.

Recommendations (if any): Request NFA from NJDEP

Signed: 

Kent A. Friesen, Parsons

Fort Monmouth UST Status Summary Report

UST REGISTRATION INFORMATION SUMMARY

LOCATION: 800 22 *NJDEP REG ID:* -

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 1000 *CONSTRUCTION:* STEEL

PRODUCT: #2 FUEL OIL *YEAR INSTALLED:* 1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 10/21/2003 *REMOVAL CONTRACTOR:* TVS

SRF SEND DATE: *TMS:*

DICAR NO. *LEAK DETECT:*

REMEDIATION COMMENTS: 800 Area RCI project. UST removed. Soil samples below criteria. Clean closure and Residential. No Report required.

REGISTRATION COMMENTS:

SAS DONE: *CONSULTANT:* TVS

MW's NEEDED: 0 *MONITORING WELLS:* 0

SUB-SURFACE EVALUATOR: Frank Accorsi

CURRENT UST STATUS

UST STATUS: Removed; Report Submitted/Not Nec. *CASE STATUS:* Case Closed

SUBMITTAL DATE: *APPROVAL DATE:*

ARMY, FORT MONMOUTH

DAILY UST CLOSURE LOG

BLDG.#: 800-22 REG.#: _____-_____

DATE: 7-28-03 TOA: _____ TOD: _____

CLOSURE TECH: FRANK ACCORSI NJDEP CERT.#: 0010092

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. 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	NA
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NA
THE UST WAS ~~CLEANED~~ PUMPED OUT 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)	NA
_____ DRUMS OF WASTE WERE TRANSPORTED TO THE (MP, CW, EV) HWSA	NA
_____ GALLONS OF _____ WASTE WERE REMOVED (MANIFEST#: _____)	NA
_____ 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: _____	Y
THE UST WAS TRANSPORTED TO B.166 CONCRETE PAD FOR DISPOSAL (ATTACH SCRAP TICKET)	Y
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: 7-28-03

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 800-22 REG.#: _____

DATE: 7-28-03 TOA: _____ TOD: _____

SSE: FRANK ACCORSI NJDEP CERT.#: 0010042

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: FRANK ACCORSI NJDEP CERT.#: 0010042

WEATHER: PT. CLDY, 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 BT THE DPW TO THE NJDEP (609-292-7172), CASE# _____	NA
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	Y
GROUNDWATER WAS ENCOUNTERED AT ____ FEET BG, A SHEEN (WAS/WAS NOT) OBSERVED ON GW	N
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	NA
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^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

CHECK ALL BOXES, LEAVE NO BLANKS

I certify under penalty of law that tank decommissioning activities were performed in compliance with N.J.A.C. 7:14B-9.2(b)3 and 7:26 et seq.. I am aware that there are significant penalties for submitting false, inaccurate, or incomplete information, including fines and/or imprisonment.

Closure Tech (print Name): FRANK ACCORSI Date: 7-28-03

SIGNATURE: Frank Accorsi

800 AREA,

UST's Known as

800-1

800-2

etc...



ENVIROSCAN, INC.

5. Appleby

DPW

10-22-08

Compare Survey to Actual USTs Removed

Appendix B

GPR Survey Results

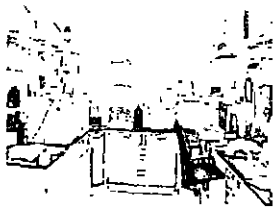
Project No. 030301, Fort Monmouth, NJ

Target Number	Easting	Northing	Description	Method	Confirmed UST
1	2173762.327	538474.106	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
2	2173489.047	538275.903	6' x 10' High amplitude parabolic reflector	TW-6/GPR	500 gal Removed
3	2173474.031	538098.7216	Multiple utility lines, poor signal penetration using GPR	TW-6/GPR	
4	2173338.893	538014.6354	Linear anomaly from storm sewer line towards Building 814	TW-6	
5	2173350.905	537492.1004	3' x 4' High amplitude parabolic reflector	TW-6/GPR	
6	2174185.76	538504.1366	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
7	2174218.794	538480.112	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
8	2174161.736	538486.1182	Reinforced concrete sidewalk, Poor signal penetration using GPR	TW-6/GPR	
9	2174290.868	538314.943	8' x 13' EM anomaly	TW-6	1K Removed
10	2174356.935	538275.903	8' x 12' EM anomaly	TW-6	1-K Removed
11	2174386.966	538296.9244	Reinforced Concrete Sidewalk	TW-6/GPR	

TARGET NUMBER	EASTING	NORTHING	DESCRIPTION	METHOD	
12	2174419.548	538221.331	Multiple point target EM anomalies	TW-6	1 K Removed
13	2174486.068	538176.8014	5' x 5' EM anomaly	TW-6	
14	2174444.025	538107.7308	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1 K Removed
15	2174227.803	538176.8014	8' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
16	2174152.726	538230.8568	7' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
17	2174128.702	538215.8414	4' x 5' High amplitude parabolic reflector, near surface	TW-6/GPR	
18	2174113.686	538131.7554	5' x 6' High amplitude parabolic reflector	TW-6/GPR	
19	2174185.76	538089.7124	7' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
20	2174254.831	538047.6692	6' x 12' High amplitude parabolic reflector	TW-6/GPR	1-K Removed.
21	2174320.899	538002.6232	8' x 13' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
22	2174386.966	537963.5832	6' x 14' High amplitude parabolic reflector	TW-6/GPR	1-K Removed
23	2174510.092	537756.371	Small metal tube at surface, no Subsurface target detected	TW-6/GPR	
24	2174509.92368	537754.6006	Reinforced Concrete Sidewalk	TW-6/GPR	

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: 800 Area

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
800-22A, East End	3043201	Soil	28-July-03 13:40	07/28/03
800-22B, Center	3043202	Soil	28-July-03 13:55	07/28/03
800-22C, West End	3043203	Soil	28-July-03 14:15	07/28/03

FORT MONMOUTH ENVIRONMENTAL LAB
TPHC, % SOLIDS

11-28-05

Daniel Wright/Date
Laboratory Director

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

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461 / NYDOH Certification #11699

Chain of Custody Record

Customer: ~~Dinker Desai~~ JOE FALLON
Phone #: ~~X21475~~ X26223
( )DERA (X)OMA UST Assessment

Project No: ~~01-0001~~ 03-38200
Location: 800 AREA
UST# 800-22, 800-21

Samplers Name / Company : Frank Accorsi/TVS

Lab Sample I.D.	Sample Location	Depth	Date	Time	Sample Type	# Bottles	TPHC	% SOLIDS	VOA+10/15 *	VOA ID #	PID Reading	Remarks / Preservation Method
30432 01	800-22A, EAST END	6.5-7.0	7-28-03	1340	SOIL	2	X	X	X	3469	0	ICE
02	800-22B, CENTER	6.5-7.0		1355		2	X	X	X	3470	0	
03	800-22C, WEST END	6.5-7.0		1415		2	X	X	X	3471	0	
04	DUPLICATE	6.5-7.0		1500		2	X	X	X	3472	7.3	
05	800-21A, EAST END	6.5-7.0		1500		2	X	X	X	3473	4.0	
06	800-21B, CENTER	6.5-7.0		1515		2	X	X	X	3474	0	
07	800-21C, WEST END	6.5-7.0		1530		2	X	X	X	3475	0	
08	TRIP BLANK	—		—		1			X	3476	—	

* = Samples Kept <4°C

OVM sn#580U-64455.343 was calibrated with zero air & w/ 245 ppm Isobutylene read 245 ppm. 0800 7-28-03 FH (time/date & initial)

Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	7-28-03 1600	
Relinquished by (signature):	Date/Time:	Received by (signature):

Comments: * VO+15 ON 25% > 1,000 PPM TPH, ON HIGHEST, MIN. ONE.

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 2 wks, ( )Rush 2 Days, ( )ASAP Verbal ___ Hrs.

Remarks: Dedicated Sampling Tools Used
All sample points have been GPS? (X)YES ( )NO ( )NA

000002

print legibly

USTcoc.xls6/22/01

U.S. ARMY - FT. MONMOUTH, NJ

800 AREA - UST #800-22
SOIL SAMPLE GPS POSITIONS & COORDINATES
US STATE PLANE 1983, NJ (NY EAST) 2900, NAD 1983 (CONUS)

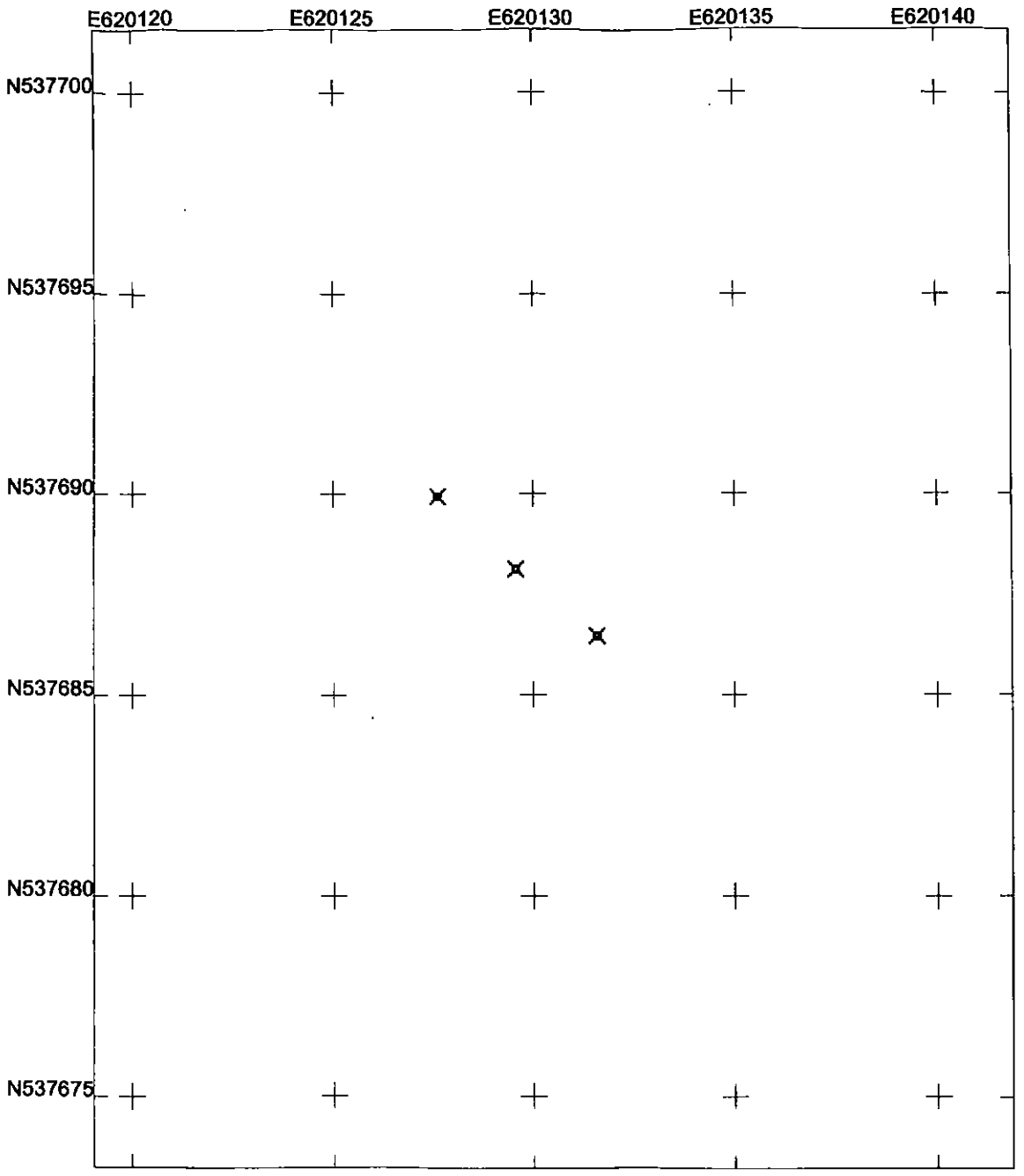
(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
800-22A east end	537686.492	620131.572
800-22B center	537688.155	620129.545
800-22C west end	537689.945	620127.618

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1006 Credit Union West Corner	537998.865	620157.192
B1006 Credit Union East Corner	538043.64	620183.645
B1006 Credit Union North Corner	537988.336	620271.865
B1006 Credit Union South Corner	537943.187	620244.315
814 MW1	537743.414	619136.636



U.S. Army - Ft. Monmouth 800 Area
UST # 800-22 Soil Sample GPS Map

US State Plane 1983
New Jersey 2900
NAD 1983 (Conus)

N

Scale 1:50.0
0 0.001
Miles

800usts.cor
11/28/2005
GPS Pathfinder
Trimble

000002

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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 30432

Site: 800 Area
UST #22

	Date	Hold Time
Date Sampled	07/28/03	NA
Receipt/Refrigeration	07/28/03	NA
Extraction		
1. TPHC	07/31/03	14 days
Analyses		
1. TPHC	08/07/03	40 days

CONFORMANCE/ NON-CONFORMANCE SUMMARY

TPHC CONFORMANCE/NON–CONFORMANCE SUMMARY REPORT

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

Additional comments: _____

Laboratory Manager: _____ Date: 11-28-05

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 # :**	30432
		Location :	800 Area
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	28-Jul-03
Matrix :	Soil	**Date Extracted :**	31-Jul-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	07-Aug-03
Injection Volume :	1uL	**Analyst :**	B.Patel

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3043201	800-22A	1.00	15.06	84.31	178	419.89
3043202	800-22B	1.00	15.06	82.10	183	262.35
3043203	800-22C	1.00	15.36	83.35	177	183.07
3043204	Duplicate	5.00	15.35	82.68	178	18057.64
3043205	800-21A	5.00	15.41	84.15	175	18051.83
3043206	800-21B	1.00	15.33	83.53	177	253.31
3043207	800-21C	1.00	15.36	81.21	182	270.62
METHOD BLANK	MB-073103	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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: 11/25/05

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.

Daniel K. Wright
Laboratory Manager

ATTACHMENT R

813 File Review and Analyses

PARSONS

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

Date: *June 3, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 813*** Registration ID: *None*

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

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***NFA***

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

NJDEP Release No. or DICAR (If applicable): 10-12-17-1533-15

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: 12/17/2010

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

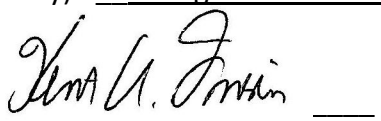
Brief Narrative

This tank was associated with the demolished Bldg. 813 former barracks. It was located approximately 100 ft northeast of existing Bldg. 814. Field forms or notes have not been located, so this summary is based on the analytical data packages for the soil closure samples. The tank location is shown on the UST database map entitled "UST Removal Reference Map, Grid C4, Main Post."

Following tank removal in 2010, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Seven soil samples were initially collected from the excavation on December 21, 2010. TPH results ranged from not detected to 2691 mg/kg. The samples with TPH exceeding 1000 mg/kg were also analyzed for naphthalene and 2-methylnaphthalene in accordance with NJDEP guidance; soil naphthalene concentrations ranged from not detected to 2.71 mg/kg, and 2-methylnapthalene ranged from 2.47 mg/kg to 10.35 mg/kg. The NJDEP's impact to groundwater exposure pathway screening criteria of 5 mg/kg for 2-methylnaphthalene was exceeded in 2 samples; however, the soil represented by sample 813-2 (which had the highest concentration of 2-methylnaphthalene) was subsequently removed by excavation. Two additional rounds of soil analyses were performed on January 14 and 21, 2011, and the results were not detected for TPH, naphthalene, and 2-methylnapthalene. The final 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: 813 ***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: 12/17/2010 ***REMOVAL CONTRACTOR:*** Tecom-Vinnell

SRF SEND DATE: ***TMS:***

DICAR NO. 10-12-17-1533-15 ***LEAK DETECT:***

REMEDIATION COMMENTS: Holes in UHOT groundwater impacted, needs GW assessment CA 12/17/10. Soil remediation completed

REGISTRATION COMMENTS: UHOT as per Army BRAC legal office

SAS DONE: NO ***CONSULTANT:*** TVS

MWs NEEDED: Yes ***MONITORING WELLS:*** 0

SUB-SURFACE EVALUATOR: Accorsi

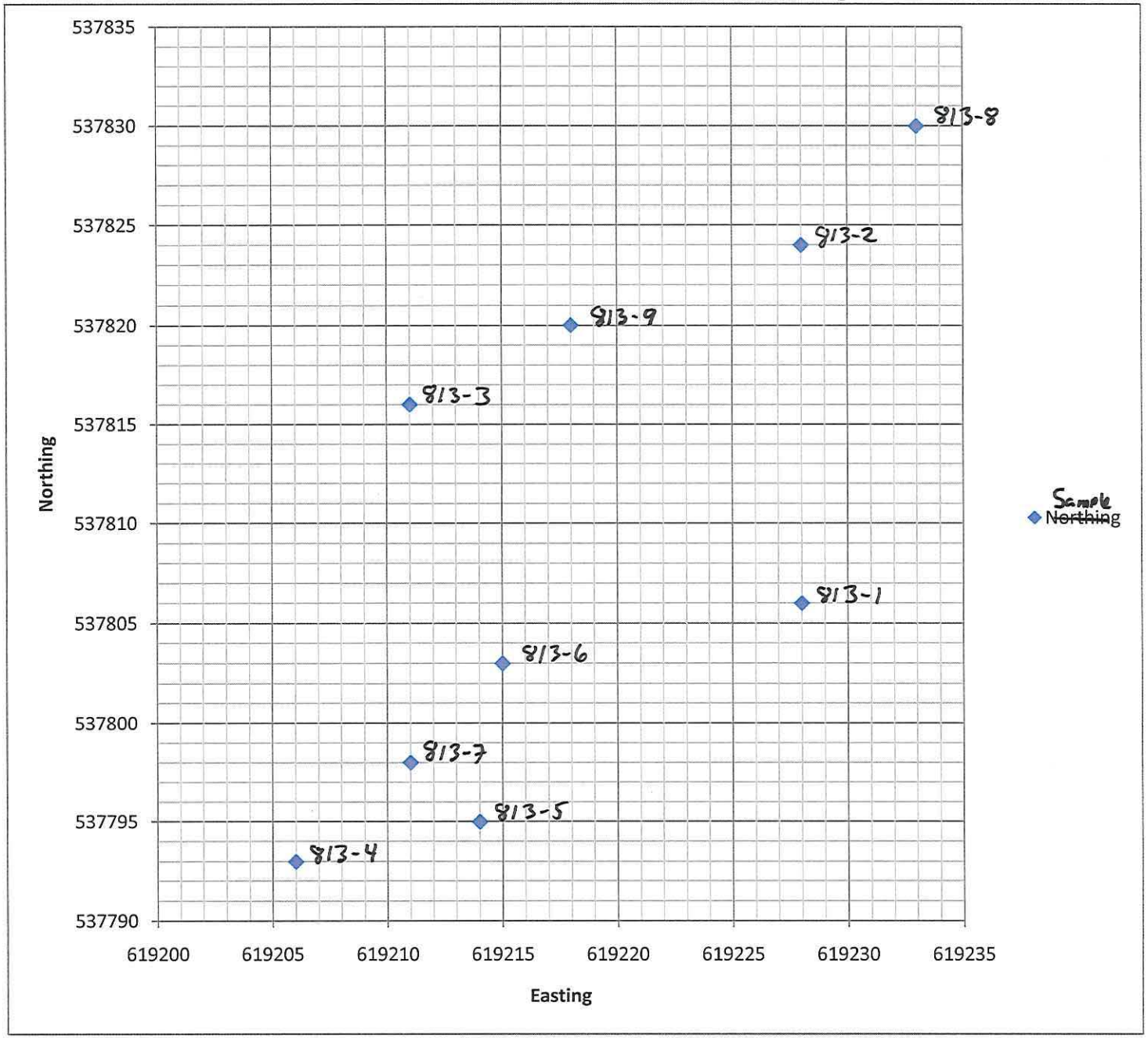
CURRENT UST STATUS

UST STATUS: REMOVED RI ON-GOING ***CASE STATUS:*** Case Open

SUBMITTAL DATE: ***APPROVAL DATE:***

FINALIZED: No

UST 813 Sample Locations



FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 11-33212

UHOT 813

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
813-1	1057001	Soil	20-Dec-10 15:00	12/21/10
813- DUP	1057002*	Soil	20-Dec-10 -----	12/21/10
813-2	1057003	Soil	21-Dec-10 14:40	12/21/10
813-3	1057004	Soil	21-Dec-10 14:50	12/21/10
813-4	1057005	Soil	21-Dec-10 14:55	12/21/10
813-5	1057006	Soil	21-Dec-10 15:00	12/21/10
813-6	1057007	Soil	21-Dec-10 15:05	12/21/10
813-7	1057008	Soil	21-Dec-10 15:10	12/21/10

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

Dean Tardiff/Date: 1/11/11
Laboratory Manager

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

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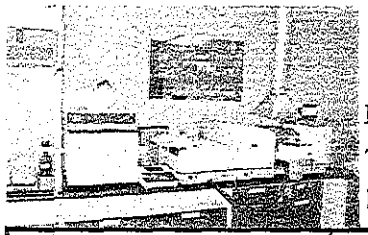
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

RUSH

Chain of Custody Record

Customer: US Army / Joe Fallon
Phone #: 22577
( )DERA ( )OMA (x)Other: UHOT BRAC

Project No: 11-33212
Location: UHOT 813

Samplers Name / Company: H. Hornung / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	% Solid					PID (ppm)	Depth (ft)	Comments: Remarks / Preservation Method
10570 -01	813 - 1	12/20/10	1500	Soil	1	X	X					0.8	5.5-6	Beneath Piping ICE
.02	813 - Dup	↓		↓	1	X	X					0.8	5.5-6	↓
.03	813 - 2	12/21/10	1440		1	X	X					2.0	5.5-6	Perimeter North
.04	813 - 3		1450		1	X	X					7.2	5.5-6	↓ West
.05	813 - 4		1455		1	X	X					0.0	5.5-6	↓ South
.06	813 - 5		1500		1	X	X					0.8	5.5-6	↓ East
.07	813 - 6		1505		1	X	X					0.8	5.5-6	Distribution North
.08	813 - 7	↓	1510	↓	1	X	X					0.8	5.5-6	↓ South

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	12-21-10 1530	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Comments: If TPH > 1,000 PPM analyze for Naphthalene + 2-Methyl Naphthalene

print legibly

COC .xls12/8/2010

200-100

SAMPLE RECEIPT FORM

Date Received: 12-21-10 Work Order ID#: 10570

Site/Proj. Name: UHOT 813 Cooler Temp (°C): 4°

Received By: Shannon Burk Sign:
(Print name)

Check the appropriate box

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

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments:

GPS POINTS

U.S. ARMY-FT. MONMOUTH, NJ

SITE UHOT-813

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
831-1	537806.962	619228.311
831-2	537824.704	619228.48
831-3	537816.979	619211.656
831-4	537793.774	619206.647
831-5	537795.362	619214.525
831-6	537803.269	619215.023
831-7	537798.951	619211.288

FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 10570 Site: UHOT/813

The Field Duplicate was performed on 813-1 (1057001)

METHOD SUMMARY

Method Summary

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

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

10570 TPHc

TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

Dean Tarca
Laboratory Manager

1/11/11
Date

12/23/10

10570 BNA

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	N/A
b. DFTPP Meet Criteria	Yes
4. GC/MS Tuning Frequency – Performed every 24 hours for 600 series and 12 hours for 8000 series	Yes
5. GC/MS Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis for 600 series and 12 hours for 8000 series	Yes
6. GC/MS Calibration requirements	
a. Calibration Check Compounds Meet Criteria	Yes
b. System Performance Check Compounds Meet Criteria	Yes
7. Blank Contamination – If yes, List compounds and concentrations in each blank:	No
a. VOA Fraction_____	
b. B/N Fraction_____	
c. Acid Fraction_____	
8. Surrogate Recoveries Meet Criteria	Yes
If not met, list those compounds and their recoveries, which fall outside the acceptable range:	
a. VOA Fraction_____	
b. B/N Fraction_____	
c. Acid Fraction_____	
If not met, were the calculations checked and the results qualified as "estimated"?	
9. Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria (If not met, list those compounds and their recoveries, which fall outside the acceptable range)	Yes
a. VOA Fraction_____	
b. B/N Fraction_____	
c. Acid Fraction_____	

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

Indicate Yes, No, N/A

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

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

11. Extraction Holding Time Met — Yes

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:

Laboratory Manager: Dean Tarca Date: 1/11/11

1/7/11

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 10570 **Site:** UHOT 813

	Date	Hold Time
Date Sampled	12/20,21/10	NA
Receipt/Refrigeration	12/21/10	NA

Analyses

1. TPH	12/22/10	14 Days
2. Semi-Volatiles	01/06/11	14 Days

TPHC

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

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

Project #: 11-33212
Location: BLDG. 813
ECP:
Work Order:

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

Date Received: 21-Dec-10
Date Extracted: 22-Dec-10
Extraction Method: Shake
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Data		Qualifiers
MB12221001	MB12221001	1.00	15.00	100.00	23	333	not detected			
LCS12221001	LCS12221001	1.00	15.00	100.00	23	333	1126.32			
1057001	813-1	1.00	15.17	83.0	28	397	not detected			
1057002	813 DUP	1.00	15.32	85.3	27	383	not detected			
1057003	813-2	1.00	15.48	85.8	26	376	2170.71			
1057004	813-3	1.00	15.80	82.8	27	382	1158.32			
1057005	813-4	1.00	15.87	79.3	28	397	not detected			
1057006	813-5	1.00	15.37	82.2	28	396	2691.03			
1057007	813-6	1.00	15.78	82.3	27	385	2126.82			
1057008	813-7	1.00	15.59	83.1	27	386	778.41			

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

000037

SEMI-VOLATILE ORGANICS

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E583.D**	Misc Info	**METHOD 8270 1/6/11**	Sample Weight	**10.00 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**100.0 %**
Date Acquired	**6-Jan-11**	Sample Multiplier	**0.100**		
Sample Name	**MB01031101**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene			not	detected	6	0.242	0.50	mg/kg	
91-57-6	2-methylnaphthalene			not	detected	230	0.260	0.50	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB01031101**

Lab Name: FMETL Lab Code 13461

Project: Case No.: Location: UHOT SDG No.: 10570

Matrix: (soil/water) SOIL Lab Sample ID: MB01031101

Sample wt/vol: 10 (g/ml) G Lab File ID: E583.D

Level: (low/med) LOW Date Received: 12/20/2010

% Moisture: 0 decanted: (Y/N) N Date Extracted: 1/3/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/6/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION UNITS:

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	extraction by-product	5.85	2700	J
2.	extraction by-product	6.72	190000	J

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E586.D**	Misc Info	**813-2**	Sample Weight	**10.04 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**85.8 %**
Date Acquired	**6-Jan-11**	Sample Multiplier	**0.116**		
Sample Name	**1057003**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene	10.66	4144097	2.71	detected	6	0.281	0.58	mg/kg	
91-57-6	2-methylnaphthalene	11.67	10338605	10.35	detected	230	0.302	0.58	mg/kg	E

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **813-2**

Lab Name: FMETL Lab Code 13461

Project: Case No.: Location: UHOT SDG No.: 10570

Matrix: (soil/water) SOIL Lab Sample ID: 1057003

Sample wt/vol: 10.04 (g/ml) G Lab File ID: E586.D

Level: (low/med) LOW Date Received: 12/20/2010

% Moisture: 14.2 decanted: (Y/N) N Date Extracted: 1/3/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/6/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E592.D**	Misc Info	**813-2**	Sample Weight	**10.04 g**
Operator	**ROBERTS**	Dilution factor	**5**	Percent Solids	**85.8 %**
Date Acquired	**6-Jan-11**	Sample Multiplier	**0.580**		
Sample Name	**1057003 5x**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene	10.65	842358	2.49	detected	6	1.405	2.90	mg/kg	D
91-57-6	2-methylnaphthalene	11.65	2240317	10.16	detected	230	1.509	2.90	mg/kg	D

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E589.D**	Misc Info	**813-3**	Sample Weight	**10.22 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**82.8 %**
Date Acquired	**6-Jan-11**	Sample Multiplier	**0.118**		
Sample Name	**1057004**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene			not	detected	6	0.286	0.59	mg/kg	
91-57-6	2-methylnaphthalene	11.66	2422302	2.47	detected	230	0.307	0.59	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **813-3**

Lab Name: FMETL Lab Code 13461

Project: _____ Case No.: _____ Location: UHOT SDG No.: 10570

Matrix: (soil/water) SOIL Lab Sample ID: 1057004

Sample wt/vol: 10.22 (g/ml) G Lab File ID: E589.D

Level: (low/med) LOW Date Received: 12/20/2010

% Moisture: 17.2 decanted: (Y/N) N Date Extracted: 1/3/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/6/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E590.D**	Misc Info	**813-5**	Sample Weight	**10.16 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**82.2 %**
Date Acquired	**6-Jan-11**	Sample Multiplier	**0.120**		
Sample Name	**1057006**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene	10.66	1797943	1.21	detected	6	0.290	0.60	mg/kg	
91-57-6	2-methylnaphthalene	11.81	3353473	3.46	detected	230	0.311	0.60	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **813-5**

Lab Name: FMETL Lab Code 13461

Project: Case No.: Location: UHOT SDG No.: 10570

Matrix: (soil/water) SOIL Lab Sample ID: 1057006

Sample wt/vol: 10.16 (g/ml) G Lab File ID: E590.D

Level: (low/med) LOW Date Received: 12/20/2010

% Moisture: 17.8 decanted: (Y/N) N Date Extracted: 1/3/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/6/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E591.D**	Misc Info	**813-6**	Sample Weight	**10.05 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**82.3 %**
Date Acquired	**6-Jan-11**	Sample Multiplier	**0.121**		
Sample Name	**1057007**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene	10.66	1958085	1.33	detected	6	0.293	0.60	mg/kg	
91-57-6	2-methylnaphthalene	11.67	5654277	5.88	detected	230	0.314	0.60	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **813-6**

Lab Name: FMETL Lab Code 13461

Project: _____ Case No.: _____ Location: UHOT SDG No.: 10570

Matrix: (soil/water) SOIL Lab Sample ID: 1057007

Sample wt/vol: 10.05 (g/ml) G Lab File ID: E591.D

Level: (low/med) LOW Date Received: 12/20/2010

% Moisture: 17.7 decanted: (Y/N) N Date Extracted: 1/3/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 1/6/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature Sean Tracy

Date: 1/11/11

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Dean Tardiff
Laboratory Manager 1/11/11

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. /813

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
813-8/East Wall	1102201	Soil	14-Jan-11 14:10	01/14/11
813-Duplicate	1102202	Soil	14-Jan-11 14:10	01/14/11

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, BN+15, NAPHTHALENE,
2-METHYLNAPHTHALENE
%SOLIDS

Dean Tardiff/Date: 3/4/11
Laboratory Manager

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

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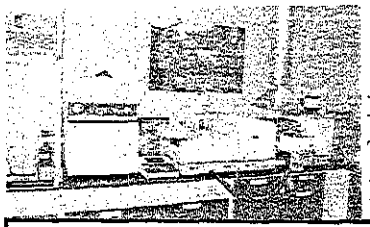
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

NJDEP Certification #13461

Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: X 26269
( )DERA ( )OMA (X)Other: BRAC

Project No:
Location: (FORMER) BLDG. 813

Samplers Name / Company: FRANK ACCORSI / TVS

Analysis Parameters

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH *	% SOLIDS	BNHS (1)	1/4/11			PID (PPM)	DEPTH (FT)	Comments: Remarks / Preservation Method
11022 01	813-8 EAST WALL	1-14-11	1410	SOIL	1	X	X	X				0	4.5-5	ICE
d 02	813-DUPLICATE	d	d	d	d	X	X	X				0	4.5-5	"

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	1-14-11 1545	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Comments: ~~*IF TPH > 1000 PPM TPH, ANALYZE FOR NAPHTHALENE + 2 METHYL NAPHTHALENE~~

print legibly

Page 1 of 1

COC .xls12/8/2010

000002

SAMPLE RECEIPT FORM

Date Received: 1-14-11 Work Order ID#: 11022

Site/Proj. Name: Bldg. 813 Cooler Temp (°C): 4.0°C

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

Check the appropriate box

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

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments:

GPS POINTS

U.S. ARMY-FT. MONMOUTH, NJ

SITE 813

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
813 8	537830.118	619233.717

FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 11022 Site: Bldg. 813

The Field Duplicate was performed on 813-8 East Wall (1102201).

METHOD SUMMARY

Method Summary

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

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

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

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

11022 TPH

TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

_____ _____

Laboratory Manager Date

1/4/11

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 11022 **Site:** Bldg. 813

	Date	Hold Time
Date Sampled	01/14/11	NA
Receipt/Refrigeration	01/14/11	NA

Analyses

1. TPHC	01/18/11	14 Days
2. Semi-Volatiles	02/03/11	14 Days

TPHC

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

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

Project #:
Location: BLDG. 813
ECP:
Work Order:

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

Date Received: 14-Jan-11
Date Extracted: 18-Jan-10
Extraction Method: Shake
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Data		Qualifiers
MB01181101	MB01181101	1.00	15.00	100.00	23	333	not detected			
LCS01181101	LCS01181101	1.00	15.00	100.00	23	333	1153.32			
1102201	813-8 EAST WALL	1.00	15.10	82.6	28	401	not detected			
1102202	813 DUPLICATE	1.00	15.21	81.8	28	402	not detected			

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

000045

SEMI-VOLATILE ORGANICS

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E598.D**	Misc Info	**METHOD 8270 2/3/11**	Sample Weight	**10.00 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**100.0 %**
Date Acquired	**3-Feb-11**	Sample Multiplier	**0.100**		
Sample Name	**MB01281101**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene			not	detected	6	0.242	0.50	mg/kg	
91-57-6	2-methylnaphthalene			not	detected	230	0.260	0.50	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB01281101**

Lab Name: FMETL Lab Code 13461

Project: _____ Case No.: _____ Location: 813 SDG No.: 11022

Matrix: (soil/water) SOIL Lab Sample ID: MB01281101

Sample wt/vol: 10 (g/ml) G Lab File ID: E598.D

Level: (low/med) LOW Date Received: 1/14/2011

% Moisture: 0 decanted: (Y/N) N Date Extracted: 1/28/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/3/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E600.D**	Misc Info	**813-8 EAST WALL**	Sample Weight	**10.03 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**82.6 %**
Date Acquired	**3-Feb-11**	Sample Multiplier	**0.121**		
Sample Name	**1102201**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene			not	detected	6	0.292	0.60	mg/kg	
91-57-6	2-methylnaphthalene			not	detected	230	0.314	0.60	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **813-8 EAST WALL**

Lab Name: FMETL Lab Code 13461

Project: Case No.: Location: 813 SDG No.: 11022

Matrix: (soil/water) SOIL Lab Sample ID: 1102201

Sample wt/vol: 10.03 (g/ml) G Lab File ID: E600.D

Level: (low/med) LOW Date Received: 1/14/2011

% Moisture: 17.4 decanted: (Y/N) N Date Extracted: 1/28/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/3/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E601.D**	Misc Info	**813 DUPLICATE**	Sample Weight	**10.15 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**81.8 %**
Date Acquired	**3-Feb-11**	Sample Multiplier	**0.120**		
Sample Name	**1102202**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene			not	detected	6	0.291	0.60	mg/kg	
91-57-6	2-methylnaphthalene			not	detected	230	0.313	0.60	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **813 DUPLICATE**

Lab Name: FMETL Lab Code 13461

Project: _____ Case No.: _____ Location: 813 SDG No.: 11022

Matrix: (soil/water) SOIL Lab Sample ID: 1102202

Sample wt/vol: 10.15 (g/ml) G Lab File ID: E601.D

Level: (low/med) LOW Date Received: 1/14/2011

% Moisture: 18.2 decanted: (Y/N) N Date Extracted: 1/28/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/3/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

Number TICs found: 0 (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature Jean Tarcy

Date: 1/26/11 3/4/11

Laboratory Certification # 13461

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

Laboratory Authentication Statement

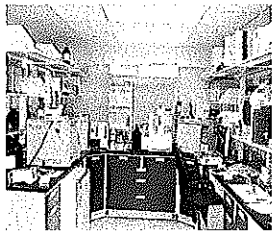
I certify under penalty of law, where applicable, that this laboratory meets the Laboratory Performance Standards and Quality Control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for Water and Wastewater Analyses and SW-846 for Solid Waste Analysis. I have personally examined the information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

Dean Tardiff 1/26/11
Laboratory Manager

3/4/11

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. 813

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
813-9/Bottom	1102801	Soil	21-Jan-11 14:30	01/21/11

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL TESTING LAB
TPHC, NAPHTHALENE,
2-METHYLNAPHTHALENE
%SOLIDS

Dean Tardiff/Date: 3/7/11
Laboratory Manager

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

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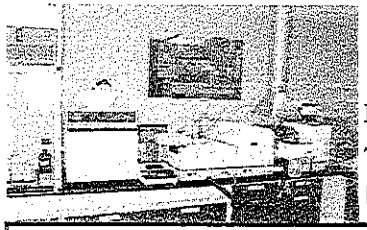
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: X26292
( )DERA ( )OMA (X)Other: BRAC
Project No:
Location (FORMER) BLDG. 813
Samplers Name / Company: FRANK ACCORSI

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	* TPH	Naphth.					PID (ppm)	DEPTH (FT)	Comments: Remarks / Preservation Method
11028.01	813-9, BOTTOM	1-21-11	1430	SOIL	1	X	X					0	6.5-7	ICE

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	1-21-11 1530	C Sullivan			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
		C Sullivan			

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

Comments: * IF TPH > 1,000, ANALYZE FOR NAPHTHALENE + 2-METHYL-NAPHTHALENE

print legibly

COC .xls12/8/2010

000002

SAMPLE RECEIPT FORM

Date Received: 1/21/10 Work Order ID#: 11028

Site/Proj. Name: SB3-9 1st Qtr 11 Cooler Temp (°C): 0°C

Received By: CSullivan Sign: CSullivan.
(Print name)

Check the appropriate box

1. Did the samples come in a cooler?	yes	no	n/a
2. Were samples rec'd in good condition?	yes	no	
3. Was the chain of custody filled out correctly and legibly?	yes	no	
4. Was the chain of custody signed in the appropriate place?	yes	no	
5. Did the labels agree with the chain of custody?	yes	no	
6. Were the correct containers/preservatives used?	yes	~~no~~ CS	
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 POINTS

U.S. ARMY-FT. MONMOUTH, NJ

SITE 813

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
813-9	537820.746	619218.211

METHOD SUMMARY

Method Summary

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

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

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

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

11028 TPHC

TPHC Conformance/Non-conformance Summary Report

		Indicate Yes, No, N/A
1.	Method Detection Limits provided.	Yes
2.	Method Blank Contamination – If yes, list the sample and the corresponding concentrations in each blank.	No
3.	Matrix Spike Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	Yes
4.	Duplicate Results Summary Meet Criteria (If not met, list the sample and corresponding recovery which falls outside the acceptable range).	RS 11/28/11 ~~Yes~~ N/A
5.	IR Spectra submitted for standards, blanks and samples.	N/A
6.	Chromatograms submitted for standards, blanks and samples if GC fingerprinting was conducted.	N/A
7.	Analysis holding time met. (If not met, list number of days exceeded for each sample).	~~N/A~~ Yes RS 11/28/11

Additional comments: _____

Laboratory Manager

Date 2/1/11

1/28/11

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 11028 **Site:** Bldg. 813

	Date	Hold Time
Date Sampled	01/21/11	NA
Receipt/Refrigeration	01/21/11	NA

Analyses

1. TPHC	01/25/11	14 Days
2. Semi-Volatiles	02/03/11	14 Days

TPHC

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

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

Project #:
Location: BLDG. 813
ECP:
Work Order:

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

Date Received: 21-Jan-11
Date Extracted: 25-Jan-10
Extraction Method: Shake
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Data		Qualifiers
MB01251101	MB01251101	1.00	15.00	100.00	23	333	not detected			
LCS01251101	LCS01251101	1.00	15.00	100.00	23	333	1153.68			
1102801	813-9 BOTTOM	1.00	15.10	78.7	29	421	not detected			

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

000043

SEMI-VOLATILE ORGANICS

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E604.D**	Misc Info	**METHOD 8270 2/3/11**	Sample Weight	**10.00 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**100.0 %**
Date Acquired	**3-Feb-11**	Sample Multiplier	**0.100**		
Sample Name	**MB02021101**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene			not	detected	6	0.242	0.50	mg/kg	
91-57-6	2-methylnaphthalene			not	detected	230	0.260	0.50	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **MB02021101**

Lab Name: FMETL Lab Code 13461

Project: Case No.: Location: 813 SDG No.: 11028

Matrix: (soil/water) SOIL Lab Sample ID: MB02021101

Sample wt/vol: 10 (g/ml) G Lab File ID: E604.D

Level: (low/med) LOW Date Received: 1/21/2011

% Moisture: 0 decanted: (Y/N) N Date Extracted: 2/2/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/3/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

Semi-Volatile Analysis Report

U.S. Army, Fort Monmouth Environmental Laboratory

NJDEP Certification #13461

Data File Name	**E606.D**	Misc Info	**813-9 BOTTOM**	Sample Weight	**10.20 g**
Operator	**ROBERTS**	Dilution factor	**1**	Percent Solids	**78.7 %**
Date Acquired	**3-Feb-11**	Sample Multiplier	**0.125**		
Sample Name	**1102801**	*Sample multiplier = (0.001*Dilution factor)/([sample weight(kg)]*[percent solids/100])*			
		Multiplied by 0.001 to convert ug/kg to mg/kg.			

CAS#	Name	R.T.	Response	Result		Regulatory Level (mg/kg)*	MDL	RL		Qualifiers
91-20-3	Naphthalene			not	detected	6	0.301	0.62	mg/kg	
91-57-6	2-methylnaphthalene			not	detected	230	0.324	0.62	mg/kg	

* Higher of PQL's and Interim Criteria as per NJAC 7:9-6.9(c).

Qualifiers

E= Value Exceeds Linear Range

D= Value from dilution

B= Compound in Related Blank

MDL= Method Detection Limit

NLE= No Limit Established

R.T.=Retention Time

RL= Reporting Limit. The values between the MDL and RL are considered estimated.

J= Estimated concentration, value lies between RL and MDL

1F

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

Field Id: **813-9 BOTTOM**

Lab Name: FMETL Lab Code 13461

Project: Case No.: Location: 813 SDG No.: 11028

Matrix: (soil/water) SOIL Lab Sample ID: 1102801

Sample wt/vol: 10.2 (g/ml) G Lab File ID: E606.D

Level: (low/med) LOW Date Received: 1/21/2011

% Moisture: 21.3 decanted: (Y/N) N Date Extracted: 2/2/2011

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 2/3/2011

Injection Volume: 1.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

Laboratory Manager or Environmental Consultant's Signature _____

Date: 2/11/11 /3/4/11

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Dean Tardiff
Laboratory Manager 3/4/11

ATTACHMENT S

Building 814 Underground Storage Tank

File Review and Analyses

Contents:

- Underground Storage Tank File Review
- Enclosure 1 - Report: *Underground Storage Tank Closure and Site Investigation Report, Building 814 UST*
- Enclosure 2 – Field Notes and Boring Logs
- Enclosure 3 – Soil Analyses

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

Date: *May 15, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 814*** Registration ID: *None*

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

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***High***

Based on the file review, were there indications of a contaminant release? [X] Yes [ ] 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: 1500 gals. Contents: No. 2 Fuel Oil

[ ] Residential [X] Commercial/Industrial

Tank Removed? [X] Yes [ ] No If "yes," removal date: 5/16/1990

Were closure soil samples taken? [X] Yes *(in 1998)* [ ] No Analyses: TPH; see below

Comparison criteria: 5,100 mg/kg TPH

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

Brief Narrative

This tank site is not identified on the "UST Removal Reference Maps" for Fort Monmouth, and hard copy files have not been located. However, scanned electronic documents were found in the UST database source files under file name "814."

The tank removal and initial assessment activities were presented in a May 1994 report prepared by Roy F. Weston, Inc. (see Enclosure 1) The tank was removed from the Building 814 Dental Clinic in 1990, and there were visual indications of a fuel oil release, including corrosion holes in the metal tank, fuel odor in soil, and sheen on groundwater in the excavation. Approximately 35 cubic yards of contaminated soil was removed from the excavation. No soil samples were collected from the tank excavation; however, a monitoring well was installed in 2010, and groundwater samples were analyzed by the Fort Monmouth Environmental Laboratory for volatile organic compounds (VOCs) and semivolatile organic compounds (SVOCs). The only analytes consistently detected over three rounds of monitoring was the VOC methylene chloride, and SVOC butylbenzylphthalate, both of which are often attributed to common field or laboratory contaminants. However, one round of analyses from October 1992 also encountered benzene (at 25 ug/L, which exceeded the associated groundwater protective standard), toluene, ethylbenzene, and xylenes (BTEX), as well as total lead. The BTEX and total lead results are suspect because they were not verified in other monitoring results prior to or following the October 1992 event, and because samples from the FTMM-53 Building 699 gasoline station were also included in the same analytical batch. Further, the October 1992 event was the only monitoring event for Bldg. 814 in which total lead was analyzed; total lead is a common analyte for monitoring at gasoline stations, but is not a recognized constituent of fuel oil. Therefore, it is suspected that the October 1992 groundwater sample was not representative of Bldg. 814 groundwater conditions.

There are also scanned electronic documents available in the UST database source files under the file designation of "819," including soil boring logs from February 1998 that are identified as located at the "819 Dental Clinic." However, there are no Real Property records for a Building

819, and Bldg. 814 was the only dental clinic on Fort Monmouth at the time. Therefore, the February 1998 field work is interpreted to be associated with the Bldg. 814 UST site instead (see field notes in Enclosure 2). Soil samples from three borings were analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). The soil sample results from these borings are presented in Enclosure 3, and ranged from non-detected (ND) to 191 mg/kg for TPH, which is less than the current remediation criterion of 5,100 mg/kg for TPH.

The combined evidence suggests there is no evidence of fuel oil contamination at the Bldg 814 UST site, and that "Case closed" status is warranted. However there is some uncertainty associated both with the anomalous October 1992 groundwater monitoring results at Bldg. 814, as well as the 819 versus 814 designations in later soil sampling. The groundwater monitoring well at Bldg. 814 is no longer present.

Although the ECP UHOT Addendum indicates a high probability of a tank being present, this seems unlikely since a steel tank was already removed.

Recommendations (if any): Request NFA from NJDEP

Signed: _____

Kent A. Friesen, Parsons

ENCLOSURE 1 of Attachment S

Report: *Underground Storage Tank Closure and Site Investigation Report, Building 814 UST*

UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT BUILDING 814 UST

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

WESTON
MANAGERS DESIGNERS/CONSULTANTS

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EXECUTIVE SUMMARY

On 16 May 1990, one underground storage tank (UST) was closed at U.S. Army Fort Monmouth, in Fort Monmouth, New Jersey. The UST was located adjacent to Building 814 in the Main Post area of Fort Monmouth. The UST was a single walled steel, 1,500 gallon capacity, No. 2 fuel oil tank. Due to the tanks size and contents the Builidng 814 UST was not registered with the New Jersey Department of Environmental Protection and Energy nor was it assigned an identification number by the facility. Fabiano and Son, Inc. performed the tank closure.

Soils surrounding the Building 814 UST were screened visually and with air monitoring instruments for evidence of contamination. The tank was inspected for cracks, corrosion and puncture holes as indicators of historical leakage from the tank. Several corrosion holes of approximately 1/16-inch diameter were noted. Additionally, a sheen was noted on the groundwater within the excavation, indicating that a discharge may have occurred from the UST. Ground Water was present in the excavation at approximately four feet below surface (BGS). Due to the groundwater in the excavation area, the site was backfilled with stone.

On 4 October 1991, a groundwater monitoring well was placed downgradient and within 10 feet of the Building 814 UST excavation site.

On 10 December 1991, one groundwater sample was collected from the downgradient monitoring well and analyzed by Environmental Profile Laboratories for base neutral compounds plus 15 tentatively identified compounds (BN+15) and volatile organic compounds plus 15 tentatively identified compounds (VO+15). Methylene Chloride was detected in concentrations exceeding the NJDEPE Class II-A Ground Water Quality Criteria. Methylene chloride was detected in the laboratory's quality assurance method blank. The presence of methylene chloride in the method blank indicates that methylene chloride in samples was the results of laboratory induced contamination. All other parameters were either non-detectable or present at concentrations below NJDEPE Class II-A Ground Water Quality Criteria.

On October 26, 1992, one groundwater sample was collected and analyzed by Environmental Profile Laboratories for BN+15, VO+15 and lead. As in the 10 December 1991 sample, methylene chloride was found at a level above the NJDEPE Class II-A Ground Water Quality Criteria. Benzene was also detected (25 ug/L) at a level above the Ground Water Quality Criteria. The method blank analyzed along with this sample indicated the presence of methylene chloride. The presence of methylene chloride in the method blank indicates that the methylene chloride present in the samples are attributable to laboratory induced contamination rather than operation of the ust at this site. All other parameters were either non-detectable or present at concentrations below NJDEPE Class II-A Ground Water Quality Criteria.

On 28 April 1993, one groundwater sample was collected and analyzed by 21st Century Laboratories for BN+15 and VO+15. Methylene chloride was detected in concentrations which exceed NJDEPE Class II-A Ground Water Quality Criteria. As in the previous sampling episodes methylene chloride's presence in the method blank and sample analyzed, is attributable to laboratory induced contamination. All other samples contained either non-detectable concentrations or concentrations below NJDEPE Class II-A Ground Water Quality Criteria.

Based on the above results and conditions it is recommended that one round of soil sampling be performed around the former tank location.

In addition, it is recommended that the monitoring well be analyzed quarterly for a period of one year. After completion of the quarterly sampling and review of analyses, an addendum to this report will be submitted to NJDEPE outlining sampling results and recommending further action if necessary.

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SECTION 1.0

UNDERGROUND STORAGE TANK DECOMMISSIONING ACTIVITIES

1.1 OVERVIEW

One underground storage tank (UST), was closed at Building 814 at U.S. Army Fort Monmouth, New Jersey on 16 May 1990. The Building 814 UST was a single walled steel, 1,500 gallon capacity No. 2 fuel oil tank.

All activities associated with the decommissioning of the Building 814 UST 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., NJAC 5:23-1 et seq., and Occupational Safety and Health Administration (OSHA) 29 CFR 1910.146 & 29 CFR 1910.120. Fabiano and Sons Inc., the contractors that conducted the decommissioning activities, are currently registered and certified by the NJDEPE for performing UST closure activities. The Site Assessment Summary Form (SAS) for the Building 814 UST has been included in Appendix A. The SAS has been signed and sealed by Mr. James Ott, Director of DPW.

This UST Closure and Site Investigation Report was prepared by Roy F. Weston Inc. (WESTON®), to assist the United State 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 "Interim Closure Requirements for Underground Storage Tank Systems" (NJAC 7:14B-1 et seq. September 1989).

To the extent possible this report has been prepared to comply with NJDEPE's Technical Requirements (N.J.A.C. 7:26E-1 et seq., dated May 1992). As the requirements at the time of closure differ from the current regulations some sections may be missing information requested by NJDEPE. Section 1 of this UST Closure and Site Investigation Report provides a summary of the tank decommissioning activities. Section 2 of this report describes the site investigation activities. Conclusions and recommendations, including the results of the groundwater sampling investigation, are presented in Section 3 of this report.

1.2 SITE DESCRIPTION

Building 814 is located in the Main Post area of U.S. Army Fort Monmouth. A site location map is provided in Figure 1-1. Building 814 is an active dental clinic. The UST was located immediately adjacent to Building 814. One groundwater monitoring well was installed as part of the closure of Building 814 UST and approximately 35 cubic yards of contaminated soil was excavated from the site. A site plan is provided in Figure 1-2.

1.3 GEOLOGICAL/HYDROGEOLOGICAL SETTING

The following is a description of the geological/hydrogeological setting of the area surrounding Building 814. 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.

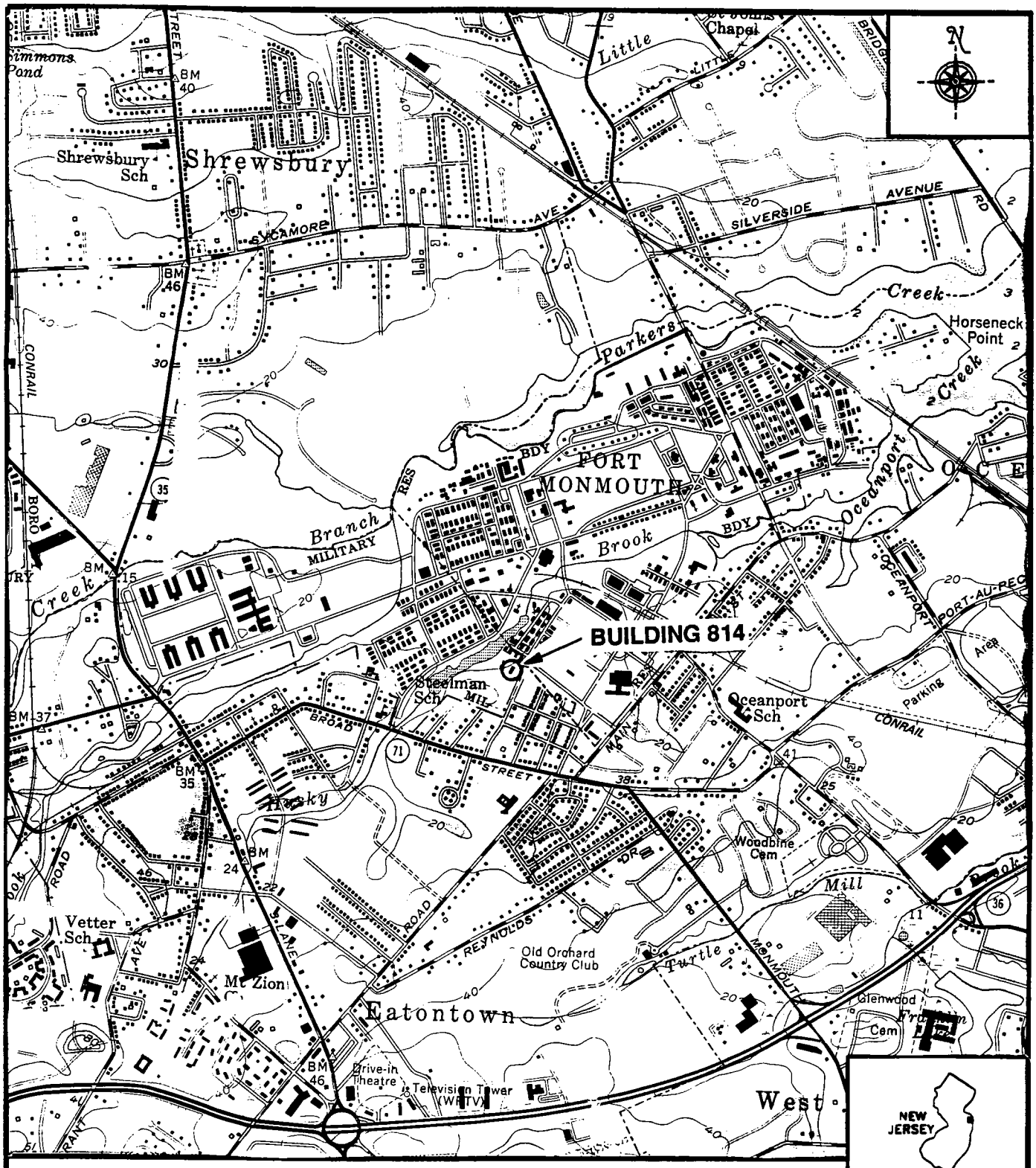
1.3.1. Geological Setting

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 (Zapecza, 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).



REFERENCE: U.S.G.S. QUADRANGLE LONG BRANCH, NJ: PHOTOREVISED 1981
CONTOUR INTERVAL 20 FEET SCALE 1 INCH = 2000 FEET

UST LATITUDE: N 40 Deg. 19 Min. 12 Sec.
UST LONGITUDE: W 74 Deg. 1 Min. 39 Sec.

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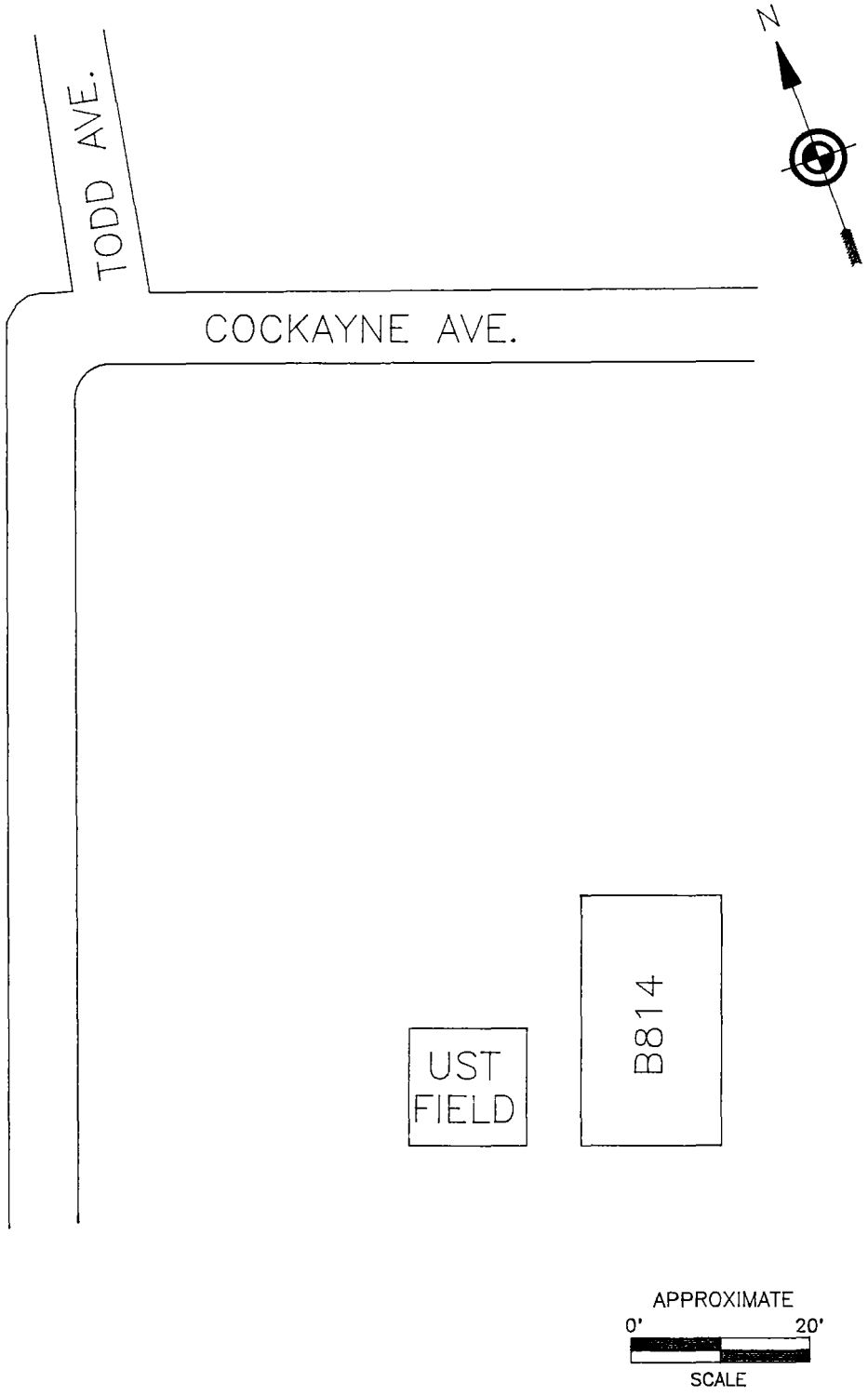
FIGURE 1-1
FACILITY LOCATION MAP
U.S. ARMY - DIRECTORATE OF PUBLIC WORKS
FORT MONMOUTH, NEW JERSEY

COB-93PC.DRW



REVISION #: 1 DATE: 5/27/94 PLOT NAME: B814
FILE NAME: B814.DWG DRAWN BY: B. MAC

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME:
UNDERGROUND STORAGE TANK CLOSURE
AND SITE INVESTIGATION REPORT
BUILDING 814 UST
FORT MONMOUTH, NEW JERSEY

CLIENT NAME: U.S. ARMY – FORT MONMOUTH
DIRECTORATE OF PUBLIC WORKS

SITE PLAN

DATE: 5/25/94

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 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, Provincetown 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, around water 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.

On 4 October 1991, a groundwater monitoring well was placed downgradient and within 10 feet of the Building 814 UST excavation. The monitoring well permit and monitoring well record for this site is provided in Appendix B. Due to insufficient information, a subsurface profile is not provided.

Based on the groundwater depths and groundwater surface elevation in the area of Building 1076, the groundwater flow direction in the area of Building 814 was determined to be north-northeast. The monitoring well information for Building 1076 is provided in Table 1-1.

The closest surface water body to the site is Ocean Port Creek, located approximately one mile to the east. The Atlantic Ocean is located approximately five miles east of the site.

1.3.3 Offsite Groundwater 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. 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 is provide, which includes the following information: well number, NJDEPE permit number; New Jersey State Plane Coordinates; casing elevation and, elevation of ground surface. Well records for the nearest identified offsite well have also been included, if available. This information is included in Appendix C.

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. A domestic well (Permit Number 29-23690), owned by Mr. Dennis Berweiler is the closest to the site. The well is located at 36 Eaton Road, approximately 3,200 feet south.

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 a photoionization detector (PID). The trained individual ascertained if the area was properly

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TABLE 1-1

WATER LEVEL ELEVATION FOR MONITORING WELLS MW-1, MW-2 AND MW-3 COLLECTED ON 10 JANUARY 1994 AT BUILDING 1076

Monitoring Well Permit Number	Time of Collection	Ground Surface Elevation (feet)	Depth to Water (feet)	Groundwater Surface Elevation (feet)
29-26940 (MW-1)	1:28 pm	19.44	4.30	15.14
29-26941 (MW-2)	1:25 pm	18.03	4.81	13.22
29-26942 (MW-3)	1:20 pm	19.36	3.98	15.38

vented to render the area safe, as defined by OSHA.

1.5 REMOVAL OF UNDERGROUND STORAGE TANK

1.5.1 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 PID for evidence of contamination. Approximately 35 cubic yards of potentially contaminated soil was identified and removed during closure activities.
- Surface materials (i.e, asphalt, concrete, etc...) were excavated and staged separately from 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 Excavation

Soil was excavated to expose the tank and the 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 the proper cleaning. The UST was completely emptied of all liquids prior to removal from the ground.

After the UST was removed from the excavation, it was staged on polyethylene sheeting and examined for cracks, punctures and corrosion holes. The presence or absence of cracks, puncture and corrosion holes were documented by the Sub-Surface Evaluator. Several corrosion holes of approximately 1/16-inch diameter were noted. Additionally, a sheen and small amounts of product were noted on the groundwater surface in the excavation surrounding Building 814 UST, indicating that a discharge may have historically occurred from the UST. Ground Water was present in the excavation at approximately four feet BGS. Soils surrounding the UST were screened visually and with a PID for evidence of contamination. Approximately 35 cubic yards of potentially contaminated soil was removed from the area surrounding the Building 814 UST.

1.6 UNDERGROUND STORAGE TANK TRANSPORTATION AND DISPOSAL

The tanks were transported by Fabiano and Sons to Redbank Recycling, Inc., for recycling in compliance with all applicable regulations and laws.

The Subsurface Evaluator labelled the UST 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.

1.7 MANAGEMENT OF EXCAVATED SOILS

Approximately 35 cubic yards of potentially contaminated soil was removed from the area surrounding Building 814 UST and placed on and covered with polyethylene sheets. The soil was transported to the T-80 yard in Fort Monmouth for waste characterization and disposal. All soil determined to be free of contamination was used as clean fill.

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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 Environmental Profile Laboratories and 21st Century Laboratories 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 (May 1988). Sampling frequency and parameters analyzed complied with the NJDEPE-BUST document "Interim Closure Requirements for Underground Storage Tank Systems " (September 1989) 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: Fabiano and Sons, Inc.
  Contact Person: Anthony Fabiano
  Phone Number: (908) 571-1004
  NJDEPE Company Certification No.: PLEO1349

- Subsurface Evaluator: Dinker Desai
  Employer: U.S. Army, Fort Monmouth
  Phone Number: (908) 532-1475
  NJDEPE Certification No.: 2266

- Analytical Laboratory: Environmental Profile Laboratories
  Contact Person: Daniel Wright
  Phone Number: (908) 244-6278
  NJDEPE Laboratory Certification No.: 15526

- Analytical Laboratory: 21st Century Laboratories
  Contact Person: Richard 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 removal of the UST were screened using a PID, for evidence of contamination. Soils were also visually screened for evidence of contamination (staining, free product, etc..). Evidence of contamination was noted during excavation of soils surrounding the UST.

2.3 GROUND WATER SAMPLING

On 10 December 1991, 26 October 1992, and 28 April 1993, three groundwater samples were collected in accordance with NJDEPE procedure. The first round (10 December 1991) was analyzed by Environmental Profile Laboratories, Inc., located in Toms River, New Jersey for BN+15 and VO+15. The second round (26 October 1992) was analyzed by Environmental Profile Laboratories, Inc., for BN+15, VO+15 and lead. The third round was analyzed by 21st Century Laboratories, located in Bridgeport, New Jersey for BN+15 and VO+15 only. A summary of sampling activities including parameters analyzed is provided in Table 2-1. Figure 2-1 depicts the location of the monitoring well. The samples were collected using decontaminated teflon bailers. Following groundwater sampling activities, the samples were chilled and delivered to the Applicable Analytical Laboratory.

The frequency of sampling and parameters analyzed were consistent with the applicable NJDEPE regulations at the date of closure, which were the "Interim Closure Requirements for Underground Storage Tank Systems" (N.J.A.C. 7:14B-1 et seq., dated September 1989).

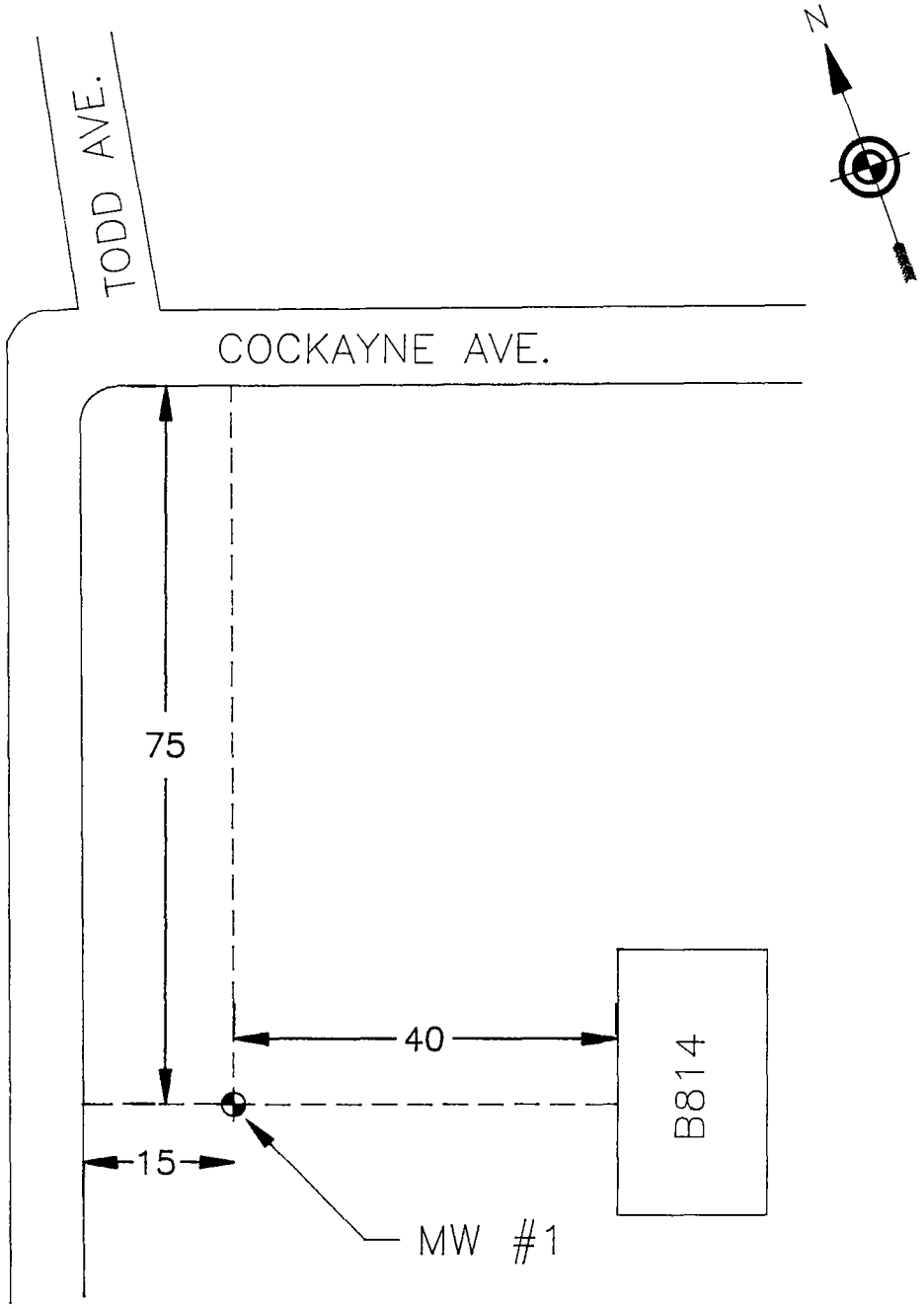
TABLE 2-1

SUMMARY OF GROUND WATER SAMPLING ACTIVITIES (MONITORING WELL)
BUILDING NO. 814 UST
FORT MONMOUTH, NEW JERSEY

Sample ID No.	Date of Collection	Matrix	Sample Type	Analytical Parameters	Sample Method
Bldg 814	12/10/91	Aqueous	Post-Excavation	BN+15, VO+15	Decontaminated Teflon Bailer
MW-814-1	10/26/92	Aqueous	Post-Excavation	BN+15, VO+15, LEAD	Decontaminated Teflon Bailer
MW-1-2926939	4/28/93	Aqueous	Post-Excavation	BN+15, VO+15	Decontaminated Teflon Bailer
MW-1-2926939 (Duplicate)	4/28/93	Aqueous	Post-Excavation	BN+15, VO+15	Decontaminated Teflon Bailer

Abbreviations:

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



APPROXIMATE
0' 20'
SCALE

LEGEND:

⊕ – MONITORING WELL LOCATION

REVISION #: 1 DATE: 5/27/94 PLOT NAME: B814
FILE NAME: B814.DWG DRAWN BY: B. MAC

WESTON MANAGERS DESIGNERS/CONSULTANTS

PROJECT NAME: UNDERGROUND STORAGE TANK CLOSURE AND SITE INVESTIGATION REPORT BUILDING 814 UST
FORT MONMOUTH, NEW JERSEY
CLIENT NAME: U.S. ARMY – FORT MONMOUTH DIRECTORATE OF PUBLIC WORKS

MONITORING WELL LOCATION MAP

DATE: 5/25/94
FIGURE #: 2-1

WESTON MANAGERS DESIGNERS CONSULTANTS

SECTION 3.0

CONCLUSIONS AND RECOMMENDATIONS

3.1 GROUND WATER SAMPLING RESULTS

To evaluate groundwater conditions following removal of the UST and associated soils, analytical results from the groundwater samples were compared to proposed NJDEPE Class II-A Ground Water Quality Criteria (N.J.A.C. 7:9-6.4, 6.8 and Table 1).

Methylene chloride was detected in each of the three analyses at concentrations that exceeded the NJDEPE Class II-A Ground Water Quality Criteria of 2 ug/l. All of the results were marked with a "B" qualifier, indicating that this compound was detected in the blank sample. The presence of methylene chloride in the method blank indicates potential, laboratory induced contamination of samples, which is not related to the operation of the UST system.

In addition to methylene chloride, benzene and lead were detected in sample No. MW 814-1 collected 26 October 1992 in concentrations which exceed NJDEPE Class II-A Ground Water Quality Criteria. All other samples contained either non-detectable concentrations or concentrations below NJDEPE Class II-A Ground Water Quality Criteria.

A summary of the analytical results and comparison to proposed NJDEPE Class II-A Ground Water Quality Criteria is provided in Table 3-1. 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 D. The full data package, including associated quality control and chromatograph data is on file at U.S. Army Fort Monmouth, DPW.

3.2 CONCLUSIONS AND RECOMMENDATIONS

On 16 May 1990, DPW closed the Building 814 UST in the Main Post area of U.S. Army Fort Monmouth. Considering the observation that a historical discharge had occurred from Building 814 UST, it is proposed that additional sampling be performed.

Soil samples shall be taken outside of the excavation from an interval of 0 to 6 inches above the groundwater table. Soils will be analyzed for total petroleum hydrocarbons (TPHC). Volatile organics plus a forward library search (VO+10) will be performed if TPHC results exceed 1,000 mg/kg. Analytical results will be compared with NJDEPE impact to ground water soil cleanup criteria.

Due to the concentrations of benzene (25 ug/L) detected in the monitoring well on 26 October 1992 which exceed NJDEPE Class II-A Ground Water Quality Criteria, it is proposed that the monitoring well be analyzed quarterly for a period of one year. Each sample will be analyzed for VO+15 and lead. The analytical results will be compared to NJDEPE Class II-A Ground

Water Quality Criteria. After completion of the quarterly sampling and review of the analytical daata an addendum to this report will be prepared and submitted to NJDEPE outlinging sampling results and recommending further action if necessary.

TABLE 3-1

SUMMARY OF ANALYTICAL RESULTS (MONITORING WELL)
BUILDING NO. 814
FORT MONMOUTH, NEW JERSEY

Sample ID No.		Bldg 814	MW 814-1	Field Blank	MW-1-2926939	MW-1-2926939 (Dup)	Field Blank	NJDEPE Class II-A Ground Water Cleanup Criteria/ Practical Quantitation Limits
Lab ID No.		6944.1	9173.11	9173.26	A1739	A1739	A1741	
Matrix		Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	Aqueous	
Sample Type		MW	MW	MW	MW	MW	MW	
Date of Collection		12/10/91	10/26/92	10/26/92	4/28/93	4/28/93	4/28/93	
Analytical Parameters	Units							
Base Neutral Compounds								
Butylbenzylphthalate	ug/L	ND	ND	ND	14	15	ND	100
Volatile Organic Compounds								
Methylene Chloride	ug/L	6B	3JB	5JB	2.1JB	2.3JB	5.7B	2
Benzene	ug/L	ND	25	ND	ND	ND	ND	1
Toluene	ug/L	ND	9	ND	ND	ND	ND	1,000
Ethylbenzene	ug/L	ND	12	ND	ND	ND	ND	700
Total Xylenes	ug/L	ND	19 J	ND	ND	ND	ND	40
Inorganic								
Lead	ug/L	NA	9	NR	NA	NA	NA	10

Abbreviations:

TPHC - Total Petroleum Hydrocarbons.
PE: - Post Excavation.
NC: - No groundwater cleanup criterion has been proposed for this analyte by NJDEPE.
NA: - Not analyzed.
ug/L: - Micrograms per Liter.
ND: - Not detected.
NR: - Analysis not requested.
QA: - Quality assurance sample.

Data Qualifiers:

B: - Indicates also present in blank.
J: - Indicates an estimated value.

TABLE 3-2

ANALYTICAL METHODS/QUALITY ASSURANCE SUMMARY TABLE (MONITORING WELL)
BUILDING NO. 814 UST
FORT MONMOUTH, NEW JERSEY

Analytical Parameter	No. of Samples Collected	Matrix	Date Collected	Date Analysis Completed	Preservation Method	USEPA SW-846 Analytical Method
VOCs	1	Aqueous	12/10/91	12/13/91	Cool to 4°C	USEPA-CLP-IFB
BNAs	1	Aqueous	12/10/91	12/13/91	Cool to 4°C	8270
VOCs	1	Aqueous	10/26/92	10/28/92	Cool to 4°C	USEPA-CLP-IFB
BNAs	1	Aqueous	10/26/92	10/28/92	Cool to 4°C	8270
LEAD	1	Aqueous	10/26/92	10/28/92	Cool to 4°C	6010
VOCs	1	Aqueous	12/10/91	12/13/91	Cool to 4°C	USEPA-CLP-IFB
BNAs	1	Aqueous	12/10/91	12/13/91	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.
VOCs: - Volatile Organic Compounds.
BNAs: - Base Neutral Acid Extractable Compounds.
C: - Celsius.

APPENDIX A

NJDEPE UST SITE ASSESSMENT SUMMARY FORM

UST-014
291

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. Delaney
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 6-8-94

N/A
FACILITY REGISTRATION #

I. FACILITY NAME AND ADDRESS

U.S. Army Fort Monmouth
DEH Building #167
Fort Monmouth, NJ 07703 County Monmouth
Telephone No. (908) 532-1475

OWNER'S NAME AND ADDRESS, if different from above

Same

Telephone No.

II. DISCHARGE REPORTING REQUIREMENTS

A. Was contamination found? X Yes ___ No If Yes, Case No. N/A
(Note: All discharges must be reported to the Environmental Action Hotline (609) 292-7172)

B. The substance(s) discharged was(were) #2 Heating Oil

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

2. Were soil borings taken at the tank system closure site as prescribed? ___ Yes X 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 1

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? X 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. 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 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 X Yes ___ No
2. Free product contaminated soils are suspected to exist below the water table ___ Yes X No
3. Free product contaminated soils are suspected to exist off the property boundaries. ___ Yes X No

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

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

VI. GROUND WATER CONTAMINATION

A. Was ground water contamination found? X 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. 65 ppb total BTEX. 42 ppb total non-targeted VOC
2. 15 ppb total B/N. 30 ppb total non-targeted B/N
3. 0 ppb total MTBE. 0 ppb total TBA
4. 9 ppb Lead (for non-petroleum substance)
5. greatest thickness of separate phase product found N/A
6. separate phase product has been delineated ___ Yes ___ No X 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. X Yes ___ No ___ N/A

2. The number of these wells identified is 10.

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 323 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 8200 feet from the source and its screening begins at a depth of 317 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 180 feet below grade. This well is located 6200 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 6200 feet from the source. This well is 180 feet deep and screening begins at a depth of 175 feet.

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

F. A ground water contour map has been submitted which includes the ground water elevations for each well. X 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 X 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-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) Dinker Desai SIGNATURE [signature]

COMPANY NAME U.S. Army Fort Monmouth DATE 6/8/94
(Preparer of Site Assessment Plan)

CERTIFYING ORGANIZATION NJDEPE CERTIFICATION NUMBER 2266

UST-014
2/91

VIII. TANK DECOMMISSIONING CERTIFICATION (person performing tank decommissioning; person 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) Dinker Desai SIGNATURE

COMPANY NAME U.S. Army Fort Monmouth DATE 6/8/94
(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)1i).

"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

COMPANY NAME U.S. Army Fort Monmouth DATE 6/9/94

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

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 _____

WESTON
MANAGERS DESIGNERS CONSULTANTS

ATTACHMENT I

NO/NA RESPONSE EXPLANATION

SAS QUESTION #	RESPONSE	EXPLANATION
I	N/A	This UST was not registered with NJDEPE.
IIA.	N/A	No discharge was reported to the NJDEPE hotline by the DPW.
III.	N/A	The Closure Approval No. was not available at the time of this closure report.
IV.C.1	No	No soil samples were collected from the excavation as part of the closure of the Building 814 UST.
V.B.1-4	N/A	Same as above.
V.C.2,3	No	Approximately 35 cubic yards of contaminated soil was from the excavation surrounding the Building 814 UST. Free product contaminated soils are not suspected to exist below the water table or off the property boundary.
V.D	N/A	Information concerning the vertical and horizontal extent of contamination was not available at the time of this closure report.
VI.B.5,6	N/A	Information concerning the thickness or delineation of separate phase product was not available at the time of this closure report.
VI.G.1-3	N/A	Additional groundwater samples shall be collected in order to confirm if groundwater contamination exists in the area surrounding the Building 814 UST.

APPENDIX B

MONITORING WELL INFORMATION

WR-133M (4/90) SERIAL # 22272

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

Permit No. mw-1 2926939

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

MONITORING WELL PERMIT 38

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

COORD #: 29.14.441

Owner U.S. Army Fort Monmouth
Address Bldg. 167 DPW Environmental
Fort Monmouth, N.J. 07703-5000

Driller Tabasco Drilling Corp
Address P.O. Box 747
Hainesport, N.J. 08036

Name of Facility Main Post Bldg. 814
Address

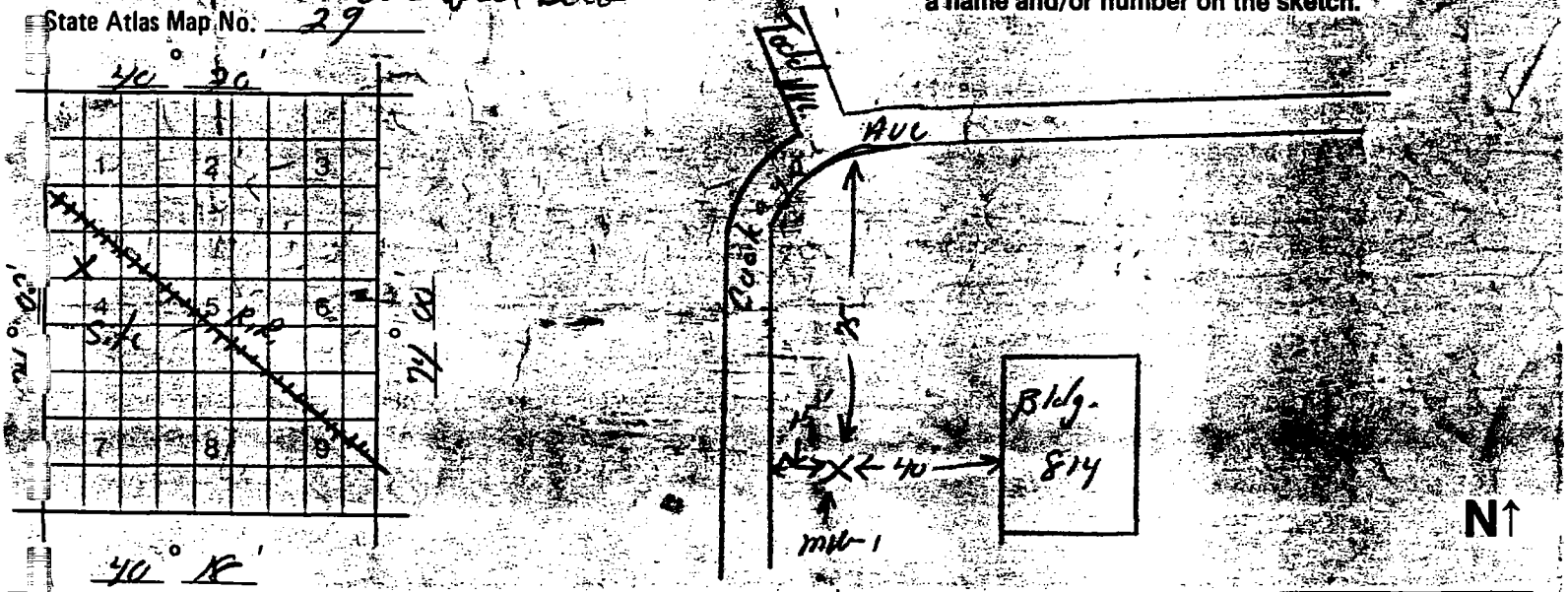
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be installed? YES ☐ NO ☒	
Type of Well (see reverse)	Monitoring	If Yes, give pump capacity	N/A GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
N/A	N/A	Fort Monmouth Oceanport Boro	Monmouth

State Atlas Map No. 29

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 — Case I.D. Number
- ☐ 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) U.S. Army Site Investigation

This Space for Approval Stamp

WELL PERMIT APPROVED
Dept. of Environmental Protection
Water Resources/Water Allocation
SEP 25 1991

FOR D.E.P. USE

☐ Issuance of this permit is subject to the conditions attached. (see next page)
☒ For monitoring purposes only
☒ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

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 9/24/91 Signature of Driller [signature] License 7938

Signature of Owner [signature]

COPIES: Water Allocation — White and Pink; Health Dept. — Yellow; Owner — Blue; Driller — White

DWR-138 M
6/89

New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 - 26939
Atlas Sheet Coordinates 29 : 14 : 441

OWNER IDENTIFICATION - Owner U.S. ARMY FORT MONMOUTH
Address BLDG 167 D & H ENVIRONMENTAL
City FORT MONMOUTH State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-1
County Municipality OCEANPORT BORO Lot No. N/A Block No. N/A
Address

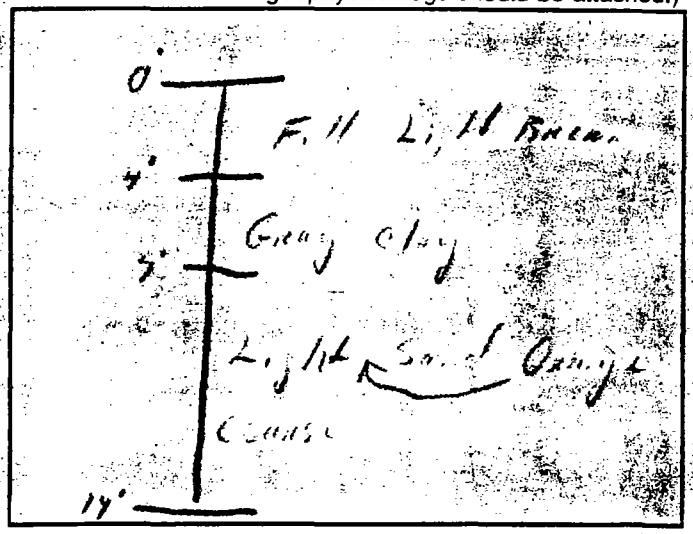
TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 10/4/91
Regulatory Program Requiring Well UST Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION

Total depth drilled 14 ft.
Well finished to 14 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
Static water level after drilling 4 ft.
Water level was measured using Tape
Well was developed for 1 hours at 2 gpm
Method of development Cent. Pump
Was permanent pumping equipment installed? ☐ Yes ☑ No
Pump capacity gpm
Pump type:
Drilling Method Auger
Drilling Fluid N/A Type of Rig B-61
Name of Driller Charles Litzelfelner
Health and Safety Plan submitted? ☐ Yes ☒ No
Level of Protection used on site (circle one) None D C B A
N.J. License No. 21066
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	4	4	Flush Sch 40 PVC
Outer Casing (Not Protective Casing)				
Screen (Note slot size)	4	14	4	.10 PVC
Tail Piece				
Gravel Pack	2	14		#1 Silica
Annular Seal/Grout	1	2		Bentonite
Method of Grouting	Placement			

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 Charles Litzelfelner Date 10/7/91

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

APPENDIX C

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 Eatowntown	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. Khristiansen	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, Eatowtown	20	10	11.7	M	29-29158
42	Boro of Eatontown	Block 14, Lot 17, Eatowtown	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

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.
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

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.
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	***	***

US Army Fort Monmouth Well Coordinates Main Post Area

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

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

WELL ID NO. 35

Well Permit No. 29 - 23690
Atlas Sheet Coordinates 29 : 13 : 689

OWNER IDENTIFICATION - Owner ~~REINWEILER, DENNIS~~
Address ~~36 EATON ROAD~~
City ~~EATONTOWN~~ State ~~N.J~~ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address Orchard Street Eatontown, NJ
County Monmouth Municipality ~~EATONTOWN (TWP.)~~ Lot No. ~~36~~ Block No. ~~73~~

WELL USE Withdrawal Status In Use

WATER USE Domestic Average 2000 gals. daily Maximum 4000 gals. daily

WELL CONSTRUCTION
BOREHOLE DIMENSIONS
Date well completed 90 / 04 / 05
Depths: Total 67 ft. Finished Same ft.
Diameter: Top 8.5" in. Bottom Same in.
Land Surface Elevation at well 30 ft. Elevation was determined using Topographic Map
Casing Height (stick-up) above land surface 1.5' ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		52	4.0"	Schedule 40 PVC
Casing 2				
Casing 3				
Screen 1	51	10	4	Schedule 40 PVC/.020
Screen 2				
Tail Piece		5'	4"	
Gravel Pack	41	25'	8.5"	.025 Blended
Grout	Surface	41		200 mesh Bentonite
Grouting Method	Pressure, Thru Tremie Pipe			

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 90 / 04 / 05
Static water-level before pumping 16 ft. below land surface. Water level 45 ft. below land surface after 1 hrs. of pumping.
Water level was measured using Estimated Drawdown 29 ft.
Discharge rate measured using Measured Container Discharge Rate 30 gals. per min.
Well was pumped using Air Lift Specific Capacity 1.0 gals. per min. per ft. of drawdown
Observed effects on nearby wells None
Water Quality (taste, odor, color, etc.) Good

PERMANENT PUMPING EQUIPMENT Installed by PICKWICK WELL DRLG Pump Type Submersible
Mfrs. Name Gould Model 18E07422
CAPACITY: Pump delivers 20 GPM at 40 PSI pressure.
POWER: 3/4 HP at 3450 RPM Power Source Electric
DEPTHS: Pump 50 ft. Footpiece _____ ft. Airline _____ ft.
FLOW METER: Model _____ installed on _____ in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor ~~PICKWICK WELL DRILLING~~
Address ~~P.O. Box 6, Farmingdale, NJ 07727 (201) 938 5300~~
City ~~David Primost M1041~~ State Zip Code
Name of Driller ~~Norman Primost J1040~~ License No. 1407
Allen Primost J1407
Signature of Contractor Norman Primost Date 6/1/90

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

WELL ID NO. 814/1

WR-138 M
6/89

Let's protect our earth

New Jersey Department of Environmental Protection
Division of Water Resources

MONITORING WELL RECORD

Well Permit No. 29 - 26939
Atlas Sheet Coordinates [illegible] : 14 : 4[illegible]

OWNER IDENTIFICATION - Owner U.S. ARMY FORT MONMOUTH
Address BLDG. 162 D & H ENVIRONMENTAL
City FORT MONMOUTH State NJ Zip Code

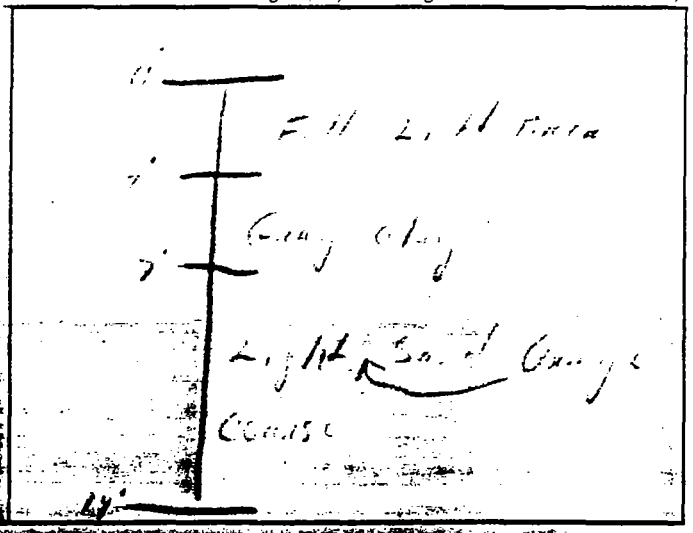
WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW-1
County Municipality OCEANPORT BORO Lot No. N/A Block No. N/A
Address BLDG. 814

TYPE OF WELL (as per Well Permit Categories) MONITORING Date well completed 10/4/91
Regulatory Program Requiring Well UST Case I.D. #
CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Tele. #

WELL CONSTRUCTION
Total depth drilled 14 ft.
Well finished to 14 ft.
Borehole diameter:
Top 10 in.
Bottom 10 in.
Well was finished: [ ] above grade
[X] flush mounted
If finished above grade, casing height (stick up) above land surface ft.
Was steel protective casing installed? [X] Yes [ ] No
Static water level after drilling 4 ft.
Water level was measured using Tape
Well was developed for 1 hours at 2 gpm
Method of development Cent. Pump
Was permanent pumping equipment installed? [ ] Yes [X] No
Pump capacity gpm
Pump type:
Drilling Method Auger
Drilling Fluid [illegible] Type of Rig B-61
Name of Driller Charles Kitzelinger
Health and Safety Plan submitted? [ ] Yes [X] No
Level of Protection used on site (circle one) None D C B A
[illegible]

	Depth to Top (ft.) [From land surface]	Depth to Bottom (ft.)	Diameter (inches)	Type and Material
Inner Casing	0	4	4	Flush Sch 40 PVC
Outer Casing (Not Protective Casing)				
Screen (Note slot size)	4	14	4	.10 PVC
Tail Piece				
Gravel Pack	2	14		[illegible]
Annular Seal/Grout	1	2		[illegible]
Method of Grouting	[illegible]			

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



[illegible] PARASCO DRILLING CORP.

[illegible] drilled the above referenced well in accordance with all well permit requirements and all applicable [illegible] regulations.

[illegible] Date [illegible]

WELL ID NO. 64

Form DWR-138
11/80

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

Coord: 2913695

PERMIT NO. 2914244

APPLICATION NO. _____

COUNTY Monmouth

WELL RECORD

1. OWNER THOMAS, TRAVIS ADDRESS 112 ORCHID ST.
   Owner's Well No. (1)One. SURFACE ELEVATION _____ Feet (Above mean sea level)
2. LOCATION Lot: 1&2 Block: 106 Municipality: Oceanport Boro
3. DATE COMPLETED March,23,85 DRILLER Peter's Well Drilling
4. DIAMETER: Top 4 inches Bottom 4 inches TOTAL DEPTH 323 Feet
5. CASING: Type Black Steel Pipe. Diameter 4 Inches Length 317 Feet
6. SCREEN: Type S.S. Size of Opening 14 Slot Diameter Nom. 4 Inches Length 6 Feet
   With Riser&Packer 9'6"
   Range in Depth { Top 317 Feet / Bottom 323 Feet } Geologic Formation Englishtown/
   Riser
   ~~Entrance~~: Diameter 3 Inches Length 3 Feet
7. WELL FLOWS NATURALLY no Gallons per minute at no Feet above surface
   Water rises to no Feet above surface
8. RECORD OF TEST: Date March,18,85 Yield 100 Gallons per minute
   Static water level before pumping 16 Feet below surface
   Pumping level 56 feet below surface after 2 hours pumping
   Drawdown 40 Feet Specific Capacity _____ Gals. per min. per ft. of drawdown
   How pumped Air Compressor How measured Elec.Water Tester.
   Observed effect on nearby wells None.
9. PERMANENT PUMPING EQUIPMENT:
   Type Submersible Mfrs. Name (Customers Own Installed).
   Capacity 10-15 G.P.M. How Driven Elec. H.P. ½ R.P.M. 3450
   Depth of Pump in well 100? Feet Depth of Footpiece in well _____ Feet
   Depth of Air Line in well _____ Feet Type of Meter on Pump _____ Size _____ Inches
10. USED FOR Dwelling &Irrigation. AMOUNT { Average 1000 / 2000. Gallons Daily; Maximum _____ Gallons Daily }
11. QUALITY OF WATER Good. Sample: Yes _____ No x
    Taste Good. Odor None. Color Clear. Temp. 53 °F.
12. LOG See Other Side. Are samples available? no.
    (Give details on back of sheet or on separate sheet. If electric log was made, please furnish copy.)
    SOURCE OF DATA Bailer & Mud Pit.
14. DATA OBTAINED BY Driller. Date May,15,1985

(NOTE: Use other side of this sheet for additional information such as log of materials penetrated, analysis of the water, sketch map, sketch of special casing arrangements, etc.)

Form DWR-138
11/85

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF WATER RESOURCES

WELL RECORD

WELL ID NO. 101

Well Permit No. 29 - 22549
Atlas Sheet Coordinates 29 : 14 : 473

OWNER IDENTIFICATION - Owner BRIDGEWATER TOWNHOUSE CON
Address 57 BRIDGEWATERS DRIVE
City OCEANPORT State NJ Zip Code

WELL LOCATION - If not the same owner please give address. Owner's Well No.
Address 57 Bridgewater Drive
County Monmouth Municipality OCEANPORT BORO Lot No. 371 Block No. 99/100

WELL USE irrigation Status

WATER USE irrigation Average gals. daily Maximum gals. daily

WELL CONSTRUCTION
BOREHOLE DIMENSIONS
Date well completed 5 / 30 / 89
Depths: Total 180 ft. Finished 180 ft.
Diameter: Top 8 in. Bottom 8 in.
Land Surface Elevation at well 30 ft. Elevation was determined using topography map #29
Casing Height (stick-up) above land surface ft.

	DEPTH TO TOP (FT.)	LENGTH (FT.)	DIAMETER (IN.)	TYPE AND MATERIAL *Screens: Note Slot Size(s)*
Casing 1		155	4	sch 40 PVC
Casing 2				
Casing 3				
Screen 1				
Screen 2	175	20	4	.015" PVC
Tail Piece				
Gravel Pack		5	4	
Grout	170	30	8	800# of #1 sand
Grouting Method	4	min. 50 drop		hole plug/benseal

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 5 / 30 / 89
Static water-level before pumping 12 ft. below land surface. Water level 100 ft. below land surface after 1 hrs. of pumping.
Water level was measured using dropline/M-scope Drawdown 88 ft.
Discharge rate measured using bucket Discharge Rate 80 gals. per min.
Well was pumped using air Specific Capacity .91 gals. per min. per ft. of drawdown
Observed effects on nearby wells none
Water Quality (taste, odor, color, etc.)

PERMANENT PUMPING EQUIPMENT Installed by David Van Brunt Jr. Pump Type submersible
Mfrs. Name Red Jacket Model 7GC
CAPACITY: Pump delivers 25 GPM at 40 PSI pressure.
POWER: 1 1/2 HP at 3450 RPM Power Source electricity
DEPTHS: Pump 175 ft. Footpiece ft. Airline ft.
FLOW METER: Model installed on in. diameter pipe.

CONTRACTOR - Name of Drilling Contractor TIGER CONSTRUCTION CORP.
Address 806 Highway 71, P.O. Box 394
City Spring Lake Heights State N.J. Zip Code
Name of Driller Dennis Buchannan License No. 07762 J1393

Signature of Contractor Tiger Construction Service Corp Date 6 / 7 / 89

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

APPENDIX D

ANALYTICAL DATA PACKAGE

Bldg. 814

ENVIRONMENTAL PROFILE LABORATORIES
ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

ID 6944-1

MW 4

2926939

LABORATORY ANALYSIS REPORT

CLIENT : Serv-Air

PROJECT: Fort Monmouth
VOA+15

Report Number: 6944
Date Received: Dec, 10, 1991
Date Released: Dec, 18, 1991
Data Released By:

Daniel K. Wright
Laboratory Director

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C_IENT:Serv-Air

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	SAMPLE IDENTIFICATION	MATRIX
6944.1	BLD 814	Aquaous
6944.2	B 1076 W1	Aquaous
6944.3	B 1076 W2	Aquaous
6944.4	B 1076 W3	Aquaous
6944.5	B 3021 W1	Aquaous
6944.6	B 3021 W2	Aquaous
6944.7	B 3021 W3	Aquaous
6944.19	T-65 W1	Aquaous
6944.20	Field Blank	Aquaous

Environmental Protection Laboratories

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJECT NO.:

CUSTOMER (NAME/ADDRESS)
E-Systems
Serv-Air

SAMPLER (SIGNATURE): John F. Kh

SITE NAME: Fort Monmouth

DATE / TIME: 12/10/91 3pm

ANALYSIS PARAMETERS

START: 700 AM

FINISH: 4:00pm

PHONE NO:

FAX NO:

LAB SAMPLE ID NUMBER	DATE/TIME	SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA+15 TPH	lead (total)	BN+15 TPH	REMARKS	PRESERVATION METHOD 4°C
6944.1	12/10 8-3p	H2O	B/d 814	3	X	X	X		ice
.2			B 1076 W1		X		X		
.3			B 1076 W2		X		X		
.4			B 1076 W3		X		X		
.5			B 3021 W1		X		X		
.6			B 3021 W2		X		X		
.7			B 3021 W3		X		X		
.8			B 2567 W1	2	X	X			
.9			B 2567 W2		X	X			
.10			B 2567 W3		X	X			
.11			B 2567 W4		X	X			

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
	12-10-91 3:00		C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Received for Lab by (Signature): Robert Brouillette	DATE / TIME 12-10-91 4:30 pm

NOTE: A DRAWING DEPICTING SAMPLE LOCATION SHOULD BE ATTACHED OR DRAWN ON THE REVERSE SIDE OF THIS CHAIN OF CUSTODY.

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

...T NO.:	SAMPLER (SIGNATURE): John F. [illegible]	DATE / TIME 12/10/91 3pm	START: 7:00 Am
CUSTOMER (NAME/ADDRESS): E-System's Serv-Air	SITE NAME: Fort Monmouth		FINISH: 4:00 pm
PHONE NO:	FAX NO:		

ANALYSIS PARAMETERS

LAB SAMPLE ID NUMBER	DATE/TIME		SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA+15 TII	lead	B/N+15 TII	chlordane					REMARKS	PRESERVATION METHOD <4°C
6944.12	12/10	7-3pm	H_2O	B699 W2	2	X	X								
.13				B699 5		X	X								
.14				B699 6		X	X								
.15				B699 7		X	X								
.16				B699 8		X	X								
.17				B699 9		X	X								
.18				B699 10		X	X								
.19				T-65 W1	3	X		X	X						
.20				field blank		X	X	X							
.21				trip blank	2	X		X							

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
[signature]	12-10-91 3:00	[signature]	C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Recieved for Lab by (Signature): Robert Brouillette	DATE / TIME 12/10/91 4:30pm

NOTE: A DRAWING DEPICTING SAMPLE LOCATION SHOULD BE ATTACHED OR DRAWN ON THE REVERSE SIDE OF THIS CHAIN OF CUSTODY.

FORM 002/CHAIN OF CUSTODY PAGE 2 OF 2 PAGES

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.1	6944.2	6944.3	6944.4	6944.5	6944.6	6944.7
Received & Refrigerated Date	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91
Organics Extraction Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Analysis Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Volatiles	12/13/91	12/13/91	12/13/91	12/18/91	12/18/91	→	→
TPHC's	NA	NA	NA	NA	NA	NA	NA
Metals	NA	NA	NA	NA	NA	NA	NA
Total Solids	NA	NA	NA	NA	NA	NA	NA
Organic Supervisor Review & Approval	Brian K. McKee B.K. McK						12/19/91
Inorganic Supervisor Review & Approval							

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.19	6944.20					
Received & Refrigerated Date	12/10/91	12/10/91					
Organics Extraction Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Analysis Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Volatiles	12/18/91	12/18/91					
TPHC's	NA	NA					
Metals	NA	NA					
Total Solids	NA	NA					
Organic Supervisor Review & Approval	Brian K. McKee B. K. McK						12/19/91
Inorganic Supervisor Review & Approval							

METHOD SUMMARY

Base Neutrals / Acid Extractables

The semivolatile samples in this report have been analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP semivolatile method is based on USEPA Method 625 and SW-846 method 8270.

Three acid and/or three base/neutral surrogates are added to each sample. Aqueous samples are extracted with methylene chloride; soil samples are extracted with a 1 to 1 solution of methylene chloride and acetone. The extracts are then concentrated and the internal standards are added. An Hewlett Packard 5890 GC coupled to the HP 5970 MSD was used for the analysis and data collection.

GC/MS

ORGANIC NON-CONFORMANCE SUMMARY

GC/MS TUNE FREQUENCY:- All samples,blanks,standards and matrix spikes were analyzed within the respective 12 hour tune periods.

INITIAL CALIBRATION REQUIREMENTS:
No CCC or SPCC compound was outside of QC limits.

CONTINUING CALIBRATION REQUIREMENTS:
No CCC or SPCC compound was outside of QC limits

DETECTION LIMITS:- Detection limits and search results were modified by dilution or percent solid.*

* All values reported on a DRY WEIGHT basis where applicable

MATRIX SPIKE RECOVERY:- No matrix spike compound was outside QC limits

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S) out of QC limits.
6944	2 out of 80 outside units, (see forms 8b+8c)

SURROGATE RECOVERY:-

Client ID #	Surrogates outside QC limits
6944	1 surrogate out (see form 2)

ANALYSIS TIME:- All samples were extracted and analyzed within the prescribed holding times.

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following "results qualifiers" are used:

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, "10U". This is not necessarily the instrument detection limit. The figure represents the minimum detection limit attainable for this particular sample based on any concentration or dilution that may have been required.

J - Indicates an estimated value. This flag is used:

1) When estimating a concentration for tentatively identifid compounds (library search hits) where a 1:1 response is assumed.
2) When the mass spectral data indicated the identification criteria, however, the result was less than the specified detection limit but greater than zero. If the detection limit was 10ug/L and a concentration of 3ug/L was calculated, report as "3J".

B - Indicates the analyte was found in the blank as well as the sample; report as "12B".

E - Indicates the analyte concentration exceeds the calibrated range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	6944.1 5mL	DILUTION FACTOR	1.00
CLIENT ID		QA BATCH	
DATA FILE	>U2145	DATE ANALYZED	12/10/91

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	6 B	5	trans-1,3-Dichloropropene	ND	5
Acrolein	ND	50	2-Chloroethylvinyl ether	ND	5
Acrylonitrile	ND	50	Bromoform	ND	5
Acetone	ND	5	2-Hexanone	ND	5
Carbon Disulfide	ND	5	4-Methyl-2-Pentanone	ND	5
1,1-Dichloroethene	ND	5	Tetrachloroethene	ND	5
1,1-Dichlorcethane	ND	5	1,1,2,2-Tetrachloroethane	ND	5
trans-1,2-Dichloroethene	ND	5	Toluene	ND	5
Trichlorofluoromethane	ND	5	Chlorobenzene	ND	5
Chloroform	ND	5	Ethylbenzene	ND	5
1,2-Dichloroethane	ND	5	Styrene	ND	5
2-Butanone	ND	5	o-Xylene	ND	5
1,1,1-Trichloroethane	ND	5	m + p-Xylenes	ND	5
Carbon Tetrachloride	ND	5	1,3-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,2-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	1,4-Dichlorobenzene	ND	5
1,2-Dichloropropane	ND	5	tert-Butyl Alcohol	ND	50
cis-1,3-Dichloropropene	ND	5	Methyl tert-Butyl Ether	ND	5

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

Orig. 814-

ID 6944-1

MW #: 2926939

ENVIRONMENTAL PROFILE LABORATORIES
ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

LABORATORY ANALYSIS REPORT

CLIENT :Serv-Air

PROJECT: Fort Monmouth
BN+15

Report Number: 6944
Date Received: Dec, 10, 1991
Date Released: Dec, 20, 1991
Data Released By:

Daniel K. Wright
Laboratory Director

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CLIENT:Serv-Air

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	SAMPLE IDENTIFICATION	MATRIX
6944.1	BLD 814	Aquaous
6944.2	B 1076 W1	Aquaous
6944.3	B 1076 W2	Aquaous
6944.4	B 1076 W3	Aquaous
6944.5	B 3021 W1	Aquaous
6944.6	B 3021 W2	Aquaous
6944.7	B 3021 W3	Aquaous
6944.19	T-65 W1	Aquaous
6944.20	Field Blank	Aquaous

Environmental Profile Laboratories

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

PROJECT NO.:

SAMPLER (SIGNATURE): John F. [illegible]

DATE / TIME: 12/10/91 3pm

ANALYSIS PARAMETERS

START: 7:00 AM

CUSTOMER (NAME/ADDRESS): E-Systems Serv-Air

SITE NAME: Fort Monmouth

FINISH: 4:00pm

PHONE NO:

FAX NO:

LAB SAMPLE NUMBER	DATE/TIME		SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA+15 TII	lead (total)	BN+15 TII						REMARKS	PRESERVATION METHOD below 4°C
6844.1	12/10	8-3p	H_2O	B/d 814	3	X		X							Ice
.2				B1076 W1		X		X							
.3				B1076 W2		X		X							
.4				B1076 W3		X		X							
.5				B3021 W1		X		X							
.6				B3021 W2		X		X							
.7				B3021 W3		X		X							
.8				B2567 W1	2	X	X								
.9				B2567 W2		X	X								
.10				B2567 W3		X	X								
.11				B2567 W4		X	X								

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
[signature]	12-10-91 3:00	[signature]	C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Recieved for Lab by (Signature): Robert Braulletti	DATE / TIME 12-10-91 4:30 pm

NOTE: A DRAWING DEPICTING SAMPLE LOCATION SHOULD BE ATTACHED OR DRAWN ON THE REVERSE SIDE OF THIS CHAIN OF CUSTODY.

PL FORM 002/CHAIN OF CUSTODY PAGE

2

CUSTOMER PURCHASE ORDER NO:

CHAIN OF CUSTODY RECORD

...T NO.:	SAMPLER (SIGNATURE): John F. [illegible]	DATE / TIME 12/10/91 3pm	START: 7:00 Am
CUSTOMER (NAME/ADDRESS): E-System's Serv-Air	SITE NAME: Fort Monmouth		FINISH: 4:00 pm
PHONE NO:	FAX NO:		

ANALYSIS PARAMETERS

LAB SAMPLE ID NUMBER	DATE/TIME		SAMPLE MATRIX	CUSTOMER SAMPLE LOCATION/ID NUMBER	NUMBER OF CONTAINERS	VOA+15 TII	lead	B/N+15 TII	chlordane					REMARKS	PRESERVATION METHOD <4°C
6944.12	12/10	7-3pm	H_2O	B699 W2	2	X	X								
.13				B699 5		X	X								
.14				B699 6		X	X								
.15				B699 7		X	X								
.16				B699 8		X	X								
.17				B699 9		X	X								
.18				B699 10		X	X								
.19				T-65 W1	3	X		X	X						
.20				field blank		X	X	X							
.21				trip blank	2	X		X							

Relinquished By (Signature)	DATE / TIME	Received By (Signature)	METHOD OF SHIPPING:
[signature]	12-10-91 3:00	[signature]	C.O.V.
Relinquished By (Signature)	DATE / TIME	Received By (Signature)	SHIPPED BY (Signature):
Relinquished By (Signature)	DATE / TIME	Recieved for Lab by (Signature): Robert Brouillette	DATE / TIME 12/10/91 4:30pm

NOTE: A DRAWING DEPICTING SAMPLE LOCATION SHOULD BE ATTACHED OR DRAWN ON THE REVERSE SIDE OF THIS CHAIN OF CUSTODY.

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.1	6944.2	6944.3	6944.4	6944.5	6944.6	6944.7
Received & Refrigerated Date	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91	12/10/91
Organics Extraction Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Analysis Date							
BN/ABN	NA	NA	NA	NA	NA	NA	NA
PCB's	NA	NA	NA	NA	NA	NA	NA
Volatiles	12/13/91	12/13/91	12/13/91	12/18/91	12/18/91	→	→
TPHC's	NA	NA	NA	NA	NA	NA	NA
Metals	NA	NA	NA	NA	NA	NA	NA
Total Solids	NA	NA	NA	NA	NA	NA	NA
Organic Supervisor Review & Approval	Brian K. McKee B. K. McK						12/19/91
Inorganic Supervisor Review & Approval							

LABORATORY CHRONICLE

SAMPLE NUMBER	6944.19	6944.20					
Received & Refrigerated Date	12/10/91	12/10/91					
Organics Extraction Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Analysis Date							
BN/ABN	NA	NA					
PCB's	NA	NA					
Volatiles	12/18/91	12/18/91					
TPHC's	NA	NA					
Metals	NA	NA					
Total Solids	NA	NA					
Organic Supervisor Review & Approval	Brian K. McKee B. K. McK						12/19/91
Inorganic Supervisor Review & Approval							

METHOD SUMMARY

Base Neutrals / Acid Extractables

The semivolatile samples in this report have been analyzed using the method cited in the USEPA-CLP-IFB version 2/88. The CLP semivolatile method is based on USEPA Method 625 and SW-846 method 8270.

Three acid and/or three base/neutral surrogates are added to each sample. Aqueous samples are extracted with methylene chloride; soil samples are extracted with a 1 to 1 solution of methylene chloride and acetone. The extracts are then concentrated and the internal standards are added. An Hewlett Packard 5890 GC coupled to the HP 5970 MSD was used for the analysis and data collection.

GC/MS

ORGANIC NON-CONFORMANCE SUMMARY

GC/MS TUNE FREQUENCY:- All samples,blanks,standards and matrix spikes were analyzed within the respective 12 hour tune periods.

INITIAL CALIBRATION REQUIREMENTS:
No CCC or SPCC compound was outside of QC limits.

CONTINUING CALIBRATION REQUIREMENTS:
No CCC or SPCC compound was outside of QC limits

DETECTION LIMITS:- Detection limits and search results were modified by dilution or percent solid.*

* All values reported on a DRY WEIGHT basis where applicable

MATRIX SPIKE RECOVERY:- No matrix spike compound was outside QC limits

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S) out of QC limits. 2 out of 80 outside units, (see forms 8b+8c)
6944	

SURROGATE RECOVERY:-

Client ID #	Surrogates outside QC limits
6944	1 surrogate out (see form 2)

ANALYSIS TIME:- All samples were extracted and analyzed within the prescribed holding times.

DATA REPORTING QUALIFIERS

For reporting results to EPA, the following "results qualifiers" are used:

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, "10U". This is not necessarily the instrument detection limit. The figure represents the minimum detection limit attainable for this particular sample based on any concentration or dilution that may have been required.

J - Indicates an estimated value. This flag is used:

1) When estimating a concentration for tentatively identifid compounds (library search hits) where a 1:1 response is assumed.
2) When the mass spectral data indicated the identification criteria, however, the result was less than the specified detection limit but greater than zero. If the detection limit was 10ug/L and a concentration of 3ug/L was calculated, report as "3J".

B - Indicates the analyte was found in the blank as well as the sample; report as "12B".

E - Indicates the analyte concentration exceeds the calibrated range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	6944.1 .5L 12-12	DILUTION FACTOR	2.00
CLIENT ID		QA BATCH	
DATA FILE	>A2277	DATE ANALYZED	12/13/91

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	ND	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	20	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3`-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

Bldg 814

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

REPORT OF ANALYSIS

SERV-AIR FT.MONMOUTH
PO BOX 369 BLDG.#490
FORT MONMOUTH, NJ 07703-5000

EPL# : 9173.11
SAMPLE RCD : 10/26/92
ANALYSIS START : 10/28/92
ANALYSIS COMP : 10/28/92
PO# : R2-2672

TEST PARAMETER: LEAD (Pb)

RESULTS AND DETECTION LIMITS ARE EXPRESSED IN mg/L. (ppm)

EPL#	BLDG. #	MW#	DICAR#	RESULTS	DETECTION LIMIT
9173.11	814	1-2926939	NONE	0.009	0.004 mg/L

ND = NONE DETECTED

DANIEL K. WRIGHT
LABORATORY DIRECTOR

MONITORING WELL SAMPLING DATASHEET DATE: 10/26/92

SAMPLERS: ROBERT BROUVELLETTE, JACK KAISER, ERIK JOHNSON
EPL LABORATORIES NJDEP #15526,
LOCATION (BLDG. #): 814
WEATHER CONDITIONS: 55 F, SUNNY

MW # 1 : 2926939

DEPTH TO WATER: 4.00 TIME: 1:48

DEPTH OF WELL: 11.89

HEIGHT OF WATER: 7.89

EVACUATED GAL. H2O: 15.5 (7.89 X .65 X 3 = 15.5)

MONITORING WELL SAMPLING DATASHEET DATE: 10-26-92

SAMPLERS: Robert Brouillette Jack Kaiser Erik Johnson
LOCATION (BLDG. #): 814
WEATHER CONDITIONS: Sunny 55° F

LABORATORY: EPL

MW # 1 : 2926939

DEPTH TO WATER: 4.00 TIME: 1:48 pm

DEPTH OF WELL: 11.89 OVA/HnU: ND

HEIGHT OF WATER: 7.89'

EVACUATED GAL. H2O: 15.5g (7.89-X .65 X 3 = 15.5g)

Bldg 814

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

LABORATORY ANALYSIS REPORT

CLIENT: Serv-Air Inc.
Fort Monmouth, N.J.

SITE: UST Assessments
Fort Monmouth, N.J.

PROJECT: BN+15
TIER II

Report Number: 9173.11-.14, .20-.23, .26
Date Received: October 26, 1992
Date Released: December 3, 1992
Data Released By:

Daniel K. Wright
Laboratory Director

CLIENT: Serv-Air, Inc.
Fort Monmouth, N.J.

PROJECT: UST Assesments
Fort Monmouth, N.J.

MATRIX: Aqueous

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	Bldg #	MW #	DICAR #
9173.11	814	1-2926939	None
9173.26	Field Blank		

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Environmental Profile Laboratories
1565 Rt. 37-Unit 13
Toms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address:
Sea-Bee Inc.
Fort Monmouth NJ

Site Name and Address:
Ft. Monmouth NJ
UST Assessments

Analysis parameters (Be as specific as possible)

Telephone No: _____ Fax: _____

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	610+15	Pb							Remarks	Preservation Method
9173.1	10/26 1145	LIQ	699-1	3	✓		✓					DISCARD 1 Q 8310 OPS		filtered for Pb	ICE
.2	1245		699-2	3	✓		✓								
3	1040		699-5	3	✓		✓								
4	1205		699-6	3	✓		✓								
5	1225		699-8	3	✓		✓								
6	1116		699-9	3	✓		✓								
7	1230		699-11	3	✓		✓								
8	1230		699-11 DUP	3	✓		✓								
9	1155		699-12	3	✓		✓								
10	1245		699-13	3	✓		✓								

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1200	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time
		[signature]	10/27/92 0830

QA/QC Required:

✓ NJ Tier II
___ Results Only
___ Other _____

Turnaround Time: _____

...al Profile Laboratories
...37-Unit 13
...ris River, NJ 08755
908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address:
Stru-Bite Inc
Fort Monmouth NJ

Site Name and Address:
FT. MONMOUTH
UST Assessments

Analysis parameters (Be as specific as possible)

Telephone No: Fax:

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	B/N+15	PB						Remarks	Preservative Method
11	10/26 213	H2O	814-1	4	✓	✓	✓					DISPOSABLE GLASS BEAKERS	HNO3 FOR Pb	ICE
12	247		1076-1	4	✓	✓	✓							
13	247		1076-2	4	✓	✓	✓							
14	247		1076-3	4	✓	✓	✓							
15	415		2567-1	3	✓		✓							
16	415		2567-1 DUP	3	✓		✓							
17	425		2567-2	3	✓		✓							
18	425		2567-3	3	✓		✓							
19	420		2567-4	2	✓		✓							
20			T-65	1	✓	✓	✓							

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26 1700	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time
[signature]			

QA/QC Required:

✓ NJ Tier II
___ Results Only
___ Other ___

Turnaround Time: ___

Profile Laboratories
Unit 13
River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address: Serv-Air Inc. Fort Monmouth NJ

Site Name and Address: FT. MONMOUTH UST Assessments

Telephone No: Fax:

Analysis parameters (Be as specific as possible)

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	D/N+15	Pb							Remarks	Preservation Method
9173.21	10/26 340	H_2O	3021-1	4	✓	✓	✓				DISPOSABLE 1l BAKERS			HNO_3 Fac Pb	ICE
.22	330		3021-2	4	✓	✓	✓								
.23	330		3021-3	4	✓	✓	✓								
.24	115		699-14	3	✓		✓								
.25			TRIP BLANK	1	✓										
.26			FIELD BLANK	4	✓	✓	✓								

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1700	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:

✓ NJ Tier II
___ Results Only
___ Other

Turnaround Time:

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.11	9173.12	9173.13	9173.14	9173.20	9173.21	9173.22
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92
Organics Extraction Date							
BN/ABN	10-28-92	10-28-92	10-28-92	10-28-92	10-29-92	10-29-92	10-28-92
PCB's							
Analysis Date							
BN/ABN	10-30-92	10-30-92	10-30-92	10-31-92	10-31-92	10-31-92	10-31-92
PCB's							
Volatiles							
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.23	9173.26					
Received & Refrigerated Date	10-26-92	10-26-92					
Organics Extraction Date							
BN/ABN	10-29-92	10-29-92					
PCB's							
Analysis Date							
BN/ABN	10-31-92	10-31-92					
PCB's							
Volatiles							
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

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METHOD SUMMARY

Base Neutrals/Acid Extractables

The semivolatile samples in this report have been analyzed using method cited in the USEPA-CLP-IFB version 2/88. The CLP semivolatile method is based on the USEPA Method 625 and SW-846 method 8270.

Three acid and/or three base/neutral surrogates are added to each sample. Aqueous samples are extracted with methylene chloride; soil samples are extracted with a 1 to 1 solution of methylene chloride and acetone. The extracts are then concentrated and the internal standards are added. An Hewlett Packard 5890 GC coupled to the HP 5970 MSD was used for the analysis and data collection.

GC/MS

ORGANIC NON-CONFORMANCE SUMMARY

GC/MS TUNE FREQUENCY:- All samples, blanks, standards and matrix spikes were analyzed within the respective 12 hour tune periods.

INITIAL CALIBRATION REQUIREMENTS:
All CCC and SPCC values were within QC limits.

CONTINUING CALIBRATION REQUIREMENTS:
All CCC and SPCC values were within QC limits.

DETECTION LIMITS:- Detection limits and search results were modified by dilution or percent solid.*

* All values reported on a DRY WEIGHT basis where applicable

MATRIX SPIKE RECOVERY:- All recoveries were within limits.
All RPD values were within limits.

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S)
None	

SURROGATE RECOVERY:-

CLIENT ID #	SURROGATES OUTSIDE QC LIMITS
BNA AQ BLK	2-Fluorobiphenyl
9173.22	2-Fluorobiphenyl

ANALYSIS TIME:- All samples were extracted and analyzed within the prescribed holding times.

DATA REPORTING QUALIFIERS

For reporting results to the EPA, the following "results qualifiers" are used:

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, "10U". This is not necessarily the instrument detection limit. The figure represents the minimum detection limit attainable for this particular sample based on any concentration or dilution that may have been required.

J - Indicates an estimated value. This flag is used:

1) When estimating a concentration for tentatively identified compound (library search hits) where a 1:1 response is assumed.

2) When the mass spectral data indicated the identification criteria, however, the result was less than the specified detection limit but greater than zero. If the detection limit was 10 ug/L and a concentratin of 3 ug/L was calculated, report as "3J".

B - Indicates the analyte was found in the blank as well as the sample; report as "12B".

E - Indicates the analyte concentration exceeds the calibrated range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.11 .5L 10-28	DILUTION FACTOR	2.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>A3764	DATE ANALYZED	10/30/92

Compound	ug/L	MDL	Compound	ug/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	ND	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	100	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3`-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.26 .5L 10-29	DILUTION FACTOR	2.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>A3785	DATE ANALYZED	10/31/92

Compound	ug/L	MDL	Compound	ug/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	ND	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	100	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3`-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	BNA AQ BLK 10-28	DILUTION FACTOR	2.00
CLIENT ID		QA BATCH	
DATA FILE	>A3761	DATE ANALYZED	10/30/92

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	ND	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	100	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3'-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

Environmental Profile Laboratories
BASE/NEUTRAL/ACID ANALYSIS DATA

JOB NUMBER		MATRIX	Water
SAMPLE NAME	BNA Aq Bk. 10-29	DILUTION FACTOR	2.00
CLIENT ID		QA BATCH	
DATA FILE	>A3779	DATE ANALYZED	10/31/92

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-nitroso-dimethylamine	ND	20	Diethylphthalate	ND	20
bis(2-Chloroethyl)Ether	ND	20	4-Chlorophenyl-phenylether	ND	20
1,3-Dichlorobenzene	ND	20	Fluorene	ND	20
1,4-Dichlorobenzene	ND	20	N-Nitrosodiphenylamine	ND	20
Benzyl alcohol	ND	20	4-Bromophenyl-phenylether	ND	20
1,2-Dichlorobenzene	ND	20	Hexachlorobenzene	ND	20
bis(2-chloroisopropyl)ether	ND	20	Phenanthrene	ND	20
N-Nitroso-Di-n-propylamine	ND	20	Anthracene	ND	20
Hexachloroethane	ND	20	Di-n-butylphthalate	2 JB	20
Nitrobenzene	ND	20	Fluoranthene	ND	20
Isophorone	ND	20	Benzidine	ND	20
Benzoic Acid	ND	100	Pyrene	ND	20
bis(2-Chloroethoxy)methane	ND	20	Butylbenzylphthalate	ND	20
1,2,4-Trichlorobenzene	ND	20	3,3'-Dichlorobenzidine	ND	20
Naphthalene	ND	20	Benzo(a)anthracene	ND	20
Hexachlorobutadiene	ND	20	bis(2-Ethylhexyl)phthalate	ND	20
2-Methylnaphthalene	ND	20	Chrysene	ND	20
Hexachlorocyclopentadiene	ND	20	Di-n-octylphthalate	ND	20
2-Chloronaphthalene	ND	20	Benzo(b)fluoranthene	ND	20
Dimethylphthalate	ND	20	Benzo(k)fluoranthene	ND	20
Acenaphthylene	ND	20	Benzo(a)pyrene	ND	20
Acenaphthene	ND	20	Indeno(1,2,3-cd)pyrene	ND	20
Dibenzofuran	ND	20	Dibenz(a,h)anthracene	ND	20
2,6-Dinitrotoluene	ND	20	Benzo(g,h,i)perylene	ND	20
2,4-Dinitrotoluene	ND	20	1,2-Diphenylhydrazine	ND	20

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

Diag. 017

ENVIRONMENTAL PROFILE LABORATORIES

ROUTE 37 BUSINESS PARK
SUITE 13
TOMS RIVER, NJ 08755
OFFICE: (908) 244-6278
FAX: (908) 244-6372

LABORATORY ANALYSIS REPORT

CLIENT: Serv-Air Inc.
Fort Monmouth, N.J.

SITE: UST Assessments
Fort Monmouth, N.J.

PROJECT: VOA+15
TIER II

Report Number: 9173.1 - .26
Date Received: October 26, 1992
Date Released: December 3, 1992
Data Released By:

Daniel K. Wright
Laboratory Director

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CLIENT: Serv-Air, Inc.
Fort Monmouth, N.J.

PROJECT: UST Assesments
Fort Monmouth, N.J.

MATRIX: Aqueous

SAMPLE LOCATION AND IDENTIFICATION

LAB ID NUMBER	Bldg #	MW #	DICAR #
9173.11	814	1-2926939	None
9173.25	Trip Blank		
9173.26	Field Blank		

Environmental Profile Laboratories
1565 Rt. 37-Unit 13
Toms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address:
Sea-Air Inc.
Fort Monmouth NJ

Site Name and Address:
Ft. Monmouth NJ
UST Assessments

Telephone No: _____ Fax: _____

Analysis parameters (Be as specific as possible)

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	BTN+15	Pb					Remarks	Preservation Method
9173.1	10/26 1145	H_2O	699-1	3	✓		✓			DISPOSABLE BEAKERS		HNO_3 FOR Pb	ICE
.2	1245		699-2	3	✓		✓						
.3	1040		699-5	3	✓		✓						
.4	1205		699-6	3	✓		✓						
.5	1225		699-8	3	✓		✓						
.6	1116		699-9	3	✓		✓						
.7	1230		699-11	3	✓		✓						
.8	1230		699-11 DUP	3	✓		✓						
.9	1155		699-12	3	✓		✓						
.10	1245		699-13	3	✓		✓						

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1200	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
		[signature]	
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time
		[signature]	10/27/92

QA/QC Required:

✓ NJ Tier II
Results Only
Other _____

Turnaround Time: _____

Environmental Profile Laboratories
1[illegible] Rt. 37 Unit 13
Toms River, NJ 08755
(908) 244-6278

Cu[illegible]er R[illegible]ase [illegible]er No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address:
Stru-Ate Inc
Fort Monmouth NJ

Site Name and Address:
FT. MONMOUTH
UST Assessments

Analysis parameters (Be as specific as possible)

Telephone No: _____ Fax: _____

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624+15	B/N +15	Pb						Remarks	Preservation Method
9173.11	10/26 213	H2O	814-1	4	✓	✓	✓				DISPOSABLE 1 l MILLERS		HNO3 for Pb	ICB
.12	247		1076-1	4	✓	✓	✓							
.13	247		1076-2	4	✓	✓	✓							
.14	247		1076-3	4	✓	✓	✓							
.15	415		2567-1	3	✓		✓							
.16	415		2567-1 DUP	3	✓		✓							
.17	425		2567-2	3	✓		✓							
.18	425		2567-3	3	✓		✓							
.19	420		2567-4	2	✓		✓							
.20			T-65	4	✓	✓	✓							

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1700	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:
✓ NJ Tier II
___ Results Only
___ Other _____

Turnaround Time: _____

Environmental Profile Laboratories
1565 Rt. 37-Unit 13
Toms River, NJ 08755
(908) 244-6278

Customer Purchase Order No.:

CHAIN OF CUSTODY RECORD

Sampled by: (Signature) [signature] Date/Time 10/26/92

Customer Name and Address:
Serv-Air Inc.
Fort Monmouth NJ.

Site Name and Address:
FT. MONMOUTH
UST Assessments

Telephone No: Fax:

Analysis parameters (Be as specific as possible)

Lab Sample ID Number	Date/Time Sampled	Sample Matrix	Customer Sample Location/ID No.	Number of Containers	624 TIS	B/N TIS	Pb				Remarks	Preservation Method
9173.21	10/26 340	H_2O	3021-1	4	✓	✓	✓			DISPOSABLE BAILORS 1l	HNO_3 Fe Pb	ICE
.22	330		3021-2	4	✓	✓	✓					
.23	330		3021-3	4	✓	✓	✓					
.24	115		699-14	3	✓		✓					
.25			TRIP BLANK	1	✓							
.26			FIELD BLANK	4	✓	✓	✓					

Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Method of Shipping:
[signature]	10/26/92 1700	[signature]	COV
Relinquished By: (Signature)	Date/Time	Received By: (Signature)	Shipped By:
Relinquished By: (Signature)	Date/Time	Received For EPL By: (Signature)	Date/Time

QA/QC Required:

✓ NJ Tier II
___ Results Only
___ Other

Turnaround Time:

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LABORATORY CHRONICLE

SAMPLE NUMBER	9173.1	9173.2	9173.3	9173.4	9173.5	9173.6	9173 7
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-93	10-26-92
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-27-92	10-27-92	10-31-92	10-27-92	10-27-92	10-31-92
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

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LABORATORY CHRONICLE

SAMPLE NUMBER	9173.8	9173.9	9173.10	9173.11	9173.12	9173.13	9173.14
Received & Refrigerated Date	102692	102692	102692	102692	102692	102692	10-26-92
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-27-92	10-30-92	10-27-92	10-27-92	10-27-92	10-27-92
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

6

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.15	9173.16	9173.17	9173.18	9173.19	9173.20	9173.21
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-30-92	10-30-92	10-31-92	10-27-92	10-31-92	10-27-92
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

LABORATORY CHRONICLE

SAMPLE NUMBER	9173.22	9173.23	9173.24	9173.25	9173.26		
Received & Refrigerated Date	10-26-92	10-26-92	10-26-92	10-26-92	10-26-92		
Organics Extraction Date							
BN/ABN							
PCB's							
Analysis Date							
BN/ABN							
PCB's							
Volatiles	10-30-92	10-27-92	10-30-92	10-27-92	10-27-92		
TPHC's							
Metals							
Total Solids							
Organic Supervisor Review & Approval							
Inorganic Supervisor Review & Approval							

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METHOD SUMMARY

Volatiles

The volatile samples in this report have been 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.

The method is based on 5 milliliters of an aqueous, or 1 gram of a non-aqueous sample spiked with a known concentration of surrogate and internal standard. The samples and standards are then purged onto a trap using a Tekmar LSC 2 and desorbed onto a capillary column installed in a Hewlett Packard 5890 GC coupled via a jet separator to the HP 5970 MSD. The data was then collected and reduced via a HP 1000 RTE data system.

GC/MS

ORGANIC NON-CONFORMANCE SUMMARY

GC/MS TUNE FREQUENCY:- All samples, blanks, standards and matrix spikes were analyzed within the respective 12 hour tune periods.

INITIAL CALIBRATION REQUIREMENTS:
All CCC and SPCC values were within QC limits.

CONTINUING CALIBRATION REQUIREMENTS:
All CCC and SPCC values were within QC limits.

DETECTION LIMITS:- Detection limits and search results were modified by dilution or percent solid.*

* All values reported on a DRY WEIGHT basis where applicable

MATRIX SPIKE RECOVERY:- All recoveries were within limits.
1 out of 5 RPD values were not within limits.

INTERNAL STANDARD AREA:-

CLIENT ID #	NUMBER OF INTERNAL STANDARD AREA(S)
None	

SURROGATE RECOVERY:-

CLIENT ID #	SURROGATES OUTSIDE QC LIMITS
None	

ANALYSIS TIME:- All samples were extracted and analyzed within the prescribed holding times .

NOTE: Methylene Chloride, Freon and Acetone are used extensively in daily laboratory procedures.

DATA REPORTING QUALIFIERS

For reporting results to the CRL, the following "result qualifiers" are used:

VALUE - If the result is a value greater than or equal to the detection limit, report the value.

U - Indicates the compound was analyzed for but was not detected. Report the minimum detection limit for the sample with the U, "10U". This is not necessarily the instrument detection limit. The figure represents the minimum detection limit attainable for this particular sample based on any concentration or dilution that may have been required.

J - Indicates an estimated value. This flag is used:

1) When estimating a concentration for tentatively identified compound (library search hits) where a 1:1 response is assumed.

2) When the mass spectral data indicated the identification criteria, however, the result was less than the specified detection limit but greater than zero. If the detection limit was 10 ug/L and a concentratin of 3 ug/L was calculated, report as "3J".

B - Indicates the analyte was found in the blank as well as the sample; report as "12B".

E - Indicates the analyte concentration exceeds the calibrated range of the GC/MS instrument for that specific analysis.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor.

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.11 5mL	DILUTION FACTOR	1.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>V5372	DATE ANALYZED	10/28/92

Compound	ug/L	MDL	Compound	ug/L	MDL
Chloromethane	ND	10	Dibromochloromethane	ND	5
Bromomethane	ND	10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND	10	Benzene	25	5
Chloroethane	ND	10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	3 JB	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND	50	Bromoform	ND	5
Acrylonitrile	ND	50	2-Hexanone	ND	5
Acetone	ND	5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	Toluene	9	5
trans-1,2-Dichloroethene	ND	5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND	5	Ethylbenzene	12	5
Chloroform	ND	5	Styrene	ND	5
1,2-Dichloroethane	ND	5	o-Xylene	4 J	5
2-Butanone	ND	5	m + p-Xylenes	15	5
1,1,1-Trichloroethane	ND	5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND	5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND	5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND	5	Diethyl ether	ND	50
Trichloroethene	ND	5			0

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

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173,25 5mL	DILUTION FACTOR	1.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>V5364	DATE ANALYZED	10/28/92

Compound	ug/L		MDL	Compound	ug/L		MDL
Chloromethane	ND		10	Dibromochloromethane	ND		5
Bromomethane	ND		10	1,1,2-Trichloroethane	ND		5
Vinyl Chloride	ND		10	Benzene	ND		5
Chloroethane	ND		10	trans-1,3-Dichloropropene	ND		5
Methylene Chloride	66	B	5	2-Chloroethylvinyl ether	ND		5
Acrolein	ND		50	Bromoform	ND		5
Acrylonitrile	ND		50	2-Hexanone	ND		5
Acetone	84		5	4-Methyl-2-Pentanone	ND		5
Carbon Disulfide	ND		5	Tetrachloroethene	ND		5
1,1-Dichloroethene	ND		5	1,1,2,2-Tetrachloroethane	ND		5
1,1-Dichloroethane	ND		5	Toluene	ND		5
trans-1,2-Dichloroethene	ND		5	Chlorobenzene	ND		5
Trichlorofluoromethane	ND		5	Ethylbenzene	ND		5
Chloroform	ND		5	Styrene	ND		5
1,2-Dichloroethane	ND		5	o-Xylene	ND		5
2-Butanone	ND		5	m + p-Xylenes	1	J	5
1,1,1-Trichloroethane	ND		5	1,3-Dichlorobenzene	ND		5
Carbon Tetrachloride	ND		5	1,2-Dichlorobenzene	ND		5
Bromodichloromethane	ND		5	1,4-Dichlorobenzene	ND		5
Vinyl Acetate	ND		5	tert-Butyl Alcohol	ND		50
1,2-Dichloropropane	ND		5	Methyl tert-Butyl Ether	ND		5
cis-1,3-Dichloropropene	ND		5	Diethyl ether	ND		50
Trichloroethene	ND		5				0

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

Environmental Profile Laboratories
VOLATILE ORGANIC ANALYSIS DATA

PROJECT	9173	MATRIX	Water
SAMPLE ID	9173.26 5mL	DILUTION FACTOR	1.00
CLIENT NAME	Serv-Air	DATE RECEIVED	10-26-92
DATA FILE	>U5365	DATE ANALYZED	10/28/92

Compound	ug/L	MDL	Compound	ug/L	MDL
Chloromethane	ND	10	Dibromochloromethane	ND	5
Bromomethane	ND	10	1,1,2-Trichloroethane	ND	5
Vinyl Chloride	ND	10	Benzene	ND	5
Chloroethane	ND	10	trans-1,3-Dichloropropene	ND	5
Methylene Chloride	5 JB	5	2-Chloroethylvinyl ether	ND	5
Acrolein	ND	50	Bromoform	ND	5
Acrylonitrile	ND	50	2-Hexanone	ND	5
Acetone	ND	5	4-Methyl-2-Pentanone	ND	5
Carbon Disulfide	ND	5	Tetrachloroethene	ND	5
1,1-Dichloroethene	ND	5	1,1,2,2-Tetrachloroethane	ND	5
1,1-Dichloroethane	ND	5	Toluene	ND	5
trans-1,2-Dichloroethene	ND	5	Chlorobenzene	ND	5
Trichlorofluoromethane	ND	5	Ethylbenzene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,2-Dichloroethane	ND	5	o-Xylene	ND	5
2-Butanone	ND	5	m + p-Xylenes	ND	5
1,1,1-Trichloroethane	ND	5	1,3-Dichlorobenzene	ND	5
Carbon Tetrachloride	ND	5	1,2-Dichlorobenzene	ND	5
Bromodichloromethane	ND	5	1,4-Dichlorobenzene	ND	5
Vinyl Acetate	ND	5	tert-Butyl Alcohol	ND	50
1,2-Dichloropropane	ND	5	Methyl tert-Butyl Ether	ND	5
cis-1,3-Dichloropropene	ND	5	Diethyl ether	ND	50
Trichloroethene	ND	5			0

(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.: 9173.11_5mL

Lab Name: Environmental Profile Lab NJDEP Cert.# 15526

Matrix: Water

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

Level: (low/med) LOW

Column: Capillary

Lab Sample ID: 9173.11_5mL

Lab File ID: >V5372

Date Received: 10-26-92

Date Analyzed: 10/28/92

Dilution Factor: 1

Number of TICs found: 4

CONCENTRATION UNITS: ug/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1	103651	Benzene, propyl-	29.74	6	88
2	622968	Benzene, 1-ethyl-4-methyl-	30.15	10	93
3	620144	Benzene, 1-ethyl-3-methyl-	31.68	16	94
4	496117	1H-Indene, 2,3-dihydro-	34.32	10	70

RESULT SUMMARY

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1739	DILUTION FACTOR	1.00
CLIENT ID	MW1-2926939-BLDG 814	COMMENTS	HNU ND
DATA FILE	>A1431	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.1 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	102	88 - 110	OK
Bromofluorobenzene	94.9	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	MATRIX	Water
SAMPLE NUMBER	A1739	DILUTION FACTOR	1.00
CLIENT ID	BLDG 814, MW1-2926939	COMMENTS	HNU: 0
DATA FILE	>C1224	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	14	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
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(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

EPA SAMPLE NO.
MW1-2926939

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: NONE

Client ID: BLDG 814

Matrix: (soil/water) WATER

Lab Sample ID: A1739

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1431

Level: (low/med) LOW

Date Received: 04/28/93

% Moisture: NA

Date Analyzed: 05/05/93

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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E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG 814
MW-1
2926939

Client: US Army, Ft. Monmouth, NJ

Comments: HNU: 0

NJDEPE Case# None

Matrix: (soil/water) WATER

Lab Sample ID: A1739

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1224

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

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		

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1740	DILUTION FACTOR	1.00
CLIENT ID	MW1-2926939-DUP BLDG 814	COMMENTS	HNU ND
DATA FILE	>A1432	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.3 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	104	76 - 114	OK
Toluene-d8	101	88 - 110	OK
Bromofluorobenzene	97.7	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	MATRIX	Water
SAMPLE NUMBER	A1740	DILUTION FACTOR	1.00
CLIENT ID	BLDG 814, MW1-2926939 DUP	QA BATCH	
DATA FILE	>C1225	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	15	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
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW1-2926939-DUP-

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: NONE
Client ID: BLDG 814

Matrix: (soil/water) WATER
Lab Sample ID: A1740

Sample wt/vol: 5 (g/mL) mL
Lab File ID: >A1432

Level: (low/med) LOW
Date Received: 04/28/93

Moisture: NA
Date Analyzed: 05/05/93

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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E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG 814
MW-1 dup
2926939

Client: US Army, Ft. Monmouth, NJ

Comments: HNU: 0

NJDEPE Case# None

Matrix: (soil/water) WATER

Lab Sample ID: A1740

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1225

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

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		

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1741	DILUTION FACTOR	1.00
CLIENT ID	FIELD BLANK: BLDG 814	COMMENTS	HNU ND
DATA FILE	>A1429	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	5.7 B	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	100	76 - 114	OK
Toluene-d8	98.1	88 - 110	OK
Bromofluorobenzene	93.5	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	MATRIX	Water
SAMPLE NUMBER	A1741	DILUTION FACTOR	1.00
CLIENT ID	BLDG 814, FIELD BLANK	QA BATCH	
DATA FILE	>C1226	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	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
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(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

EPA SAMPLE NO:

FIELD BLANK

ab Name:21st Century Environmental

l nt Name: US ARMY FT. MONMOUTH, NJ
Case: NONE

Client ID: BLDG 814

atrix: (soil/water) WATER

Lab Sample ID: A1741

m le wt/vol: 5 (g/mL) mL

Lab File ID: >A1428

evel: (low/med) LOW

Date Received: 04/28/93

Moisture: NA

Date Analyzed: 05/05/93

l mn: DB-624

Dilution Factor: 1

umber 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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E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG 814 FIELD BLNK

Matrix: (soil/water) WATER

Lab Sample ID: A1741

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1226

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

Number TICs Found 2

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
	NO UNKNOWN COMPOUNDS IDENTIFIED		

MONITORING WELL DATA

CLIENT FT MONMOUTH DATE 4/28/93

ADDRESS BLDG #814 WELL ID MW 1

****

CASING DIAMETER 4 inches LENGTH OF CASING ABOVE GROUND NA

DEPTH TO WATER LEVEL	2.78	ft
DEPTH TO WELL BOTTOM	11.98	ft
COLUMN VOLUME	6.53	gal
PURGE VOLUME	19.59	gal
PUMP RATE	0.5	gpm
TOTAL PURGE TIME	40.0	min

PURGE TIME PUMP ON 13:17 PUMP OFF 13:57

ACTUAL PURGE VOLUME 20.0 gal

PARAMETERS: 624+15,XYLENE,625+15

COMMENTS:

WEATHER CONDITIONS: SUNNY

PH 7.60 TEMP 14.6 CONDUCTIVITY 300

HNU READING 0.0

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NARRATIVE

All extractions and analysis were performed within proper hold times for this batch of samples (A1739 to A1741). Please note that a peak appeared in the volatile scans due to trap breakdown in both the blanks and samples. The total ION chromatograms are labeled so.

CHAIN OF CUSTODY

21ST CENTURY ENVIRONMENTAL

618 HERON DRIVE, P.O. BOX 489 • BRIDGEPORT, NJ 08014-0489
609.467.9521 • 609.467.4523 FAX

CUSTOMER: FT MONMOUTH
ADDRESS:
TELEPHONE:
PROJECT: BLDG # 814
PROJECT MANAGER:
PROJECT LOCATION: STATE:
PO NUMBER:

TURNAROUND (INDICATE CALENDAR DAYS, CONFIRM WITH LAB): 2 5 7 14 21 OTHER:
DELIVERABLES (PLEASE CIRCLE): TIER 1 TIER II ECRA
CLP RESULTS ONLY OTHER: BIAS CORRECTION
FAX RESULTS TO:

ADDITIONAL INFORMATION / SPECIAL INSTRUCTIONS

A1739 - A1741

00002

SAMPLE NUMBER	SAMPLE DESCRIPTION	MATRIX	DATE	TIME	COMP	GRAB	NUMBER OF CONTAINERS	VOLATILE ORGANICS (METHOD 624+15)	SEMI VOA'S (BNA'S) (METHOD 625+15)	PESTICIDES / PCB'S	PCB'S	BTEX	TPH-PETROLEUM HYDROCARBONS	CORROSIVITY	IGNITABILITY	FLASHPOINT	REACTIVITY	TOC	TCLP METALS	TCLP VOLATILE ORGANICS	TCLP SEMI VOA'S (BNA'S)	TCLP PEST / HERB	PRIORITY POLLUTANT METALS (13)	HSL METALS (23)	X YLENE	ADDITIONAL ANALYSIS
HNU-0.0	MW1-2926939	WATER	4/28/93	14:30		✓	4	2	2																2	
HNU-0.0	MW1-2926939 DUP	WATER	4/28/93	14:30		—	4	2	2																2	
	FIELD BLANK	WATER	4/28/93	14:45		✓	3	2	1																2	

Relinquished By:	Date	Time	Received By:	Date	Time
[signature]			Lynda Carlin	4/28/93	1800

WHITE LAB COPY
YELLOW CUSTOMER COPY

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.

Acid Extractables
Base Neutrals

U.S.E.P.A. 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.

LABORATORY CHRONICLE

RECEIPT/REFRIGERATION 4/28/93

ORGANICS
EXTRACTION

1. Acids NA
2. Base/Neutrals 5/5/93
3. Pesticides/PCB's/Herbicides NA
4. Petroleum Hydrocarbons/Oil & Grease NA

ANALYSIS

1. Volatiles 5/5/93
2. Acids NA
3. Base/Neutrals 5/12/93
4. Pesticides/PCB's/Herbicides NA
5. Petroleum Hydrocarbons/Oil & Grease NA
6. Total Organic Carbon NA

Section Supervisor
Review & Approval Jeffrey D Martin

INORGANICS

1. Metals NA
2. Cyanides NA
3. Phenols NA

OTHER ANALYTES

Section Supervisor
Review & Approval NA

Quality Control Supervisor
Review & Approval

Laboratory Director
Review & Approval Richard W Pymm

If fractions are re-extracted and re-analyzed because initial endeavors did not meet quality control acceptance criteria, include dates for both.

RESULT SUMMARY

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1739	DILUTION FACTOR	1.00
CLIENT ID	MW1-2926939 BLDG 814	COMMENTS	HNU ND
DATA FILE	>A1431	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.1 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	103	76 - 114	OK
Toluene-d8	102	88 - 110	OK
Bromofluorobenzene	94.9	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	MATRIX	Water
SAMPLE NUMBER	A1739	DILUTION FACTOR	1.00
CLIENT ID	BLDG 814, MW1-2926939	COMMENTS	HNU: 0
DATA FILE	>C1224	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	14	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
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(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

EPA SAMPLE NO.
MW1-2926939

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: NONE
Client ID: BLDG 814

Matrix: (soil/water) WATER
Lab Sample ID: A1739

Sample wt/vol: 5 (g/mL) mL
Lab File ID: >A1431

Level: (low/med) LOW
Date Received: 04/28/93

% Moisture: NA
Date Analyzed: 05/05/93

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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E1

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 814
MW-1
2926939

Client: US Army, Ft. Monmouth, NJ

Comments: HNU: 0

NJDEPE Case# None

Matrix: (soil/water) WATER

Lab Sample ID: A1739

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1224

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

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		

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1740	DILUTION FACTOR	1.00
CLIENT ID	MW1-2926939-DUP BLDG 814	COMMENTS	HNU ND
DATA FILE	>A1432	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	2.3 JB	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	104	76 - 114	OK
Toluene-d8	101	88 - 110	OK
Bromofluorobenzene	97.7	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	MATRIX	Water
SAMPLE NUMBER	A1740	DILUTION FACTOR	1.00
CLIENT ID	BLDG 814, MW1-2926939 DUP	QA BATCH	
DATA FILE	>C1225	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	ND	10	Pyrene	ND	10
1,2,4-Trichlorobenzene	ND	10	Butylbenzylphthalate	15	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
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

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

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

MW1-2926939-DUP

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: NONE

Client ID: BLDG 814

Matrix: (soil/water) WATER

Lab Sample ID: A1740

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1432

Level: (low/med) LOW

Date Received: 04/28/93

% Moisture: NA

Date Analyzed: 05/05/93

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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E1

EPA SAMPLE NUMBER

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

BLDG 814
MW-1 dup
2926939

Client: US Army, Ft. Monmouth, NJ

Comments: HNU: 0

NJDEPE Case# None

Matrix: (soil/water) WATER

Lab Sample ID: A1740

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1225

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

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		

21st Century Environmental Inc.
VOLATILE ORGANIC ANALYSIS DATA

JOB NUMBER	US ARMY FT. MONMOUTH NJ	MATRIX	Water
SAMPLE NUMBER	A1741	DILUTION FACTOR	1.00
CLIENT ID	FIELD BLANK BLDG 814	COMMENTS	HNU ND
DATA FILE	>A1429	DATE ANALYZED	05/05/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
Acrolein	ND	50	2-Chloroethylvinylether	ND	10
Acrylonitrile	ND	50	2-Hexanone	ND	10
Chloromethane	ND	10	trans-1,3-Dichloropropene	ND	5
Bromomethane	ND	10	Toluene	ND	5
Vinyl Chloride	ND	10	cis-1,3-Dichloropropene	ND	5
Chloroethane	ND	10	1,1,2,2-Tetrachloroethane	ND	5
Acetone	ND	10	1,1,2-Trichloroethane	ND	5
1,1-Dichloroethene	ND	5	4-Methyl-2-pentanone	ND	10
Carbon Disulfide	ND	10	Tetrachloroethene	ND	5
Methylene Chloride	5.7 B	5	Dibromochloromethane	ND	5
1,2-Dichloroethene(trans)	ND	5	Chlorobenzene	ND	5
1,1-Dichloroethane	ND	5	Ethylbenzene	ND	5
Vinyl Acetate	ND	5	m&p-Xylenes	ND	5
2-Butanone	ND	10	o-Xylene	ND	5
Chloroform	ND	5	Styrene	ND	5
1,1,1-Trichloroethane	ND	5	Bromoform	ND	5
Carbon Tetrachloride	ND	5	m-Dichlorobenzene	ND	5
1,2-Dichloroethane	ND	5	p-Dichlorobenzene	ND	5
Benzene	ND	5	o-Dichlorobenzene	ND	5
Trichloroethene	ND	5	Methyl Tertiary Butyl Ether	ND	10
1,2-Dichloropropane	ND	5	Tertiary Butyl Alcohol	ND	50
Bromodichloromethane	ND	5			

SURROGATE COMPOUNDS	% RECOVERY	LIMITS	STATUS
1,2-Dichloroethane-d4	100	76 - 114	OK
Toluene-d8	98.1	88 - 110	OK
Bromofluorobenzene	93.5	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	MATRIX	Water
SAMPLE NUMBER	A1741	DILUTION FACTOR	1.00
CLIENT ID	BLDG 814, FIELD BLANK	QA BATCH	
DATA FILE	>C1226	DATE ANALYZED	05/12/93

COMPOUND	UG/L	MDL	COMPOUND	UG/L	MDL
N-Nitrosodimethylamine	ND	10	2,6-Dinitrotoluene	ND	10
bis(-2-Chloroethyl)Ether	ND	10	Diethylphthalate	ND	10
1,3-Dichlorobenzene	ND	10	4-Chlorophenyl-phenlyether	ND	10
1,4-Dichlorobenzene	ND	10	Fluorene	ND	10
Benzyl Alcohol	ND	10	4-Nitroaniline	ND	50
1,2-Dichlorobenzene	ND	10	N-Nitrosodiphenylamine	ND	10
bis(2-chloroisopropyl)Ether	ND	10	4-Bromophenyl-phenylether	ND	10
N-Nitroso-Di-n-Propylamine	ND	10	Hexachlorobenzene	ND	10
Hexachloroethane	ND	10	Phenanthrene	ND	10
Nitrobenzene	ND	10	Anthracene	ND	10
Isophorone	ND	10	Di-n-Butylphthalate	ND	10
Benzoic Acid	ND	50	Fluoranthene	ND	10
bis(-2-Chloroethoxy)Methane	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
2-Methylnaphthalene	ND	10	Chrysene	ND	10
Hexachlorocyclopentadiene	ND	10	Di-n-Octyl Phthalate	ND	10
2-Chloronaphthalene	ND	10	Benzo(b)fluoranthene	ND	10
2-Nitroaniline	ND	50	Benzo(k)Fluoranthene	ND	10
Dimethyl Phthalate	ND	10	Benzo(a)Pyrene	ND	10
Acenaphthylene	ND	10	Indeno(1,2,3-cd)Pyrene	ND	10
3-Nitroaniline	ND	50	Dibenzo(a,h)Anthracene	ND	10
Acenaphthene	ND	10	Benzo(g,h,i)Perylene	ND	10
Dibenzofuran	ND	10	Benzidine	ND	20
2,4-Dinitrotoluene	ND	10			

(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

EPA SAMPLE NO.

FIELD BLANK

Lab Name: 21st Century Environmental

Client Name: US ARMY FT. MONMOUTH, NJ
Case: NONE

Client ID: BLDG 814

Matrix: (soil/water) WATER

Lab Sample ID: A1741

Sample wt/vol: 5 (g/mL) mL

Lab File ID: >A1428

Level: (low/med) LOW

Date Received: 04/28/93

% Moisture: NA

Date Analyzed: 05/05/93

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 VOA-TIC 1/87 Rev.

E1

semi-VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NUMBER

BLDG 814
FIELD BLNK

Matrix: (soil/water) WATER

Lab Sample ID: A1741

Sample wt/vol: 1000 (g/mL) ML

Lab File ID: >C1226

Level: LOW

Date Received: 04/28/93

% Moisture: 100

Date Analyzed 05/12/93

Extraction: (Sepf/Cont/Sonc) SEPF

Date Extracted 05/05/93

GPC (Y or N): N

Column: DB-5

Dilution Factor: 1

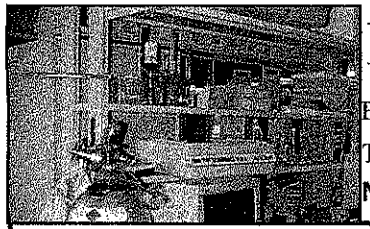
Number TICs Found 2

CONCENTRATION UNITS
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST CONC
	NO UNKNOWN COMPOUNDS IDENTIFIED		

ENCLOSURE 2 of Attachment S

Field Notes and Boring Logs



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: C. Appleby
Phone #: 532-6024
( )DERA (X)OMA ( )Other:_____

Project No:
Location: Bldg 819 UST

Samplers Name / Company : AST Solutions / SES Subcontractor

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	Metals							Remarks / Preservation Method
3350. 01	B1 5-4'	2/19/98	9:10	Soil	1	X	X							Soils kept @ 4°C
02	B1 6-7'	2/19/98	9:20	Soil	1	X	X							
03	B2 3.5-4'	2/19/98	9:35	Soil	1	X	X							- Re chemical ESS
04	B2 5-6'	2/19/98	9:40	Soil	1	X	X							Jars - 4oz
05	B3 3.5-4'	2/19/98	10:15	Soil	1	X	X							Lot # R9703792
06	Dupe	11	NA	Soil	1	X	X							
07	B3 4-5.5'	2/19/98	10:25	Soil	1	X	X							

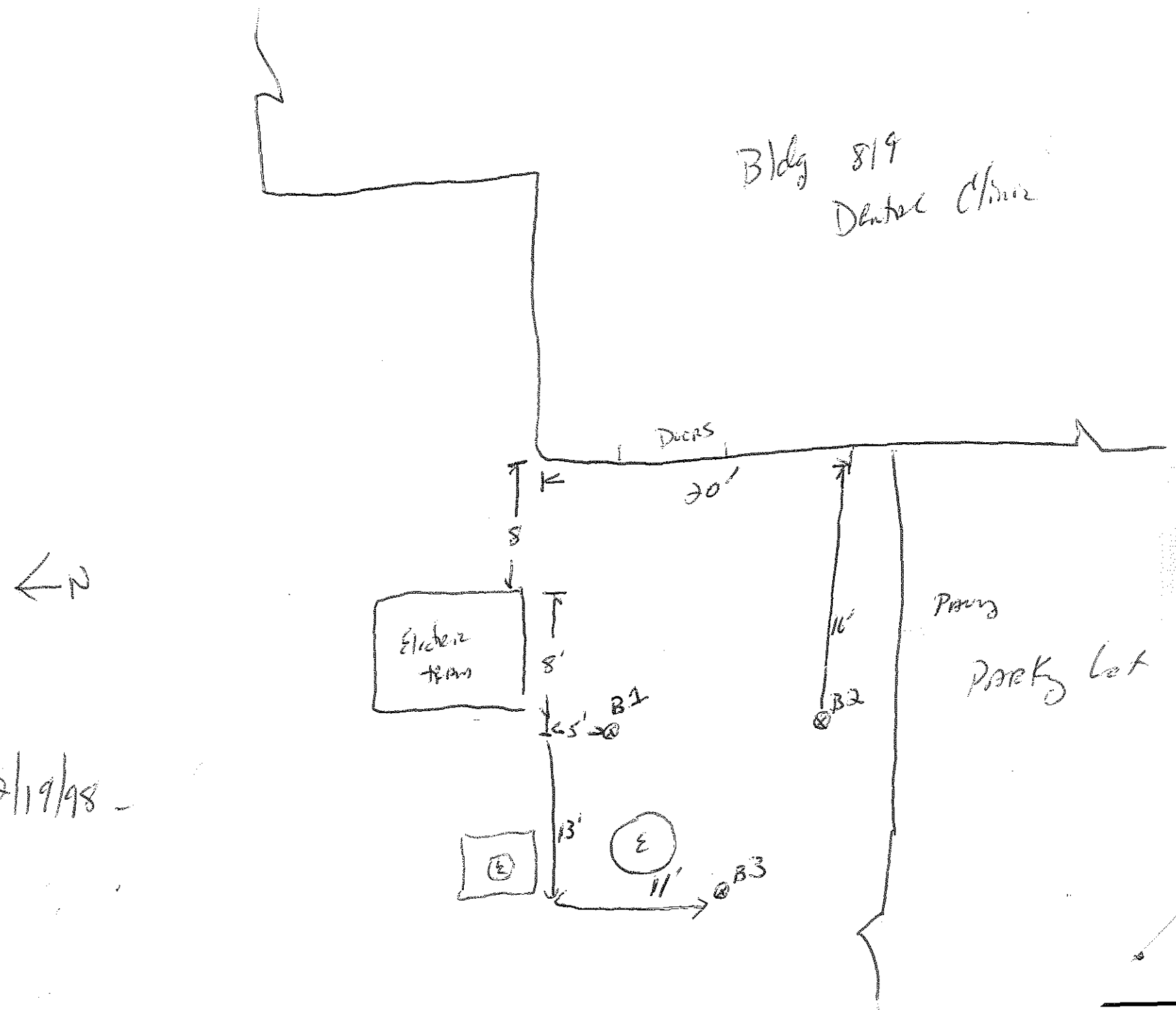
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	2-19-98 1140				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:

print legibly

~me3a6b.xls12/5/97


Bldg 819
Dental Clinic
Doors
20'
8
8'
Electric Tram
5'
B1
16'
B2
Parking
Parking Lot
13'
11'
B3
N

2/19/98

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 #: 3350
Sample Rec'd: 02/19/98
Analysis Start: 02/19/98
Analysis Comp: 02/19/98

Analysis: Munsel

Lab ID#	Soil Color
3350.1	N3/5G Very Dark Gray/Grayish Green
3350.2	5GY Light Greenish Gray
3350.3	5Y Dark Gray
3350.4	5Y Dark Gray
3350.5	5Y/5G Dark Olive/Grayish Green
3350.6	5Y/5G Dark Olive/Grayish Green
3350.7	5Y/5G Dark Olive/Grayish Green

CORE LOG	CLIENT: DPW - C. Appleby			PAGE: 1 OF 1
PROJECT: 819 Dentac Clinic UST	PROJECT #:	CORING DATE: 2/19/98		CORE #: B-1
TYPE: Geoprobe	TOTAL DEPTH: 8'	CORE RECOVERY: 100%	DATUM:	COLLAR ELEVATION: NA
CORE COORDINATES: See Site Drawing		LOGGER: C. Appleby		DATE LOGGED: 2/19/98

Core Depth (feet)	Sample Interval	Sediment Profile	DESCRIPTION	OVA
0			Grass	
			Rock Fill material 1½"	ND
1				
			Fill Dirt.	
2				
			DARK organic Silty Clays - Green	
Sample 3 B1- 2'-4'				5 PPM
4				
			"	
5				ND
			Silty Sands - Green	
Sample 6 B1 2'-4'				
▽ wet 7				
			~~Bag Iron Less~~	ND
			Med - Coarse Sands White w Sm gravel	ND
8			Bag Iron Red Coarse Sand	ND
			Sands w/ med → Coarse gravels	
9				
10				

KEY

FINE SAND
MED. SAND
CRSE. SAND
GRAVEL
PEBBLES
SHELLS
MUD
BURROWS
WOOD FRAG.
ROOTS

ATHENA TECHNOLOGIES INC

CORE LOG B-2	CLIENT C. Appleby DPW		PAGE 1 OF 1
PROJECT 819 Dental Clinic	PROJECT #	CORING DATE 2/19/98	CORE # B2
TYPE Geoprobe	TOTAL DEPTH 8'	CORE RECOVERY 75%	DATUM	COLLAR ELEVATION NA
CORE COORDINATES		LOGGER C. Appleby	DATE LOGGED 2/19/98

Core Depth (feet)	Sample Interval	Sediment Profile	DESCRIPTION	OVA
0			Roots / veg. — Sandy Soil.	ND
1			Poor Recovery. Sandy Soil w/ med gravel — Possible Loose Fill material.	ND
2				
3				
4			Silty Sands - Dark Green odor of fuel.	ND
5			Dark Green Sands Coarse → Fine w/ mixed small gravel odor of Fuel oil	ND
6			Coarse Sand - tan	
7				ND
8				
9				
10				

50% Recovery

B2 - 3.5-4'

B2 5-6'

100% Recovery

∇ wet

KEY

FINE SAND
MED. SAND
CRSE. SAND
GRAVEL
PEBBLES
SHELLS
MUD
BURROWS
WOOD FRAG.
ROOTS

ATHENA TECHNOLOGIES INC

CORE LOG B3	CLIENT C. Appleby DPW		PAGE 1 OF
PROJECT 819 Dental Clinic UST	PROJECT #	CORING DATE 2/19/98	CORE # B-3
TYPE Geoprobe	TOTAL DEPTH 8'	CORE RECOVERY	DATUM	COLLAR ELEVATION NA
CORE COORDINATES		LOGGER C. Appleby	DATE LOGGED 2/19/98

Core Depth (feet)	Sample Interval	Sediment Profile	DESCRIPTION	OVA
0			Roots - 1 Soil Sandy No odor.	ND
1			Sandy Soil w/ Small gravel interstitial layers <2" thick	ND
Recov 75% 2			Poor Recovery Area. Loose due to gravel lenses	
3				
	B3 3.5-4'		Dark Silty Sand (Fine)	ND
4				
	B3 4-5.5 + Dupe		"	4ppm
5				
90% Recov 6			Silty Sand Grey No odor	ND
			med - Coarse Sand w mix gravels	
7			wet - No odor	ND
8				
9				
10				

KEY

FINE SAND
MED. SAND
CRSE. SAND
GRAVEL
PEBBLES
SHELLS
MUD
BURROWS
WOOD FRAG.
ROOTS

ATHENA TECHNOLOGIES INC

ENCLOSURE 3 of Attachment S

Soil Analyses

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEPE # 13461

REPORT OF ANALYSIS

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

Project: Total Petroleum Hydrocarbons
Bldg. 819
UST

Project # 3350
Date Rec. 02/19/98
Date Compl. 02/23/98
Released by:

Daniel K. Wright
Laboratory Director

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Results Summary	7
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Surrogate Results Summary	11
MS/MSD Results Summary	12
Quality Control Spike Summary	13
Raw Sample Data	14-27
Laboratory Deliverable Checklist	28

Method Summary

NJDEP Method OQA-QAM-025-10/97

Gas Chromatographic Determination of Total Petroleum Hydrocarbons in Soil

Fifteen grams (15g)(wet weight) of a soil sample is added to a 125 mL acid cleaned, solvent rinsed, capped Erlenmeyer flask. 15g anhydrous sodium sulfate is added to dry sample. Surrogate standard spiking solution is then added to the flask.

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

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for petroleum hydrocarbons covering a range of C8-C42 including pristane and phytane. Total Petroleum Hydrocarbon concentration is determined by integrating between 5 minutes and 22 minutes. The baseline is established by starting the integration after the end of the solvent peak and stopping after the last peak.

The final concentration of Total Petroleum Hydrocarbons is calculated using percent solid, sample weight and concentration.

PHC Conformance/Non-conformance Summary Report

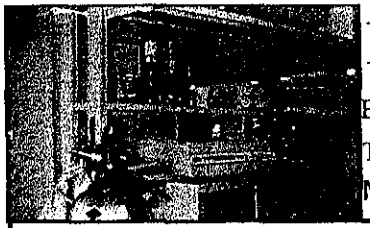
	No	Yes
1. Method Detection Limits provided.	__	✓
2. Method Blank Contamination - If yes, list the sample and the corresponding concentrations in each blank.	✓	__
3. Matrix Spike Results Summary Meet Criteria. (If not met, list the sample and corresponding recovery which falls outside the acceptable range).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

Additional Comments:_____

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

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (908)532-4359 Fax (908)532-3484 EMail:appleby@doim6.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: C. Appleby
Phone #: 532-6034
( )DERA (X)OMA ( )Other:_____

Project No:
Location: Bldg 813
UST

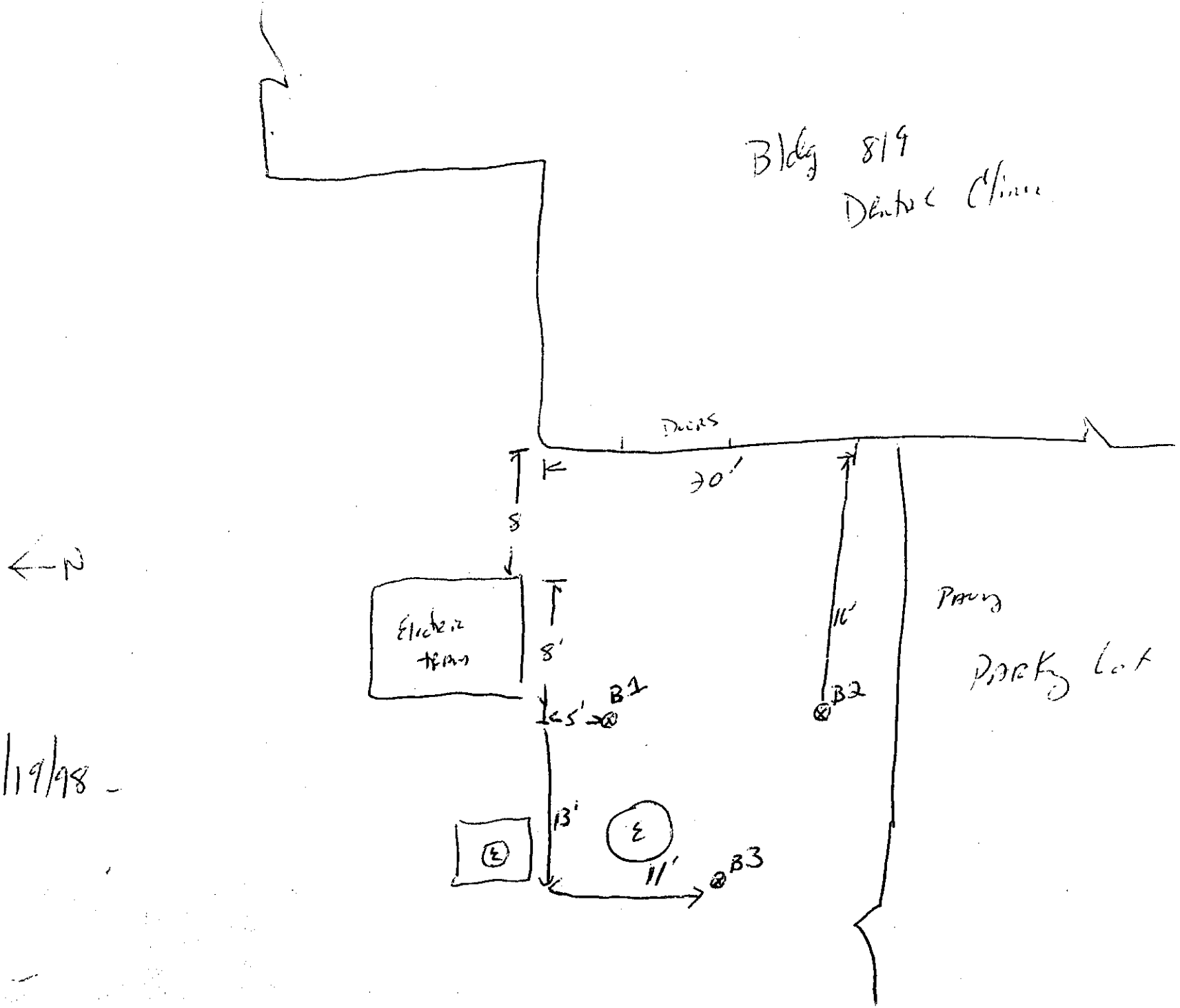
Samplers Name / Company: ART Salvatore / SES Subcontractor

Lab Sample I.D.	Sample Location	Date	Time	Sample Type	# bottles	TPHC	Metals							Remarks / Preservation Method
3350. 01	B1 5-4'	2/19/98	9:10	Soil	1	X	X							Soils kept at 4°C
02	B1 6-7'	2/19/98	9:20	Soil	1	X	X							
03	B2 3.5-4'	2/19/98	9:35	Soil	1	X	X							- Pre chemical ESS
04	B2 5-6'	2/19/98	9:40	Soil	1	X	X							Jars - 4oz
05	B3 3.5-4'	2/19/98	10:15	Soil	1	X	X							Lot # R97C377.2
06	Dupe	11	N/A	Soil	1	X	X							
07	B3 4-5.5'	2/19/98	10.25	Soil	1	X	X							

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
	2/19/98 1140				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks:


Bldg 819
Dental Clinic
Doors
70'
8
8'
Electric trans
5'
B1
B2
16'
Paving
Parking Lot
13'
11'
B3
N

2/19/98

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

Client :	U.S. Army	**Lab. ID # :**	3350
	DPW. SELFM-PW-EV	**Date Rec'd:**	19-Feb-98
	Bldg. 173	**Analysis Start:**	23-Feb-98
	Ft. Monmouth, NJ 07703	**Analysis Complete:**	23-Feb-98
Analysis:	OQA-QAM-025	**UST Reg. #:**	
Matrix:	Soil	**Closure #:**	
Analyst:	D.DEINHARDT	**DICAR #:**	
Ext. Meth:	Shake	**Location #:**	Bldg 819

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3350.01	B1 2-4	1.00	15.89	86.06	172	ND
3350.02	B1 6-7	1.00	15.34	99.10	155	ND
3350.03	B2 3.5-4	1.00	15.35	86.67	177	191.34
3350.04	B2 5-6	1.00	15.83	85.22	174	ND
3350.05	B3 3.5-4	1.00	15.11	83.83	186	ND
3350.06	DUP	1.00	15.71	82.98	180	ND
3350.07	B3 4-5.5	1.00	15.45	85.80	177	ND
METHOD BLANK	20-Feb-98	1.00	15.00	100.00	157	ND

ND = Not Detected

MDL = Method Detection Limit

Daniel K. Wright
Laboratory Director

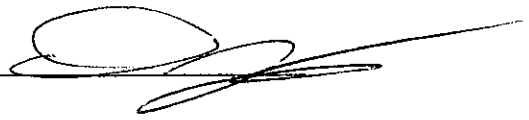
LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature 

Date 3/23/95

Laboratory Certification #13461

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

ATTACHMENT T

UST 850 File Review and Analyses

PARSONS

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

Date: *June 5, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 850*** Registration ID: *None*

Recommended Status of Site: ***Case Closed (no change)***

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***NFA***

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

NJDEP Release No. or DICAR (If applicable): _____

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

Tank Description: [ ] Steel [ ] Fiberglass Size: unknown Contents: No. 2 Fuel Oil

[X] Residential [ ] Commercial/Industrial

Tank Removed? [ ] Yes [ ] No If "yes," removal date: _____

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

Bldg. 850 has been demolished and was a former barracks building located approximately 200 ft southeast of the intersection of Tindall Avenue and Army Lane. Field forms or notes have not been located, so this summary is based on the analytical data packages for the closure soil samples.

Soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Four soil samples and one field duplicate were collected from the excavation on February 16, 2011. TPH results ranged from not detected to 88 mg/kg. 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 the UST Case Status of "Case Closed."

Recommendations (if any): Request NFA from NJDEP

Signed: _____

Kent A. Friesen, Parsons

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. /850

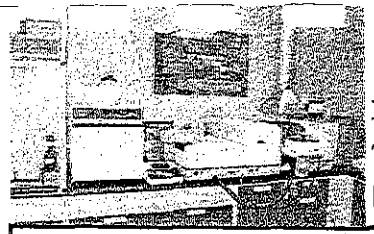
Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
850-A/North End	1105701	Soil	16-Feb-11 13:10	02/16/11
850-B/Center	1105702	Soil	16-Feb-11 13:30	02/16/11
850-C/South End	1105703	Soil	16-Feb-11 13:47	02/16/11
850-D/Piping	1105704	Soil	16-Feb-11 15:05	02/16/11
850/Duplicate	1105705	Soil	16-Feb-11 13:10	02/16/11

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
EPH, %SOLIDS

Dean Tardiff/Date: 3/8/11
Laboratory Manager

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

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

NJDEP Certification #13461

Chain of Custody Record

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

Project No:
Location: (FORMER) BLDG.850*

Samplers Name / Company: FRANK ACCORSI/TVS

Analysis Parameters

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	% SOLIDS					PID (PPM)	DEPTH (FT)	Remarks / Preservation Method
11054 01	850-A, NORTH END	2-16-11	1310	SOIL	1	X	X					0	6-6.5	ICE
02	850-B, CENTER		1330			X	X					0	6-6.5	
03	850-C, SOUTH END		1347			X	X					0	6-6.5	
04	850-D, PIPING		1505			X	X					0	2.5-3	
05	850-DUPLICATE		1310			X	X					0	6-6.5	

Comments:

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	2-16-11 1515	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Comments: *IF TPH > 1,000 PPM TPH, ANALYZE FOR NAPHTHALENE + 2-METHYL-NAPHTHALENE

000002

print legibly

COC .xls12/8/2010

SAMPLE RECEIPT FORM

Date Received: 2-16-11 Work Order ID#: 110354

Site/Proj. Name: Bldg. 850 Cooler Temp (°C): 4.0°C

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

Check the appropriate box

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

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments: _____

GPS
POINTS

U.S. ARMY - FT. MONMOUTH, NJ

(former)BUILDING 850- UST & PIPING

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
850A-NORTH END	538003.951	619680.311
850B-CENTER	538001.148	619684.724
850C-SOUTH END	537996.207	619690.936
850D-PIPING	537992.971	619677.8

FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 11057 Site: Bldg. 850

The Field Duplicate was performed on 850- A North End (1105701).

METHOD SUMMARY

CONFORMANCE/ NON-CONFORMANCE SUMMARY

Method Summary

NJDEP Method ORG-10-08
Gas Chromatographic Determination of Extractable Petroleum Hydrocarbons in Soil

Ten grams (10g) of soil is added to an extraction thimble. 10g anhydrous Sodium Sulfate is added to dry the sample. Surrogate standard spiking solution is then added to the flask.

One hundred mL of Methylene Chloride is added to the Soxhlet jar and it is placed onto the Soxtherm extractor. The extraction is set to run for one hour at 160°C. The jar is removed from the Soxtherm and the particulate matter is allowed to settle. Next, the extract is concentrated under a stream of nitrogen. The methylene chloride is then solvent exchanged with ~10mL of hexane. The final volume is adjusted to 1.0mL under nitrogen. 1.0mL of fractionation surrogate is added to the final hexane extract. The resulting 2.0mL of extract is transferred to a Teflon capped vial. Samples determined to require fractionation shall be separated into an aliphatic and an aromatic fraction by passing through a silica gel cartridge with consecutive portions of hexane and methylene chloride.

The extract is then injected directly into a GC-FID for analysis. The sample is analyzed for aliphatic and aromatic Petroleum Hydrocarbons covering ranges of C9-12, C12-26, C16-21, and C21-40 for aliphatics and ranges C10-12, C12-16, C16-21, and C21-36 for aromatics. The final concentration of Extractable Petroleum Hydrocarbons is calculated using percent moisture, sample weight, and summing the total concentrations of the two fractions.

11057 EPH

NJ EPH/GC 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.	Standards Summary Meet Criteria	Yes
4.	Calibration – Initial Calibration performed before sample analysis and continuing calibration performed within 24 hours of sample analysis	Yes
5.	Blank Contamination – If yes, list compounds and concentrations in each blank: _____ _____	No
6.	Surrogate Recoveries Meet Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range: _____ _____ If not met, were the calculations checked and the results qualified as "estimated"?	Yes _____
7.	Matrix Spike/Matrix Spike Duplicate Recoveries Meet Criteria If not met, list those compounds and their recoveries which fall outside the acceptable range _____ _____	Yes

Additional Comments: _____

Analyst: _____

Laboratory Manager: Dean Tarazi

Date: 3/4/11

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 11057 **Site:** Bldg. 850

	Date	Hold Time
Date Sampled	02/16/11	NA
Receipt/Refrigeration	02/16/11	NA
Analyses		
1. EPH	02/17/11	14 Days

EPH

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. 850
ECP:
Work Order:

Analysis: NJ EPH
Matrix: Soil
Inst. ID: GC TPHC INST. #1
Column Type: RTX-5, 0.32mm ID, 30 m
Injection Vol.: 1 uL

Date Received: 16-Feb-11
Date Extracted: 17-Feb-10
Extraction Method: Soxhlet
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	Total EPH Result (mg/kg)	Data		Qualifiers
MB02171101	MB02171101	1.00	10.00	100.00	4.19	91.5	not detected			
1105701	850-A NORTH END	1.00	10.39	84.1	4.80	104.7	not detected			
1105702	850-B CENTER	1.00	10.17	81.6	5.05	110.2	not detected			
1105703	850-C SOUTH END	1.00	10.24	79.3	5.16	112.7	88.10			J
1105704	850-D PIPING	1.00	10.00	100.0	4.19	91.5	50.00			J
1105705	850 DUPLICATE	1.00	10.30	81.8	4.97	108.6	not detected			

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

001045

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature Dean Tarca

Date: 3/8/11

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Dean Tardiff 3/8/11
Laboratory Manager

ATTACHMENT U

UST 884 File Review and Analyses

PARSONS

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

Date: *June 5, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 884*** Registration ID: *None*

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

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***None***

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

NJDEP Release No. or DICAR (If applicable): 30-10-07-1347-49

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: 10/7/2003

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

Following tank removal in 2003, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Three soil samples and one field duplicate were initially collected from the excavation on October 7, 2003, and two additional samples were collected on October 9, 2003. The sample results ranged from not detected to 31,558 mg/kg for TPH. Contaminated soil was removed from the excavation, and four additional soil samples plus one field duplicate were collected. Sample results from the later samples ranged from ND to 1758 mg/kg for TPH. Samples exceeding 1000 mg/kg were also analyzed for volatile organic compounds (VOCs); the only VOCs detected were acetone (840 to 1300 ug/kg), ethyl benzene (290 to 670 ug/kg) and xylenes (700 to 3300 ug/kg). The final results were less than 5,100 mg/kg for TPH, which is the current remediation criterion. Also, the detected VOCs were below the current Residential Direct Contact Soil Remediation Standards (RDCSRS). 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: 884 ***NJDEP REG ID:*** -

RESIDENTIAL? YES

UST CONSTRUCTION INFORMATION SUMMARY

SIZE (GALLONS): 1000 ***CONSTRUCTION:*** STEEL

PRODUCT: #2 FUEL OIL ***YEAR INSTALLED:*** 1940

UST REMOVAL/INVESTIGATION SUMMARY

REMOVAL DATE: 11/2/2003 ***REMOVAL CONTRACTOR:*** TVS

SRF SEND DATE: ***TMS:***

DICAR NO. 03-10-07-1347-49 ***LEAK DETECT:***

REMEDIATION COMMENTS: UST found during cable installation. In front of Post Office. UST removed. Soil overexcavation performed. Closure soil samples below NJDEP criteria. Closure report being prepared by TVS. CA 3-16-2011 TPH cont soils excavated Post ex samples below Criteria at time of removal, no groundwater encountered.

REGISTRATION COMMENTS: Historical residential from Barracks. No registration. CA 3-16-2010 real property record review done, bldg is Motor repair school, Rpt required.

SAS DONE: NO ***CONSULTANT:*** Frank Accorsi

MWs NEEDED: 0 ***MONITORING WELLS:*** 0

SUB-SURFACE EVALUATOR: Frank Accorsi

CURRENT UST STATUS

UST STATUS: REMOVED CLEAN SITE SAS REQ ***CASE STATUS:*** Case Open

SUBMITTAL DATE: ***APPROVAL DATE:***

FINALIZED: No

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: 04-10123

Post Office @ Malterer Ave.

Field Sample Location	Laboratory Sample ID	Matrix	Date and Time of Collection	Date Received
B1	3063201	Soil	06-Oct-03 13:00	10/06/03
884-A Southeast Wall	3063901	Soil	07-Oct-03 14:10	10/08/03
884-B Bottom	3063902	Soil	07-Oct-03 14:40	10/08/03
884-C Northeast Wall	3063903	Soil	08-Oct-03 14:50	10/08/03
884-D Duplicate	3063904	Soil	08-Oct-03 14:50	10/08/03
Trip Blank	3063905	Methanol	08-Oct-03	10/08/03
884-E Southwest Wall	3064201	Soil	09-Oct-03 11:00	10/09/03
884-F Northwest Wall	3064202	Soil	09-Oct-03 11:30	10/09/03
Trip Blank	3064203	Methanol	09-Oct-03	10/09/03
Trip Blank	3064501	Methanol	10-Oct-03	10/10/03
B2	3064502	Soil	10-Oct-03 10:10	10/10/03
B3	3064503	Soil	10-Oct-03 10:55	10/10/03
884-G Southwest Wall	3067301	Soil	22-Oct-03 09:50	10/22/03
884-H Southwest Wall	3067302	Soil	22-Oct-03 10:35	10/22/03
884-I Bottom	3067303	Soil	22-Oct-03 11:00	10/22/03
884-J Duplicate	3067304	Soil	22-Oct-03 10:35	10/22/03
884-K Northwest Wall	3067305	Soil	22-Oct-03 11:30	10/22/03
Trip Blank	3067306	Methanol	22-Oct-03	10/22/03

ANALYSIS:

FORT MONMOUTH ENVIRONMENTAL LAB
VOA+15, TPHC, % SOLIDS

12-3-03
Daniel Wright/Date
Laboratory Director

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

CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

Bldg. 173, SELFM-PW-EV, Fort Monmouth, NJ 07703
Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Doug Guenther
Phone #:
( )DERA ( )OMA ( )Other:_____
Project No:
Location: post Office
Samplers Name / Company:

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	%Solids							Comments: Remarks / Preservation Method
						Analysis Parameters								
30632.01	B1	10/6/03	13:00	Soil	1	✓	✓							

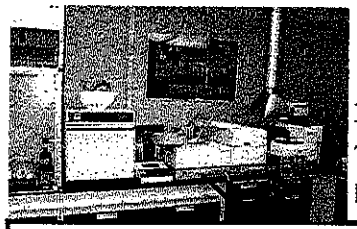
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
George J. Boyce	10-6-03 1405	J. Wright			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 2 Days, ( )ASAP Verbal ___Hrs.

Remarks:

print legibly

COC.XLS6/17/2003



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: JOE FALLON
Phone #: X26223
( )DERA ( )OMA ( )Other:_____

Project No: 04-10123
Location: MALTERER AVE. @ POST OFFICE (FORMER B.884)

Samplers Name / Company: FRANK ACCORSI / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOA *				VOA #	PID (ppm)	DEPTH (FT.)	Remarks / Preservation Method
30039 01	884-A, SOUTHEAST WALL	10-7-03	1410	SOIL	2	X	X				3538	0	13-13.5	ICE
02	884-B, BOTTOM	"	1440			X	X				3539	0	15-15.5	
03	884-C, NORTHEAST WALL	10-8-03	1450			X	X				3540	22	8-8.5	
04	884-D, DUPLICATE		1450			X	X				3541	20	8-8.5	
05	TRIP BLANK		—	AQ.			X				3542	—	—	

Analysis Parameters

Comments:

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	10-8-03 1545	J. Wright			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Remarks: * VOA 15 ON 25% > 1,000 PPM TPH, ON HIGHEST, MIN. ONE

print legibly

COC.XLS8/29/2003

Change of Chain of Custody

Lab Project ID#: 30639 Site/Project Name: Post Office

Date Received: 10/7+8/05 Date of Change: 10/16

Requested by: print D Guenther Sign: _____

Turnaround Time: Standard

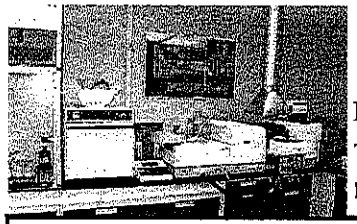
1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: print _____ Sign: _____

Sample ID#	New Analysis		Sample ID#	New Analysis
30639 02	VOA+15 sampled		10/7	
03	VOA+15		10/8	

Comments:

As per Doug G. no VOAs on 30642 or 30645 there will be more samples taken



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: JOE FALLON
Phone #: X26223
( )DERA ( )OMA ( )Other:_____

Project No: 04 10123
Location: MALTERER AVE. (FORMER B. 884)

Samplers Name / Company: FRANK ACCORSI / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: TPH	VOTIS*					PID (ppm)	DEPTH (FT.)	Comments: Remarks / Preservation Method
30642 01	884-E, SOUTHWEST WALL	10-9-03	1100	SOIL	2	X	X					325	9.5-10	ICE
02	884-F, NORTHWEST WALL		1130	—	2	X	X					305	8-8.5	
03	TRIP BLANK		—	AQ.			X					—	—	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	10-9-03 1540	J. Wright			
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 Days, ( )ASAP Verbal ____Hrs.

Remarks: VOTIS ON 25% > 4000 ppm TPH

print legibly



Fort Monmouth Environmental Testing Laboratory

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Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil
NJDEP Certification #13461

Chain of Custody Record

Customer: Joe Fallon
Phone #: x 26223
( )DERA ( )OMA ( )Other:_____

Project No: 04-10123
Location: Malter Ave Post office Former B 884

Samplers Name / Company: George Boyce (TVS)

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VOA +15							Comments: / Remarks / Preservation Method
						Analysis Parameters								
30645 1	Trip	10/10/03			1		X							Meth 3547
2	B2 7'-7½'	10/10/03	1010	Soil	2	X	X							HNU 50 3548
3	B3 7'-7½'	10/10/03	1055	Soil	2	X	X							HNU 100 3549

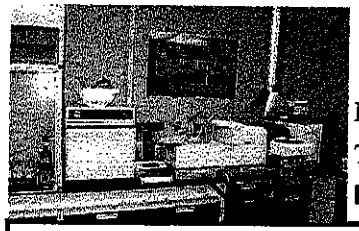
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
George Boyce	10-10-03 1155	J. Vaughn			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

Report Type: ( )Full, (X)Reduced, ( )Standard, ( )Screen / non-certified, ( )EDD
Turnaround time: ( )Standard 3 wks, (X)Rush 7 Days, ( )ASAP Verbal ____Hrs.

Remarks:

print legibly

COC.XLS8/29/2003



Fort Monmouth Environmental Testing Laboratory

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Tel (732)532-4359 Fax (732)532-6263 EMail:wrightd@mail1.monmouth.army.mil

NJDEP Certification #13461

Chain of Custody Record

Customer: DOUG. GUENTHER
Phone #:
( )DERA ( )OMA (X)Other:_____

Project No: 04-10123
Location: (FORMER) B.884 MALTERER AVE.

Samplers Name / Company: FRANK ACCORSI / TVS

Analysis Parameters

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	TPH	VO+15 *				VO#	PID (PPM)	DEPTH (FT)	Remarks / Preservation Method
30 673 01	884G - SOUTHWEST WALL	10-22-03	0950	SOIL	2	X	X				3351	0	8-8.5	ICE
02	884H - " "		1035		2	X	X				3352	28	9-9.5	
03	884I - BOTTOM		1100		2	X	X				3353	0	10-10.5	
04	884J - DUPLICATE		1035		2	X	X				3354	50	9-9.5	
05	884K - NORTHWEST WALL		1130		2	X	X				3355	62	8-8.5	
06	TRIP BLANK		–	AQ	1		X				3350	–	–	

Comments:

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	10-22-03 1510	[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 Days, ( )ASAP Verbal ____Hrs.

Remarks: * VO+15 ON 25% > 1,000 PPM TPH, ON HIGHEST, MIN. ONE

print legibly

COC.XLS9/2/2003

Change of Chain of Custody

Lab Project ID#: 30673 Site/Project Name: Post Office

Date Received: 10/22 Date of Change: 10/28

Requested by: print [illegible] Sign: [illegible]

Turnaround Time: 1 wk

1. Were the correct containers and/or preservatives used for the tests indicated? Yes No
2. Was a sufficient amount of sample sent for the tests indicated? Yes No
3. Are samples Within Holding time for new analysis? Yes No
4. Was the change documented in the sample receipt log book? Yes No

Received by: print _____ Sign: _____

Sample ID#	New Analysis		Sample ID#	New Analysis
306730 2	VOA+15			
04	1			
06	1			

Comments: _____

US ARMY - FT. MONMOUTH, NJ

(former)BUILDING 884-UST SOIL SAMPLE GPS POSITIONS & COORDINATES

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

(IN US SURVEY FEET)

SAMPLE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
884A SOUTHEAST WALL	538554.506	619722.959
884B BOTTOM	538568.244	619707.098
884C NORTHEAST WALL	538584.667	619727.892
884E SOUTHWEST WALL	538556.812	619695.412
884F NORTHWEST WALL	538575.933	619689.843
884G SOUTHWEST WALL	538545.676	619696.861
884H SOUTHWEST WALL	538549.199	619673.331
884I BOTTOM	538565.144	619675.106
884K NORTHWEST WALL	538565.02	619651.916

REFERENCE POINTS

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
B1005 WEST CORNER	538617.815	619855.146
B1005 NORTH CORNER	538685.363	619913.201
B1005 EAST CORNER	538638.453	619989.181
B1005 SOUTH CORNER	538560.397	619945.931

CASE NARRATIVE

CASE NARRATIVE

Site: Post Office at Malterer Ave.
Lab ID: 30632, 30639, 30642, 30645, 30673

The Field Duplicate sampled on 10/08/03 was performed on 884-C Northeast Wall (Lab ID 3063903).

The Field Duplicate sampled on 10/22/03 was performed on 884-H Southwest Wall (Lab ID 3067302).

All samples were analyzed for Total Petroleum Hydrocarbons (Method OQA-QAM-025-10/91).

Additionally, the following samples were also analyzed for Volatile Organics (Method 8260):

Lab ID	Field ID
3063902	884-B Bottom
3063903	884-C Northeast Wall
3063905	Trip Blank
3067302	884-H Southwest Wall
3067304	884-J Duplicate
3067306	Trip Blank

At the clients request, no Volatile Organics were performed on Work Orders 30642 and 30645.

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

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 20Oct03

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 20Oct03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014613.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 0 Date Analyzed: 10/20/2003

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	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 20Oct03

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 20Oct03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014613.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 0 Date Analyzed: 10/20/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 20Oct03**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 20Oct03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014613.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 0 Date Analyzed: 10/20/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 29Oct03

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 29Oct03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014738.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 0 Date Analyzed: 10/29/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

MB 29Oct03

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 29Oct03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014738.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 0 Date Analyzed: 10/29/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB 29Oct03**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: MB 29Oct03

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014738.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 0 Date Analyzed: 10/29/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063905

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014616.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 0 Date Analyzed: 10/20/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	660	
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063905

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014616.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 0 Date Analyzed: 10/20/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063905

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014616.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 0 Date Analyzed: 10/20/2003

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: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	unknown	26.50	2000	J
2.	unknown	27.78	3400	J
3.	unknown	28.54	1400	J
4.	unknown	28.88	1900	J
5.	unknown	29.70	1400	J
6.	unknown	30.53	2100	J
7.	unknown	30.83	1200	J
8.	unknown	30.98	950	J
9. 000091-57-6	Naphthalene, 2-methyl-	31.48	3700	JN
10. 000091-57-6	Naphthalene, 2-methyl-	32.16	4300	JN

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067306

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014744.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 0 Date Analyzed: 10/29/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	700	U
107131	Acrylonitrile	700	U
75650	tert-Butyl alcohol	1300	U
1634044	Methyl-tert-Butyl ether	300	U
108203	Di-isopropyl ether	200	U
	Dichlorodifluoromethane	400	U
74-87-3	Chloromethane	100	U
75-01-4	Vinyl Chloride	300	U
74-83-9	Bromomethane	200	U
75-00-3	Chloroethane	300	U
75-69-4	Trichlorofluoromethane	200	U
75-35-4	1,1-Dichloroethene	100	U
67-64-1	Acetone	1000	
75-15-0	Carbon Disulfide	100	U
75-09-2	Methylene Chloride	200	U
156-60-5	trans-1,2-Dichloroethene	200	U
75-35-3	1,1-Dichloroethane	100	U
108-05-4	Vinyl Acetate	300	U
78-93-3	2-Butanone	300	U
	cis-1,2-Dichloroethene	100	U
67-66-3	Chloroform	100	U
75-55-6	1,1,1-Trichloroethane	100	U
56-23-5	Carbon Tetrachloride	200	U
71-43-2	Benzene	100	U
107-06-2	1,2-Dichloroethane	200	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	200	U
10061-01-5	cis-1,3-Dichloropropene	100	U
108-10-1	4-Methyl-2-Pentanone	200	U
108-88-3	Toluene	100	U
10061-02-6	trans-1,3-Dichloropropene	200	U
79-00-5	1,1,2-Trichloroethane	200	U
127-18-4	Tetrachloroethene	100	U
591-78-6	2-Hexanone	200	U
126-48-1	Dibromochloromethane	200	U
108-90-7	Chlorobenzene	100	U
100-41-4	Ethylbenzene	200	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

Trip Blank

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067306

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014744.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 0 Date Analyzed: 10/29/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	300	U
1330-20-7	o-Xylene	200	U
100-42-5	Styrene	200	U
75-25-2	Bromoform	200	U
79-34-5	1,1,2,2-Tetrachloroethane	200	U
541-73-1	1,3-Dichlorobenzene	300	U
106-46-7	1,4-Dichlorobenzene	300	U
95-50-1	1,2-Dichlorobenzene	300	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **Trip Blank**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067306

Sample wt/vol: 10.0 (g/ml) G Lab File ID: VB014744.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 0 Date Analyzed: 10/29/2003

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: 9

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000091-20-3	Naphthalene	24.90	1400	JN
2. 006682-71-9	1H-Indene, 2,3-dihydro-4,7-dimet	26.41	1400	JN
3.	unknown	27.72	2000	J
4. 001073-06-9	Benzene, 1-bromo-3-fluoro-	28.08	45000	JN
5. 000582-16-1	Naphthalene, 2,7-dimethyl-	29.64	5100	JN
6.	unknown	30.49	1100	J
7. 000582-16-1	Naphthalene, 2,7-dimethyl-	30.84	1900	JN
8. 000090-12-0	Naphthalene, 1-methyl-	31.44	6700	JN
9. 000091-57-6	Naphthalene, 2-methyl-	32.13	4300	JN

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884-B

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063902

Sample wt/vol: 9.8 (g/ml) G Lab File ID: VB014614.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 25.81 Date Analyzed: 10/20/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	970	U
107131	Acrylonitrile	970	U
75650	tert-Butyl alcohol	1800	U
1634044	Methyl-tert-Butyl ether	410	U
108203	Di-isopropyl ether	280	U
	Dichlorodifluoromethane	550	U
74-87-3	Chloromethane	140	U
75-01-4	Vinyl Chloride	410	U
74-83-9	Bromomethane	280	U
75-00-3	Chloroethane	410	U
75-69-4	Trichlorofluoromethane	280	U
75-35-4	1,1-Dichloroethene	140	U
67-64-1	Acetone	890	
75-15-0	Carbon Disulfide	140	U
75-09-2	Methylene Chloride	280	U
156-60-5	trans-1,2-Dichloroethene	280	U
75-35-3	1,1-Dichloroethane	140	U
108-05-4	Vinyl Acetate	410	U
78-93-3	2-Butanone	410	U
	cis-1,2-Dichloroethene	140	U
67-66-3	Chloroform	140	U
75-55-6	1,1,1-Trichloroethane	140	U
56-23-5	Carbon Tetrachloride	280	U
71-43-2	Benzene	140	U
107-06-2	1,2-Dichloroethane	280	U
79-01-6	Trichloroethene	140	U
78-87-5	1,2-Dichloropropane	140	U
75-27-4	Bromodichloromethane	140	U
110-75-8	2-Chloroethyl vinyl ether	280	U
10061-01-5	cis-1,3-Dichloropropene	140	U
108-10-1	4-Methyl-2-Pentanone	280	U
108-88-3	Toluene	140	U
10061-02-6	trans-1,3-Dichloropropene	280	U
79-00-5	1,1,2-Trichloroethane	280	U
127-18-4	Tetrachloroethene	140	U
591-78-6	2-Hexanone	280	U
126-48-1	Dibromochloromethane	280	U
108-90-7	Chlorobenzene	140	U
100-41-4	Ethylbenzene	280	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884-B

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063902

Sample wt/vol: 9.8 (g/ml) G Lab File ID: VB014614.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 25.81 Date Analyzed: 10/20/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	410	U
1330-20-7	o-Xylene	280	U
100-42-5	Styrene	280	U
75-25-2	Bromoform	280	U
79-34-5	1,1,2,2-Tetrachloroethane	280	U
541-73-1	1,3-Dichlorobenzene	410	U
106-46-7	1,4-Dichlorobenzene	410	U
95-50-1	1,2-Dichlorobenzene	410	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **884-B**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063902

Sample wt/vol: 9.8 (g/ml) G Lab File ID: VB014614.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 25.81 Date Analyzed: 10/20/2003

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

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884-C

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063903

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB014615.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 25.61 Date Analyzed: 10/20/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	900	U
107131	Acrylonitrile	900	U
75650	tert-Butyl alcohol	1700	U
1634044	Methyl-tert-Butyl ether	390	U
108203	Di-isopropyl ether	260	U
	Dichlorodifluoromethane	510	U
74-87-3	Chloromethane	130	U
75-01-4	Vinyl Chloride	390	U
74-83-9	Bromomethane	260	U
75-00-3	Chloroethane	390	U
75-69-4	Trichlorofluoromethane	260	U
75-35-4	1,1-Dichloroethene	130	U
67-64-1	Acetone	840	
75-15-0	Carbon Disulfide	130	U
75-09-2	Methylene Chloride	260	U
156-60-5	trans-1,2-Dichloroethene	260	U
75-35-3	1,1-Dichloroethane	130	U
108-05-4	Vinyl Acetate	390	U
78-93-3	2-Butanone	390	U
	cis-1,2-Dichloroethene	130	U
67-66-3	Chloroform	130	U
75-55-6	1,1,1-Trichloroethane	130	U
56-23-5	Carbon Tetrachloride	260	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	260	U
79-01-6	Trichloroethene	130	U
78-87-5	1,2-Dichloropropane	130	U
75-27-4	Bromodichloromethane	130	U
110-75-8	2-Chloroethyl vinyl ether	260	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-10-1	4-Methyl-2-Pentanone	260	U
108-88-3	Toluene	130	U
10061-02-6	trans-1,3-Dichloropropene	260	U
79-00-5	1,1,2-Trichloroethane	260	U
127-18-4	Tetrachloroethene	130	U
591-78-6	2-Hexanone	260	U
126-48-1	Dibromochloromethane	260	U
108-90-7	Chlorobenzene	130	U
100-41-4	Ethylbenzene	260	U

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884-C

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063903

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB014615.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 25.61 Date Analyzed: 10/20/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	390	U
1330-20-7	o-Xylene	260	U
100-42-5	Styrene	260	U
75-25-2	Bromoform	260	U
79-34-5	1,1,2,2-Tetrachloroethane	260	U
541-73-1	1,3-Dichlorobenzene	390	U
106-46-7	1,4-Dichlorobenzene	390	U
95-50-1	1,2-Dichlorobenzene	390	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **884-C**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30639 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3063903

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB014615.D

Level: (low/med) MED Date Received: 10/8/2003

% Moisture: not dec. 25.61 Date Analyzed: 10/20/2003

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: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 000108-67-8	Benzene, 1,3,5-trimethyl-	29.43	6800	JN
2.	unknown	30.59	3900	J
3. 000135-01-3	Benzene, 1,2-diethyl-	30.93	2800	JN
4.	unknown	31.39	2800	J
5.	unknown	31.67	5000	J
6.	unknown	32.19	3100	J
7.	unknown	32.31	5200	J
8.	unknown	32.76	3600	J
9.	unknown	32.92	2200	J
10.	unknown	33.16	7600	J

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884H

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067302

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB014742.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 22.85 Date Analyzed: 10/29/2003

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	860	U
107131	Acrylonitrile	860	U
75650	tert-Butyl alcohol	1600	U
1634044	Methyl-tert-Butyl ether	370	U
108203	Di-isopropyl ether	250	U
	Dichlorodifluoromethane	490	U
74-87-3	Chloromethane	120	U
75-01-4	Vinyl Chloride	370	U
74-83-9	Bromomethane	250	U
75-00-3	Chloroethane	370	U
75-69-4	Trichlorofluoromethane	250	U
75-35-4	1,1-Dichloroethene	120	U
67-64-1	Acetone	1200	
75-15-0	Carbon Disulfide	120	U
75-09-2	Methylene Chloride	250	U
156-60-5	trans-1,2-Dichloroethene	250	U
75-35-3	1,1-Dichloroethane	120	U
108-05-4	Vinyl Acetate	370	U
78-93-3	2-Butanone	370	U
	cis-1,2-Dichloroethene	120	U
67-66-3	Chloroform	120	U
75-55-6	1,1,1-Trichloroethane	120	U
56-23-5	Carbon Tetrachloride	250	U
71-43-2	Benzene	120	U
107-06-2	1,2-Dichloroethane	250	U
79-01-6	Trichloroethene	120	U
78-87-5	1,2-Dichloropropane	120	U
75-27-4	Bromodichloromethane	120	U
110-75-8	2-Chloroethyl vinyl ether	250	U
10061-01-5	cis-1,3-Dichloropropene	120	U
108-10-1	4-Methyl-2-Pentanone	250	U
108-88-3	Toluene	120	U
10061-02-6	trans-1,3-Dichloropropene	250	U
79-00-5	1,1,2-Trichloroethane	250	U
127-18-4	Tetrachloroethene	120	U
591-78-6	2-Hexanone	250	U
126-48-1	Dibromochloromethane	250	U
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	670	

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884H

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067302

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB014742.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 22.85 Date Analyzed: 10/29/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	3300	
1330-20-7	o-Xylene	1800	
100-42-5	Styrene	250	U
75-25-2	Bromoform	250	U
79-34-5	1,1,2,2-Tetrachloroethane	250	U
541-73-1	1,3-Dichlorobenzene	370	U
106-46-7	1,4-Dichlorobenzene	370	U
95-50-1	1,2-Dichlorobenzene	370	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **884H**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067302

Sample wt/vol: 10.5 (g/ml) G Lab File ID: VB014742.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 22.85 Date Analyzed: 10/29/2003

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: 10

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1. 002425-54-9	Tetradecane, 1-chloro-	28.21	7900	JN
2. 000620-14-4	Benzene, 1-ethyl-3-methyl-	28.48	6800	JN
3. 000095-36-3	1,2,4-Trimethylbenzene	29.43	13000	JN
4. 001120-21-4	Undecane	30.48	7900	JN
5. 001074-43-7	Benzene, 1-methyl-3-propyl-	30.55	4300	JN
6. 000934-74-7	Benzene, 1-ethyl-3,5-dimethyl-	30.65	4900	JN
7.	unknown	31.68	4200	J
8. 000527-84-4	Benzene, 1-methyl-2-(1-methylet	32.31	6900	JN
9. 000112-40-3	Dodecane	32.55	4700	JN
10. 002039-89-6	Benzene, 2-ethenyl-1,4-dimethyl-	33.17	10000	JN

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884J

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067304

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB014743.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 24.77 Date Analyzed: 10/29/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
107028	Acrolein	940	U
107131	Acrylonitrile	940	U
75650	tert-Butyl alcohol	1700	U
1634044	Methyl-tert-Butyl ether	400	U
108203	Di-isopropyl ether	270	U
	Dichlorodifluoromethane	540	U
74-87-3	Chloromethane	130	U
75-01-4	Vinyl Chloride	400	U
74-83-9	Bromomethane	270	U
75-00-3	Chloroethane	400	U
75-69-4	Trichlorofluoromethane	270	U
75-35-4	1,1-Dichloroethene	130	U
67-64-1	Acetone	1300	
75-15-0	Carbon Disulfide	130	U
75-09-2	Methylene Chloride	270	U
156-60-5	trans-1,2-Dichloroethene	270	U
75-35-3	1,1-Dichloroethane	130	U
108-05-4	Vinyl Acetate	400	U
78-93-3	2-Butanone	400	U
	cis-1,2-Dichloroethene	130	U
67-66-3	Chloroform	130	U
75-55-6	1,1,1-Trichloroethane	130	U
56-23-5	Carbon Tetrachloride	270	U
71-43-2	Benzene	130	U
107-06-2	1,2-Dichloroethane	270	U
79-01-6	Trichloroethene	130	U
78-87-5	1,2-Dichloropropane	130	U
75-27-4	Bromodichloromethane	130	U
110-75-8	2-Chloroethyl vinyl ether	270	U
10061-01-5	cis-1,3-Dichloropropene	130	U
108-10-1	4-Methyl-2-Pentanone	270	U
108-88-3	Toluene	130	U
10061-02-6	trans-1,3-Dichloropropene	270	U
79-00-5	1,1,2-Trichloroethane	270	U
127-18-4	Tetrachloroethene	130	U
591-78-6	2-Hexanone	270	U
126-48-1	Dibromochloromethane	270	U
108-90-7	Chlorobenzene	130	U
100-41-4	Ethylbenzene	290	

1A

FIELD ID:

VOLATILE ORGANICS ANALYSIS DATA SHEET

884J

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067304

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB014743.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 24.77 Date Analyzed: 10/29/2003

GC Column: RTX502. ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: 25000 (uL) Soil Aliquot Volume: 125 (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
1330-20-7	m+p-Xylenes	1400	
1330-20-7	o-Xylene	700	
100-42-5	Styrene	270	U
75-25-2	Bromoform	270	U
79-34-5	1,1,2,2-Tetrachloroethane	270	U
541-73-1	1,3-Dichlorobenzene	400	U
106-46-7	1,4-Dichlorobenzene	400	U
95-50-1	1,2-Dichlorobenzene	400	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **884J**

Lab Name: FMETL NJDEP#: 13461

Project: 04-10123 Case No.: 30673 Location: B884 SDG No.:

Matrix: (soil/water) SOIL Lab Sample ID: 3067304

Sample wt/vol: 9.9 (g/ml) G Lab File ID: VB014743.D

Level: (low/med) MED Date Received: 10/28/2003

% Moisture: not dec. 24.77 Date Analyzed: 10/29/2003

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: 10

	CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q
1.	006682-71-9	1H-Indene, 2,3-dihydro-4,7-dimet	26.44	4800	JN
2.	056253-64-6	Benzene, (2-methyl-1-butenyl)-	27.74	7400	JN
3.	000620-14-4	Benzene, 1-ethyl-3-methyl-	28.48	5800	JN
4.	002847-72-5	Decane, 4-methyl-	28.85	5100	JN
5.	000095-36-3	1,2,4-Trimethylbenzene	29.43	6300	JN
6.	001120-21-4	Undecane	30.49	8700	JN
7.	000090-12-0	Naphthalene, 1-methyl-	31.46	21000	JN
8.	000090-12-0	Naphthalene, 1-methyl-	32.14	13000	JN
9.	000112-40-3	Dodecane	32.55	4800	JN
10.	002039-89-6	Benzene, 2-ethenyl-1,4-dimethyl-	33.17	5700	JN

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 # :**	30632
		Location :	Post Office
		UST Reg. # :	

Analysis :	OQA-QAM-025	**Date Received :**	06-Oct-03
Matrix :	Soil	**Date Extracted :**	08-Oct-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	08-Oct-03
Injection Volume :	1uL	**Analyst :**	Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3063201	B1	1.00	15.33	82.54	179	2079.99
METHOD BLANK	MB-100803	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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 # :**	30639
		Location :	Malterer Ave
		UST Reg. # :	

Analysis :	OQA-QAM-025	**Date Received :**	08-Oct-03
Matrix :	Soil	**Date Extracted :**	10-Oct-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	10-Oct-03
Injection Volume :	1uL	**Analyst :**	Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3063901	884-A	**1.00**	14.96	80.64	188	**ND**
3063902	884-B	**1.00**	15.08	74.19	202	**4653.44**
3063903	884-C	**1.00**	15.11	74.39	202	**4637.89**
3063904	884-D	**1.00**	15.39	82.17	179	**ND**
METHOD BLANK	MB-101003	**1.00**	15.00	100.00	151	**ND**

ND = Not Detected

MDL = Method Detection Limit

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 # :**	30642
		Location :	Malterer Ave
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	09-Oct-03
Matrix :	Soil	**Date Extracted :**	10-Jan-00
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	10-Jan-00
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	14-Oct-03
Injection Volume :	1uL	**Analyst :**	Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3064201	884-E	20.00	15.03	79.84	189	21985.17
3064202	884-F	20.00	15.33	85.11	174	31558.79
METHOD BLANK	MB-101003	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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 # :**	30645
		Location :	Malterer Ave
		UST Reg. # :	
Analysis :	OQA-QAM-025	**Date Received :**	10-Oct-03
Matrix :	Soil	**Date Extracted :**	10-Jan-00
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	10-Jan-00
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	14-Oct-03
Injection Volume :	1uL	**Analyst :**	Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3064502	B2	20.00	14.98	82.48	183	14936.50
3064503	B3	1.00	15.04	84.19	179	551.62
METHOD BLANK	MB-101003	1.00	15.00	100.00	151	ND

ND = Not Detected

MDL = Method Detection Limit

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

Client :	U.S. Army	**Project # :**	30673
	DPW. SELFM-PW-EV	**Location :**	B.884
	Bldg. 173	**UST Reg. # :**	
	Ft. Monmouth, NJ 07703		
Analysis :	OQA-QAM-025	**Date Received :**	22-Oct-03
Matrix :	Soil	**Date Extracted :**	24-Oct-03
Inst. ID. :	GC TPHC INST. #1	**Extraction Method :**	Shake
Column Type :	RTX-5, 0.32mm ID, 30M	**Analysis Complete :**	24-Oct-03
Injection Volume :	1uL	**Analyst :**	Skelton

Sample	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	TPHC Result (mg/kg)
3067301	884G	**1.00**	15.12	77.32	194	**209.40**
3067302	884H	**1.00**	15.01	77.15	196	**1758.91**
3067303	884I	**1.00**	15.43	73.72	199	**ND**
3067304	884J	**1.00**	15.83	75.23	190	**1676.45**
3067305	884K	**1.00**	15.54	77.17	189	**1221.15**
METHOD BLANK	MB-102403	**1.00**	15.00	100.00	151	**ND**

ND = Not Detected

MDL = Method Detection Limit

ATTACHMENT V

UST 888 File Review and Analyses

PARSONS

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

Date: *June 5, 2015* Review Performed By: *Kent Friesen, Parsons*

Site ID: ***Bldg. 888*** Registration ID: *None*

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

UST Probability (from May 2014 "Addendum 1 ECP UHOT Report"): ***NFA***

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

NJDEP Release No. or DICAR (If applicable): 11-01-05-1416-41

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: 1/5/2011

Were closure soil samples taken? [X] Yes [ ] No Analyses: TPH

Comparison criteria: 5,100 mg/kg TPH

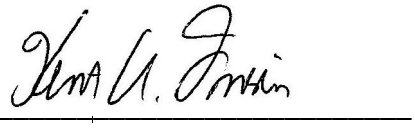
Were closure soil sample results less than comparison criteria? ? [X] Yes [ ] No

Brief Narrative

Following tank removal and removal of petroleum-contaminated soil in 2011, soil samples were collected from the tank excavation and analyzed by the Fort Monmouth Environmental Laboratory for total petroleum hydrocarbons (TPH). Five soil samples from the excavation and one field duplicate were collected on January 13, 2011. All of the soil sample results from this excavation were not detected for TPH. The final 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 the UST Case Status of "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: 888 ***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: 1/5/2011 ***REMOVAL CONTRACTOR:*** TVS INC

SRF SEND DATE: ***TMS:***

DICAR NO. 11-01-05-1416-41 ***LEAK DETECT:***

REMEDIATION COMMENTS: CA- mutiple holes in UST spline, oil in escavation, DTW approx 6Ft within 200 of Husky Pond. Contaminated soil removed. Need GW assessment.

REGISTRATION COMMENTS: UHOT as per BRAC Legal Office

SAS DONE: NO ***CONSULTANT:***

MWs NEEDED: ***MONITORING WELLS:***

SUB-SURFACE EVALUATOR: F.Accorssi

CURRENT UST STATUS

UST STATUS: REMOVED RI ON-GOING ***CASE STATUS:*** Case Open

SUBMITTAL DATE: ***APPROVAL DATE:***

FINALIZED: No

US ARMY, SELFM-PW-EV

DAILY UST SUBSURFACE REMOVAL LOG

BLDG.#: 888 REG.#: UHOT -

DATE: 1-5-11 TOA: 1330 TOD: 1400

SSE: Frank Arcos NJDEP CERT.#:

REMOVAL CONTRACTOR: TVS Inc. PWS-007

CLOSURE SUPERVISOR: Frank Arcos / Harold Hornung NJDEP CERT.#:

WEATHER: Cold 32° F

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	✓
ALL ON-SITE PERSONNEL HAD TRAINING IAW ALL SAFETY REQUIREMENTS (E.G. 29CFR)	✓
A CONFINED ENTRY PERMIT WAS COMPLETED AND POSTED ON-SITE BY THE CONTRACTOR	NO
THE UST WAS PLACED ONTO PLASTIC, SCRAPED OFF, INSPECTED FOR HOLES AND PHOTOGRAPHED	✓
A DISCHARGE WAS REPORTED BT THE DPW TO THE NJDEP (877)927-6337), CASE# 11-01-05-1416-91 Called in by C. Appleby (See Back)	YES
PHOTOS HAVE UST#, BLDG. #, DATE, TIME, NAME OF SSE AND DESCR. WRITTEN ON BACK	YES
GROUNDWATER WAS ENCOUNTERED AT 6 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)	NO
IF SAMPLES WERE TAKEN: COC, SCALED SITE MAP (VERT. SOIL HORIZONS AND PLOT PLAN)	NO
ALL SAMPLE COLLECTION ACTIVITIES WERE AS DESCRIBED IN THE NJDEP FSPM, 2005 August	NO
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	NO
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	NO
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^3), PHOTOGRAPHS (UST, EXCAVATION, SAMPLING POINTS)	

UST Reg. Database

CHECK ALL BOXES, LEAVE NO BLA

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: 1-5-11

SIGNATURE:

C. Appleby DPW ENV.

1-5-11
2PM

- Site 888 UST Removed, #2 fuel oil.
  - 1000 gal STEEL UST holes Discharge obvious.
- Un Regulated HOT As per BRAC Legal Office
- C. Appleby DPW ENV.
- Discharge Reported to NJ DEP
- Building 888

  732 532-2692

  US Army Bldg 173 Riverside Ave Fort Monmouth NJ 07703
  - Cleanup In Progress
  - No Assistance Required
  - ~~Re~~ Rural

  11-01-05-1416 41 op 25.

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: UST Program

Bldg. /888

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
888-A/North Wall	1102001	Soil	13-Jan-11 13:00	01/13/11
888-B/South Wall	1102002	Soil	13-Jan-11 13:30	01/13/11
888-C/East Wall	1102003	Soil	13-Jan-11 13:50	01/13/11
888-D/West Wall	1102004	Soil	13-Jan-11 14:20	01/13/11
888-E/Bottom	1102005	Soil	13-Jan-11 14:40	01/13/11
888-Duplicate	1102006	Soil	13-Jan-11 13:50	01/13/11

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
TPHC, %SOLIDS

Dean Tardiff/Date: 1/24/11
Laboratory Manager

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

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CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: CHUCK APPLEBY
Phone #: X26292
( )DERA ( )OMA (X)Other: BRAC
Project No:
(FORMER) Location: BLDG. 888
Samplers Name / Company: FRANK ACCORSI / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	* TPH	% SOLIDS					PID (PPM)	DEPTH (FT)	Remarks / Preservation Method
11420 01	888-A, NORTH WALL	1-13-11	1300	SOIL	1	X	X					0	5-5.5	ICE
02	888-B, SOUTH WALL		1330		1	X	X					0	5-5.5	
03	888-C, EAST WALL		1350			X	X					0	5-5.5	
04	888-D, WEST WALL		1420			X	X					0	5-5.5	
05	888-E, BOTTOM		1440			X	X					0	5-5.5	
06	888 - DUPLICATE		1350			X	X					0	5-5.5	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
Frank Accorsi	1-13-11 1510				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Comments: IF TPH > 1,000 PPM, ANALYZE FOR NAPHTHALENE + 2-METHYL-NAPHTHALENE

print legibly

new coc._1.XLS12/16/2009

000002

SAMPLE RECEIPT FORM

Date Received: 1-13-11 Work Order ID#: 11020

Site/Proj. Name: Bldg 888 Cooler Temp (°C): 3.0°C

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

Check the appropriate box

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

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments:

GPS
POINTS

U.S. ARMY-FT. MONMOUTH, NJ

BLDG. 888

SOIL SAMPLING GPS POSITIONS & COORDINATES

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

POSITION/DESCRIPTION	Y COORDINATE (NORTHING)	X COORDINATE (EASTING)
888-A	538135.902	619334.483
888-B	538153.39	619343.521
888-C	538128.313	619354.388
888-D	538126.815	619334.237
888-E	538132.702	619343.018

FIELD DUPLICATE

Field Duplicate Identification

Lab ID: 11020 Site: Bldg. 888

The Field Duplicate was performed on 888-C East Wall (1102003).

METHOD SUMMARY

Method Summary

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

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

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

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

CONFORMANCE/ NON-CONFORMANCE SUMMARY

11020 TPH

TPHC Conformance/Non-conformance Summary Report

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

Additional comments: _____

Jean Tandy
Laboratory Manager

1/24/11
Date

1/21/11

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 11020 **Site:** Bldg. 888

	Date	Hold Time
Date Sampled	01/13/11	NA
Receipt/Refrigeration	01/13/11	NA

Analyses

1. TPHC	01/14/11	14 Days

TPHC

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

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

Project #:
Location: BLDG. 888
ECP:
Work Order:

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

Date Received: 13-Jan-11
Date Extracted: 14-Jan-10
Extraction Method: Shake
Analyst: Robert Szot

Lab ID	Field ID	Dilution Factor	Weight (g)	% Solid	MDL (mg/kg)	RL (mg/kg)	TPHC Result (mg/kg)	Data		Qualifiers
MB01141101	MB01141101	1.00	15.00	100.00	23	333	not detected			
LCS01141101	LCS01141101	1.00	15.00	100.00	23	333	1117.74			
1102001	888-A NORTH WALL	1.00	15.24	77.9	29	421	not detected			
1102002	888-B SOUTH WALL	1.00	15.42	79.2	29	409	not detected			
1102003	888-C EAST WALL	1.00	15.40	80.7	28	402	not detected			
1102004	888-D WEST WALL	1.00	15.36	78.5	29	415	not detected			
1102005	888-E BOTTOM	1.00	15.27	76.0	30	431	not detected			
1102006	888 DUPLICATE	1.00	15.35	79.0	29	412	not detected			

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

000045

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature Jean Tanaka

Date: 1/24/11

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Dean Tardiff 1/24/11
Laboratory Manager

ATTACHMENT W

800 Area Excerpts from the 2005 Residential Communities Initiative (RCI) Remedial Action Report

FINAL
Remedial Action Report for the 800, 700, and 400 Areas

U.S. Army Installation Fort Monmouth
Fort Monmouth, New Jersey

PREPARED BY:

Tetra Tech EM Inc.
Rockaway 80 Corporate Center
100 Enterprise Drive, Suite 400
Rockaway, New Jersey 07866

OCTOBER 2005

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EXECUTIVE SUMMARY

In support of future construction activities under the U.S. Army's Residential Communities Initiative (RCI) and Enhanced Use Leasing (EUL) programs, personnel from the Fort Monmouth Directorate of Public Works (DPW) and TECOM-Vinnell Services (TVS), a subsidiary of the Base Operations (BASEOPS) contractor Chenega Technology Services Corporation (Chenega), performed site investigation (SI) activities at three sites at the Main Post of Fort Monmouth, NJ designated as the 800, 700, and 400 Areas, and found contamination above the applicable New Jersey Department of Environmental Protection (NJDEP) soil cleanup criteria. Subsequent to the discovery of the contamination, DPW/TVS personnel performed remedial investigation (RI) activities to fully delineate the limits of the contamination; once that was completed, DPW/TVS performed the necessary remedial action (RA) excavation and post-excavation sampling activities. Tetra Tech EM, Inc. (Tetra Tech) has been contracted by Chenega, on behalf of the DPW, under Purchase Order #CD4-02109, to prepare a Remedial Action Report (RAR) for the remedial activities at the 800, 700, and 400 Areas. This report addresses the remedial activities performed at these sites between May 2003 and April 2005.

This RAR presents the remedial action processes and post-excavation soil sampling performed by DPW and TVS personnel at the 800, 700, and 400 Areas. The activities described in this report were completed in accordance with the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E *et al.*).

The Army requires that all areas that may pose potential harm to the environment be assessed and remediated in compliance with NJDEP and U.S. Environmental Protection Agency (USEPA) regulations. From May 2003 to April 2005, soils at the 800, 700, and 400 Areas at the Main Post were the subject of SI, RI, and RA activities. The primary objective of these activities was the characterization of environmental conditions at the 800, 700, and 400 Areas and the performance of remedial actions including the removal and disposal of all soil with concentrations above state (NJDEP Residential Direct Contact Soil Cleanup Criteria [RDCSCC] for the 800 Area, NJDEP Non-Residential Direct Contact Soil Cleanup Criteria [NRDCSCC] for the 700 and 400 Areas) criteria as necessary to support future construction activities. A secondary objective of the investigation activities was a geophysical investigation in order to identify, locate, and remove historic underground storage tanks (USTs) and/or buried construction debris at each of the areas. All objectives of the RI and RA activities have been met: soils with concentrations that exceeded the applicable criteria for each area have been removed as verified through post-excavation sampling results and all known USTs have been removed and remediated (NOTE: Fort Monmouth will submit UST Closure Reports to the NJDEP as a separate submission for all

of the USTs that were removed and closed). The Army requests that the NJDEP issue a ***No Further Action*** letter for the 800, 700, and 400 Areas based on the results of these actions.

1.0 INTRODUCTION

Tetra Tech EM, Inc. (Tetra Tech) has been contracted by the Fort Monmouth base operations (BASEOPS) contractor, Chenega Technology Services Corporation (Chenega), on behalf of the U.S. Army Garrison Fort Monmouth Directorate of Public Works (DPW) under Purchase Order #CD4-02109, to prepare a Remedial Action Report (RAR) for the remedial activities that were performed at the 800, 700, and 400 Areas at the Main Post of Fort Monmouth, NJ. Personnel from the Fort Monmouth DPW and TECOM-Vinnell Services (TVS), a subsidiary of the BASEOPS contractor Chenega, performed site investigation, remedial investigation, and remedial actions at three sites designated as the 800 Area, 700 Area, and 400 Area in support of future construction activities under the U.S. Army's Residential Communities Initiative (RCI) and Enhanced Use Leasing (EUL) programs. This report addresses the remedial activities performed at these sites between May 2003 and April 2005.

1.1 OBJECTIVES

The objective of this RAR is to present the results of the site investigations, remedial investigations, and remedial action activities performed at the 800, 700, and 400 Areas at the Main Post of Fort Monmouth for the purpose of requesting No Further Action letters from the New Jersey Department of Environmental Protection (NJDEP) for the contamination identified at these sites. The purpose of the remedial actions was to excavate and dispose of contaminated soils in these areas.

1.2 REPORT ORGANIZATION

This report is organized to minimize repetition. Section 2 provides background information and general descriptions of the 800, 700, and 400 Areas at the Main Post of Fort Monmouth. Section 3 provides a discussion of the site investigation, remedial investigation, and remedial action activities specific to the 800, 700, and 400 Areas. Section 4 describes the quality assurance and quality control results of the sampling. Section 5 describes waste characterization and disposal activities. Section 6 provides a list of references utilized in developing the RAR.

2.0 SITE BACKGROUND AND ENVIRONMENTAL SETTING

The following sections describe the site background and environmental settings of the geographical area surrounding the Main Post of Fort Monmouth. Included is a description of the site location and environmental setting, including regional and local geology, hydrogeology, topography, and surface drainage.

2.1 SITE LOCATION AND DESCRIPTION

Fort Monmouth is located in the central-eastern portion of New Jersey in Monmouth County, approximately 45 miles south of New York City and 70 miles northeast of Philadelphia. Figure 1 is a vicinity location map. In addition to the Main Post, the installation includes two subposts, the Charles Wood Area and the Evans Area. The primary mission of Fort Monmouth is to provide command, administrative, and logistical support for Headquarters, U.S. Army Communications and Electronics Command (CECOM). CECOM is a major subordinate command of the U.S. Army Material Command (AMC) and is the host tenant at Fort Monmouth.

The 800, 700, and 400 Areas are located on the Main Post of Fort Monmouth, which is bounded by State Highway 35, Parkers Creek, Lafetra Creek, the New Jersey Transit Railroad, and a residential area to the south. The 800 and 700 Areas are located in the central-southern portion of the Main Post and the 400 Area is located in the eastern portion of the base (see Figure 2).

2.1.1 The 800 Area

The 800 Area is approximately 33 acres in size and is comprised of open grass-covered areas, asphalt-covered parking lots, buildings, and a football field. Approximately 12 acres of the 800 Area has been designated for future residential housing construction under the RCI.

2.1.2 The 700 Area

The 700 Area is approximately twelve acres in size and consists of two parcels. The larger parcel includes open mowed fields with several buildings along the southern boundary of the 700 Area and is surrounded by Alexander Avenue to the north, Radio Avenue to the east, Nicodemus Avenue to the south, and Wilson Avenue to the west. The smaller parcel includes a paved parking area and a grassy area between buildings and is bound by Alexander Avenue to the west and Nicodemus Avenue to the south

and east. The 700 Area has been designated for future administrative building construction.

2.1.3 The 400 Area

The 400 Area is approximately 30 acres in size and encompasses open mowed fields extending south-southeast from Parker's Creek to Till Avenue. South of Allen Avenue, the fields are populated with various buildings and other structures. Approximately one acre of the 400 Area has been designated for future maintenance building construction under the RCI.

2.2 ENVIRONMENTAL SETTING

The following sections describe the environmental setting which includes the geological and hydrogeological setting, the topography, and surface drainage of the area.

2.2.1 Regional and Local Geology

Monmouth County lies within the New Jersey Section of the Atlantic Coastal Plain physiographic province. The Main Post is located in the Outer Coastal Plain subprovince.

In general, New Jersey Coastal Plain formations consist of a seaward-dipping wedge of unconsolidated deposits of clay, silt, 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. These sediments, predominantly derived from deltaic, shallow marine, and continental shelf environments, date from the Cretaceous through the Quaternary Periods. The mineralogy ranges from quartz to glauconite.

The formations record several major transgressive/regressive cycles and contain units that are generally thicker to the southeast and reflect a deeper water environment. Over 20 regional geologic units are present within the sediments of the Coastal Plain. Regressive, upward coarsening deposits are usually aquifers (for example, the Englishtown and Kirkwood formations, and the Cohansey Sand), while the transgressive deposits act as confining units (for example, the Merchantville, Marshalltown, and Navesink formations). The individual thicknesses for these units vary greatly (that is, from several feet to several hundred feet). The Coastal Plain deposits thicken to the southeast to the Fall Line (i.e., a boundary zone between older, resistant rocks and younger, softer plain sediments) to greater than 6,500 feet in Cape May County.

Based on the regional geologic map, the Cretaceous-age Red Bank Sand and Tinton Sand, and the Tertiary-age Hornerstown Sand crop out at the Main Post area. The Red Bank Sand conformably overlies the Navesink Formation and dips to the southeast at 35 feet per mile. The upper member (Shrewsbury) of the Red Bank Sand is a yellowish-gray to reddish brown clayey, medium-to-coarse-grained sand that contains abundant rock fragments, minor mica and glauconite. The lower member (Sandy Hook) is a dark gray to black, medium-to-fine grained sand with abundant clay, mica, and glauconite. The Navesink Formation, which crops out approximately four miles northwest of the Main Post is dark grayish-black clayey glauconitic sand which conformably overlies the Mount Laurel Sand (Versar, 2003).

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. The upper part of the Tinton is often highly oxidized and iron oxide encrusted (Versar, 2003).

The Hornerstown Sand unconformably overlies the Red Bank Sand and dips to the southeast at 50 to 60 feet per mile. The Hornerstown Sand consists of dark green clayey glauconitic sand (Versar, 2003).

The Tertiary-age Kirkwood and Vincentown Formations crop out approximately two miles south of the Main Post. The Vincentown Formation contains a lower member which is a greenish-gray glauconitic sand and an upper member which ranges from sand to clayey limestone. The Kirkwood Formation consists of alternating layers of sand and clay. The Vincentown and Kirkwood Formations dip to the southeast at approximately 20 and 27 feet per mile, respectively (Versar, 2003).

As part of the RAR, soil borings were advanced at the 800, 700, and 400 Areas. The general soil profile for the 800 Area consisted of a layer of topsoil overlying orange-brown, coarse to fine sands to four feet below ground surface (bgs). The general soil profile for the 700 Area consisted of orange-brown, medium to fine sands to eight feet bgs. A clay lens was identified in several borings from approximately two to six feet bgs. The general soil profile for the 400 Area consisted of brown clay to three feet bgs. Below the clay layer was brown to orange sand to a depth of eight feet bgs. The soils identified at the 800, 700, and 400 Areas most closely correlate to the Tinton Sand. Boring logs for the 800, 700, and 400 Areas are provided in Appendix A.

2.2.2 Hydrogeology

Fort Monmouth lies in the Atlantic and Eastern Gulf Coastal Plain groundwater region. This groundwater region is underlain by undeformed, unconsolidated to semi-consolidated sedimentary deposits. The chemistry of the water near the surface is variable with low dissolved solids and high iron concentrations. The water chemistry in areas underlain by glauconitic sediments (such as the Red Bank, Tinton and Hornerstown Sands) is dominated by calcium, magnesium, manganese, aluminum and iron. The sediments in the area of Fort Monmouth were deposited in fluvial-deltaic to near shore environments (Versar, 2003).

The water table aquifer in the Main Post area is identified as part of the "composite confining units," or minor aquifers. The minor aquifers include the Navesink Formation, Red Bank Sand, Tinton Sand, Hornerstown Sand, Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation and the basal clay of the Kirkwood Formation. These geologic formations comprise a "Composite Confining Bed" for the Wenonah Mount Laurel Aquifer (Versar, 2003).

Wells installed in the Red Bank and Tinton Sands produce two to 25 gallons per minute (gpm). Groundwater is typically encountered at the Main Post and in the surrounding areas at shallow depths below ground surface (two to nine feet bgs). Water in the surficial aquifer generally flows east toward the Atlantic Ocean (Versar, 2003).

Groundwater was encountered in soil borings from the 700 Area at depths of four feet to eight feet bgs and at depths of four feet to five feet bgs in the 400 Area. Groundwater was not encountered in soil borings from the 800 Area, which were advanced to a depth of four feet bgs. Boring logs for the 800, 700, and 400 Areas are provided in Appendix A.

2.2.3 Topography and Surface Drainage

Over the last 80 years, the natural topography of Fort Monmouth has been altered by excavation and filling activities conducted by the military. The land surface at the Main Post is relatively flat and ranges in elevation from approximately four feet above mean sea level (amsl) in the east at Oceanport Creek to 32 feet amsl at the western end of the Main Post, near Highway 35. The eastern half of the Main Post is generally 10 feet amsl in elevation (Versar, 2003).

Surface water runoff from the western part of the Main Post flows into the Lafetra Creek to the north or into the Mill Creek to the south. Both Mill Creek and Lafetra Creek originate off-post. Lafetra Creek forms the northern boundary of the Main Post and joins Mill Creek to form Parkers Creek. Parkers Creek flows eastward along the northern boundary and joins Oceanport Creek east of the Main Post. Most of Parkers Creek, Lafetra Creek and Mill Creek are tidally influenced (Versar, 2003).

3.0 SITE INVESTIGATIONS, REMEDIAL INVESTIGATIONS, AND REMEDIAL ACTIONS

Fort Monmouth DPW and TVS personnel have performed site investigations, remedial investigations, and remedial action activities at the 800, 700, and 400 Areas in support of the future construction activities under the RCI and EUL programs. The actions at the 800, 700, and 400 Areas encompassed the following activities:

- Reviewed historical maps of Fort Monmouth from the 1940s and 1950s to identify potential contaminant sources.
- Performed a geophysical investigation in order to identify, locate, and remove historic USTs at the 800, 700, and 400 Areas; in addition, the geophysical surveys resulted in the detection of non-UST anomalies that were detected and investigated during the course of the project (see Section 3.1.1 for details) (NOTE: Closure reports for each of the USTs will be submitted by Fort Monmouth to the NJDEP separately from this report).
- Investigated and characterized environmental conditions at designated portions of the 800, 700, and 400 Areas.
- Excavated contaminated soils in areas identified through remedial investigation sampling conducted between July 2003 and April 2005.
- Conducted post-excavation soil sampling to evaluate the effectiveness of the remedial action.
- Compared the results of the sampling at the 800 Area with the NJDEP Residential Direct Contact Soil Cleanup Criteria (RDCSCC) listed in Cleanup Standards for Contaminated Sites, N.J.A.C. 7:26D.
- Compared the results of the sampling at the 700 and 400 Areas with the NJDEP Non-Residential Direct Contact Soil Cleanup Criteria (NRDCSCC) listed in Cleanup Standards for Contaminated Sites, N.J.A.C. 7:26D.
- Conducted waste characterization sampling and analyses and off-site disposal of contaminated soils.

The following sections describe these activities.

3.1 THE 800 AREA

Activities associated with the 800 Area are described in the following sections and include a geophysical study and UST closure activities, site investigation activities and a discussion of the contaminants of

concern that were found, remedial investigation activities, and remedial actions.

3.1.1 Geophysical Study and UST Closure Activities

A review of historical maps for the Fort Monmouth Main Post revealed that prior to the 1970s approximately 60 barracks buildings occupied an area of approximately 12 acres in and around the designated RCI footprint of the 800 Area. According to one utility map, most of these buildings were supplied by a 1000-gallon #2 fuel oil UST for heating purposes. No records were available to indicate whether these tanks were removed during the demolition of the barracks buildings which occurred in the 1960s. In an effort to identify remaining USTs and/or buried debris beneath the 800 Area, a geophysical study was performed. On May 22, 2003, Enviroscan, Inc. (Enviroscan) conducted a geophysical survey of the 800 Area. A copy of this report is provided as Appendix B.(provided as Attachment E of this 800 Area submittal)

The first component of the field effort involved an electromagnetic (EM) terrain conductivity survey of the site. A Geonics, Ltd. EM-31 terrain conductivity meter with vertical dipole coil orientation was used to collect terrain conductivity readings at approximately 5-foot stationing along EM survey profiles spaced approximately 10 feet apart. At each survey station, terrain conductivity (in millimhos/meter or mmho/m) and inphase response (in parts per thousand or ppt) were automatically digititally recorded using an Omnidata Polycorder. The terrain conductivity data indicated high levels of metallic interference throughout the site. The areas bordering Husky Brook Lake, on the western edge of the survey area, displayed evidence of deep or wet soils. North of Building 814, the levels were more indicative of metallic interference, possibly due to contaminated fill material (i.e., fill material that contained a higher percentage of metallic debris than fill material located elsewhere on the site). The inphase data indicated multiple targets with high metallic response. After accounting for surficial metal, cultural interference (non-UST man-made objects), and linear features caused by utility lines, a total of 24 anomalous targets were identified (Enviroscan, 2003a).

The second component of the field effort utilized ground penetrating radar (GPR) to further characterize the anomalous targets identified in the 800 Area; however, it was not possible to determine if there was any metallic or otherwise anomalous response from below the concrete slab at the Federal Credit Union location in the 800 Area (Enviroscan, 2003a).

Further investigation with a backhoe confirmed the presence of eight anomalies as historic USTs in the area. Between July and August 2003, a total of seven 1,000-gallon, unregulated, residential heating oil

USTs and one 550-gallon UST were removed from the 800 Area. Historically, the seven 1,000-gallon, heating oil USTs supplied fuel for surrounding residential barracks between 1940 and 1960. Three of the tank locations indicated releases and excavation of impacted soils was performed as required; for further information, see the UST closure reports prepared by Fort Monmouth DPW/TVS for separate submission to the NJDEP.

An additional investigation via backhoe of the remaining 16 anomalies (out of the original 24) identified four additional USTs in the 800 Area outside of the RCI footprint. Four 1,000-gallon, heating oil USTs were removed from the site. Two tank locations indicated releases, and excavation of impacted soils was performed as required.

The remaining twelve anomalous targets identified by the GPR survey were investigated by Fort Monmouth DPW and TVS personnel with a backhoe. No evidence of contamination was found and the excavations were backfilled and closed.

All five releases were reported to the NJDEP. The NJDEP assigned Case Numbers for the releases identified at the 800 Area. They are as follows:

- Case # 03-07-30-1431
- Case # 03-09-11-0906-50
- Case # 04-05-20-1615-42
- Case # 04-05-25-1623-31
- Case # 03-10-07-1347-49

NOTE: Information provided to Tetra Tech by Fort Monmouth indicated that the USTs that have 2003 Case Numbers are located inside the footprint of the 800 Area; those that have 2004 Case Numbers are outside the footprint. The investigation and remediation/closure of these UST's is not part of this RAR.

3.1.2 Site Investigation

Between July 14 through July 24 and on August 14, 2003, Fort Monmouth DPW and TVS conducted an investigation in support of future residential housing construction under RCI at the 800 Area. This investigation consisted of the advancement of soil borings, using direct-push technology, spaced in a grid oriented approximately 100-feet apart. A total of 75 soil borings were advanced within the 800 Area during the SI. Soil borings were advanced to a depth of four feet bgs. Soil samples collected at 0 to 6 inches bgs were analyzed for semi-volatile organic compounds (SVOCs) + 15 parameters, pesticides,

polychlorinated biphenyls (PCBs) and target analyte list (TAL) metals. Soil samples from 18 to 24 inches bgs were analyzed for volatile organic compounds (VOCs) + 15 parameters. The soil from the borings was screened with a photoionization detector (PID): if the PID readings indicated only background concentrations of potential contaminants, the sample would not be analyzed for TPHC; however, if the PID displayed readings attributable to a potential TPHC release, the samples would be analyzed for TPHC. Based on the PID screening, soil samples were collected below 2.0' bgs for TPHC analysis if required. A total of 160 samples were collected (Figure 3). A sample program summary is presented as Table 2. Pursuant to the intended use of the 800 Area, the laboratory analytical results were compared to the RDCSCC.

Seven borings (800-19, 800-32, 800-35, 800-39, 800-44, 800-45, and 800-75) had concentrations of SVOCs, pesticides/PCBs, and/or arsenic above the RDCSCC. The soil samples with exceedances are presented in Table 3. These were considered the contaminants of concern (COCs) for the 800 Area. The sample locations are shown on Figure 3. A copy of the laboratory analytical report is included in Appendix C.

The areas where contamination was detected did not coincide with the anomalous targets identified during the geophysical survey. Historical data was reviewed by DPW personnel to assess potential sources of these COC's. The SVOCs may be present from the breakdown of petroleum-based products historically used as a delivery matrix during normal application of pesticides to grass areas around the barracks. The sole arsenic and PCB exceedences indicate an anomalous occurrence. No other potential sources were identified. An RI and remedial action was conducted in each of the areas to delineate and remove the contaminated soils that were identified. Section 3.1.3 below discusses the COC's identified and Section 3.1.4 below describes the RI and RA performed.

3.1.3 Contaminants of Concern

As stated in the preceding paragraphs, seven borings were found to contain concentrations of contaminants above the RDCSCC. Based on the results of the site investigation sampling, SVOCs, pesticides/PCBs, and arsenic were considered to be the only COCs for the 800 Area (no other analytes were detected above the NJDEP RDCSCC criteria). The following paragraphs present the results of the COCs.

SVOCs were detected above the NJDEP RDCSCC criteria. The NJDEP RDCSCC criteria for these

SVOC's ranges from 0.66 mg/kg to 0.9 mg/kg depending on the compound at six locations (800-32, -35, -39, -44, -45, & -75) during the site investigation sampling. Concentrations of SVOC's detected that exceeded the criteria ranged from 0.76 mg/kg of benzo(a)pyrene at boring 800-45 to 15 mg/kg of benzo(b)fluoranthene at boring 800-32.

PCBs were detected above the NJDEP RDCSCC criteria of 0.49 mg/kg during the site investigation sampling at one location. The total PCB concentration at boring 800-19 was 2.63 mg/kg.

The pesticide 4,4' DDT was detected above the NJDEP RDCSCC criteria of 2 mg/kg during the site investigation sampling at one location. The concentration of 4,4' DDT at boring 800-44 was 6 mg/kg.

Arsenic was detected above the NJDEP RDCSCC criteria of 20.0 mg/kg at one location during the site investigation sampling. The concentration of arsenic at boring 800-32 was 26.0 mg/kg.

3.1.4 Remedial Investigation and Remedial Action

From July 2003 to April 2005, Fort Monmouth DPW and TVS conducted a remedial investigation and remedial action of the 800 Area that included delineation of contaminated soils identified during the site investigation and excavation and disposal of the contaminated soils.

Soil borings performed during the RI were advanced around the location of the soil samples that were identified as contaminated during the site investigation, followed by the collection of delineation samples (Figures 4a and 4b). Any areas where the concentration in the delineation samples exceeded the RDCSCC were stepped-out horizontally and re-sampled (NOTE: The samples collected for vertical delineation below the location of the original samples were below the RDCSCC and, therefore, did not require additional sampling to establish the vertical extent of the contamination). This procedure was continued until all samples had concentrations that were below the RDCSCC. A total of six rounds of delineation sampling were performed. A total of 85 samples were collected during the RI (see Table 2: Sample Program Summary – 800 Area). Subsequent to completion of the delineation sampling, excavation and post-excavation sampling were conducted. Three rounds of excavation and post-excavation sampling were conducted at the 800 Area. The RI and RA sampling are discussed in the following paragraphs. The laboratory analytical data for all of the sampling rounds conducted at the 800 Area is presented in Appendix C. Samples collected for quality assurance/quality control (QA/QC) purposes pursuant to NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E *et al.*) are

described in Section 4.0.

The first round of delineation sampling was conducted on August 21, 2003. A total of five soil borings were advanced around six of the seven soil boring locations identified in the site investigation (800-19, 800-32, 800-39, 800-44, 800-45, and 800-75) in order to delineate the extent of contamination (NOTE: Delineation sampling was not performed around the location of sample 800-35; on April 28, 2005, Fort Monmouth DPW and TVS personnel excavated a 10-foot by 10-foot square area around the original sample location to a depth of 2.0' bgs and collected one post-excavation sample to confirm that the 2,4-Dinitrotoluene contamination had been successfully removed). Four soil samples were collected on each side of a 10-foot by 10-foot square area around each of the six boring locations in order to delineate the horizontal extent of contamination and one soil sample was collected directly adjacent to the original borehole at a depth of 12-18 inches bgs to delineate the vertical extent of contamination. A total of 30 delineation samples were collected and analyzed for SVOCs, pesticides/PCBs, and/or arsenic. Of these, 11 samples contained SVOC and pesticide concentrations exceeding the RDCSCC; because arsenic (800-32) and PCBs (800-19) were successfully delineated by the samples collected in the first round, arsenic and PCBs were not analyzed for in subsequent rounds. The delineation soil samples with exceedances are presented in Table 4. The delineation soil sampling results for rounds one through six are presented on Figures 4a and 4b.

The second round of sampling was conducted on September 16, 2003. A total of 10 delineation samples were collected and analyzed for SVOCs and pesticides (800-32,-39,-44,-75). Of these, 8 samples contained SVOC and pesticide concentrations exceeding the RDCSCC. The soil samples with exceedances are presented in Table 5.

The third round of sampling was conducted on September 30, 2003. A total of 18 delineation samples and 2 duplicate samples were collected and analyzed for SVOCs and pesticides (800-39,-44, -45,-75). Of these, 12 samples contained SVOC and pesticide concentrations exceeding the RDCSCC. The soil samples with exceedances are presented in Table 6.

The fourth round of sampling was conducted on October 10, 2003. A total of 16 delineation samples and one duplicate sample were collected and analyzed for SVOCs and pesticides (800-39,-44). Of these, 3 samples contained SVOC concentrations exceeding the RDCSCC. The soil samples with exceedances are presented in Table 7.

A fifth round of sampling was conducted on October 15, 2003. A total of 6 delineation samples were collected and analyzed for SVOCs and pesticides (800-39,-44,-45,-75). Of these, 1 sample contained SVOC concentrations exceeding the RDCSCC. The soil samples with exceedances are presented in Table 8.

A sixth round of sampling was conducted on October 22, 2003. A total of 5 delineation samples were collected and analyzed for SVOCs and pesticides (800-39,-44). Of these, 3 samples contained SVOC concentrations exceeding the RDCSCC. The soil samples with exceedances are presented in Table 9.

The RA consisted of excavation to a depth of 1.0' to 2.0' bgs followed by collection of post-excavation (bottom) samples. If there was an exceedance to the NJDEP criteria, additional rounds of (deeper) excavations were performed and additional post-excavation samples were collected until the results were below the RDCSCC. Excavations were performed by a backhoe and all excavated soil was stockpiled pending off-site disposal (see Section 5.0).

RA excavation to a depth of 1.0' to 1.5' bgs followed by collection of an initial round of post-excavation samples was conducted between October 30, 2003 and November 4, 2003. A total of 15 post-excavation samples and 2 duplicate samples were collected. Of these, 5 samples had concentrations of SVOCs and pesticides exceeding the RDCSCC. The soil samples with exceedances are presented in Table 10 and are shown on Figures 5a and 5b.

An additional excavation of the remaining contaminated areas in the 800-39/44 excavation to a depth of 1.5' bgs followed by a round of post-excavation sampling was conducted between November 12, 2003 and November 14, 2003; in addition, the one round of excavation in the vicinity of sample 800-75 was performed. A total of 10 post-excavation samples and 1 duplicate sample were collected. Of these, 3 samples had concentrations of SVOCs and pesticides exceeding the RDCSCC. The soil samples with exceedances are presented in Table 10.

An additional excavation of the contaminated areas to a depth of 2.0' bgs followed by a final round of post-excavation sampling was conducted on November 21, 2003. One post-excavation sample was collected. This sample did not contain SVOC and pesticide concentrations exceeding the RDCSCC. The sample result is shown on Table 10.

As shown on Table 1 and Figure 3, a total of six areas of concern (AOC's) were identified during the initial site investigation around seven sample locations: 800-19, 800-32, 800-35, 800-39, 800-44, 800-45, and 800-75 (NOTE: Because samples 800-39 and 800-44 were adjacent to each other, the contamination was treated as one area for remediation [excavation] purposes). Six rounds of soil borings and collection of 85 delineation samples were performed during the RI phase around the location of the contaminated soil samples identified during the site investigation in order to establish the horizontal and vertical extent of the contamination (see Tables 4 through 9 and Figures 4a and 4b). Subsequent to completion of the RI delineation sampling, three rounds of remedial excavation and post-excavation sampling were conducted at the 800 Area (see Table 10 and Figures 5a and 5b). A total of 271 delineation and post-excavation samples and 6 field duplicate samples were collected throughout the 800 Area. A total of 226 samples with SVOC, pesticide/PCB, and arsenic concentrations less than the RDCSCC were collected throughout the 800 Area. All areas where delineation samples indicated concentrations greater than the RDCSCC were excavated during the remedial action. Therefore, it is recommended that the NJDEP issue a No Further Action letter for the SVOC, pesticide/PCB, and arsenic contamination for the 800 Area.

3.2 THE 700 AREA

Activities associated with the 700 Area are described in the following sections and included a geophysical study and UST closure activities, site investigation activities and a discussion of the contaminants of concern that were found, remedial investigation activities, and remedial actions.

3.2.1 Geophysical Survey and UST Closure Activities

A review of historical maps for the Fort Monmouth Main Post revealed that prior to the 1970s approximately 30 barracks buildings occupied an area of approximately 12 acres within the designated 700 Area. According to one utility map, most of these buildings were supplied by a 1000-gallon #2 fuel oil UST for heating purposes. No records were available to indicate whether these tanks were removed during the demolition of the barracks buildings which occurred in the 1960s. In an effort to identify remaining USTs and/or buried debris beneath the 700 Area, a geophysical study was performed. Between October 6, 2003 and October 8, 2003, Enviroscan conducted a geophysical survey of the 700 Area. A copy of this report is provided as Appendix D.

The first component of the field effort involved an EM terrain conductivity/metal detector survey of the entire site. The EM data were examined for strong, laterally restricted anomalies of the type consistent

Text omitted unless pertaining to the 800 Area

4.0 QUALITY ASSURANCE AND QUALITY CONTROL

This section describes the quality assurance and quality control (QA/QC) program that was followed during implementation of the remedial action. Sampling activities conducted during the remedial action were performed in accordance with the NJDEP Field Sampling Procedures Manual (NJDEP 1992). Quality assurance measures are listed here and described in more detail below:

- All samples were analyzed by a certified laboratory. All samples were shipped to the Fort Monmouth Environmental Testing Lab (NJDEP Certification No. 13461; New York State Department of Health [NYSDOH] Certification No. 11699).
- Collection and analyses of field duplicate samples
- Laboratory data validation
- Electronic management of analytical results

During the course of conducting the remedial actions, a total of 24 field samples and associated duplicate samples were collected (six in the 800 Area, nine in the 700 Area, nine in the 400 Area). These sample pairs are summarized below:

- The 800 Area sample identifications: 800-39D2 0-6”/Duplicate; 800-45C 0-6”/Duplicate; 800-44E3 0-6”/Duplicate; 800-39/44PX2 /Duplicate; 800-39/44PX8 /Duplicate; and 800-39/44PX16/Duplicate
- The 700 Area sample identifications: B1 0-6”/Duplicate 0-6”; B1 18-24”/Duplicate 18-24”; B1 48”/Duplicate 48”; B21/ Duplicate 0-6”; B21 18-24”/ Duplicate 18-24”; B21 60”/ Duplicate 60”; B11 0-6”/Duplicate 0-6”; B11 18-24”/Duplicate 18-24”; and B11 36”/Duplicate 36”
- The 400 Area sample identifications: B10 0-6”/Dupe 0-6”; B10 18-24”/Dupe 18-24”; B10 4.5-5’/Dupe 4.5-5’; B7/12-18”/DUP; B14/12-18”/DUP; B7C 18-24”/Dupe; B7F1 0-6”/Duplicate; 400B15-PX1/400B15-Duplicate; and 400B7-PX3/Duplicate

The total ratio of duplicate to environmental samples is approximately 1 in 23; the NJDEP requires one duplicate per 20 environmental samples. The ratio of duplicate to environmental samples for the 700 Area is about 1 in 18 and for the 400 Area is about 1 in 14; however, the ratio of duplicate to environmental samples for the 800 Area is about 1 in 45. The Fort Monmouth DPW Environmental Office has indicated, however, that due to the limited size of the main excavation in the 800 Area (around boring locations 800-39 and 800-44) and the fact that the total number of samples collected was far

greater than required by the NJDEP Technical Requirements for Site Remediation (N.J.A.C. 7:26E *et al*.), it is believed that the quality assurance of the field sampling was adequate.

Pursuant to N.J.A.C. 7:26E Subchapter 2, the Fort Monmouth Environmental Testing Lab performed data validation of the samples analyzed for this project. As such, the analytical results received from the Fort Monmouth Environmental Testing Lab in the HAZSITE electronic data deliverables format were deemed useable and reliable as submitted or qualified. Information on laboratory quality controls including but not limited to method blanks, matrix spikes (MS) and matrix spike duplicates (MSD) are included in each laboratory data package. The laboratory authentication statements certifying the results, laboratory performance standards and compliance with quality control requirements specified in N.J.A.C. 7:18 and 40 CFR Part 136 for water and waste water analyses and SW-846 for solid waste analyses are also included in each laboratory data package. Consistent with its scope of work for this project, Tetra Tech did not complete any independent data validation activities.

Electronic data management enhances the QA/QC of analytical data during preparation of summary tables that are used to determine whether a sample result exceeds the NJDEP RDCSCC or NRDCSCC. It also enhances the QA/QC and reliability of sample coordinates provided in the NJDEP HAZSITE deliverables. The following describes the QA/QC procedure and electronic data management from the laboratory to the report summary tables and HAZSITE deliverables.

- All analytical data is maintained in a Microsoft Access database that was developed to meet the specifications of the NJDEP Electronic Data Deliverables (HAZSITE) program. Completed electronic deliverables in a HAZSITE-compatible format are provided by the Fort Monmouth Environmental Testing Lab and imported into the Access database. Various query and reporting functions have been built into the database to allow automated extraction, analysis and reporting of laboratory results to assist in report preparation.

- Sample locations are maintained in an AutoCad (CAD) file that has been geo-rectified to the New Jersey State Plane Feet coordinate system (NAD83). The sample locations and coordinates were provided by the DPW. The coordinates of the sample locations were imported into the CAD file. Once imported, the locations of the sample points and excavation boundaries in the CAD file were then verified by DPW/TVS personnel to ensure they were properly located.

5.0 WASTE CHARACTERIZATION AND DISPOSAL

In excess of 2,000 tons of contaminated soil exceeding the applicable regulatory criteria (both RDCSCC and NRDCSCC) were excavated from the 800, 700, and 400 Areas of the Main Post. The contaminated soils were stockpiled and managed in accordance with NJDEP regulations and guidelines. All contaminated soil exceeding the regulatory criteria from the 800 Area and some of the contaminated soil from the 700 and 400 Areas has been shipped from Fort Monmouth for disposal.

As of December 2004, 1,807 tons of soil has been characterized and disposed of by the U.S. Army, Fort Monmouth Directorate of Public Works (DPW), and its subcontractor, ONYX Environmental Services. In March 2004, 841 tons of SVOC contaminated soil was transported and disposed. In March and April 2004, 788 tons of ID-27/pesticide contaminated soil was transported and disposed. In October 2004, 178 tons of PCB contaminated soil from the 400 Area was transported and disposed. All of these batches of soil were transported to Model City, New York for disposal. In May 2005, 413 tons of petroleum/SVOC contaminated soils from the 400 Area excavations and the 700 Area UST excavations were transported and recycled at Clean Earth of Philadelphia.

The hazardous waste disposal manifests and summary tables for the soil disposal conducted to date are included in Appendix H.

No offsite disposal of water was required during the remedial action. Minor amounts of water generated during equipment decontamination was mixed with the contaminated soils removed from the site.

4.0 REFERENCES

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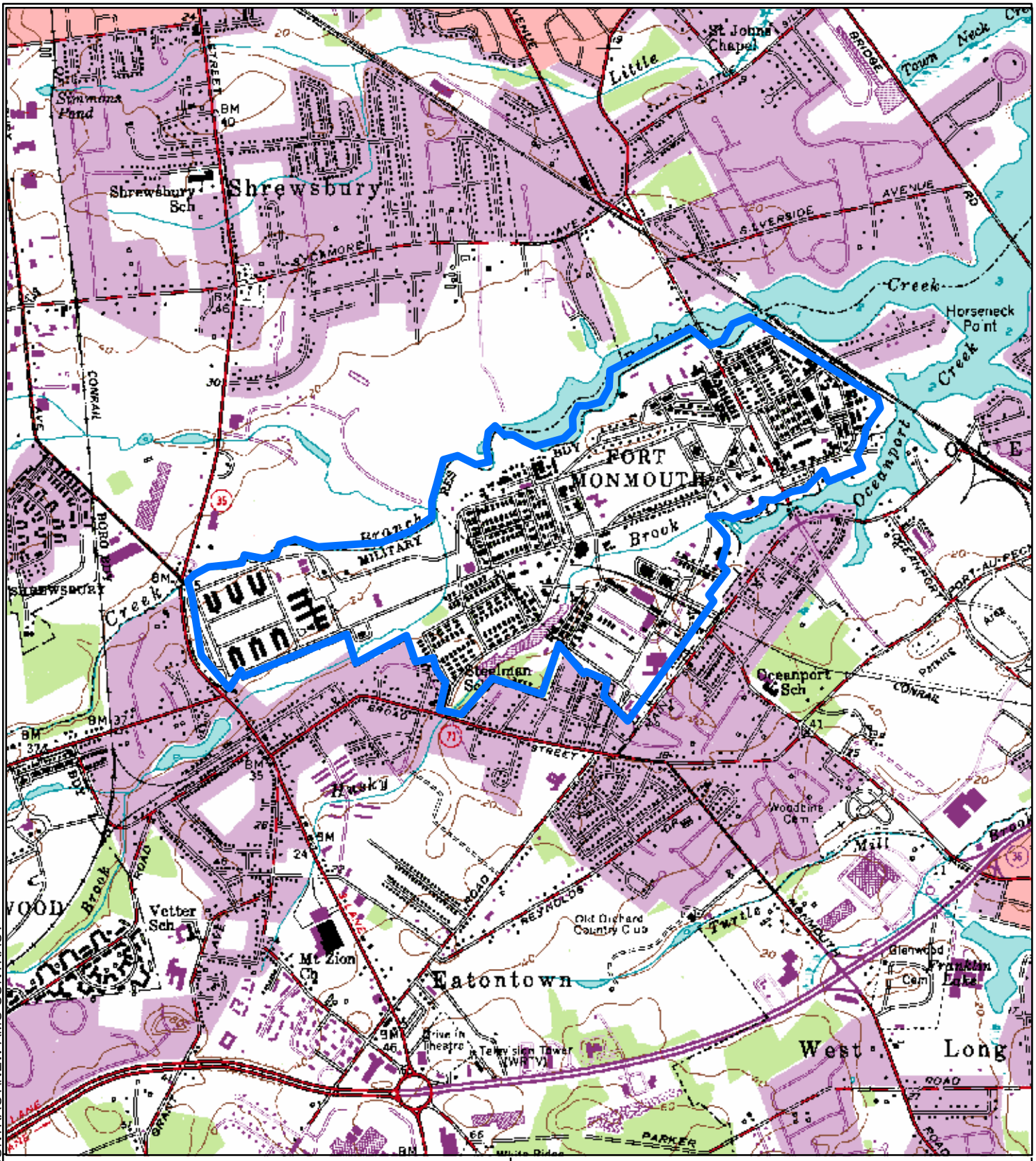
FIGURES



2,000 1,000 0 2,000 Feet

SOURCE: USGS DIGITAL TOPOQUAD
LONGBRANCH, NJ
1954 - PHOTOREVISED 1981

LEGEND

FTMM Boundary (approx.)

Tetra Tech EM Inc.
100 Enterprise Drive, Suite 400
Rockaway, New Jersey 07866
(973) 659-9996

FIGURE 1

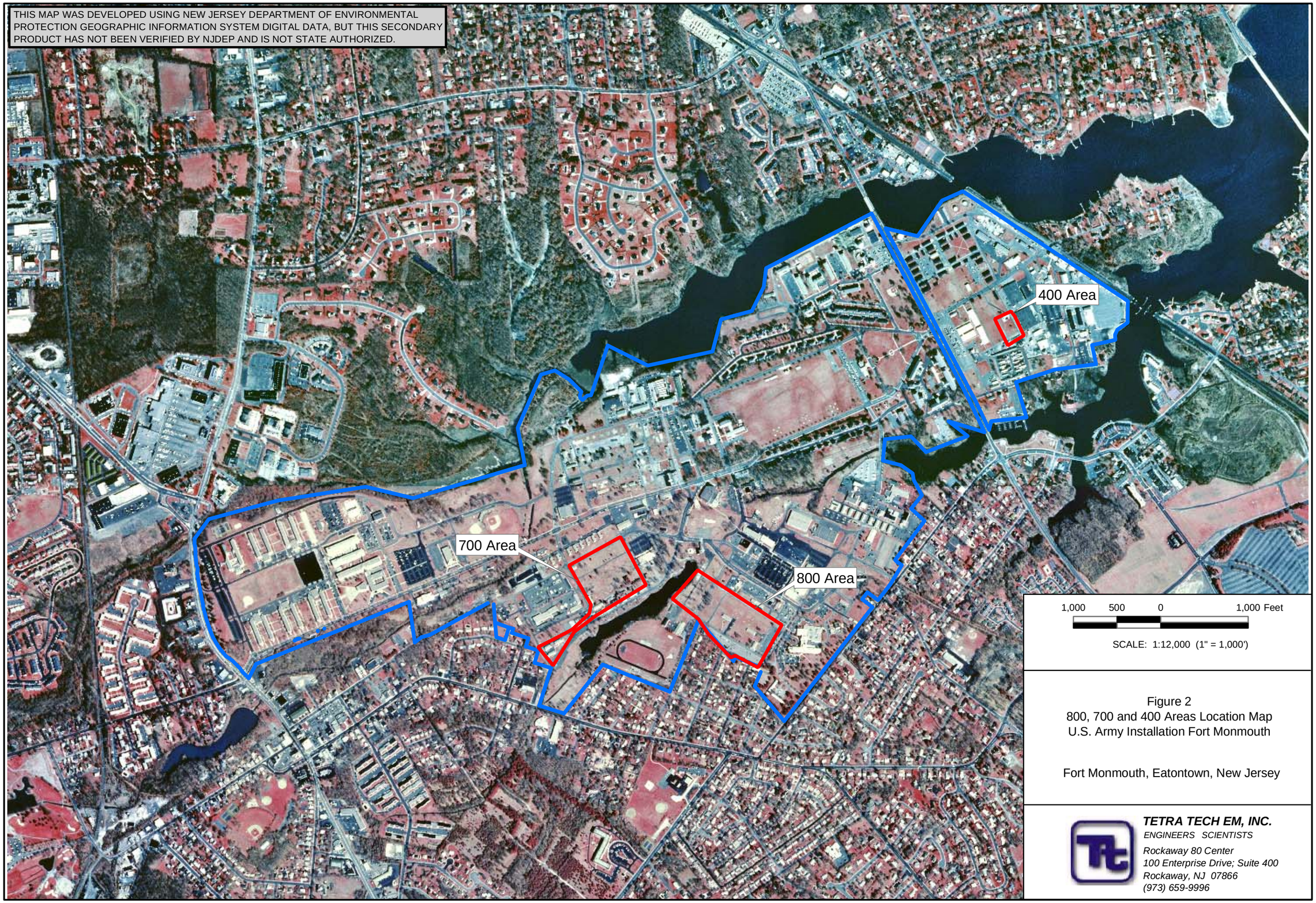
U.S. Army Installation Fort Monmouth Location Map

Fort Monmouth, Eatontown, New Jersey

DATE:	10/04/05
DESIGNED BY:	JR\KJP
SCALE:	AS SHOWN
JOB NO.:	S3152.03
DWG. NO.:	Figure 1

S:\PROJECTS\FEDERAL\AMC CONTRACT\NEW AMC CONTRACT

THIS MAP WAS DEVELOPED USING NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION GEOGRAPHIC INFORMATION SYSTEM DIGITAL DATA, BUT THIS SECONDARY PRODUCT HAS NOT BEEN VERIFIED BY NJDEP AND IS NOT STATE AUTHORIZED.



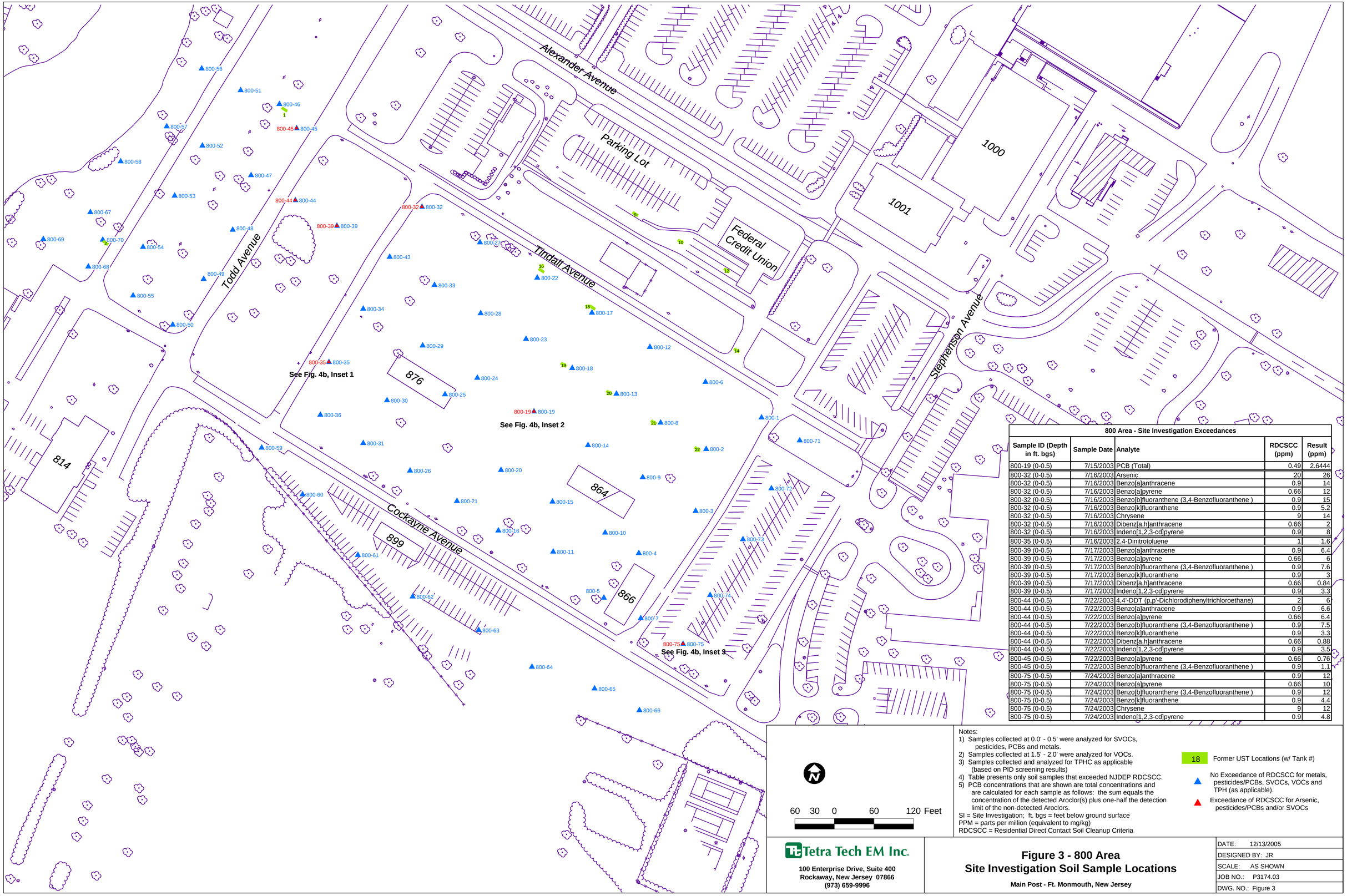
1,000 500 0 1,000 Feet

SCALE: 1:12,000 (1" = 1,000')

Figure 2
800, 700 and 400 Areas Location Map
U.S. Army Installation Fort Monmouth

Fort Monmouth, Eatontown, New Jersey

TETRA TECH EM, INC.
ENGINEERS SCIENTISTS
Rockaway 80 Center
100 Enterprise Drive; Suite 400
Rockaway, NJ 07866
(973) 659-9996



800 Area - Site Investigation Exceedances

Sample ID (Depth in ft. bgs)	Sample Date	Analyte	RDCSCC (ppm)	Result (ppm)
800-19 (0-0.5)	7/15/2003	PCB (Total)	0.49	2.6444
800-32 (0-0.5)	7/16/2003	Arsenic	20	26
800-32 (0-0.5)	7/16/2003	Benzo[a]anthracene	0.9	14
800-32 (0-0.5)	7/16/2003	Benzo[a]pyrene	0.66	12
800-32 (0-0.5)	7/16/2003	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	15
800-32 (0-0.5)	7/16/2003	Benzo[k]fluoranthene	0.9	5.2
800-32 (0-0.5)	7/16/2003	Chrysene	9	14
800-32 (0-0.5)	7/16/2003	Dibenz[a,h]anthracene	0.66	2
800-32 (0-0.5)	7/16/2003	Indeno[1,2,3-cd]pyrene	0.9	8
800-35 (0-0.5)	7/16/2003	2,4-Dinitrotoluene	1	1.6
800-39 (0-0.5)	7/17/2003	Benzo[a]anthracene	0.9	6.4
800-39 (0-0.5)	7/17/2003	Benzo[a]pyrene	0.66	6
800-39 (0-0.5)	7/17/2003	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	7.6
800-39 (0-0.5)	7/17/2003	Benzo[k]fluoranthene	0.9	3
800-39 (0-0.5)	7/17/2003	Dibenz[a,h]anthracene	0.66	0.84
800-39 (0-0.5)	7/17/2003	Indeno[1,2,3-cd]pyrene	0.9	3.3
800-44 (0-0.5)	7/22/2003	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	6
800-44 (0-0.5)	7/22/2003	Benzo[a]anthracene	0.9	6.6
800-44 (0-0.5)	7/22/2003	Benzo[a]pyrene	0.66	6.4
800-44 (0-0.5)	7/22/2003	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	7.5
800-44 (0-0.5)	7/22/2003	Benzo[k]fluoranthene	0.9	3.3
800-44 (0-0.5)	7/22/2003	Dibenz[a,h]anthracene	0.66	0.88
800-44 (0-0.5)	7/22/2003	Indeno[1,2,3-cd]pyrene	0.9	3.5
800-45 (0-0.5)	7/22/2003	Benzo[a]pyrene	0.66	0.76
800-45 (0-0.5)	7/22/2003	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.1
800-75 (0-0.5)	7/24/2003	Benzo[a]anthracene	0.9	12
800-75 (0-0.5)	7/24/2003	Benzo[a]pyrene	0.66	10
800-75 (0-0.5)	7/24/2003	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	12
800-75 (0-0.5)	7/24/2003	Benzo[k]fluoranthene	0.9	4.4
800-75 (0-0.5)	7/24/2003	Chrysene	9	12
800-75 (0-0.5)	7/24/2003	Indeno[1,2,3-cd]pyrene	0.9	4.8

60 30 0 60 120 Feet

Notes:
1) Samples collected at 0.0' - 0.5' were analyzed for SVOCs, pesticides, PCBs and metals.
2) Samples collected at 1.5' - 2.0' were analyzed for VOCs.
3) Samples collected and analyzed for TPHC as applicable (based on PID screening results)
4) Table presents only soil samples that exceeded NJDEP RDCSCC.
5) PCB concentrations that are shown are total concentrations and are calculated for each sample as follows: the sum equals the concentration of the detected Aroclor(s) plus one-half the detection limit of the non-detected Aroclors.

SI = Site Investigation; ft. bgs = feet below ground surface
PPM = parts per million (equivalent to mg/kg)
RDCSCC = Residential Direct Contact Soil Cleanup Criteria

18 Former UST Locations (w/ Tank #)

No Exceedance of RDCSCC for metals, pesticides/PCBs, SVOCs, VOCs and TPH (as applicable).

Exceedance of RDCSCC for Arsenic, pesticides/PCBs and/or SVOCs

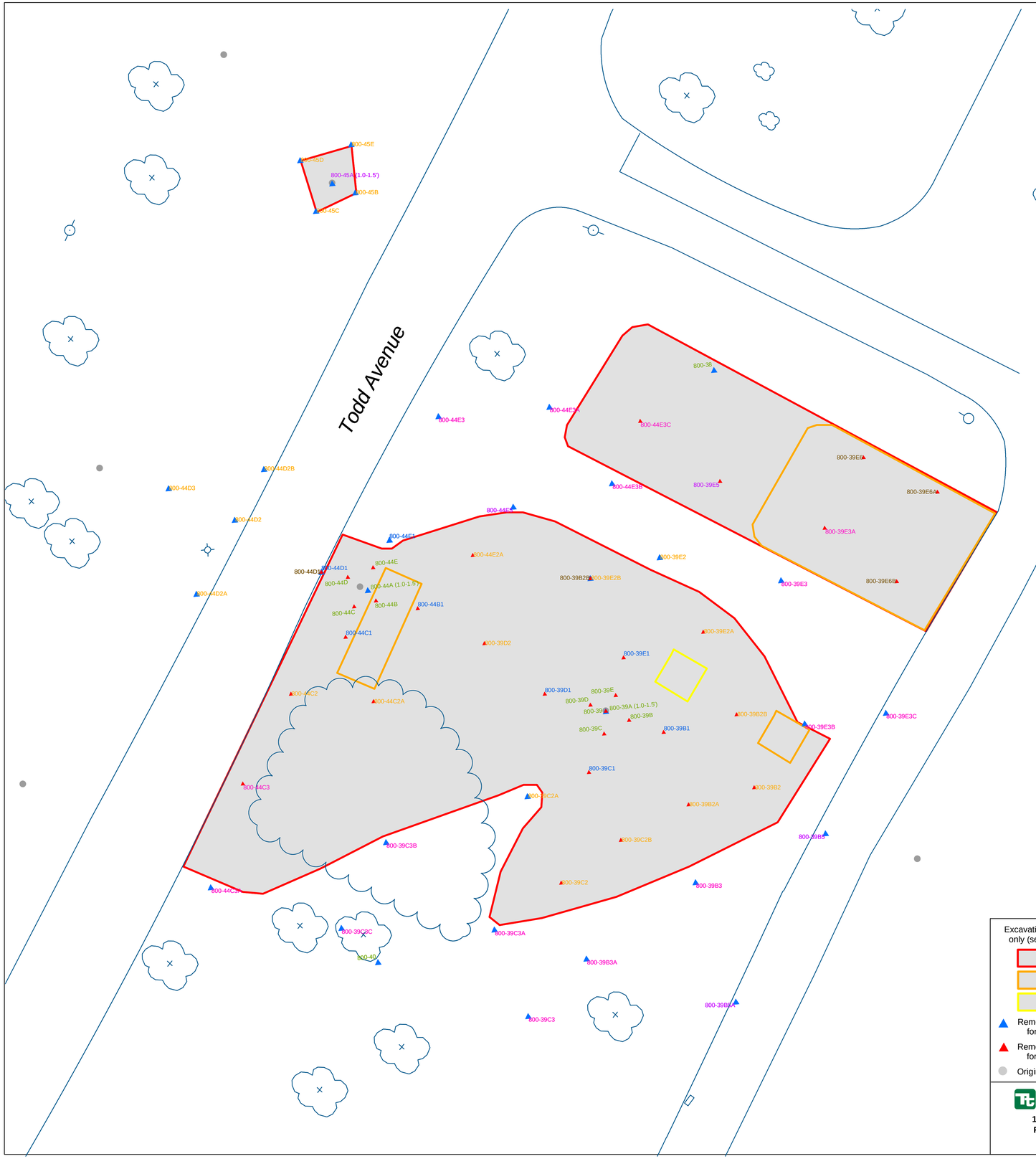
Tetra Tech EM Inc.
100 Enterprise Drive, Suite 400
Rockaway, New Jersey 07866
(973) 659-9996

Figure 3 - 800 Area
Site Investigation Soil Sample Locations

Main Post - Ft. Monmouth, New Jersey

DATE: 12/13/2005
DESIGNED BY: JR
SCALE: AS SHOWN
JOB NO.: P3174.03
DWG. NO.: Figure 3

S:\PROJECTS\FEDERA



800 Area - Remedial Investigation Exceedances

Sample ID (Depth, ft. bgs)	Analyte	RDCSCC (ppm)	Result (ppm)
800-32C (0-0.5)	Benzo[a]pyrene	0.66	0.84
800-32C (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.1
800-39 (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	2.1
800-39 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	11
800-39B (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	6.1
800-39B (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	3
800-39B (0-0.5)	Benzo[k]fluoranthene	0.9	2.6
800-39B (0-0.5)	Benzo[a]pyrene	0.66	5
800-39B (0-0.5)	Benzo[a]anthracene	0.9	5.4
800-39B (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	8.5
800-39B (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	4.2
800-39B (0-0.5)	Dibenz[a,h]anthracene	0.66	0.74
800-39C (0-0.5)	Benzo[a]pyrene	0.66	4.8
800-39C (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	2.8
800-39C (0-0.5)	Dibenz[a,h]anthracene	0.66	0.71
800-39C (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	6.1
800-39C (0-0.5)	Benzo[a]anthracene	0.9	5.1
800-39C (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	7.6
800-39C (0-0.5)	Benzo[k]fluoranthene	0.9	2.2
800-39D (0-0.5)	Chrysene	9	10
800-39D (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	4.4
800-39D (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	7.1
800-39D (0-0.5)	Benzo[a]anthracene	0.9	10
800-39D (0-0.5)	Benzo[a]pyrene	0.66	8.9
800-39D (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	11
800-39D (0-0.5)	Benzo[k]fluoranthene	0.9	4.8
800-39D (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	5.1
800-39D (0-0.5)	Dibenz[a,h]anthracene	0.66	1.3
800-39E (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	2.8
800-39E (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	3
800-39E (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	4
800-39E (0-0.5)	Benzo[k]fluoranthene	0.9	2.7
800-39E (0-0.5)	Benzo[a]anthracene	0.9	6
800-39E (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	6.7
800-39E (0-0.5)	Dibenz[a,h]anthracene	0.66	0.78
800-39E (0-0.5)	Benzo[a]pyrene	0.66	5.4
800-39B1 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	2.8
800-39B1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.9
800-39B1 (0-0.5)	Benzo[a]anthracene	0.9	1.6
800-39B1 (0-0.5)	Benzo[a]pyrene	0.66	1.6
800-39C1 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	1.2
800-39C1 (0-0.5)	4,4'-DDD (p,p'-Dichlorodiphenyl dichloroethane)	3	9.9
800-39C1 (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	5.9
800-39C1 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	22
800-39C1 (0-0.5)	Benzo[a]anthracene	0.9	11
800-39C1 (0-0.5)	Benzo[k]fluoranthene	0.9	5.1
800-39C1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	12
800-39C1 (0-0.5)	Chrysene	9	12
800-39C1 (0-0.5)	Dibenz[a,h]anthracene	0.66	1.5
800-39C1 (0-0.5)	Benzo[a]pyrene	0.66	11
800-39D1 (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	4.6
800-39D1 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	16
800-39D1 (0-0.5)	Benzo[a]anthracene	0.9	8.3
800-39D1 (0-0.5)	Benzo[a]pyrene	0.66	8.1
800-39D1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	9.6
800-39D1 (0-0.5)	Benzo[k]fluoranthene	0.9	3.3
800-39D1 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	4
800-39D1 (0-0.5)	4,4'-DDD (p,p'-Dichlorodiphenyl dichloroethane)	3	9.1
800-39E1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	23
800-39E1 (0-0.5)	Dibenz[a,h]anthracene	0.66	2.8
800-39E1 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	11
800-39E1 (0-0.5)	Benzo[k]fluoranthene	0.9	12
800-39E1 (0-0.5)	Chrysene	9	19
800-39E1 (0-0.5)	Benzo[a]anthracene	0.9	20
800-39E1 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	67
800-39E1 (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	2.6
800-39E1 (0-0.5)	Benzo[a]pyrene	0.66	19
800-39B2 (0-0.5)	Benzo[k]fluoranthene	0.9	1.1
800-39B2 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	2.8
800-39B2 (0-0.5)	Benzo[a]pyrene	0.66	2.2
800-39B2 (0-0.5)	Benzo[a]anthracene	0.9	2.4
800-39B2 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	1.2
800-39B2A (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	5.6
800-39B2A (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	9.6
800-39B2A (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	2.2
800-39B2A (0-0.5)	Benzo[a]anthracene	0.9	9.8
800-39B2A (0-0.5)	Benzo[a]pyrene	0.66	9.7
800-39B2A (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	12
800-39B2A (0-0.5)	Benzo[k]fluoranthene	0.9	3.9
800-39B2A (0-0.5)	Chrysene	9	9.9
800-39B2A (0-0.5)	4,4'-DDD (p,p'-Dichlorodiphenyl dichloroethane)	3	4.2
800-39B2B (0-0.5)	4,4'-DDD (p,p'-Dichlorodiphenyl dichloroethane)	3	4.5
800-39B2B (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	70
800-39B2B (0-0.5)	Benzo[a]anthracene	0.9	27
800-39B2B (0-0.5)	Benzo[a]pyrene	0.66	25
800-39B2B (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	29
800-39B2B (0-0.5)	Benzo[k]fluoranthene	0.9	11
800-39B2B (0-0.5)	Chrysene	9	27
800-39B2B (0-0.5)	Dibenz[a,h]anthracene	0.66	1.4
800-39B2B (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	14
800-39B2B (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	8.2
800-39C2 (0-0.5)	4,4'-DDD (p,p'-Dichlorodiphenyl dichloroethane)	3	5.3
800-39C2 (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	27
800-39C2 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	25
800-39C2B (0-0.5)	Benzo[a]anthracene	0.9	1.9
800-39C2B (0-0.5)	Benzo[a]pyrene	0.66	1.9
800-39C2B (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	2.5
800-39C2B (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	1.1
800-39D2 (0-0.5)	Benzo[a]anthracene	0.9	1.4
800-39D2 (0-0.5)	Benzo[a]pyrene	0.66	1.3
800-39D2 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.7
800-39E2A (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	2.7
800-39E2A (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	8.6
800-39E2B (0-0.5)	Benzo[k]fluoranthene	0.9	1.9
800-39E2B (0-0.5)	Benzo[a]anthracene	0.9	4.1

800 Area - Remedial Investigation Exceedances

Sample ID (Depth, ft. bgs)	Analyte	RDCSCC (ppm)	Result (ppm)
800-39E2B (0-0.5)	Benzo[a]pyrene	0.66	3.9
800-39E2B (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	4.7
800-39E2B (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	2.1
800-39E3A (0-0.5)	Benzo[a]pyrene	0.66	1.8
800-39E3A (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	2.4
800-39E3A (0-0.5)	Benzo[a]anthracene	0.9	1.6
800-39E3A (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	1.1
800-39E5 (0-0.5)	Benzo[a]anthracene	0.9	5.7
800-39E5 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	2.6
800-39E5 (0-0.5)	Benzo[k]fluoranthene	0.9	2
800-39E5 (0-0.5)	Benzo[a]pyrene	0.66	4.9
800-39E6 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.1
800-39E6A (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.3
800-39E6A (0-0.5)	Benzo[a]anthracene	0.9	1.1
800-39E6A (0-0.5)	Benzo[a]pyrene	0.66	0.95
800-39E6B (0-0.5)	Chrysene	9	11
800-39E6B (0-0.5)	Dibenz[a,h]anthracene	0.66	1.3
800-39E6B (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	11
800-39E6B (0-0.5)	Benzo[k]fluoranthene	0.9	3.7
800-39E6B (0-0.5)	Benzo[a]anthracene	0.9	11
800-39E6B (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	4.5
800-39E6B (0-0.5)	Benzo[a]pyrene	0.66	8.7
800-44B (0-0.5)	Dibenz[a,h]anthracene	0.66	1.2
800-44B (0-0.5)	Chrysene	9	9.1
800-44B (0-0.5)	Benzo[k]fluoranthene	0.9	4.2
800-44B (0-0.5)	Benzo[a]pyrene	0.66	8.1
800-44B (0-0.5)	Benzo[a]anthracene	0.9	9.2
800-44B (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	4
800-44B (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	4
800-44B (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	4.5
800-44B (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	9.8
800-44C (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	2.1
800-44C (0-0.5)	Benzo[k]fluoranthene	0.9	1.6
800-44C (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	4.9
800-44C (0-0.5)	Benzo[a]pyrene	0.66	3.7
800-44C (0-0.5)	Benzo[a]anthracene	0.9	3.9
800-44C (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	5
800-44C (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	3.7
800-44D (0-0.5)	Dibenz[a,h]anthracene	0.66	0.8
800-44D (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	4
800-44D (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	4.4
800-44D (0-0.5)	Benzo[a]anthracene	0.9	5.4
800-44D (0-0.5)	Benzo[a]pyrene	0.66	5.5
800-44D (0-0.5)	Benzo[k]fluoranthene	0.9	3
800-44D (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	3.3
800-44D (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	6.6
800-44E (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	3.8
800-44E (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	3.5
800-44E (0-0.5)	Benzo[a]anthracene	0.9	4.6
800-44E (0-0.5)	Benzo[a]pyrene	0.66	4.4
800-44E (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	5.4
800-44E (0-0.5)	Benzo[k]fluoranthene	0.9	2.2
800-44E (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	2.5
800-44B1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	9.5
800-44B1 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	4.3
800-44B1 (0-0.5)	Benzo[a]anthracene	0.9	8.6
800-44B1 (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	4.9
800-44B1 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	9.2
800-44B1 (0-0.5)	Benzo[a]pyrene	0.66	8.1
800-44B1 (0-0.5)	Benzo[k]fluoranthene	0.9	3.9
800-44B1 (0-0.5)	Dibenz[a,h]anthracene	0.66	1.1
800-44C1 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	9.6
800-44C1 (0-0.5)	Dibenz[a,h]anthracene	0.66	2.4
800-44C1 (0-0.5)	Chrysene	9	16
800-44C1 (0-0.5)	Benzo[k]fluoranthene	0.9	7.4
800-44C1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	19
800-44C1 (0-0.5)	Benzo[a]pyrene	0.66	16
800-44C1 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	4.6
800-44C1 (0-0.5)	Benzo[a]anthracene	0.9	16
800-44D1 (0-0.5)	Benzo[a]pyrene	0.66	80
800-44D1 (0-0.5)	Benzo[a]anthracene	0.9	71
800-44D1 (0-0.5)	Dibenz[a,h]anthracene	0.66	11
800-44D1 (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	45
800-44D1 (0-0.5)	Chrysene	9	73
800-44D1 (0-0.5)	Benzo[k]fluoranthene	0.9	32
800-44D1 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	11
800-44D1 (0-0.5)	4,4'-DDE (p,p'-Dichlorodiphenyldichloroethylene)	2	2.5
800-44D1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	100
800-44C2 (0-0.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	3.6
800-44C2A (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	2.3
800-44C2A (0-0.5)	Benzo[a]pyrene	0.66	1.8
800-44C2A (0-0.5)	Benzo[a]anthracene	0.9	1.8
800-44E2A (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	1.7
800-44E2A (0-0.5)	Benzo[a]pyrene	0.66	2.9
800-44E2A (0-0.5)	Benzo[a]anthracene	0.9	2.8
800-44E2A (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	3.7
800-44C3 (0-0.5)	Benzo[a]anthracene	0.9	0.96
800-44C3 (0-0.5)	Benzo[a]pyrene	0.66	0.81
800-44C3 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	0.91
800-44E3C (0-0.5)	Benzo[a]anthracene	0.9	2.8
800-44E3C (0-0.5)	Benzo[a]pyrene	0.66	2.6
800-44E3C (0-0.5)	Benzo[k]fluoranthene	0.9	1.1
800-44E3C (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	3.5
800-44E3C (0-0.5)	Indeno[1,2,3-cd]pyrene	0.9	1.5

Excavation Boundaries - Included for reference only (see Figure 5a for post-excavation sample locations)

- 1' Depth
- 1.5' Depth
- 2.0' Depth

- Remedial Investigtion Sample - No Exceedance of RDCSCC for Arsenic, Pesticides, and/or SVOCs
- Remedial Investigation Sample - Exceedance of RDCSCC for Pesticides and/or SVOCs
- Original Site Investigation Sample Location

Sample Round Color Code Scheme

- Remedial Investigation - Round 1
- Remedial Investigation - Round 2
- Remedial Investigation - Round 3
- Remedial Investigation - Round 4
- Remedial Investigation - Round 5
- Remedial Investigation - Round 6
- Remedial Investigation - Round 7

10 5 0 10 20 Feet

Notes:
1) Samples collected were analyzed for SVOCs, pesticides and/or metals.
2) Table presents only soil samples that exceeded NJDEP RDCSCC.
3) Samples collected between 8/21/03 and 10/22/03.
4) All samples were collected at 0.0 - 0.5' unless otherwise noted.
SI = Site Investigation; RI = Remedial Investigation
ft. bgs = feet below ground surface
PPM = parts per million (equivalent to mg/kg)
RDCSCC = Residential Direct Contact Soil Cleanup Criteria

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Figure 4a - 800 Area
Remedial Investigation Soil Sample Locations

Main Post - Ft. Monmouth, New Jersey

DATE: 12/06/2005
DESIGNED BY: JR
SCALE: AS SHOWN
JOB NO.: P3174.03
DWG. NO.: Figure 4a

800 Area - Remedial Investigation Exceedances			
Sample ID (Depth, ft. bgs)	**Analyte**	**RDCSCC (ppm)**	**Result (ppm)**
800-75E (0-0.5)	Benzo[a]pyrene	0.66	0.91
800-75E (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.2
800-75E (0-0.5)	Benzo[a]anthracene	0.9	1
800-75E1 (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	0.91
800-75E1 (0-0.5)	Benzo[a]pyrene	0.66	0.77
800-75E2B (0-0.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	0.91
800-75E2B (0-0.5)	Benzo[a]pyrene	0.66	0.74

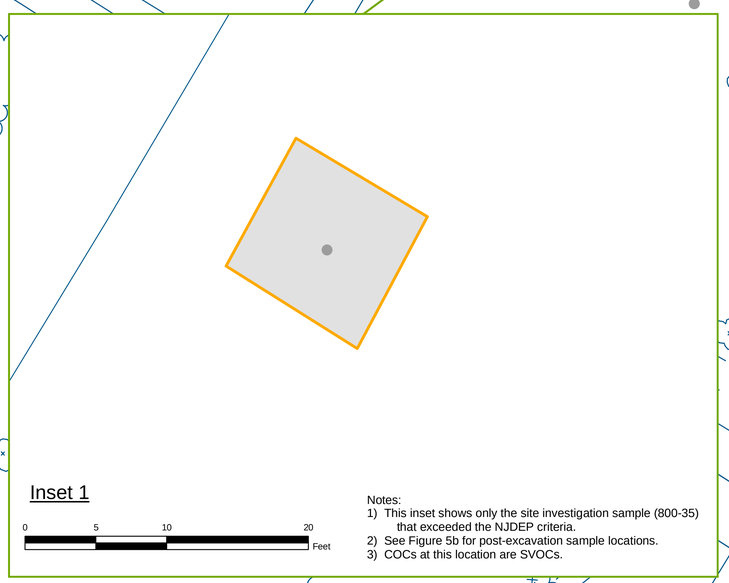
876

846

866

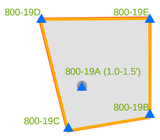
Grassy Area

Inset 1



Notes:
1) This inset shows only the site investigation sample (800-35) that exceeded the NJDEP criteria.
2) See Figure 5b for post-excavation sample locations.
3) COCs at this location are SVOCs.

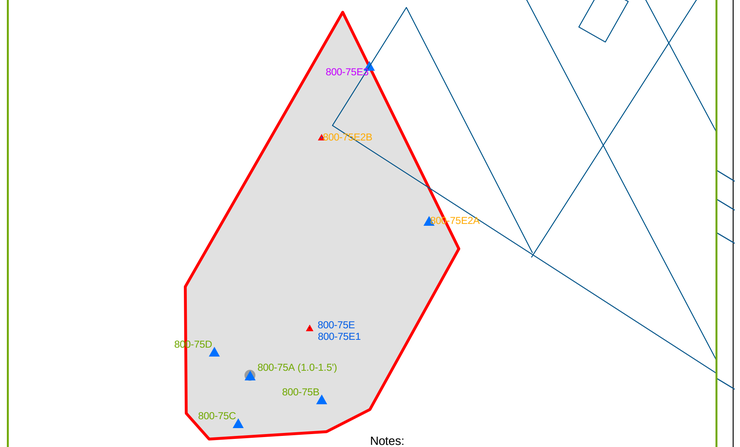
Inset 2





Notes:
1) This inset shows only the site investigation sample (800-19) that exceeded the NJDEP criteria, and the Remedial Investigation samples collected to delineate the areal extent of the contamination.
2) See Figure 5b for post-excavation sample locations.
3) COCs at this location are PCBs.

Inset 3



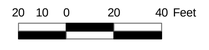
Notes:
1) This inset shows only the site investigation sample (800-75) that exceeded the NJDEP criteria, and the Remedial Investigation samples collected to delineate the areal extent of the contamination.
2) See Figure 5b for post-excavation sample locations.
3) COCs at this location includes SVOCs.

Excavation Boundaries - Included for reference only (see Figure 5b for post-excavation sample locations)

- 1' Depth
- 1.5' Depth
- Remedial Investigation Sample - No Exceedance of RDCSCC for PCBs and/or SVOCs
- Remedial Investigation Sample - Exceedance of RDCSCC for PCBs and/or SVOCs
- Original Site Investigation Sample Location

Sample Round Color Code Scheme

- Remedial Investigation - Round 1
- Remedial Investigation - Round 2
- Remedial Investigation - Round 3
- Remedial Investigation - Round 4
- Remedial Investigation - Round 5
- Remedial Investigation - Round 6
- Remedial Investigation - Round 7



Notes:
1) Samples collected were analyzed for SVOCs, pesticides, PCBs and/or metals.
2) Table presents only soil samples that exceeded NJDEP RDCSCC.
3) Samples collected between 8/21/03 and 10/22/03.
4) All samples collected at 0.0 - 0.5' unless otherwise noted.

COC = Contaminant of Concern
ft. bgs = feet below ground surface
PPM = parts per million (equivalent to mg/kg)
RDCSCC = Residential Direct Contact Soil Cleanup Criteria

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Figure 4b - 800 Area
Remedial Investigation Soil Sample Locations

Main Post - Ft. Monmouth, New Jersey

DATE: 12/06/2005
DESIGNED BY: JR
SCALE: AS SHOWN
JOB NO.: P3174.03
DWG. NO.: Figure 4b

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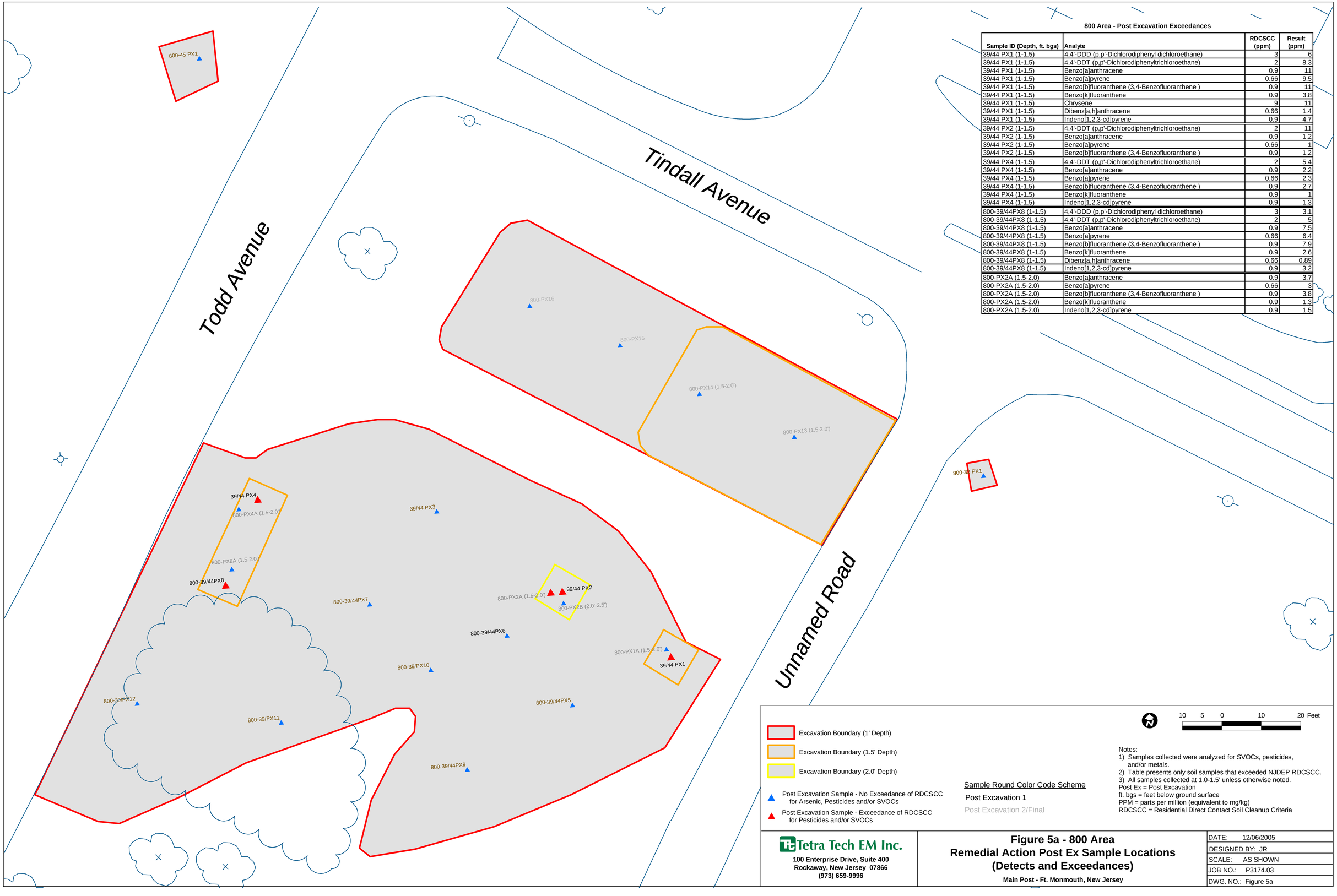
800 Area - Post Excavation Exceedances

Sample ID (Depth, ft. bgs)	Analyte	RDCSCC (ppm)	Result (ppm)
39/44 PX1 (1-1.5)	4,4'-DDD (p,p'-Dichlorodiphenyl dichloroethane)	3	6
39/44 PX1 (1-1.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	8.3
39/44 PX1 (1-1.5)	Benzo[a]anthracene	0.9	11
39/44 PX1 (1-1.5)	Benzo[a]pyrene	0.66	9.5
39/44 PX1 (1-1.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	11
39/44 PX1 (1-1.5)	Benzo[k]fluoranthene	0.9	3.8
39/44 PX1 (1-1.5)	Chrysene	9	11
39/44 PX1 (1-1.5)	Dibenz[a,h]anthracene	0.66	1.4
39/44 PX1 (1-1.5)	Indeno[1,2,3-cd]pyrene	0.9	4.7
39/44 PX2 (1-1.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	11
39/44 PX2 (1-1.5)	Benzo[a]anthracene	0.9	1.2
39/44 PX2 (1-1.5)	Benzo[a]pyrene	0.66	1
39/44 PX2 (1-1.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	1.2
39/44 PX4 (1-1.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	5.4
39/44 PX4 (1-1.5)	Benzo[a]anthracene	0.9	2.2
39/44 PX4 (1-1.5)	Benzo[a]pyrene	0.66	2.3
39/44 PX4 (1-1.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	2.7
39/44 PX4 (1-1.5)	Benzo[k]fluoranthene	0.9	1
39/44 PX4 (1-1.5)	Indeno[1,2,3-cd]pyrene	0.9	1.3
800-39/44PX8 (1-1.5)	4,4'-DDD (p,p'-Dichlorodiphenyl dichloroethane)	3	3.1
800-39/44PX8 (1-1.5)	4,4'-DDT (p,p'-Dichlorodiphenyltrichloroethane)	2	5
800-39/44PX8 (1-1.5)	Benzo[a]anthracene	0.9	7.5
800-39/44PX8 (1-1.5)	Benzo[a]pyrene	0.66	6.4
800-39/44PX8 (1-1.5)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	7.9
800-39/44PX8 (1-1.5)	Benzo[k]fluoranthene	0.9	2.6
800-39/44PX8 (1-1.5)	Dibenz[a,h]anthracene	0.66	0.89
800-39/44PX8 (1-1.5)	Indeno[1,2,3-cd]pyrene	0.9	3.2
800-PX2A (1.5-2.0)	Benzo[a]anthracene	0.9	3.7
800-PX2A (1.5-2.0)	Benzo[a]pyrene	0.66	3
800-PX2A (1.5-2.0)	Benzo[b]fluoranthene (3,4-Benzofluoranthene)	0.9	3.8
800-PX2A (1.5-2.0)	Benzo[k]fluoranthene	0.9	1.3
800-PX2A (1.5-2.0)	Indeno[1,2,3-cd]pyrene	0.9	1.5



Notes:
1) Samples collected were analyzed for SVOCs, pesticides, and/or metals.
2) Table presents only soil samples that exceeded NJDEP RDCSCC.
3) All samples collected at 1.0-1.5' unless otherwise noted.
Post Ex = Post Excavation
ft. bgs = feet below ground surface
PPM = parts per million (equivalent to mg/kg)
RDCSCC = Residential Direct Contact Soil Cleanup Criteria

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Figure 5a - 800 Area
Remedial Action Post Ex Sample Locations
(Detects and Exceedances)

Main Post - Ft. Monmouth, New Jersey

DATE:	12/06/2005
DESIGNED BY:	JR
SCALE:	AS SHOWN
JOB NO.:	P3174.03
DWG. NO.:	Figure 5a

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866

800-35 PX1 (1.5-2.0')

800-19 PX1 (1.5-2.0')

800-75 PX1

800-75 PX2

Grassy Area

Inset 1

0 5 10 20 Feet

Inset 2

0 5 10 20 Feet

Inset 3

0 5 10 20 Feet

Sample Round Color Code Scheme

Post Excavation 1

Post Excavation 2/Final

Excavation Boundary (1' Depth)

Excavation Boundary (1.5' Depth)

Post Excavation Sample - No Exceedance of RDCSCC for PCBs and/or SVOCs

Post Excavation Sample - Exceedance of RDCSCC for PCBs and/or SVOCs

30 15 0 30 60 Feet

Notes:
1) Samples collected were analyzed for SVOCs, and/or PCBs. No exceedances.
2) All samples collected at 1.0-1.5' unless otherwise noted.
Post-Ex = Post Excavation
ft. bgs = feet below ground surface
PPM = parts per million (equivalent to mg/kg)
RDCSCC = Residential Direct Contact Soil Cleanup Criteria

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Figure 5b - 800 Area Remedial Action Post Ex Sample Locations (Detects and Exceedances)

Main Post - Ft. Monmouth, New Jersey

DATE: 12/06/2005
DESIGNED BY: JR
SCALE: AS SHOWN
JOB NO.: P3174.03
DWG. NO.: Figure 5b

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TABLES

Table 1
800 Area
Areas of Concern
Fort Monmouth, NJ

Original Exceedance Areas	Initial Site Investigation (SI) Exceedance Location	Contaminant of Concern (COC)	Location
1	800-19	PCB's	Northwest of Building 846
2	800-32	Arsenic, SVOC's	Southeast Corner of Tindall Avenue and Unnamed Road
3	800-35	SVOC's	West of Unnamed Building in the Northwest Portion of the Open Grass Area between Tindall Avenue and Cockayne Avenue
4	800-39	Pesticides, SVOC's	Open Grass Area - South of Tindall Avenue and East of Todd Avenue
5	800-44	Pesticides, SVOC's	Open Grass Area - South of Tindall Avenue and East of Todd Avenue
6	800-45	SVOC's	Southwest Corner of Intersection of Tindall Avenue and Todd Avenue
7	800-75	SVOC's	Northeast Corner of Cockayne Avenue and Unnamed Road (Southern End of Parking Lot)

NOTES:
1) The contaminated area around samples 800-39 and 800-44 was treated as one area for remediation (excavation) purposes because the sample locations were adjacent to each other.

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-1	3036203	7/14/2003	1.5-2	VOCs
800-1	3036202	7/14/2003	0-0.5	SVOCs, Mercury, SVOCs, PCBs, Metals
800-2	3036204	7/14/2003	0-0.5	Metals, PCBs, SVOCs, Pest./Herb., Mercury
800-2	3036205	7/14/2003	1.5-2	VOCs
800-2	3036206	7/14/2003	1.5-2	TPH
800-3	3036208	7/14/2003	1.5-2	VOCs
800-3	3036207	7/14/2003	0-0.5	Pest./Herb., PCBs, SVOCs, Mercury, Metals
800-4	3036209	7/14/2003	0-0.5	Pest./Herb., SVOCs, Metals, PCBs, Mercury
800-4	3036210	7/14/2003	1.5-2	VOCs
800-5	3036211	7/14/2003	0-0.5	SVOCs, Mercury, Pest./Herb., Metals, PCBs
800-5	3036212	7/14/2003	1.5-2	VOCs
800-6	3036214	7/14/2003	1.5-2	VOCs
800-6	3036213	7/14/2003	0-0.5	SVOCs, PCBs, Pest./Herb., Metals, Mercury
800-7	3036215	7/14/2003	0-0.5	Pest./Herb., Metals, SVOCs, Mercury, PCBs
800-7	3036216	7/14/2003	1.5-2	VOCs
800-8	3036504	7/15/2003	1.5-2	TPH
800-8	3036503	7/15/2003	1.5-2	VOCs
800-8	3036502	7/15/2003	0-0.5	PCBs, Metals, Mercury, SVOCs, Pest./Herb.
800-9	3036506	7/15/2003	1.5-2	VOCs
800-9	3036505	7/15/2003	0-0.5	Mercury, Metals, Pest./Herb., PCBs, SVOCs
800-10	3036508	7/15/2003	1.5-2	VOCs
800-10	3036507	7/15/2003	0-0.5	Pest./Herb., Metals, PCBs, SVOCs, Mercury
800-11	3036509	7/15/2003	0-0.5	SVOCs, Pest./Herb., Mercury, Metals, PCBs
800-11	3036510	7/15/2003	1.5-2	VOCs
800-12	3036511	7/15/2003	0-0.5	PCBs, Mercury, Metals, SVOCs, Pest./Herb.
800-12	3036512	7/15/2003	1.5-2	VOCs
800-13	3036515	7/15/2003	1.5-2	TPH
800-13	3036513	7/15/2003	0-0.5	PCBs, SVOCs, Pest./Herb., Metals, Mercury
800-13	3036514	7/15/2003	1.5-2	VOCs
800-14	3036517	7/15/2003	1.5-2	VOCs
800-14	3036516	7/15/2003	0-0.5	SVOCs, Mercury, PCBs, Pest./Herb., Metals
800-15	3036518	7/15/2003	0-0.5	Pest./Herb., SVOCs, Mercury, PCBs, Metals
800-15	3036519	7/15/2003	1.5-2	VOCs

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-16	3036520	7/15/2003	0-0.5	SVOCs, PCBs, Pest./Herb., Metals, Mercury
800-16	3036521	7/15/2003	1.5-2	VOCs
800-16	3036522	7/15/2003	1.5-2	TPH
800-17	3036523	7/15/2003	0-0.5	Mercury, SVOCs, Metals, Pest./Herb., PCBs
800-17	3036524	7/15/2003	1.5-2	VOCs
800-17	3036525	7/15/2003	1.5-2	TPH
800-18	3036527	7/15/2003	1.5-2	VOCs
800-18	3036528	7/15/2003	1.5-2	TPH
800-18	3036526	7/15/2003	0-0.5	PCBs, Pest./Herb., Metals, SVOCs, Mercury
800-19	3036530	7/15/2003	1.5-2	VOCs
800-19	3036529	7/15/2003	0-0.5	PCBs, Mercury, SVOCs, Pest./Herb., Metals
800-19A	3053501	8/21/2003	1.5-2	PCBs
800-19B	3053502	8/21/2003	0-0.5	PCBs
800-19C	3053503	8/21/2003	0-0.5	PCBs
800-19D	3053504	8/21/2003	0-0.5	PCBs
800-19E	3053505	8/21/2003	0-0.5	PCBs
800-20	3036531	7/15/2003	0-0.5	SVOCs, Mercury, PCBs, Pest./Herb., Metals
800-20	3036532	7/15/2003	1.5-2	VOCs
800-21	3036534	7/15/2003	1.5-2	VOCs
800-21	3036533	7/15/2003	0-0.5	Metals, Mercury, Pest./Herb., SVOCs, PCBs
800-22	3037103	7/16/2003	1.5-2	VOCs
800-22	3037104	7/16/2003	1.5-2	TPH
800-22	3037102	7/16/2003	0-0.5	SVOCs, Metals, Pest./Herb., Mercury, PCBs
800-23	3037107	7/16/2003	1.5-2	TPH
800-23	3037106	7/16/2003	1.5-2	VOCs
800-23	3037105	7/16/2003	0-0.5	Mercury, SVOCs, PCBs, Metals, Pest./Herb.
800-24	3037108	7/16/2003	0-0.5	SVOCs, Pest./Herb., Mercury, PCBs, Metals
800-24	3037109	7/16/2003	1.5-2	VOCs
800-25	3037110	7/16/2003	0-0.5	Metals, Mercury, SVOCs, PCBs, Pest./Herb.
800-25	3037111	7/16/2003	1.5-2	VOCs
800-26	3037113	7/16/2003	1.5-2	VOCs
800-26	3037112	7/16/2003	0-0.5	Pest./Herb., SVOCs, Mercury, Metals, PCBs
800-27	3037115	7/16/2003	1.5-2	VOCs

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-27	3037114	7/16/2003	0-0.5	Mercury, PCBs, SVOCs, Pest./Herb., Metals
800-28	3037117	7/16/2003	1.5-2	VOCs
800-28	3037116	7/16/2003	0-0.5	PCBs, Mercury, Pest./Herb., SVOCs, Metals
800-29	3037119	7/16/2003	1.5-2	VOCs
800-29	3037118	7/16/2003	0-0.5	PCBs, SVOCs, Pest./Herb., Metals, Mercury
800-30	3037121	7/16/2003	1.5-2	VOCs
800-30	3037120	7/16/2003	0-0.5	Metals, Pest./Herb., Mercury, SVOCs, PCBs
800-31	3037122	7/16/2003	0-0.5	SVOCs, Mercury, PCBs, Pest./Herb., Metals
800-31	3037123	7/16/2003	1.5-2	VOCs
800-32	3037124	7/16/2003	0-0.5	PCBs, Metals, SVOCs, Pest./Herb., Mercury
800-32	3037125	7/16/2003	1.5-2	VOCs
800-32A	3053506	8/21/2003	1.5-2	Metals, SVOCs
800-32B	3053507	8/21/2003	0-0.5	SVOCs, Metals
800-32C	3053508	8/21/2003	0-0.5	SVOCs, Metals
800-32D	3053509	8/21/2003	0-0.5	SVOCs, Metals
800-32E	3053510	8/21/2003	0-0.5	SVOCs, Metals
800-32C1	3058902	9/16/2003	0-0.5	Pest./Herb., SVOCs
800-33	3037126	7/16/2003	0-0.5	PCBs, SVOCs, Pest./Herb., Mercury, Metals
800-33	3037127	7/16/2003	1.5-2	VOCs
800-34	3037128	7/16/2003	0-0.5	SVOCs, Pest./Herb., PCBs, Metals, Mercury
800-34	3037129	7/16/2003	1.5-2	VOCs
800-35	3037130	7/16/2003	0-0.5	PCBs, Pest./Herb., Metals, Mercury, SVOCs
800-35	3037131	7/16/2003	1.5-2	VOCs
800-36	3037133	7/16/2003	1.5-2	VOCs
800-36	3037132	7/16/2003	0-0.5	Pest./Herb., Mercury, PCBs, SVOCs, Metals
800-37	3037702	7/17/2003	0-0.5	SVOCs, Mercury, Metals
800-37	3037703	7/17/2003	1.5-2	VOCs
800-37	3050701	8/14/2003	0-0.5	Pest./Herb., PCBs
800-38	3037705	7/17/2003	1.5-2	VOCs
800-38	3037704	7/17/2003	0-0.5	Metals, Mercury, SVOCs
800-38	3050702	8/14/2003	0-0.5	PCBs, Pest./Herb.
800-39	3037706	7/17/2003	0-0.5	Metals, Mercury, SVOCs
800-39	3037707	7/17/2003	1.5-2	VOCs

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-39	3050703	8/14/2003	0-0.5	PCBs, Pest./Herb.
800-39A	3053511	8/21/2003	1.5-2	SVOCs, Pest./Herb.
800-39B	3053512	8/21/2003	0-0.5	Pest./Herb., SVOCs
800-39C	3053513	8/21/2003	0-0.5	SVOCs, Pest./Herb.
800-39D	3053514	8/21/2003	0-0.5	Pest./Herb., SVOCs
800-39E	3053515	8/21/2003	0-0.5	Pest./Herb., SVOCs
800-39B1	3058903	9/16/2003	0-0.5	Pest./Herb., SVOCs
800-39C1	3058904	9/16/2003	0-0.5	SVOCs, Pest./Herb.
800-39D1	3058905	9/16/2003	0-0.5	SVOCs, Pest./Herb.
800-39E1	3058906	9/16/2003	0-0.5	SVOCs, Pest./Herb.
800-39B2	3061903	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-39B2A	3061904	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-39B2B	3061905	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-39C2	3061906	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-39C2A	3061907	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-39C2B	3061908	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-39D2	3061909	9/30/2003	0-0.5	SVOCs
800-39E2	3061911	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-39E2A	3061912	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-39E2B	3061913	9/30/2003	0-0.5	SVOCs
800-39B3	3064305	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-39B3A	3064306	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-39C3	3064307	10/10/2003	0-0.5	SVOCs, Pest./Herb.
800-39C3A	3064308	10/10/2003	0-0.5	SVOCs, Pest./Herb.
800-39C3B	3064309	10/10/2003	0-0.5	SVOCs, Pest./Herb.
800-39C3C	3064310	10/10/2003	0-0.5	SVOCs, Pest./Herb.
800-39E3	3064301	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-39E3A	3064302	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-39E3B	3064303	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-39E3C	3064304	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-39B5	3065204	10/15/2003	0-0.5	Pest./Herb., SVOCs
800-39B5A	3065205	10/15/2003	0-0.5	SVOCs, Pest./Herb.
800-39E5	3065203	10/15/2003	0-0.5	SVOCs, Pest./Herb.

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-39B2B	3067004	10/22/2003	0-0.5	PCBs
800-39E6	3067001	10/22/2003	0-0.5	SVOCs, Pest./Herb.
800-39E6A	3067002	10/22/2003	0-0.5	SVOCs, Pest./Herb.
800-39E6B	3067003	10/22/2003	0-0.5	Pest./Herb., SVOCs
800-40	3037708	7/17/2003	0-0.5	Mercury, SVOCs, Metals
800-40	3037709	7/17/2003	1.5-2	VOCs
800-40	3050704	8/14/2003	0-0.5	Pest./Herb., PCBs
800-41	3037711	7/17/2003	1.5-2	VOCs
800-41	3037710	7/17/2003	0-0.5	Mercury, SVOCs, Metals
800-41	3050705	8/14/2003	0-0.5	PCBs, Pest./Herb.
800-42	3037713	7/17/2003	1.5-2	VOCs
800-42	3037712	7/17/2003	0-0.5	Metals, SVOCs, Mercury
800-42	3050706	8/14/2003	0-0.5	PCBs, Pest./Herb.
800-43	3039803	7/22/2003	1.5-2	VOCs
800-43	3039802	7/22/2003	0-0.5	SVOCs, Metals, PCBs, Pest./Herb., Mercury
800-44	3039805	7/22/2003	1.5-2	VOCs
800-44	3039804	7/22/2003	0-0.5	Metals, Mercury, Pest./Herb., SVOCs, PCBs
800-44A	3053516	8/21/2003	1.5-2	SVOCs, Pest./Herb.
800-44B	3053517	8/21/2003	0-0.5	Pest./Herb., SVOCs
800-44C	3053518	8/21/2003	0-0.5	Pest./Herb., SVOCs
800-44D	3053519	8/21/2003	0-0.5	Pest./Herb., SVOCs
800-44E	3053520	8/21/2003	0-0.5	SVOCs, Pest./Herb.
800-44B1	3058907	9/16/2003	0-0.5	Pest./Herb., SVOCs
800-44C1	3058908	9/16/2003	0-0.5	Pest./Herb., SVOCs
800-44D1	3058909	9/16/2003	0-0.5	SVOCs, Pest./Herb.
800-44E1	3058910	9/16/2003	0-0.5	SVOCs, Pest./Herb.
800-44C2	3061914	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-44C2A	3061915	9/30/2003	0-0.5	SVOCs
800-44D2	3061917	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-44D2A	3061918	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-44D2B	3061919	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-44D3	3061920	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-44E2A	3061916	9/30/2003	0-0.5	SVOCs

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-44C3	3064311	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-44C3A	3064312	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-44E3	3064313	10/10/2003	0-0.5	SVOCs, Pest./Herb.
800-44E3A	3064314	10/10/2003	0-0.5	SVOCs, Pest./Herb.
800-44E3B	3064315	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-44E3C	3064317	10/10/2003	0-0.5	Pest./Herb., SVOCs
800-44E5	3065202	10/15/2003	0-0.5	Pest./Herb., SVOCs
800-44D1	3067005	10/22/2003	0-0.5	PCBs
800-45	3039807	7/22/2003	1.5-2	VOCs
800-45	3039806	7/22/2003	0-0.5	SVOCs, PCBs, Pest./Herb., Metals, Mercury
800-45A	3065206	10/15/2003	1-1.5	SVOCs, Pest./Herb.
800-45B	3061921	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-45C	3061922	9/30/2003	0-0.5	SVOCs
800-45D	3061924	9/30/2003	0-0.5	SVOCs, Pest./Herb.
800-45E	3061925	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-46	3039810	7/22/2003	1.5-2	PCBs
800-46	3039809	7/22/2003	1.5-2	VOCs
800-46	3039808	7/22/2003	0-0.5	SVOCs, Mercury, PCBs, Pest./Herb., Metals
800-47	3039812	7/22/2003	1.5-2	VOCs
800-47	3039811	7/22/2003	0-0.5	Metals, Pest./Herb., PCBs, SVOCs, Mercury
800-48	3039813	7/22/2003	0-0.5	Pest./Herb., PCBs, Metals, Mercury, SVOCs
800-48	3039814	7/22/2003	1.5-2	VOCs
800-49	3039815	7/22/2003	0-0.5	Metals, PCBs, SVOCs, Pest./Herb., Mercury
800-49	3039816	7/22/2003	1.5-2	VOCs
800-50	3039817	7/22/2003	0-0.5	PCBs, Metals, Mercury, SVOCs, Pest./Herb.
800-50	3039818	7/22/2003	1.5-2	VOCs
800-51	3039819	7/22/2003	0-0.5	PCBs, Metals, Mercury, Pest./Herb., SVOCs
800-51	3039820	7/22/2003	1.5-2	VOCs
800-52	3039821	7/22/2003	0-0.5	PCBs, Metals, SVOCs, Pest./Herb., Mercury
800-52	3039822	7/22/2003	1.5-2	VOCs
800-53	3041302	7/23/2003	0-0.5	SVOCs, PCBs, Mercury, Metals, Pest./Herb.
800-53	3041303	7/23/2003	1.5-2	VOCs
800-54	3041304	7/23/2003	0-0.5	SVOCs, PCBs, Pest./Herb., Mercury, Metals

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-54	3041305	7/23/2003	1.5-2	VOCs
800-55	3041306	7/23/2003	0-0.5	Pest./Herb., PCBs, SVOCs, Mercury, Metals
800-55	3041307	7/23/2003	1.5-2	VOCs
800-56	3041309	7/23/2003	1.5-2	VOCs
800-56	3041308	7/23/2003	0-0.5	Mercury, SVOCs, Pest./Herb., PCBs, Metals
800-57	3041310	7/23/2003	0-0.5	PCBs, Mercury, SVOCs, Metals, Pest./Herb.
800-57	3041311	7/23/2003	1.5-2	VOCs
800-58	3041312	7/23/2003	0-0.5	PCBs, Pest./Herb., Metals, Mercury, SVOCs
800-58	3041313	7/23/2003	1.5-2	VOCs
800-59	3041314	7/23/2003	0-0.5	PCBs, Mercury, Metals, Pest./Herb., SVOCs
800-59	3041315	7/23/2003	1.5-2	VOCs
800-60	3041316	7/23/2003	0-0.5	Mercury, Metals, SVOCs, Pest./Herb., PCBs
800-60	3041317	7/23/2003	1.5-2	VOCs
800-61	3041319	7/23/2003	1.5-2	VOCs
800-61	3041318	7/23/2003	0-0.5	Mercury, PCBs, Pest./Herb., Metals, SVOCs
800-62	3041321	7/23/2003	1.5-2	VOCs
800-62	3041320	7/23/2003	0-0.5	Mercury, SVOCs, Metals, PCBs, Pest./Herb.
800-63	3041322	7/23/2003	0-0.5	Pest./Herb., PCBs, SVOCs, Mercury, Metals
800-63	3041323	7/23/2003	1.5-2	VOCs
800-64	3041324	7/23/2003	0-0.5	Mercury, Metals, Pest./Herb., SVOCs, PCBs
800-64	3041325	7/23/2003	1.5-2	VOCs
800-65	3041326	7/23/2003	0-0.5	SVOCs, Pest./Herb., Metals, Mercury, PCBs
800-65	3041327	7/23/2003	1.5-2	VOCs
800-66	3041329	7/23/2003	1.5-2	VOCs
800-66	3041328	7/23/2003	0-0.5	Pest./Herb., Metals, SVOCs, PCBs, Mercury
800-67	3042303	7/24/2003	1.5-2	VOCs
800-67	3042302	7/24/2003	0-0.5	Pest./Herb., Metals, SVOCs, Mercury, PCBs
800-68	3042304	7/24/2003	0-0.5	Metals, Mercury, Pest./Herb., SVOCs, PCBs
800-68	3042305	7/24/2003	1.5-2	VOCs
800-69	3042306	7/24/2003	0-0.5	PCBs, SVOCs, Mercury, Metals, Pest./Herb.
800-69	3042307	7/24/2003	1.5-2	VOCs
800-70	3042310	7/24/2003	1.5-2	TPH
800-70	3042309	7/24/2003	1.5-2	VOCs

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-70	3042308	7/24/2003	0-0.5	Mercury, Metals, Pest./Herb., SVOCs, PCBs
800-71	3042312	7/24/2003	1.5-2	VOCs
800-71	3042311	7/24/2003	0-0.5	Mercury, Metals, Pest./Herb., SVOCs, PCBs
800-72	3042314	7/24/2003	1.5-2	VOCs
800-72	3042313	7/24/2003	0-0.5	Mercury, Pest./Herb., PCBs, SVOCs, Metals
800-73	3042316	7/24/2003	1.5-2	VOCs
800-73	3042315	7/24/2003	0-0.5	Pest./Herb., PCBs, SVOCs, Mercury, Metals
800-74	3042317	7/24/2003	0-0.5	Pest./Herb., SVOCs, PCBs, Metals, Mercury
800-74	3042318	7/24/2003	1.5-2	VOCs
800-75	3042319	7/24/2003	0-0.5	Metals, Mercury, PCBs, SVOCs, Pest./Herb.
800-75	3042320	7/24/2003	1.5-2	VOCs
800-75A	3053521	8/21/2003	1.5-2	SVOCs
800-75B	3053522	8/21/2003	0-0.5	SVOCs
800-75C	3053523	8/21/2003	0-0.5	SVOCs
800-75D	3053524	8/21/2003	0-0.5	SVOCs
800-75E	3053525	8/21/2003	0-0.5	SVOCs
800-75E1	3058901	9/16/2003	0-0.5	Pest./Herb., SVOCs
800-75E2A	3061901	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-75E2B	3061902	9/30/2003	0-0.5	Pest./Herb., SVOCs
800-75E3	3065201	10/15/2003	0-0.5	Pest./Herb., SVOCs
800-19 PX1	3068903	10/30/2003	1.5-2	PCBs
800-32 PX1	3068904	10/30/2003	1-1.5	SVOCs, Metals, Pest./Herb.
800-35 PX1	5022801	4/28/2005	1.5-2	SVOCs
800-45 PX1	3068905	10/30/2003	1-1.5	SVOCs
39/44 PX1	3068906	10/30/2003	1-1.5	Pest./Herb., SVOCs
39/44 PX2	3068907	10/30/2003	1-1.5	SVOCs, Pest./Herb.
39/44 PX3	3068908	10/30/2003	1-1.5	Pest./Herb., SVOCs
39/44 PX4	3068909	10/30/2003	1-1.5	Pest./Herb., SVOCs
800-39/44PX5	3071001	11/4/2003	1-1.5	Pest./Herb., SVOCs
800-39/44PX6	3071002	11/4/2003	1-1.5	SVOCs, Pest./Herb.
800-39/44PX7	3071003	11/4/2003	1-1.5	SVOCs, Pest./Herb.
800-39/44PX8	3071004	11/4/2003	1-1.5	SVOCs, Pest./Herb.
800-39/44PX9	3071005	11/4/2003	1-1.5	SVOCs, Pest./Herb.

Table 2 Sample Program Summary - 800 Area

Sample ID	Lab ID	Date Sampled	Sample Depth (feet bgs)	Analytical Parameters
800-39/PX10	3071006	11/4/2003	1-1.5	Pest./Herb., SVOCs
800-39/PX11	3071007	11/4/2003	1-1.5	SVOCs, Pest./Herb.
800-39/PX12	3071008	11/4/2003	1-1.5	Pest./Herb., SVOCs
800-75 PX1	3072606	11/12/2003	1-1.5	SVOCs, Pest./Herb.
800-75 PX2	3072607	11/12/2003	1-1.5	SVOCs, Pest./Herb.
800-PX1A	3073601	11/14/2003	1.5-2	Pest./Herb., SVOCs
800-PX2A	3073602	11/14/2003	1.5-2	Pest./Herb., SVOCs
800-PX2B	3075401	11/21/2003	2.0-2.5	SVOCs, Pest./Herb.
800-PX4A	3073603	11/14/2003	1.5-2	SVOCs, Pest./Herb.
800-PX8A	3073604	11/14/2003	1.5-2	SVOCs, Pest./Herb.
800-PX13	3072601	11/12/2003	1.5-2	SVOCs, Pest./Herb.
800-PX14	3072602	11/12/2003	1.5-2	Pest./Herb., SVOCs
800-PX15	3072603	11/12/2003	1-1.5	Pest./Herb., SVOCs
800-PX16	3072604	11/12/2003	1-1.5	Pest./Herb., SVOCs

Table 3 800 Area Site Investigation Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.
800	800-19	3036529	7/15/2003	7/22/2003	Method 8082	PCB (Total)	0-0.5		2.6444	
800	800-32	3037124	7/16/2003	7/28/2003	Method 6010B	Arsenic	0-0.5	0.84	26	
800	800-32	3037124	7/16/2003	7/24/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1	14	D
800	800-32	3037124	7/16/2003	7/24/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1	12	D
800	800-32	3037124	7/16/2003	7/24/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofluora	0-0.5	1	15	D
800	800-32	3037124	7/16/2003	7/24/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1	5.2	
800	800-32	3037124	7/16/2003	7/24/2003	METHOD 8270	Chrysene	0-0.5	1	14	D
800	800-32	3037124	7/16/2003	7/24/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1	2	
800	800-32	3037124	7/16/2003	7/24/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1	8	
800	800-35	3037130	7/16/2003	7/24/2003	METHOD 8270	2,4-Dinitrotoluene	0-0.5	1	1.6	
800	800-39	3037706	7/17/2003	7/30/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	2.7	6.4	D
800	800-39	3037706	7/17/2003	7/30/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	2.7	6	D
800	800-39	3037706	7/17/2003	7/30/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofluora	0-0.5	2.7	7.6	D
800	800-39	3037706	7/17/2003	7/30/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	2.7	3	D
800	800-39	3037706	7/17/2003	7/30/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	2.7	0.84	JD
800	800-39	3037706	7/17/2003	7/30/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	2.7	3.3	D
800	800-44	3039804	7/22/2003	7/23/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichlor	0-0.5	2.7	6	
800	800-44	3039804	7/22/2003	7/29/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	6.6	
800	800-44	3039804	7/22/2003	7/29/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	6.4	
800	800-44	3039804	7/22/2003	7/29/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofluora	0-0.5	1.1	7.5	
800	800-44	3039804	7/22/2003	7/29/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	3.3	
800	800-44	3039804	7/22/2003	7/29/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.1	0.88	J

Table 3 800 Area Site Investigation Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.
800	800-44	3039804	7/22/2003	7/29/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	3.5	
800	800-45	3039806	7/22/2003	7/29/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.6	0.76	J
800	800-45	3039806	7/22/2003	7/29/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofluora	0-0.5	1.6	1.1	J
800	800-75	3042319	7/24/2003	8/4/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	12	
800	800-75	3042319	7/24/2003	8/4/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	10	
800	800-75	3042319	7/24/2003	8/4/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofluora	0-0.5	1.1	12	
800	800-75	3042319	7/24/2003	8/4/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	4.4	
800	800-75	3042319	7/24/2003	8/4/2003	METHOD 8270	Chrysene	0-0.5	1.1	12	
800	800-75	3042319	7/24/2003	8/4/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	4.8	

Note: PCB concentrations that are shown are total concentrations and are calculated for each sample as follows: the sum equals the concentration of the detected Aroclor(s) plus one-half the detection limit of the non-detected Aroclors.

Table 4 800 Area Remedial Investigation Exceedances - Round 1

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39D	3053514	8/21/2003	9/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	2.7	11	D	0.9
800	800-39D	3053514	8/21/2003	9/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	2.7	4.8	D	0.9
800	800-39D	3053514	8/21/2003	9/3/2003	METHOD 8270	Chrysene	0-0.5	2.7	10	D	9
800	800-39D	3053514	8/21/2003	9/3/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	2.7	1.3	JD	0.66
800	800-39D	3053514	8/21/2003	9/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	2.7	5.1	D	0.9
800	800-39E	3053515	8/21/2003	8/26/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	0.12	4		2
800	800-39E	3053515	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.29	2.8		2
800	800-39E	3053515	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	6		0.9
800	800-39E	3053515	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	5.4		0.66
800	800-39E	3053515	8/21/2003	9/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	6.7		0.9
800	800-39E	3053515	8/21/2003	9/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	2.7		0.9
800	800-39E	3053515	8/21/2003	9/3/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.1	0.78	J	0.66
800	800-39E	3053515	8/21/2003	9/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	3		0.9
800	800-44B	3053517	8/21/2003	8/26/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	0.12	4		2
800	800-44B	3053517	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.3	4		2
800	800-44B	3053517	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	9.2		0.9
800	800-44B	3053517	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	8.1		0.66
800	800-44B	3053517	8/21/2003	9/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.2	9.8		0.9
800	800-44B	3053517	8/21/2003	9/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	4.2		0.9
800	800-44B	3053517	8/21/2003	9/3/2003	METHOD 8270	Chrysene	0-0.5	1.2	9.1		9
800	800-44B	3053517	8/21/2003	9/3/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.2	1.2		0.66
800	800-44B	3053517	8/21/2003	9/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	4.5		0.9

Table 4 800 Area Remedial Investigation Exceedances - Round 1

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-44C	3053518	8/21/2003	8/26/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	0.12	3.7		2
800	800-39	3050703	8/14/2003	8/14/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	1.2	2.1		2
800	800-39	3050703	8/14/2003	8/14/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	3	11		2
800	800-32C	3053508	8/21/2003	9/2/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	0.84	J	0.66
800	800-32C	3053508	8/21/2003	9/2/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	1.1		0.9
800	800-39B	3053512	8/21/2003	8/26/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	0.11	4.2		2
800	800-39B	3053512	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.28	8.5		2
800	800-39B	3053512	8/21/2003	9/2/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	5.4		0.9
800	800-39B	3053512	8/21/2003	9/2/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	5		0.66
800	800-39B	3053512	8/21/2003	9/2/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	6.1		0.9
800	800-39B	3053512	8/21/2003	9/2/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	2.6		0.9
800	800-39B	3053512	8/21/2003	9/2/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.1	0.74	J	0.66
800	800-39B	3053512	8/21/2003	9/2/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	3		0.9
800	800-39C	3053513	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.28	7.6		2
800	800-39C	3053513	8/21/2003	9/2/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	5.1		0.9
800	800-39C	3053513	8/21/2003	9/2/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	4.8		0.66
800	800-39C	3053513	8/21/2003	9/2/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	6.1		0.9
800	800-39C	3053513	8/21/2003	9/2/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	2.2		0.9
800	800-39C	3053513	8/21/2003	9/2/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.1	0.71	J	0.66
800	800-39C	3053513	8/21/2003	9/2/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	2.8		0.9
800	800-39D	3053514	8/21/2003	8/26/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	0.11	4.4		2
800	800-39D	3053514	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.28	7.1		2

Table 4 800 Area Remedial Investigation Exceedances - Round 1

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39D	3053514	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	2.7	10	D	0.9
800	800-39D	3053514	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	2.7	8.9	D	0.66
800	800-44C	3053518	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.29	5		2
800	800-44C	3053518	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	3.9		0.9
800	800-44C	3053518	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	3.7		0.66
800	800-44C	3053518	8/21/2003	9/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	4.9		0.9
800	800-44C	3053518	8/21/2003	9/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	1.6		0.9
800	800-44C	3053518	8/21/2003	9/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	2.1		0.9
800	800-44D	3053519	8/21/2003	8/26/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	0.11	4		2
800	800-44D	3053519	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.28	4.4		2
800	800-44D	3053519	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	5.4		0.9
800	800-44D	3053519	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	5.5		0.66
800	800-44D	3053519	8/21/2003	9/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	6.6		0.9
800	800-44D	3053519	8/21/2003	9/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	3		0.9
800	800-44D	3053519	8/21/2003	9/3/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.1	0.8	J	0.66
800	800-44D	3053519	8/21/2003	9/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	3.3		0.9
800	800-44E	3053520	8/21/2003	8/26/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyld	0-0.5	0.12	3.8		2
800	800-44E	3053520	8/21/2003	8/26/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltr	0-0.5	0.3	3.5		2
800	800-44E	3053520	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	4.6		0.9
800	800-44E	3053520	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	4.4		0.66
800	800-44E	3053520	8/21/2003	9/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.2	5.4		0.9
800	800-44E	3053520	8/21/2003	9/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	2.2		0.9

Table 4 800 Area Remedial Investigation Exceedances - Round 1

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-44E	3053520	8/21/2003	9/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	2.5		0.9
800	800-75E	3053525	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	1	J	0.9
800	800-75E	3053525	8/21/2003	9/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	0.91	J	0.66
800	800-75E	3053525	8/21/2003	9/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	1.2		0.9

Table 5 800 Area Remedial Investigation Exceedances - Round 2

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39B1	3058903	9/16/2003	9/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichl	0-0.5	0.29	2.8		2
800	800-39B1	3058903	9/16/2003	9/24/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	1.6		0.9
800	800-39B1	3058903	9/16/2003	9/24/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	1.6		0.66
800	800-39B1	3058903	9/16/2003	9/24/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1.1	1.9		0.9
800	800-39C1	3058904	9/16/2003	9/17/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl dich	0-0.5	0.011	9.9		3
800	800-39C1	3058904	9/16/2003	9/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldichl	0-0.5	1.1	5.9		2
800	800-39C1	3058904	9/16/2003	9/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichl	0-0.5	1.4	22		2
800	800-39C1	3058904	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1	11		0.9
800	800-39C1	3058904	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1	11		0.66
800	800-39C1	3058904	9/16/2003	9/25/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1	12	D	0.9
800	800-39C1	3058904	9/16/2003	9/25/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1	5.1		0.9
800	800-39C1	3058904	9/16/2003	9/25/2003	METHOD 8270	Chrysene	0-0.5	1	12		9
800	800-39C1	3058904	9/16/2003	9/25/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1	1.5		0.66
800	800-39C1	3058904	9/16/2003	9/25/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1	6.1		0.9
800	800-39D1	3058905	9/16/2003	9/17/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl dich	0-0.5	1.3	9.1		3
800	800-39D1	3058905	9/16/2003	9/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldichl	0-0.5	1.3	4.6		2
800	800-39D1	3058905	9/16/2003	9/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichl	0-0.5	3.3	16		2
800	800-39D1	3058905	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.3	8.3		0.9
800	800-39D1	3058905	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.3	8.1		0.66
800	800-39D1	3058905	9/16/2003	9/25/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1.3	9.6		0.9
800	800-39D1	3058905	9/16/2003	9/25/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.3	3.3		0.9
800	800-39D1	3058905	9/16/2003	9/25/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.3	4		0.9

Table 5 800 Area Remedial Investigation Exceedances - Round 2

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39E1	3058906	9/16/2003	9/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldichl	0-0.5	0.12	2.6		2
800	800-39E1	3058906	9/16/2003	9/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichl	0-0.5	0.3	6.7		2
800	800-39E1	3058906	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	20	D	0.9
800	800-39E1	3058906	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	19	D	0.66
800	800-39E1	3058906	9/16/2003	9/25/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1.2	23	D	0.9
800	800-39E1	3058906	9/16/2003	9/25/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	12		0.9
800	800-39E1	3058906	9/16/2003	9/25/2003	METHOD 8270	Chrysene	0-0.5	1.2	19	D	9
800	800-39E1	3058906	9/16/2003	9/25/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.2	2.8		0.66
800	800-39E1	3058906	9/16/2003	9/25/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	11		0.9
800	800-44B1	3058907	9/16/2003	9/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldichl	0-0.5	0.13	4.9		2
800	800-44B1	3058907	9/16/2003	9/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichl	0-0.5	0.33	9.2		2
800	800-44B1	3058907	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.3	8.6		0.9
800	800-44B1	3058907	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.3	8.1		0.66
800	800-44B1	3058907	9/16/2003	9/25/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1.3	9.5		0.9
800	800-44B1	3058907	9/16/2003	9/25/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.3	3.9		0.9
800	800-44B1	3058907	9/16/2003	9/25/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.3	1.1	J	0.66
800	800-44B1	3058907	9/16/2003	9/25/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.3	4.3		0.9
800	800-44C1	3058908	9/16/2003	9/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichl	0-0.5	0.31	4.6		2
800	800-44C1	3058908	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	16	D	0.9
800	800-44C1	3058908	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	16	D	0.66
800	800-44C1	3058908	9/16/2003	9/25/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1.2	19	D	0.9
800	800-44C1	3058908	9/16/2003	9/25/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	7.4		0.9

Table 5 800 Area Remedial Investigation Exceedances - Round 2

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-44C1	3058908	9/16/2003	9/25/2003	METHOD 8270	Chrysene	0-0.5	1.2	16	D	9
800	800-44C1	3058908	9/16/2003	9/25/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.2	2.4		0.66
800	800-44C1	3058908	9/16/2003	9/25/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	9.6		0.9
800	800-44D1	3058909	9/16/2003	9/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldichl	0-0.5	0.12	2.5		2
800	800-44D1	3058909	9/16/2003	9/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltrichl	0-0.5	0.3	11		2
800	800-44D1	3058909	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	71	D	0.9
800	800-44D1	3058909	9/16/2003	9/25/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	80	D	0.66
800	800-44D1	3058909	9/16/2003	9/25/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1.2	100	D	0.9
800	800-44D1	3058909	9/16/2003	9/25/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	32	D	0.9
800	800-44D1	3058909	9/16/2003	9/25/2003	METHOD 8270	Chrysene	0-0.5	1.2	73	D	9
800	800-44D1	3058909	9/16/2003	9/25/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.2	11	D	0.66
800	800-44D1	3058909	9/16/2003	9/25/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	45	D	0.9
800	800-75E1	3058901	9/16/2003	9/23/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	0.77	J	0.66
800	800-75E1	3058901	9/16/2003	9/23/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzoflu	0-0.5	1.1	0.91	J	0.9

Table 6 800 Area Remedial Investigation Exceedances - Round 3

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39B2	3061903	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	2.4		0.9
800	800-39B2	3061903	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	2.2		0.66
800	800-39B2	3061903	9/30/2003	10/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.2	2.8		0.9
800	800-39B2	3061903	9/30/2003	10/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	1.1	J	0.9
800	800-39B2	3061903	9/30/2003	10/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	1.2		0.9
800	800-39B2A	3061904	9/30/2003	10/1/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl di	0-0.5	0.11	4.2		3
800	800-39B2A	3061904	9/30/2003	10/1/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldi	0-0.5	0.12	2.2		2
800	800-39B2A	3061904	9/30/2003	10/1/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltri	0-0.5	0.29	9.6		2
800	800-39B2A	3061904	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	9.8		0.9
800	800-39B2A	3061904	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	9.7		0.66
800	800-39B2A	3061904	9/30/2003	10/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.1	12		0.9
800	800-39B2A	3061904	9/30/2003	10/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	3.9		0.9
800	800-39B2A	3061904	9/30/2003	10/3/2003	METHOD 8270	Chrysene	0-0.5	1.1	9.9		9
800	800-39B2A	3061904	9/30/2003	10/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	5.6		0.9
800	800-39B2B	3061905	9/30/2003	10/1/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl di	0-0.5	1.1	4.5		3
800	800-39B2B	3061905	9/30/2003	10/1/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldi	0-0.5	1.2	8.2		2
800	800-39B2B	3061905	9/30/2003	10/1/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltri	0-0.5	3	70		2
800	800-39B2B	3061905	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	27	D	0.9
800	800-39B2B	3061905	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	25	D	0.66
800	800-39B2B	3061905	9/30/2003	10/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.1	32	D	0.9
800	800-39B2B	3061905	9/30/2003	10/3/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.1	11	D	0.9
800	800-39B2B	3061905	9/30/2003	10/3/2003	METHOD 8270	Chrysene	0-0.5	1.1	27	D	9

Table 6 800 Area Remedial Investigation Exceedances - Round 3

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39B2B	3061905	9/30/2003	10/3/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.1	1.4		0.66
800	800-39B2B	3061905	9/30/2003	10/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	14	D	0.9
800	800-39C2	3061906	9/30/2003	10/1/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl di	0-0.5	1.1	5.3		3
800	800-39C2	3061906	9/30/2003	10/1/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldi	0-0.5	1.2	27		2
800	800-39C2	3061906	9/30/2003	10/1/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltri	0-0.5	3	25		2
800	800-39C2B	3061908	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	1.9		0.9
800	800-39C2B	3061908	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	1.9		0.66
800	800-39C2B	3061908	9/30/2003	10/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.1	2.5		0.9
800	800-39C2B	3061908	9/30/2003	10/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.1	1.1	J	0.9
800	800-39D2	3061909	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	1.4		0.9
800	800-39D2	3061909	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	1.3		0.66
800	800-39D2	3061909	9/30/2003	10/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.1	1.7		0.9
800	800-39E2A	3061912	9/30/2003	10/1/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyldi	0-0.5	0.11	2.7		2
800	800-39E2A	3061912	9/30/2003	10/1/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltri	0-0.5	0.28	8.6		2
800	800-39E2B	3061913	9/30/2003	10/7/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	4.1		0.9
800	800-39E2B	3061913	9/30/2003	10/7/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	3.9		0.66
800	800-39E2B	3061913	9/30/2003	10/7/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.2	4.7		0.9
800	800-39E2B	3061913	9/30/2003	10/7/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	1.9		0.9
800	800-39E2B	3061913	9/30/2003	10/7/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	2.1		0.9
800	800-44C2	3061914	9/30/2003	10/1/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenyltri	0-0.5	0.15	3.6		2
800	800-44C2A	3061915	9/30/2003	10/7/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	1.8		0.9
800	800-44C2A	3061915	9/30/2003	10/7/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	1.8		0.66

Table 6 800 Area Remedial Investigation Exceedances - Round 3

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-44C2A	3061915	9/30/2003	10/7/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.2	2.3		0.9
800	800-44E2A	3061916	9/30/2003	10/7/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	2.8		0.9
800	800-44E2A	3061916	9/30/2003	10/7/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	2.9		0.66
800	800-44E2A	3061916	9/30/2003	10/7/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.2	3.7		0.9
800	800-44E2A	3061916	9/30/2003	10/7/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	1.7		0.9
800	800-75E2B	3061902	9/30/2003	10/3/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	0.74	J	0.66
800	800-75E2B	3061902	9/30/2003	10/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzof	0-0.5	1.2	0.91	J	0.9

Table 7 800 Area Remedial Investigation Exceedances - Round 4

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39E3A	3064302	10/10/2003	10/15/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1	1.6		0.9
800	800-39E3A	3064302	10/10/2003	10/15/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1	1.8		0.66
800	800-39E3A	3064302	10/10/2003	10/15/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1	2.4		0.9
800	800-39E3A	3064302	10/10/2003	10/15/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1	1.1		0.9
800	800-44C3	3064311	10/10/2003	10/16/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	0.96	J	0.9
800	800-44C3	3064311	10/10/2003	10/16/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	0.81	J	0.66
800	800-44C3	3064311	10/10/2003	10/16/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.1	0.91	J	0.9
800	800-44E3C	3064317	10/10/2003	10/16/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1	2.8		0.9
800	800-44E3C	3064317	10/10/2003	10/16/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1	2.6		0.66
800	800-44E3C	3064317	10/10/2003	10/16/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1	3.5		0.9
800	800-44E3C	3064317	10/10/2003	10/16/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1	1.1		0.9
800	800-44E3C	3064317	10/10/2003	10/16/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1	1.5		0.9

Table 8 800 Area Remedial Investigation Exceedances - Round 5

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39E5	3065203	10/15/2003	10/16/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	5.7		0.9
800	800-39E5	3065203	10/15/2003	10/16/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	4.9		0.66
800	800-39E5	3065203	10/15/2003	10/16/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzo	0-0.5	1.2	6.7		0.9
800	800-39E5	3065203	10/15/2003	10/16/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	2		0.9
800	800-39E5	3065203	10/15/2003	10/16/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	2.6		0.9

Table 9 800 Area Remedial Investigation Exceedances - Round 6

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Depth	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)
800	800-39E6	3067001	10/22/2003	10/27/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	0.81	J	0.66
800	800-39E6	3067001	10/22/2003	10/27/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofl	0-0.5	1.1	1.1	J	0.9
800	800-39E6A	3067002	10/22/2003	10/27/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.1	1.1	J	0.9
800	800-39E6A	3067002	10/22/2003	10/27/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.1	0.95	J	0.66
800	800-39E6A	3067002	10/22/2003	10/27/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofl	0-0.5	1.1	1.3		0.9
800	800-39E6B	3067003	10/22/2003	10/27/2003	METHOD 8270	Benzo[a]anthracene	0-0.5	1.2	11		0.9
800	800-39E6B	3067003	10/22/2003	10/27/2003	METHOD 8270	Benzo[a]pyrene	0-0.5	1.2	8.7		0.66
800	800-39E6B	3067003	10/22/2003	10/27/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benzofl	0-0.5	1.2	11		0.9
800	800-39E6B	3067003	10/22/2003	10/27/2003	METHOD 8270	Benzo[k]fluoranthene	0-0.5	1.2	3.7		0.9
800	800-39E6B	3067003	10/22/2003	10/27/2003	METHOD 8270	Chrysene	0-0.5	1.2	11		9
800	800-39E6B	3067003	10/22/2003	10/27/2003	METHOD 8270	Dibenz[a,h]anthracene	0-0.5	1.2	1.3		0.66
800	800-39E6B	3067003	10/22/2003	10/27/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	0-0.5	1.2	4.5		0.9

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	39/44 PX1	3068906	10/30/2003	10/31/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.11	6		3	Yes
800	39/44 PX1	3068906	10/30/2003	10/31/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.12	0.73		2	No
800	39/44 PX1	3068906	10/30/2003	10/31/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.3	8.3		2	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	2-Methylnaphthalene	1.1	0.16	J		No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Acenaphthene	1.1	1.4		3400	No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Anthracene	1.1	4		10000	No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]anthracene	1.1	11		0.9	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]pyrene	1.1	9.5		0.66	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	11		0.9	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	5.4			No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Benzo[k]fluoranthene	1.1	3.8		0.9	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Chrysene	1.1	11		9	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Dibenz[a,h]anthracene	1.1	1.4		0.66	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Dibenzofuran	1.1	0.65	J		No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.32	JB	5700	No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Fluoranthene	1.1	22	D	2300	No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Fluorene	1.1	1.4		2300	No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	4.7		0.9	Yes
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Naphthalene	1.1	0.35	J	230	No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Phenanthrene	1.1	14	D		No
800	39/44 PX1	3068906	10/30/2003	11/3/2003	METHOD 8270	Pyrene	1.1	22	D	1700	No
800	39/44 PX2	3068907	10/30/2003	10/31/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.22	0.76		3	No

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	39/44 PX2	3068907	10/30/2003	10/31/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.23	0.64		2	No
800	39/44 PX2	3068907	10/30/2003	10/31/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.58	11		2	Yes
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Acenaphthene	1.1	0.14	J	3400	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Anthracene	1.1	0.34	J	10000	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]anthracene	1.1	1.2		0.9	Yes
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]pyrene	1.1	1	J	0.66	Yes
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	1.2		0.9	Yes
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	0.6	J		No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Benzo[k]fluoranthene	1.1	0.46	J	0.9	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Chrysene	1.1	1.2		9	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Dibenz[a,h]anthracene	1.1	0.15	J	0.66	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Fluoranthene	1.1	2.5		2300	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Fluorene	1.1	0.11	J	2300	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	0.53	J	0.9	No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Phenanthrene	1.1	1.3			No
800	39/44 PX2	3068907	10/30/2003	11/3/2003	METHOD 8270	Pyrene	1.1	2.4		1700	No
800	39/44 PX3	3068908	10/30/2003	10/31/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.0011	0.006		3	No
800	39/44 PX3	3068908	10/30/2003	10/31/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.0012	0.034		2	No
800	39/44 PX3	3068908	10/30/2003	10/31/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.0029	0.088		2	No
800	39/44 PX4	3068909	10/30/2003	10/31/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.11	2.1		3	No
800	39/44 PX4	3068909	10/30/2003	10/31/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.12	0.97		2	No
800	39/44 PX4	3068909	10/30/2003	10/31/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.29	5.4		2	Yes

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Acenaphthene	1.1	0.25	J	3400	No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Anthracene	1.1	0.67	J	10000	No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]anthracene	1.1	2.2		0.9	Yes
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]pyrene	1.1	2.3		0.66	Yes
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	2.7		0.9	Yes
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	1.4			No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Benzo[k]fluoranthene	1.1	1	J	0.9	Yes
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Chrysene	1.1	2.3		9	No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Dibenz[a,h]anthracene	1.1	0.34	J	0.66	No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.17	JB	5700	No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Fluoranthene	1.1	4.5		2300	No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Fluorene	1.1	0.22	J	2300	No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	1.3		0.9	Yes
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Phenanthrene	1.1	2.4			No
800	39/44 PX4	3068909	10/30/2003	11/3/2003	METHOD 8270	Pyrene	1.1	4.8		1700	No
800	800-32 PX1	3068904	10/30/2003	11/5/2003	Method 6010B	Arsenic	0.841	13.2		20	No
800	800-32 PX1	3068904	10/30/2003	11/3/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.25	JB	5700	No
800	800-35 PX1	5022801	4/28/2005	4/29/2005	METHOD 8270	Di-n-butyl phthalate	1.1	0.72	JB	5700	No
800	800-35 PX1	5022801	4/28/2005	4/29/2005	METHOD 8270	Di-n-butyl phthalate	1.1	0.72	JB	5700	No
800	800-39/44PX5	3071001	11/4/2003	11/13/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.023	0.035		3	No
800	800-39/44PX5	3071001	11/4/2003	11/13/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.024	0.54		2	No
800	800-39/44PX5	3071001	11/4/2003	11/13/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.059	0.47		2	No

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Acenaphthene	1.1	0.15	J	3400	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Anthracene	1.1	0.26	J	10000	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Benzo[a]anthracene	1.1	0.6	J	0.9	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Benzo[a]pyrene	1.1	0.46	J	0.66	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	0.57	J	0.9	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	0.27	J		No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Benzo[k]fluoranthene	1.1	0.2	J	0.9	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Benzoic acid	1.1	0.7	J		No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Chrysene	1.1	0.62	J	9	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Fluoranthene	1.1	1.3		2300	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Fluorene	1.1	0.12	J	2300	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	0.24	J	0.9	No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Phenanthrene	1.1	1	J		No
800	800-39/44PX5	3071001	11/4/2003	11/7/2003	METHOD 8270	Pyrene	1.1	1.3		1700	No
800	800-39/44PX6	3071002	11/4/2003	11/12/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.012	0.04		3	No
800	800-39/44PX6	3071002	11/4/2003	11/12/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.012	0.094		2	No
800	800-39/44PX6	3071002	11/4/2003	11/12/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.03	0.4		2	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Anthracene	1.1	0.12	J	10000	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Benzo[a]anthracene	1.1	0.3	J	0.9	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Benzo[a]pyrene	1.1	0.24	J	0.66	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	0.28	J	0.9	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	0.16	J		No

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Benzo[k]fluoranthene	1.1	0.12	J	0.9	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Chrysene	1.1	0.32	J	9	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.31	JB	5700	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Fluoranthene	1.1	0.67	J	2300	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	0.14	J	0.9	No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Phenanthrene	1.1	0.46	J		No
800	800-39/44PX6	3071002	11/4/2003	11/7/2003	METHOD 8270	Pyrene	1.1	0.65	J	1700	No
800	800-39/44PX7	3071003	11/4/2003	11/7/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.17	JB	5700	No
800	800-39/44PX8	3071004	11/4/2003	11/13/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.057	3.1		3	Yes
800	800-39/44PX8	3071004	11/4/2003	11/13/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.06	0.95		2	No
800	800-39/44PX8	3071004	11/4/2003	11/13/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.15	5		2	Yes
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	2-Methylnaphthalene	1.1	0.14	J		No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Acenaphthene	1.1	1.2		3400	No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Anthracene	1.1	3.4		10000	No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Benzo[a]anthracene	1.1	7.5		0.9	Yes
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Benzo[a]pyrene	1.1	6.4		0.66	Yes
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	7.9		0.9	Yes
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	3.7			No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Benzo[k]fluoranthene	1.1	2.6		0.9	Yes
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Benzoic acid	1.1	0.69	J		No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Chrysene	1.1	7.6		9	No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Dibenz[a,h]anthracene	1.1	0.89	J	0.66	Yes

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Dibenzofuran	1.1	0.63	J		No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.25	JB	5700	No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Fluoranthene	1.1	17	D	2300	No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Fluorene	1.1	1.2		2300	No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	3.2		0.9	Yes
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Naphthalene	1.1	0.43	J	230	No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Phenanthrene	1.1	13	D		No
800	800-39/44PX8	3071004	11/4/2003	11/8/2003	METHOD 8270	Pyrene	1.1	16	D	1700	No
800	800-39/44PX9	3071005	11/4/2003	11/7/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.21	JB	5700	No
800	800-39/PX10	3071006	11/4/2003	11/12/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.059	0.4		2	No
800	800-39/PX10	3071006	11/4/2003	11/12/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.15	0.21		2	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Benzo[a]anthracene	1.1	0.27	J	0.9	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Benzo[a]pyrene	1.1	0.21	J	0.66	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	0.25	J	0.9	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	0.13	J		No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Benzoic acid	1.1	1.4			No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Chrysene	1.1	0.28	J	9	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.22	JB	5700	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Fluoranthene	1.1	0.55	J	2300	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	0.11	J	0.9	No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Phenanthrene	1.1	0.37	J		No
800	800-39/PX10	3071006	11/4/2003	11/7/2003	METHOD 8270	Pyrene	1.1	0.55	J	1700	No

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	800-39/PX11	3071007	11/4/2003	11/7/2003	METHOD 8270	Benzoic acid	1.1	1	J		No
800	800-39/PX11	3071007	11/4/2003	11/7/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.37	JB	5700	No
800	800-39/PX12	3071008	11/4/2003	11/7/2003	METHOD 8270	Benzoic acid	1.1	3.5			No
800	800-39/PX12	3071008	11/4/2003	11/7/2003	METHOD 8270	Pyrene	1.1	0.12	J	1700	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]anthracene	1.2	0.23	J	0.9	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Benzo[a]pyrene	1.2	0.19	J	0.66	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.2	0.2	J	0.9	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Benzo[g,h,i]perylene	1.2	0.14	J		No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Butyl benzyl phthalate	1.2	0.15	J	1100	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Chrysene	1.2	0.32	J	9	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Di-n-butyl phthalate	1.2	0.29	JB	5700	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Fluoranthene	1.2	0.36	J	2300	No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Phenanthrene	1.2	0.29	J		No
800	800-45 PX1	3068905	10/30/2003	11/3/2003	METHOD 8270	Pyrene	1.2	0.59	J	1700	No
800	800-75 PX1	3072606	11/12/2003	11/13/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.36	J	5700	No
800	800-75 PX2	3072607	11/12/2003	11/13/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.45	J	5700	No
800	800-PX14	3072602	11/12/2003	11/13/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.36	J	5700	No
800	800-PX15	3072603	11/12/2003	11/13/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.23	J	5700	No
800	800-PX16	3072604	11/12/2003	11/13/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.47	J	5700	No
800	800-PX2A	3073602	11/14/2003	11/17/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.022	0.39		3	No
800	800-PX2A	3073602	11/14/2003	11/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.023	0.17		2	No
800	800-PX2A	3073602	11/14/2003	11/17/2003	Method 8081	4,4'-DDT (p,p'-Dichlorodiphenylt	0.057	1.5		2	No

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Acenaphthene	1.1	0.65	J	3400	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Anthracene	1.1	1.2		10000	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Benzo[a]anthracene	1.1	3.7		0.9	Yes
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Benzo[a]pyrene	1.1	3		0.66	Yes
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Benzo[b]fluoranthene (3,4-Benz	1.1	3.8		0.9	Yes
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Benzo[g,h,i]perylene	1.1	1.7			No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Benzo[k]fluoranthene	1.1	1.3		0.9	Yes
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Chrysene	1.1	4		9	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Dibenz[a,h]anthracene	1.1	0.16	J	0.66	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Dibenzofuran	1.1	0.29	J		No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.17	JB	5700	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Fluoranthene	1.1	9.2		2300	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Fluorene	1.1	0.53	J	2300	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Indeno[1,2,3-cd]pyrene	1.1	1.5		0.9	Yes
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Naphthalene	1.1	0.19	J	230	No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Phenanthrene	1.1	6.3			No
800	800-PX2A	3073602	11/14/2003	11/18/2003	METHOD 8270	Pyrene	1.1	8.6		1700	No
800	800-PX2B	3075401	11/21/2003	11/26/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.11	J	5700	No
800	800-PX4A	3073603	11/14/2003	11/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.023	0.032		2	No
800	800-PX4A	3073603	11/14/2003	11/18/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.21	JB	5700	No
800	800-PX8A	3073604	11/14/2003	11/17/2003	Method 8081	4,4'-DDD (p,p'-Dichlorodiphenyl	0.023	0.049		3	No
800	800-PX8A	3073604	11/14/2003	11/17/2003	Method 8081	4,4'-DDE (p,p'-Dichlorodiphenyl	0.024	0.059		2	No

Table 10 800 Area Remedial Action Post Excavation Detect and Exceedances

AOC	Sample ID	Lab ID	Date Sampled	Date Analyzed	Analysis Method	Analyte	Detection Limit (ppm)	Result (ppm)	Qual.	RDCSCC (ppm)	Result >= Cleanup Criteria
800	800-PX8A	3073604	11/14/2003	11/18/2003	METHOD 8270	Di-n-butyl phthalate	1.1	0.22	JB	5700	No

ATTACHMENT X

800 Area Groundwater Monitoring Results

Contents:

- Enclosure 1 – 800 Area Monitoring Wells (Table).
- Enclosure 2 –Potentiometric Surface at the 800 Area
    - Modflow Model Results of Potentiometric Surface for 800 Area (modified from "Main Post - Groundwater Elevation Contours – Layer 1," provided in Appendix VIII of *MODFLOW Groundwater Modeling, US Army, Fort Monmouth, Main Post and Charles Wood Areas;* dated 10 June 2010; submitted to NJDEP 16 June 2010).
    - Potentiometric Surface Map for 800 Area (from "Groundwater Contour Map – Zone 3," provided in Appendix IX of *MODFLOW Groundwater Modeling, US Army, Fort Monmouth, Main Post and Charles Wood Areas;* dated 10 June 2010; submitted to NJDEP 16 June 2010).
- Enclosure 3 – Monitoring Well Records and Boring Logs
    - 800MW01
    - 800MW02
    - Well 949MW01 not included; this well appears mis-located in above map
- Enclosure 4 – 800 Area Groundwater Analytical Data Reports
    - Laboratory ID 10202, well 800MW01 sampled 20 May 2010
    - Laboratory ID 11035, well 800MW02 sampled 4 February 2011

ENCLOSURE 1 of Attachment X

800 Area Monitoring Wells (Table)

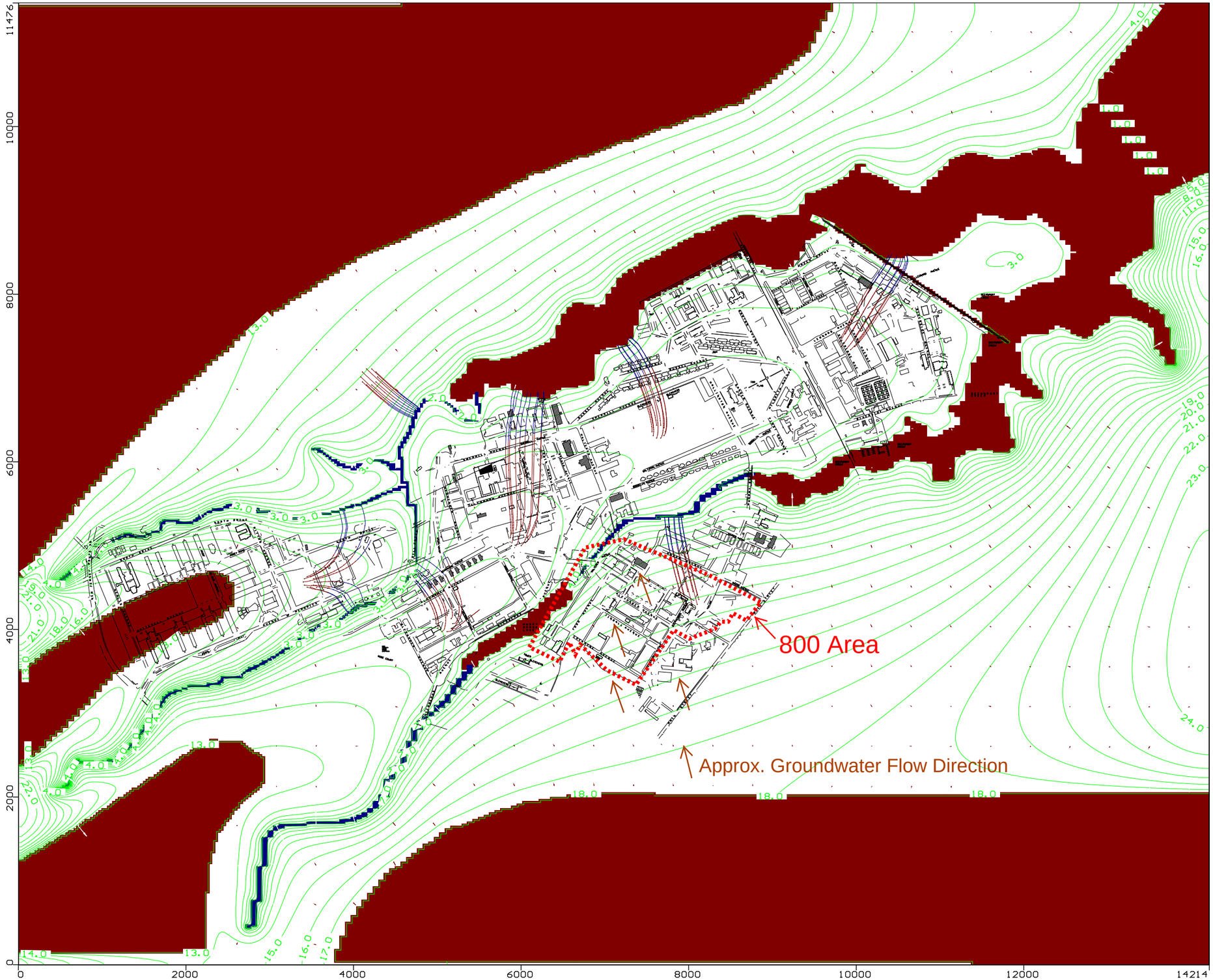
800 Area Monitoring Wells
Non-Installation Restoration Program (Non-IRP)
Main Post

Site	Well Permit #	Y Coord. (North)	X Coord. (East)	Installation Date	Depth	Casing Length	Screen Length	Top of Casing	Slot Size	Comments
					feet				inches	
Bldg. 800										Non-IRP, Former UST Site
800MW01	29-42459	538835.263	619944.296	7/5/2000	15.00	5.00	10.00	**13.04**	0.01	
800MW02	E201015343	538740.000	620230.000	12/10/2010	20.00	5.00	15.00	12.24	0.01	
Bldg. 949										Non-IRP, Former UST Site
949MW01	29-42458	538824.008	619950.005	7/5/2000	15.00	5.00	10.00	**10.82**	0.01	

ENCLOSURE 2 of Attachment X

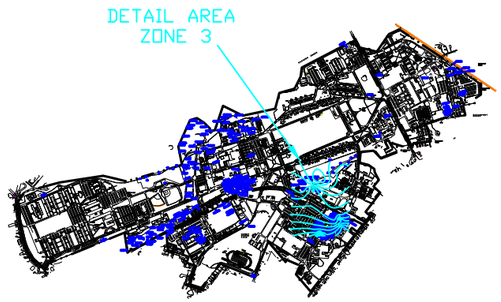
Potentiometric Surface at the 800 Area

Main Post - Groundwater Elevation Contours - Layer 1



Brinkerhoff Environmental Services, Inc.
1913 Atlantic Avenue, Suite R5
Manasquan, New Jersey 08736

Modflow Model Results

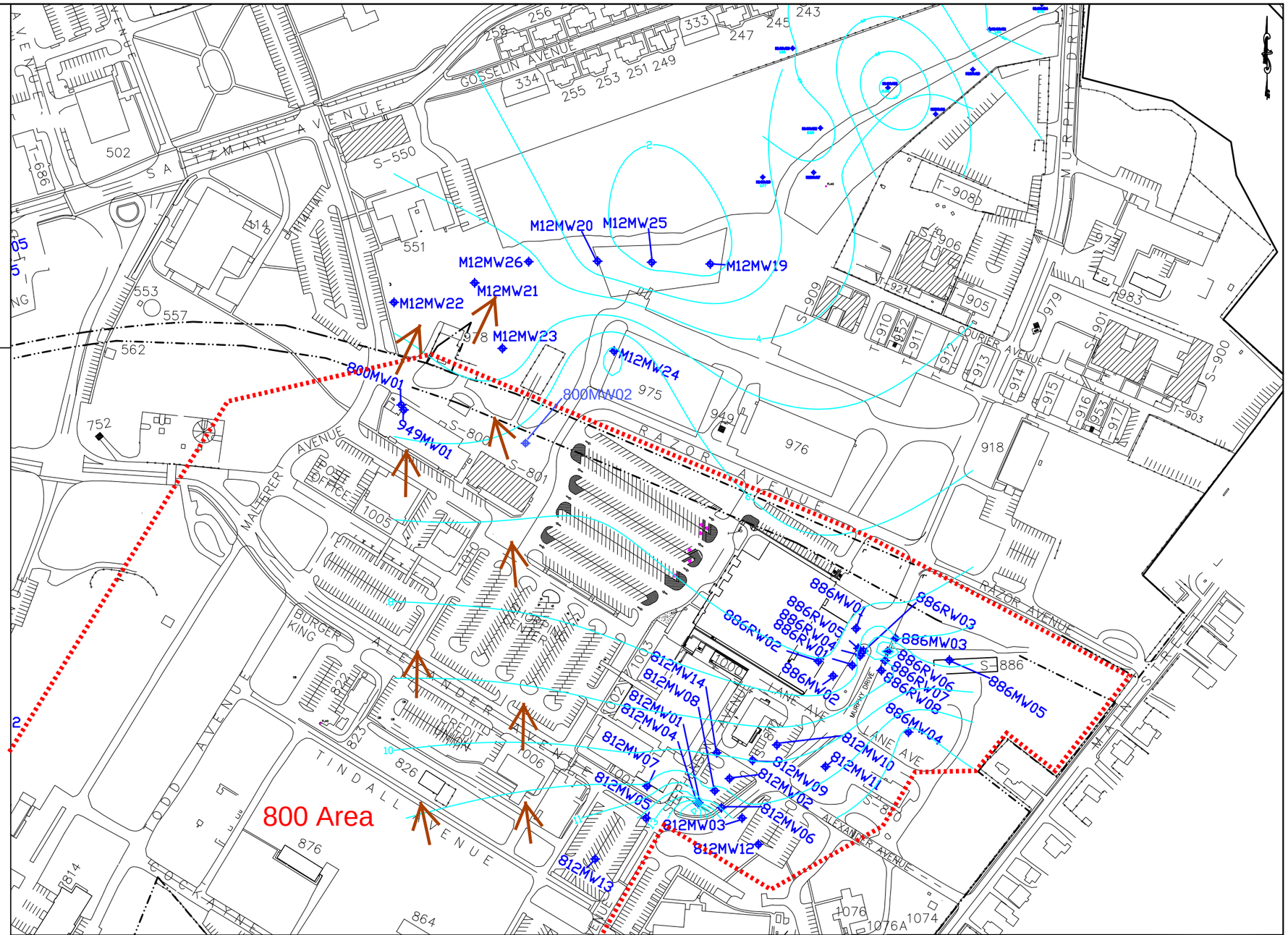


KEY MAP

0′ 1750′ 3500′

SCALE: 1”=3500′

Note: Well 949MW01 appears to be mis-located; there is only one well at this location (800MW01)



Approx. Groundwater Flow Direction

0′ 125′ 250′

SCALE: 1”=250′

LEGEND

- MONITORING WELL LOCATION
616MW01

BRINKERHOFF
ENVIRONMENTAL SERVICES, INC.

GROUNDWATER CONTOUR MAP - ZONE 3

US ARMY FORT MONMOUTH
MAIN POST
FORT MONMOUTH, NEW JERSEY

DATE:	JOB NO.:	SCALE:
4/26/10	09BR116	AS SHOWN

ENCLOSURE 3 of Attachment X

Monitoring Well Records and Boring Logs

SERIAL # 016948

DWR-133M (10/96)

Mail to

NJDEP
Bureau Water Allocation
CN 426
Trenton, NJ 08625-0426

STATE OF NEW JERSEY
DEPARTMENT OF ENVIRONMENTAL PROTECTION
TRENTON, NJ

MONITORING WELL PERMIT

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

Permit No. 294245

COORD #: 29.144 45

Owner U.S. ARMY

Address 173 RIVERSIDE AVE.
FT. MONMOUTH, N.J. 07703

Name of Facility BLDG. 800

Address 800 MALTERER AVE.
FT. MONMOUTH, N.J. 07703

Driller Lutz Environmental Co., Inc.

Address P.O. Box 1347 2020 Cinnaminson St.
Lindley, NJ 07036

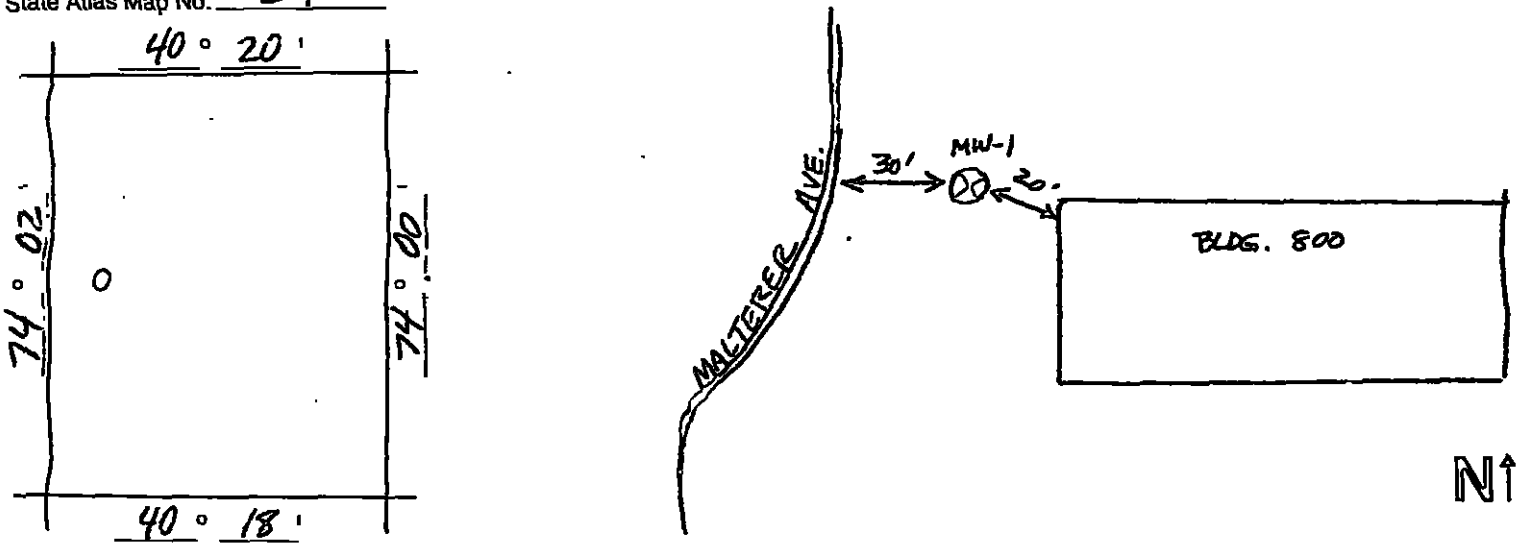
Diameter of Well(s)	4 Inches	Proposed Depth of Well(s)	20 Feet
# of Wells Applied for (max. 10)	1	Will pumping equipment be installed?	YES ☐ NO ☑
Type of Well (see reverse)	MONITOR	If Yes, give pump capacity	N/A cumulative GPM

LOCATION OF WELL(S)

Lot #	Block #	Municipality	County
N/A	N/A	OCEANPORT	MONMOUTH

State Atlas Map No. 29

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 Site
- ☐ ISRA Site
- ☐ CERCLA (Superfund) Site
- ☐ RCRA Site
- ☑ Underground Storage Tank Site
- ☐ Operational Ground Water Permit Site
- ☐ Pretreatment and Residuals Site
- ☐ Water and Hazardous Waste Enforcement Case
- ☐ Water Supply Aquifer Test Observation Well
- ☐ Other (explain) _____

CASE I.D. Number _____

This Space for Approval Stamp

WELL PERMIT APPROVED
N.J.D.E.P.
MAR 28 2000
BUREAU OF WATER ALLOCATION

FOR D.E.P. USE

- ☑ Issuance of this permit is subject to the conditions attached. (see next page)
- ☑ For monitoring purposes only
- ☐ _____
- ☑ The well(s) may not be completed with more than 25 feet of total screen or uncased borehole.

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 3-14-2000 Signature of Driller [signature] Registration No. 41444

Signature of Owner [signature]

COPIES: Water Allocation — White Health Dept. — Yellow Owner — Blue Driller — White

DWR-138 M
11/93

New Jersey Department of Environmental Protection
Bureau of Water Allocation

MONITORING WELL RECORD

Well Permit No. 29 - 42159

Atlas Sheet Coordinates 29 : 14 : 445

OWNER IDENTIFICATION - Owner U.S. ARMY
Address 173 RIVERSIDE AVE.
City FT. MONMOUTH State NJ Zip Code

WELL LOCATION - If not the same as owner please give address. Owner's Well No. MW(2)-1
County MONMOUTH Municipality OCEANPORT BORO Lot No. N/A Block No. N/A
Address CPC MALTERER AVE.

DATE WELL STARTED 7/25/00
DATE WELL COMPLETED 7/25/00

TYPE OF WELL (as per Well Permit Categories) MONITORING
Regulatory Program Requiring Well UST Case I.D.#

CONSULTING FIRM/FIELD SUPERVISOR (if applicable) Terra Vince II Tele. #

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

Static water level after drilling 7 ft.

Water level was measured using ____

Well was developed for 1/2 hours at 12 gpm

Method of development Submersible pump

Was permanent pumping equipment installed? ☐ Yes ☑ No

Pump capacity — gpm

Pump type: —

Drilling Fluid — Type of Rig Canterra 450

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	Sched. 40
Middle Casing (for triple cased wells only)					
Outer Casing (largest diameter)					
Open Hole or Screen (No. Used 010)	5	15	4	PVC	Sched. 40
Blank Casings (No. Used)					
Tail Piece					
Gravel Pack	4	15		No 1 well gravel	
Grout	0	4		Neat Cement / Bentonite	25 lbs. / 0 lbs.

Grouting Method TREMMY
Drilling Method Hugor

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 LUTZ ENVIRONMENTAL INC.
Well Driller (Print) Timothy Westover
Driller's Signature Timothy Westover
Registration No. M14446 Date 7/25/00

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations.

0-6' Roadstone and black fill.
6-15' Orangish tan sand, silt + clay.

COPIES: White - DEP Canary - Driller Pink - Owner Goldenrod - Health Dept.

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

GROUND WATER MONITORING WELL CERTIFICATION - FORM B - LOCATION CERTIFICATION

Name of Permittee: UNITED STATES ARMY
Name of Facility: FORT MONMOUTH
Location: Eatontown Borough, Monmouth county, NJ

NJPDES Permit No: NJ

LAND SURVEYOR'S CERTIFICATION

Well Permit Number (As assigned by NJDEPE's Water Allocation Section, 609-292-2957): 29-42459
This number must be permanently affixed to the well casing.
Longitude (one tenth of a second): West 74°02'31.3"
Latitude (one tenth of a second): North 40°18'42.1"
Elevation of Top of Casing (cap off) 14.13
Distance from Top of Casing (cap off) to ground 2.22
Owner's Well Number (As shown in the application or Plans): 800 MW-1
Benchmark: NJGCS Monument No. 9235
Elevation = 56.69

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.

Professional Land Surveyor's Signature

Frederick W. Kocen Jr.
Professional Land Surveyor's Name SEAL

N.J. Lic. # 34008
Professional Land Surveyor's License #

The Department reserves the right in cases of violation of permit specified ground water limits or Ground Water Quality Standards (NJAC 7:9-6.1 et seq.) to require that wells be resurveyed to an accuracy of one-hundredth of a second latitude and longitude. This shall not be considered to require a major modification of the NJPDES permit.

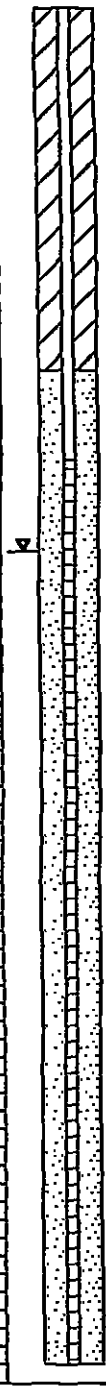
U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING 800MW01

U.S. Army
SELFM-PW-EV
JOSEPH FALLON
BUILDING 800
GROUNDWATER INVESTIGATION

NJDEP Permit #	: 29-42459	Northing	: N 538835.263
NJDEP Case #	: -	Easting	: E 619944.296
Start Date	: 7/25/00	Logged By	: Lutz Environmental Inc.
Completion Date	: 7/25/00	Driller	: Timothy Westover

Well: MW01
Elevation: 14.13



Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Samples	Blow Count
0	Tan medium to fine SAND with some stones (1 1/4')	SW		1	0
1					0
					0
2				2	0
					0
3					0
					0
4				3	0
					0
5					0
6				4	40
					40
7					40
					40
8	Gray/green fine SAND	SW		5	20.5
9					20.5
					20.5
10					20.5
	Green/gray fine SAND			6	22
11					22
					22
12					22
		SW		7	10
13					10
					10
14					10
				8	0
15					0

Well Construction Information

Well Construction

Hole Diameter	: 10 inch
Drill Method	: Hollow Stem Auger
Sampling Method	: Split Spoon

Well Casing

Material	: PVC
Diameter	: 4 inch
Joints	: Threaded
Length	: 5 feet

Well Screen

Material	: PVC
Diameter	: 4 inch
Joints	: Threaded
Opening	: 0.010 inch
Length	: 10 feet
Sand Pack	: #1 Morie Gravel
Annulus Seal	: Neat Cement/ : Bentonite

Stick up: 0 feet
Water level: 6 feet

01-28-2010 L:\Installation Restoration Program Management\Other Sites\Boring Logs\800MW01.BOR

New Jersey State Department of Environmental Protection
Bureau of Water Systems and Well Permitting
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201015343

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: BARRIE WOODINGTON, MASTER LICENSE # 0001614

Permit Issued to: TABASCO DRILLING CORP

Company Address: BOX 1676 MOUNT LAUREL, NJ 08054

PROPERTY OWNER

Name: JOSEPH FALLON

Organization: United States Army

Address: 173 Riverside Avenue

City: Fort Monmouth **State:** New Jersey **Zip Code:** 07703

PROPOSED WELL LOCATION

Facility Name: US Army Facility

Address: Lane Avenue Verified 11/23/10 KB

County: Monmouth **Municipality:** Oceanport Boro **Lot:** N/A **Block:** N/A

Easting (X): 620236 **Northing (Y):** 538701
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 800MW02

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 24, 2010
Expiration Date: November 24, 2011

Approved by the authority of:
Bob Martin
Commissioner

John Fields, Acting Bureau Chief
Bureau of Water Systems and Well Permitting

4607

MONITORING WEL RECORD

Well Permit No. E201015343

OWNER JOSEPH FALLON - United States Army
Address 173 Riverside Avenue
City Fort Monmouth, NJ 07703

WELL LOCATION US Army Facility Well No. 800MW02
County Monmouth Municipali Oceanport Boro Lot No. N/A Block No. N/A
Address Lane Avenue Verified 11/23/10 KB

DATE WELL STARTED 12/10/2010
WELL USE Monitoring DATE WELL COMPELTED 12/10/2010

WELL CONSTRUCTION
Total Depth Drilled 20 Ft.
Finished Well Depth 20 Ft.
Borehole Diameter:
Top 10 in.
Bottom 10 in.
Well finished: above grade
X flush mount
If finished above grade,casing h
(stickup) above land

Steel Protective casing installed?
X Yes No

Static Water level 8 Ft.

Depth from land surface>	to Top ft.	to Bottom ft.	Diameter(in.)	Materal	(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	5	20	4	PVC	.010
(No. Used .010)					
Blank Casings					
(No. Used)					
Tail Piece					
Gravel Pack	3	20	10	#1 & #00	450 lbs
Grout	0	3	10	Neat Cement	100 lbs
				Bentonite	lbs
				Water	6 Gals

Grouting Method Gravity Placement
Drilling Method HAS

Wtr level measure using tape
Well developed for 1 Hr.
at gpm

Method of development submersible pump
Pump Capacity gpm
Pump Type
Drilling Fluid Type of Rig Diedrich D-120
Health & Safety Plan Sumitted X Yes No
Procetion Level used (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 Corporation
Well Driller (Print) William Shinn
Driller's Signature William Shinn
Registration No. MD1289 Date 12/10/2010

GEOLOGIC LOG

Note each depth where water was encountered in consolidated formations

0 - 20 Dark Green Silty Sand

As-Built Well Location (NAD 83 Horizontal Datum)

Northing: Easting:
OR
Latitude: Longitude:

ORIGINAL: DEP COPIES: DRILLER OWNER HEALTH DEPARTMENT

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.) E201015343

Owners Well Number (As shown on application or plans): 800MW02

Geographic Coordinate NAD 83 (to nearest 1/10 of second):

Longitude: West 74° 02' 26.2" Latitude: 40° 18' 41.7"

New Jersey State Plane Coordinates NAD 83 to nearest 10 feet:

North 538,740 East 620,230

Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 12.24'

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

March 14, 2011
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

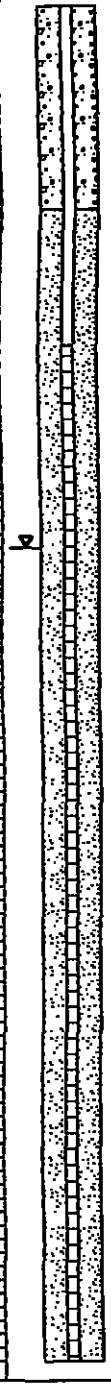
U.S.ARMY
FORT MONMOUTH
SELFM-PW-EV

LOG OF BORING 800MW02

U.S. Army
SELFM-PW-EV
JOSEPH FALLON
BUILDING 800
GROUNDWATER INVESTIGATION

NJDEP Permit #	: E201015343	Northing	: N 538740
NJDEP Case #	: -	Easting	: E 620230
Start Date	: 12/10/2010	Logged By	: Howard Syvarth
Completion Date	: 12/10/2010	Driller	: Tabasco Drilling Corp.

Well: MW02
Elevation: 12.24



Depth in Feet	DESCRIPTION	USCS	GRAPHIC	Samples	Blow Count
0	Asphalt and concrete				
1	Cinder block, fil, and fine black material				
4	Tan/green med/fine glauconitic sands with some pebbles	SW			
5	Tan med sands with trace clay and pebbles	SC			
10	Tan med sands with trace clay and pebbles	SC			
12	Light green/tan glauconitic sands with clay bands (wet at 13.5')	SC			
15	Dark green med/fine sandy clay (glauconitic clay) with high degree of plasticity	CL			
20					

Well Construction Information

Well Construction

Hole Diameter	: 10 inch
Drill Method	: Hollow Stem Auger
Sampling Method	: *Split Spoon*

Well Casing

Material	: PVC
Diameter	: 4 inch
Joints	: Threaded
Length	: *5 feet*

Well Screen

Material	: PVC
Diameter	: 4 inch
Joints	: Threaded
Opening	: *0.010 inch*
Length	: 15 feet
Sand Pack	: #1 Morie Sand
Annulus Seal	: Neat cement/ : Bentonite

Water level: 8 feet

ENCLOSURE 4 of Attachment X

800 Area Groundwater Analytical Data Reports

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: 10-127235

Bldg. /800

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Trip Blank	1020201	Aqueous	20-May-10 08:00	05/20/10
Field Blank	1020202	Aqueous	20-May-10 09:25	05/20/10
MW1	1020203	Aqueous	20-May-10 09:45	05/20/10

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL LAB.
VOA+15, %SOLIDS

ACCUTEST LABORATORIES
BN+15

Dean Tardiff/Date: 6/21/10
Laboratory Manager

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

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Section	Pages
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Continuing Calibration Summary	28-32
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Surrogate Results Summary	34
MS/MSD Results Summary	35
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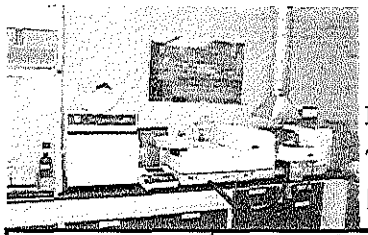
CHAIN OF CUSTODY



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: Howard Syvarth
Phone #: 29254
( )DERA ( )OMA ( )Other:_____

Project No: 10-127235
Location: Bldg 800

Samplers Name / Company: George Boyce (TVS)

Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: VOA+10	Analysis Parameters: B/N+15	Comments: Remarks / Preservation Method
10.262 01	Trip	5/20/10	0840	Ag	2	X		
02	Field Blank	"	1135	"	3	X	X	
03	MW1	"	1150	"	3	X	X	

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
George Boyce	5-20-10 1310				
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Comments:

print legibly

Page 1 of 1

new coc._1.XLS4/19/2010

000003

SAMPLE RECEIPT FORM

Date Received: 5-20-10 Work Order ID#: 5-20-10

Site/Proj. Name: Bldg 800 Cooler Temp (°C): 3.5°C

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

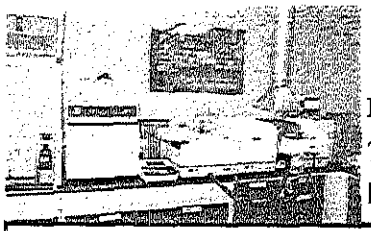
Check the appropriate box

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

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative

Comments:



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

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

Project No:
Location: Bldg. 800

Samplers Name / Company:

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: BN+15	SIMS							Comments: Remarks / Preservation Method
1020202	Field Blank	5/20/2010	11:35	AQ	1	X	X							
1020203	MW01	5/20/2010	11:50	AQ	1	X	X							

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	5-21-10 1500	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]		[signature]			

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

Comments: **PO C09-20650**

print legibly

SUBOUT FOR BN 10202 Bldg. 800._1.xls5/21/2010

000004

CONFORMANCE/ NON-CONFORMANCE SUMMARY

1020L VOA

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

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

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

Indicate
Yes, No, N/A

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

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

11. Extraction Holding Time Met — N/A

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:
_____
_____
_____

Laboratory Manager: Dean Tarca Date: 6/18/10

6/18/10

ACCUTEST. Laboratories

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Fort Monmouth Environmental Testing Lab.	**Job No**	JA47190
Site:	Building 800	**Report Date**	6/7/2010 4:20:00 PM

On 05/21/2010, 1 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 3.6 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA47190 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:** OP43735

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA47064-12MS, JA47064-12MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for bis(2-Chloroethyl)ether are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for bis(2-Chloroethyl)ether are outside control limits. Probable cause due to matrix interference.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix AQ **Batch ID:** OP43735A

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA47064-12MS, JA47064-12MSD were used as the QC samples indicated.
- Blank Spike Recovery(s) for Acenaphthene, Anthracene, Fluorene, Phenanthrene are outside control limits.
- OP43735A-BS12 for Phenanthrene: Outside of in house control limits.
- OP43735A-BS12 for Fluorene: Outside of in house control limits.
- OP43735A-BS12 for Anthracene: Outside of in house control limits.
- OP43735A-BS12 for Acenaphthene: Outside of in house control limits.

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

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

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

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 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.

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 10202 **Site:** Bldg. 800

	Date	Hold Time
Date Sampled	05/20/10	NA
Receipt/Refrigeration	05/20/10	NA

Analyses

1. Volatiles	05/26/10	14 Days
2. Semi-Volatiles	06/01,02/10	7 Days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

Definition of Qualifiers

U: The compound was analyzed for but not detected.

B: Indicates that the compound was found in the associated method blank as well as in the sample.

J: Indicates an estimated value. This flag is used:
(1) When the mass spec and retention time data indicate the presence of a compound however the result is less than the reporting limit but greater than the MDL.
(2) When estimating the concentration of a tentatively identified compound (TIC), where a 1:1 response is assumed.

D: This flag is used to identify all compounds (target or TIC) that required a dilution.

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

N: This flag is only used for TICs. It indicates the presumptive evidence of a compound. For a generic characterization of a TIC, such as unknown hydrocarbon, the flag is not used.

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

Data File	VA6517.D	Sample Name	MB05261001
Operator	ROBERTS	Field ID	METHOD 624 5/26/10
Date Acquired	26 May 2010 9:43 am	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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

MB05261001

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10202

Matrix: (soil/water) WATER Lab Sample ID: MB05261001

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA6517.D

Level: (low/med) LOW Date Received: 5/20/2010

% Moisture: not dec. Date Analyzed: 5/26/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	VA6533.D	Sample Name	1020201
Operator	ROBERTS	Field ID	800 TRIP BLANK
Date Acquired	26 May 2010 6:47 pm	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

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

800 TRIP BLANK

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10202

Matrix: (soil/water) WATER Lab Sample ID: 1020201

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA6533.D

Level: (low/med) LOW Date Received: 5/20/2010

% Moisture: not dec. Date Analyzed: 5/26/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	VA6534.D	Sample Name	1020202
Operator	ROBERTS	Field ID	800 FIELD BLANK
Date Acquired	26 May 2010 7:18 pm	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

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

800 FIELD BLANK

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10202

Matrix: (soil/water) WATER Lab Sample ID: 1020202

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA6534.D

Level: (low/med) LOW Date Received: 5/20/2010

% Moisture: not dec. Date Analyzed: 5/26/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

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

Data File	VA6535.D	Sample Name	1020203
Operator	ROBERTS	Field ID	800 MW1
Date Acquired	26 May 2010 7:49 pm	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

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

800 MW1

Lab Name: FMETL Contract:

Lab Code: 13461 Case No.: MW SAS No.: SDG No.: 10202

Matrix: (soil/water) WATER Lab Sample ID: 1020203

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA6535.D

Level: (low/med) LOW Date Received: 5/20/2010

% Moisture: not dec. Date Analyzed: 5/26/2010

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

SEMI-VOLATILE ORGANICS

Accutest Laboratories

Report of Analysis

Client Sample ID:	1020202 FIELD BLANK		
Lab Sample ID:	JA47190-1	Date Sampled:	05/20/10
Matrix:	AQ - Field Blank Water	Date Received:	05/21/10
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z55761.D	1	06/01/10	LP	05/24/10	OP43735	EZ2074
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-86-2	Acetophenone	ND	2.0	0.40	ug/l	
1912-24-9	Atrazine	ND	5.0	0.39	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.40	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.25	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	1.0	0.17	ug/l	
105-60-2	Caprolactam	ND	2.0	0.20	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.31	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.39	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.35	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.22	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.33	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.30	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.30	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.19	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.40	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.17	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.13	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.24	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.21	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.66	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.18	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	1020202 FIELD BLANK		
Lab Sample ID:	JA47190-1	Date Sampled:	05/20/10
Matrix:	AQ - Field Blank Water	Date Received:	05/21/10
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

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	67%		25-112%
321-60-8	2-Fluorobiphenyl	83%		31-106%
1718-51-0	Terphenyl-d14	49%		14-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	1020202 FIELD BLANK		
Lab Sample ID:	JA47190-1	Date Sampled:	05/20/10
Matrix:	AQ - Field Blank Water	Date Received:	05/21/10
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R80662.D	1	06/01/10	JSE	05/24/10	OP43735A	ER2996
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.029	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.039	ug/l	
120-12-7	Anthracene	ND	0.10	0.026	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.024	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.031	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.036	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.029	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.028	ug/l	
218-01-9	Chrysene	ND	0.10	0.022	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.023	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.024	ug/l	
86-73-7	Fluorene	ND	0.10	0.027	ug/l	
118-74-1	Hexachlorobenzene	ND	0.020	0.0099	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.029	ug/l	
91-20-3	Naphthalene	ND	0.10	0.019	ug/l	
85-01-8	Phenanthrene	ND	0.10	0.036	ug/l	
129-00-0	Pyrene	ND	0.10	0.022	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	105%		18-119%
321-60-8	2-Fluorobiphenyl	62%		18-104%
1718-51-0	Terphenyl-d14	46%		13-109%

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	1020203 MW01		
Lab Sample ID:	JA47190-2	Date Sampled:	05/20/10
Matrix:	AQ - Ground Water	Date Received:	05/21/10
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z55768.D	1	06/02/10	LP	05/24/10	OP43735	EZ2074
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-86-2	Acetophenone	ND	2.0	0.40	ug/l	
1912-24-9	Atrazine	ND	5.0	0.39	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.40	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.25	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	1.0	0.17	ug/l	
105-60-2	Caprolactam	ND	2.0	0.20	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.31	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.39	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.35	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.22	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.33	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.30	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.30	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.19	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.40	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.17	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.13	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.24	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.21	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.66	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.18	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	1020203 MW01		
Lab Sample ID:	JA47190-2	Date Sampled:	05/20/10
Matrix:	AQ - Ground Water	Date Received:	05/21/10
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

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	62%		25-112%
321-60-8	2-Fluorobiphenyl	75%		31-106%
1718-51-0	Terphenyl-d14	59%		14-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	unknown	18.03	23	ug/l	J
	Total TIC, Semi-Volatile		23	ug/l	J

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

Accutest Laboratories

Report of Analysis

Client Sample ID:	1020203 MW01		
Lab Sample ID:	JA47190-2	Date Sampled:	05/20/10
Matrix:	AQ - Ground Water	Date Received:	05/21/10
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	R80670.D	1	06/02/10	JSE	05/24/10	OP43735A	ER2996
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.029	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.039	ug/l	
120-12-7	Anthracene	ND	0.10	0.026	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.024	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.031	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.036	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.029	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.028	ug/l	
218-01-9	Chrysene	ND	0.10	0.022	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.023	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.024	ug/l	
86-73-7	Fluorene	ND	0.10	0.027	ug/l	
118-74-1	Hexachlorobenzene	ND	0.020	0.0099	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.029	ug/l	
91-20-3	Naphthalene	ND	0.10	0.019	ug/l	
85-01-8	Phenanthrene	ND	0.10	0.036	ug/l	
129-00-0	Pyrene	ND	0.10	0.022	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	91%		18-119%
321-60-8	2-Fluorobiphenyl	63%		18-104%
1718-51-0	Terphenyl-d14	49%		13-109%

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

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature Dean Tarca

Date: 6/24/10

Laboratory Certification # 13461

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

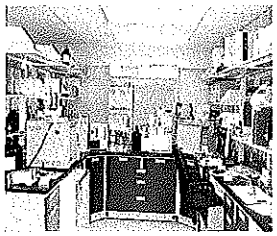
Laboratory Authentication Statement

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

Dean Tardiff 6/21/10
Dean Tardiff
Laboratory Manager

FORT MONMOUTH ENVIRONMENTAL TESTING LABORATORY

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



ANALYTICAL DATA REPORT
Fort Monmouth Environmental Laboratory
ENVIRONMENTAL DIVISION
Fort Monmouth, New Jersey
PROJECT: DERA Site

Site 800

Field Sample Location	Laboratory Sample ID#	Matrix	Date and Time of Collection	Date Received
Trip Blank	1103501	Aqueous	04-Feb-11 08:45	02/04/11
Field Blank	1103502	Aqueous	04-Feb-11 10:45	02/04/11
Duplicate	1103503	Aqueous	04-Feb-11 11:20	02/04/11
800MW02	1103504	Aqueous	04-Feb-11 11:25	02/04/11

ANALYSIS:
FORT MONMOUTH ENVIRONMENTAL TESTING LAB
VOA+15

ACCUTEST LABORATORIES
BN+15, TAL Metals

Dean Tardiff/Date: 4/1/11
Laboratory Manager

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

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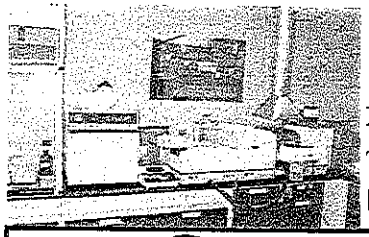
SAMPLING



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: Joe Fallon
Phone #: (732) 532-6223
( )DERA ( )OMA ( )Other:_____

Project No:
Location: 800

Samplers Name / Company: Peter Hentschel / TVS

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	VOA+10	BN+10	TAL METALS						Comments: Remarks / Preservation Method
11035 .01	Trip Blank	2/4/11	8:45	AQ	2	X								
.02	Field Blank	2/4/11	10:45	AQ	4	X	X	X						
.03	800 DUP	2/4/11	11:20	AQ	4	X	X	X						
.04	800MW02 *	2/4/11	11:25	AQ	5	X	X	X						

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	2/4/11 1330	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):

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

Comments:

print legibly

COC .xls1/5/2011

00002

SAMPLE RECEIPT FORM

Date Received: 2-4-11 Work Order ID#: 1035

Site/Proj. Name: Suite 800 Cooler Temp (°C): 23°C

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

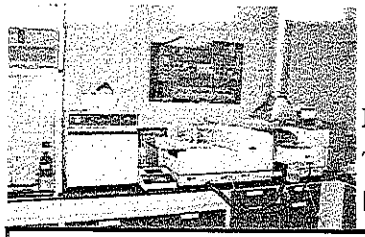
Check the appropriate box

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

Fill out the following table for each sample bottle

Lims ID	pH	Preservative	Sample ID	pH	Preservative
1035/1-4	N/A	HCl			
2-4	2	HNO3			

Comments: _____



Fort Monmouth Environmental Testing Laboratory

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

Chain of Custody Record

Customer: Dean Tardiff
Phone #: (732)532-6352
( )DERA ( )OMA ( )Other:_____

Project No:
Location: Bldg. 800

Samplers Name / Company:

LIMS/Work Order #	Sample Location	Date	Time	Sample Type	# bottles	Analysis Parameters: BN+15	SIMS	MTAL						Comments: Remarks / Preservation Method
1103502	Field Blank	2/4/2011	10:45	AQ	1	X	X	X						
1103503	Duplicate	2/4/2011	11:20	AQ	1	X	X	X						
1103504	800MW02	2/4/2011	11:25	AQ	1	X	X	X						

Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]	2/8/11 1045	[signature]			
Relinquished by (signature):	Date/Time:	Received by (signature):	Relinquished by (signature):	Date/Time:	Received by (signature):
[signature]					

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

Comments: **PO C09-20650**

800130

print legibly

SUBOUT FOR BN 11035 Site 800.xls2/7/2011

800MW02 LTM LOW FLOW CHART

DATE SAMPLED: 02/04/11

TIME (24hr mil)	DTW (ft)	FLOW (ml)	pH (su)	TEMP (°c)	DO (mg/L)	SC (mS/m)	ORP (mv)	TURB (ntu)
10:50	1.36	150	6.3	10.7	12.2	0.6	184	320.0
10:55	1.79	150	4.8	11.8	0.8	38.3	241	211.0
11:00	1.81	150	4.7	10.9	0.6	39.7	265	220.0
11:05	1.82	150	4.7	11.1	0.4	38.9	270	173.0
11:10	1.82	150	4.7	11.3	0.4	38.9	276	178.0
11:15	1.84	150	4.7	11.6	0.4	38.9	280	169.0
Sampled @ 11:20								
11:30	1.84	150	4.7	11.4	0.5	39.0	278	171.0

US ARMY FORT MONMOUTH MONITOR WELL SAMPLING

LOCATION: 800
MW #: 02
NJDEP ID # E201015343
NJDEP CERT. # 13461
SAMPLING CONTRACTOR: TECOM-VINNELL SERVICES
SAMPLER: Peter Hentschel
DATE: 02/04/11
WEATHER: Sunny and Cold
TIDE: N/A

Sampling Conducted in Accordance with TVS SOP SAM-0205

Initial Readings:

Elevation of Casing Survey Mark:	1.39 ft
Depth of Well:	19.17 ft
Height of water in well:	17.78 ft
PID/FID Reading:	ppm
Gallons of Water to be Purged:	Gal.
Formula: ht.of water x (0.163 for 2" well or 0.65 for 4" well) x 3 =	
Purge Method: Peristaltic Pump/Other (Specify)	
Purge Rate: Not to Exceed Well Draw Down of 0.5'	Gal/Min.

Purge Data:

Start Time of Purging: 10:50:00 AM
End Time of Purging: 11:15:00 AM

	Initial Value	Pre-Sample	Post-Sample
pH:	su	su	su
Temperature:	(°C)	(°C)	(°C)
Specific Conductivity:	mS/m	mS/m	mS/m
ORP:	mv	mv	mv
DO:	mg/L	mg/L	mg/L
Depth to Water Post Purge:	ft		
Depth to Water Post Sampling:	ft		
Sampling Start Time:	11:15		
Sampling End Time:	11:25		

Comments: LOW FLOW

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.

Standard Methods for the Examination of Water and Wastewater 18th 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, 3rd 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.

CONFORMANCE/ NON-CONFORMANCE SUMMARY

11035 VOA

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

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

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

Indicate
Yes, No, N/A

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

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

11. Extraction Holding Time Met — N/A

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

12. Analysis Holding Time Met — Yes

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

Additional Comments:

Laboratory Manager: [signature] Date: 4/1/11

[signature] 2/11/10

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Fort Monmouth Environmental Testing Lab.	**Job No**	JA67704
Site:	Building 800	**Report Date**	2/22/2011 10:03:05 A

On 02/08/2011, 2 Sample(s), 0 Trip Blank(s) and 1 Field Blank(s) were received at Accutest Laboratories at a temperature of 5 C. Samples were intact and properly preserved, unless noted below. An Accutest Job Number of JA67704 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:** OP48047

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA67688-1MS, JA67688-1MSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 3,3'-Dichlorobenzidine, Caprolactam are outside control limits. Probable cause due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for 3,3'-Dichlorobenzidine, Caprolactam are outside control limits. Probable cause due to matrix interference.
- Sample(s) OP48047-MS, OP48047-MSD have surrogates outside control limits. Outside of in house control limits, but within reasonable method recovery limits.

Extractables by GCMS By Method SW846 8270C BY SIM

Matrix: AQ **Batch ID:** OP48047A

- All samples were extracted within the recommended method holding time.
- Sample(s) JA67688-1MS, JA67688-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Metals By Method SW846 6010B

Matrix: AQ **Batch ID:** MP56805

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA67704-2MS, JA67704-2MSD, JA67704-2SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Antimony, Beryllium, Cadmium, Chromium, Copper, Lead, Selenium, Vanadium are outside control limits for sample MP56805-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Metals By Method SW846 7470A

Matrix: AQ **Batch ID:** MP56901

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JA67240-1MS, JA67240-1MSD were used as the QC samples for metals.

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

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

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

LABORATORY CHRONICLE

Laboratory Chronicle

Lab ID: 11035 **Site:** Bldg. 800

	Date	Hold Time
Date Sampled	02/04/11	NA
Receipt/Refrigeration	02/04/11	NA

Analyses

1. Volatiles	02/09/11	14 Days
2. Semi-Volatiles (AQ)	02/10/11	7 Days
3. TAL Metals (Accutest)	02/10,11/11	14 Days

VOLATILE ORGANICS

US ARMY FT. MONMOUTH ENVIRONMENTAL LABORATORY
NJDEP CERTIFICATION # 13461

Definition of Qualifiers

U: The compound was analyzed for but not detected.

B: Indicates that the compound was found in the associated method blank as well as in the sample.

J: Indicates an estimated value. This flag is used:
(1) When the mass spec and retention time data indicate the presence of a compound however the result is less than the reporting limit but greater than the MDL.
(2) When estimating the concentration of a tentatively identified compound (TIC), where a 1:1 response is assumed.

D: This flag is used to identify all compounds (target or TIC) that required a dilution.

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

N: This flag is only used for TICs. It indicates the presumptive evidence of a compound. For a generic characterization of a TIC, such as unknown hydrocarbon, the flag is not used.

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

Data File	VA8664.D	Sample Name	MB02091101
Operator	ROBERTS	Field ID	METHOD 624 2/9/11
Date Acquired	9 Feb 2011 10:12 am	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	3.21 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	0.98 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.64 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.11 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.17 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.17 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.27 ug/L	0.50 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	0.50 ug/L	
74-83-9	Bromomethane			not detected	10	0.37 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.32 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.15 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.15 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.32 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.12 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.26 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.14 ug/L	0.50 ug/L	
75-35-3	1,I-Dichloroethane			not detected	50	0.12 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	0.22 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.12 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.35 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.12 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.12 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.12 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.11 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.11 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.12 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.24 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.15 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.12 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.14 ug/L	0.50 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.14 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.17 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.12 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.12 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.13 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.30 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.14 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	0.50 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.14 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.16 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.15 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.13 ug/L	0.50 ug/L	

*Higher of PQLs and Ground Water Quality Criteria as per N.J.A.C. 7:9C

**The regulatory level applies to 1,3-dichloropropene, i.e. the sum of the cis-1,3-dichloropropene and trans-1,3-dichloropropene isomers

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

C:\HPCHEM\Custrpt\Volatile\2007\624FY10.CRT

2/10/2011 8:53 AM

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **MB02091101**

Lab Name: FMETL NJDEP# 13461

Project: Case No: Location: 800 SDG No.: 11035

Matrix: (soil/water) WATER Lab Sample ID: MB02091101

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA8664.D

Level: (low/med) LOW Date Received: 2/4/2011

% Moisture: not dec. Date Analyzed: 2/9/2011

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	VA8666.D	Sample Name	1103501
Operator	ROBERTS	Field ID	800 TRIP BLANK
Date Acquired	9 Feb 2011 12:18 pm	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	3.21 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	0.98 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.64 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.11 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.17 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.17 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.27 ug/L	0.50 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	0.50 ug/L	
74-83-9	Bromomethane			not detected	10	0.37 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.32 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.15 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.15 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.32 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.12 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.26 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.14 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.12 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.22 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.12 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.35 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.12 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.12 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.12 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.11 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.11 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.12 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.24 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.15 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.12 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.14 ug/L	0.50 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.14 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.17 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.12 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.12 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.13 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.30 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.14 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	0.50 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.14 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.16 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.15 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.13 ug/L	0.50 ug/L	

*Higher of PQLs and Ground Water Quality Criteria as per N.J.A.C. 7:9C

**The regulatory level applies to 1,3-dichloropropene, i.e. the sum of the cis-1,3-dichloropropene and trans-1,3-dichloropropene isomers

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

FIELD ID: **800 TRIP BLANK**

Lab Name: FMETL NJDEP# 13461

Project: Case No: Location: 800 SDG No.: 11035

Matrix: (soil/water) WATER Lab Sample ID: 1103501

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA8666.D

Level: (low/med) LOW Date Received: 2/4/2011

% Moisture: not dec. Date Analyzed: 2/9/2011

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	VA8667.D	Sample Name	1103502
Operator	ROBERTS	Field ID	800 FIELD BLANK
Date Acquired	9 Feb 2011 12:49 pm	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	3.21 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	0.98 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.64 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.11 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.17 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.17 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.27 ug/L	0.50 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	0.50 ug/L	
74-83-9	Bromomethane			not detected	10	0.37 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.32 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.15 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.15 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.32 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.12 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.26 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.14 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.12 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.22 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.12 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.35 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.12 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.12 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.12 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.11 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.11 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.12 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.24 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.15 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.12 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.14 ug/L	0.50 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.14 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.17 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.12 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.12 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.13 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.30 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.14 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	0.50 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.14 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.16 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.15 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.13 ug/L	0.50 ug/L	

*Higher of PQLs and Ground Water Quality Criteria as per N.J.A.C. 7:9C

**The regulatory level applies to 1,3-dichloropropene, i.e. the sum of the cis-1,3-dichloropropene and trans-1,3-dichloropropene isomers

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.
MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: 800 FIELD BLANK

Lab Name: FMETL NJDEP# 13461

Project: _____ Case No: _____ Location: 800 SDG No.: 11035

Matrix: (soil/water) WATER Lab Sample ID: 1103502

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA8667.D

Level: (low/med) LOW Date Received: 2/4/2011

% Moisture: not dec. _____ Date Analyzed: 2/9/2011

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	VA8668.D	Sample Name	1103503
Operator	ROBERTS	Field ID	800 DUP
Date Acquired	9 Feb 2011 1:21 pm	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result		Regulatory Level (ug/l)*	MDL		RL	Qualifiers
107028	Acrolein			not	detected	5	3.21	ug/L	5.00 ug/L	
107131	Acrylonitrile			not	detected	2	0.98	ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not	detected	100	1.64	ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not	detected	70	0.11	ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not	detected	20000	0.17	ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not	detected	1000	0.17	ug/L	0.50 ug/L	
74-87-3	Chloromethane			not	detected	nle	0.27	ug/L	0.50 ug/L	
75-01-4	Vinyl Chloride			not	detected	1	0.22	ug/L	0.50 ug/L	
74-83-9	Bromomethane			not	detected	10	0.37	ug/L	0.50 ug/L	
75-00-3	Chloroethane			not	detected	nle	0.32	ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not	detected	2000	0.15	ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not	detected	1	0.15	ug/L	0.50 ug/L	
67-64-1	Acetone			not	detected	6000	0.32	ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not	detected	700	0.12	ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not	detected	3	0.26	ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not	detected	100	0.14	ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not	detected	50	0.12	ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not	detected	7000	0.20	ug/L	0.50 ug/L	
78-93-3	2-Butanone			not	detected	300	0.22	ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not	detected	70	0.12	ug/L	0.50 ug/L	
67-66-3	Chloroform			not	detected	70	0.35	ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not	detected	30	0.12	ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not	detected	1	0.12	ug/L	0.50 ug/L	
71-43-2	Benzene			not	detected	1	0.12	ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not	detected	2	0.11	ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not	detected	1	0.11	ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not	detected	1	0.12	ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not	detected	1	0.12	ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not	detected	nle	0.24	ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not	detected	1**	0.13	ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not	detected	nle	0.15	ug/L	0.50 ug/L	
108-88-3	Toluene			not	detected	1000	0.12	ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not	detected	1**	0.13	ug/L	0.50 ug/L	
79-00-5	1,1,2-Trichloroethane			not	detected	3	0.14	ug/L	0.50 ug/L	
127-18-4	Tetrachloroethene			not	detected	1	0.14	ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not	detected	nle	0.17	ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not	detected	1	0.12	ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not	detected	50	0.12	ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not	detected	700	0.12	ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not	detected	1	0.13	ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not	detected	nle	0.30	ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not	detected	nle	0.14	ug/L	0.50 ug/L	
100-42-5	Styrene			not	detected	100	0.14	ug/L	0.50 ug/L	
75-25-2	Bromoform			not	detected	4	0.14	ug/L	0.50 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not	detected	1	0.14	ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not	detected	600	0.16	ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not	detected	75	0.15	ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not	detected	600	0.13	ug/L	0.50 ug/L	

*Higher of PQLs and Ground Water Quality Criteria as per N.J.A.C. 7:9C

**The regulatory level applies to 1,3-dichloropropene, i.e. the sum of the cis-1,3-dichloropropene and trans-1,3-dichloropropene isomers

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.

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

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **800 DUP**

Lab Name: FMETL NJDEP# 13461

Project: Case No: Location: 800 SDG No.: 11035

Matrix: (soil/water) WATER Lab Sample ID: 1103503

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA8668.D

Level: (low/med) LOW Date Received: 2/4/2011

% Moisture: not dec. Date Analyzed: 2/9/2011

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	VA8669.D	Sample Name	1103504
Operator	ROBERTS	Field ID	800 MW#02
Date Acquired	9 Feb 2011 1:52 pm	Sample Multiplier	1

CAS#	Compound Name	R.T.	Response	Result	Regulatory Level (ug/l)*	MDL	RL	Qualifiers
107028	Acrolein			not detected	5	3.21 ug/L	5.00 ug/L	
107131	Acrylonitrile			not detected	2	0.98 ug/L	5.00 ug/L	
75650	tert-Butyl alcohol			not detected	100	1.64 ug/L	5.00 ug/L	
1634044	Methyl-tert-Butyl ether			not detected	70	0.11 ug/L	0.50 ug/L	
108203	Di-isopropyl ether			not detected	20000	0.17 ug/L	0.50 ug/L	
75718	Dichlorodifluoromethane			not detected	1000	0.17 ug/L	0.50 ug/L	
74-87-3	Chloromethane			not detected	nle	0.27 ug/L	0.50 ug/L	
75-01-4	Vinyl Chloride			not detected	1	0.22 ug/L	0.50 ug/L	
74-83-9	Bromomethane			not detected	10	0.37 ug/L	0.50 ug/L	
75-00-3	Chloroethane			not detected	nle	0.32 ug/L	0.50 ug/L	
75-69-4	Trichlorofluoromethane			not detected	2000	0.15 ug/L	0.50 ug/L	
75-35-4	1,1-Dichloroethene			not detected	1	0.15 ug/L	0.50 ug/L	
67-64-1	Acetone			not detected	6000	0.32 ug/L	0.50 ug/L	
75-15-0	Carbon Disulfide			not detected	700	0.12 ug/L	0.50 ug/L	
75-09-2	Methylene Chloride			not detected	3	0.26 ug/L	0.50 ug/L	
156-60-5	trans-1,2-Dichloroethene			not detected	100	0.14 ug/L	0.50 ug/L	
75-35-3	1,1-Dichloroethane			not detected	50	0.12 ug/L	0.50 ug/L	
108-05-4	Vinyl Acetate			not detected	7000	0.20 ug/L	0.50 ug/L	
78-93-3	2-Butanone			not detected	300	0.22 ug/L	0.50 ug/L	
156-59-2	cis-1,2-Dichloroethene			not detected	70	0.12 ug/L	0.50 ug/L	
67-66-3	Chloroform			not detected	70	0.35 ug/L	0.50 ug/L	
75-55-6	1,1,1-Trichloroethane			not detected	30	0.12 ug/L	0.50 ug/L	
56-23-5	Carbon Tetrachloride			not detected	1	0.12 ug/L	0.50 ug/L	
71-43-2	Benzene			not detected	1	0.12 ug/L	0.50 ug/L	
107-06-2	1,2-Dichloroethane			not detected	2	0.11 ug/L	0.50 ug/L	
79-01-6	Trichloroethene			not detected	1	0.11 ug/L	0.50 ug/L	
78-87-5	1,2-Dichloropropane			not detected	1	0.12 ug/L	0.50 ug/L	
75-27-4	Bromodichloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
110-75-8	2-Chloroethyl vinyl ether			not detected	nle	0.24 ug/L	0.50 ug/L	
10061-01-5	cis-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
108-10-1	4-Methyl-2-Pentanone			not detected	nle	0.15 ug/L	0.50 ug/L	
108-88-3	Toluene			not detected	1000	0.12 ug/L	0.50 ug/L	
10061-02-6	trans-1,3-Dichloropropene			not detected	1**	0.13 ug/L	0.50 ug/L	
79-00-5	1,1,2-Trichloroethane			not detected	3	0.14 ug/L	0.50 ug/L	
127-18-4	Tetrachloroethene			not detected	1	0.14 ug/L	0.50 ug/L	
591-78-6	2-Hexanone			not detected	nle	0.17 ug/L	0.50 ug/L	
126-48-1	Dibromochloromethane			not detected	1	0.12 ug/L	0.50 ug/L	
108-90-7	Chlorobenzene			not detected	50	0.12 ug/L	0.50 ug/L	
100-41-4	Ethylbenzene			not detected	700	0.12 ug/L	0.50 ug/L	
630-20-6	1,1,1,2-tetrachloroethane			not detected	1	0.13 ug/L	0.50 ug/L	
1330-20-7	m+p-Xylenes			not detected	nle	0.30 ug/L	1.00 ug/L	
1330-20-7	o-Xylene			not detected	nle	0.14 ug/L	0.50 ug/L	
100-42-5	Styrene			not detected	100	0.14 ug/L	0.50 ug/L	
75-25-2	Bromoform			not detected	4	0.14 ug/L	0.50 ug/L	
79-34-5	1,1,2,2-Tetrachloroethane			not detected	1	0.14 ug/L	0.50 ug/L	
541-73-1	1,3-Dichlorobenzene			not detected	600	0.16 ug/L	0.50 ug/L	
106-46-7	1,4-Dichlorobenzene			not detected	75	0.15 ug/L	0.50 ug/L	
95-50-1	1,2-Dichlorobenzene			not detected	600	0.13 ug/L	0.50 ug/L	

*Higher of PQLs and Ground Water Quality Criteria as per N.J.A.C. 7:9C

**The regulatory level applies to 1,3-dichloropropene, i.e. the sum of the cis-1,3-dichloropropene and trans-1,3-dichloropropene isomers

Qualifiers

B = Compound found in related blank
E = Value above linear range
D = Value from dilution
PQL = Practical Quantitation Limit
J= Estimated concentration, value falls between R.L. and M.D.L.
MDL = Method Detection Limit
NLE = No Limit Established
R.T. = Retention Time
R.L. = Reporting Limit

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

FIELD ID: **800 MW#02**

Lab Name: FMETL NJDEP# 13461

Project: Case No: Location: 800 SDG No.: 11035

Matrix: (soil/water) WATER Lab Sample ID: 1103504

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VA8669.D

Level: (low/med) LOW Date Received: 2/4/2011

% Moisture: not dec. Date Analyzed: 2/9/2011

GC Column: RTX-VM ID: 0.25 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

Number TICs found: 0

CAS NO.	COMPOUND NAME	RT	EST. CONC.	Q

SEMI-VOLATILE ORGANICS

Report of Analysis

Client Sample ID:	1103502 FIELD BLANK		
Lab Sample ID:	JA67704-1	Date Sampled:	02/04/11
Matrix:	AQ - Field Blank Water	Date Received:	02/08/11
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F94933.D	1	02/10/11	LP	02/09/11	OP48047	EF4433
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-86-2	Acetophenone	ND	2.0	0.40	ug/l	
1912-24-9	Atrazine	ND	5.0	0.39	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.40	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.25	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	1.0	0.17	ug/l	
105-60-2	Caprolactam	ND	2.0	0.20	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.31	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.39	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.35	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.22	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.33	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.30	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.30	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.19	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.40	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.17	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.13	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.24	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.21	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.66	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.18	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.25	ug/l	

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

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Report of Analysis

Client Sample ID:	1103502 FIELD BLANK		
Lab Sample ID:	JA67704-1	Date Sampled:	02/04/11
Matrix:	AQ - Field Blank Water	Date Received:	02/08/11
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.44	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	86%		25-112%
321-60-8	2-Fluorobiphenyl	83%		31-106%
1718-51-0	Terphenyl-d14	73%		14-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

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

Report of Analysis

Client Sample ID:	1103502 FIELD BLANK		
Lab Sample ID:	JA67704-1	Date Sampled:	02/04/11
Matrix:	AQ - Field Blank Water	Date Received:	02/08/11
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M23600.D	1	02/10/11	NAP	02/09/11	OP48047A	E4M1032
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.011	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.011	ug/l	
120-12-7	Anthracene	ND	0.10	0.0084	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.0098	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.016	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.0095	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.010	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.013	ug/l	
218-01-9	Chrysene	ND	0.10	0.011	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.019	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.0081	ug/l	
86-73-7	Fluorene	ND	0.10	0.0090	ug/l	
118-74-1	Hexachlorobenzene	ND	0.020	0.010	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.016	ug/l	
91-20-3	Naphthalene	ND	0.10	0.012	ug/l	
85-01-8	Phenanthrene	ND	0.10	0.0094	ug/l	
129-00-0	Pyrene	ND	0.10	0.012	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	91%		32-135%
321-60-8	2-Fluorobiphenyl	82%		31-121%
1718-51-0	Terphenyl-d14	83%		10-130%

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:	1103503 DUPLICATE		
Lab Sample ID:	JA67704-2	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F94934.D	1	02/10/11	LP	02/09/11	OP48047	EF4433
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-86-2	Acetophenone	ND	2.0	0.40	ug/l	
1912-24-9	Atrazine	ND	5.0	0.39	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.40	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.25	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	1.0	0.17	ug/l	
105-60-2	Caprolactam	ND	2.0	0.20	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.31	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.39	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.35	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.22	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.33	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.30	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.30	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.19	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.40	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.17	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.13	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.24	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.21	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.66	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.18	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.25	ug/l	

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

Report of Analysis

Client Sample ID:	1103503 DUPLICATE		
Lab Sample ID:	JA67704-2	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.44	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	88%		25-112%
321-60-8	2-Fluorobiphenyl	84%		31-106%
1718-51-0	Terphenyl-d14	58%		14-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

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

Report of Analysis

Client Sample ID:	1103503 DUPLICATE		
Lab Sample ID:	JA67704-2	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M23601.D	1	02/10/11	NAP	02/09/11	OP48047A	E4M1032
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.011	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.011	ug/l	
120-12-7	Anthracene	ND	0.10	0.0084	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.0098	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.016	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.0095	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.010	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.013	ug/l	
218-01-9	Chrysene	ND	0.10	0.011	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.019	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.0081	ug/l	
86-73-7	Fluorene	ND	0.10	0.0090	ug/l	
118-74-1	Hexachlorobenzene	ND	0.020	0.010	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.016	ug/l	
91-20-3	Naphthalene	0.151	0.10	0.012	ug/l	
85-01-8	Phenanthrene	0.140	0.10	0.0094	ug/l	
129-00-0	Pyrene	ND	0.10	0.012	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	95%		32-135%
321-60-8	2-Fluorobiphenyl	88%		31-121%
1718-51-0	Terphenyl-d14	65%		10-130%

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:	1103504 800MW02		
Lab Sample ID:	JA67704-3	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	F94935.D	1	02/10/11	LP	02/09/11	OP48047	EF4433
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-86-2	Acetophenone	ND	2.0	0.40	ug/l	
1912-24-9	Atrazine	ND	5.0	0.39	ug/l	
100-52-7	Benzaldehyde	ND	5.0	0.40	ug/l	
101-55-3	4-Bromophenyl phenyl ether	ND	2.0	0.35	ug/l	
85-68-7	Butyl benzyl phthalate	ND	2.0	0.25	ug/l	
92-52-4	1,1'-Biphenyl	ND	1.0	0.42	ug/l	
91-58-7	2-Chloronaphthalene	ND	2.0	0.42	ug/l	
106-47-8	4-Chloroaniline	ND	5.0	0.25	ug/l	
86-74-8	Carbazole	ND	1.0	0.17	ug/l	
105-60-2	Caprolactam	ND	2.0	0.20	ug/l	
111-91-1	bis(2-Chloroethoxy)methane	ND	2.0	0.25	ug/l	
111-44-4	bis(2-Chloroethyl)ether	ND	2.0	0.31	ug/l	
108-60-1	bis(2-Chloroisopropyl)ether	ND	2.0	0.39	ug/l	
7005-72-3	4-Chlorophenyl phenyl ether	ND	2.0	0.35	ug/l	
121-14-2	2,4-Dinitrotoluene	ND	2.0	0.22	ug/l	
606-20-2	2,6-Dinitrotoluene	ND	2.0	0.33	ug/l	
91-94-1	3,3'-Dichlorobenzidine	ND	5.0	0.30	ug/l	
132-64-9	Dibenzofuran	ND	5.0	0.30	ug/l	
84-74-2	Di-n-butyl phthalate	ND	2.0	0.19	ug/l	
117-84-0	Di-n-octyl phthalate	ND	2.0	0.40	ug/l	
84-66-2	Diethyl phthalate	ND	2.0	0.17	ug/l	
131-11-3	Dimethyl phthalate	ND	2.0	0.23	ug/l	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	2.0	0.33	ug/l	
87-68-3	Hexachlorobutadiene	ND	1.0	0.13	ug/l	
77-47-4	Hexachlorocyclopentadiene	ND	20	0.24	ug/l	
67-72-1	Hexachloroethane	ND	2.0	0.21	ug/l	
78-59-1	Isophorone	ND	2.0	0.25	ug/l	
91-57-6	2-Methylnaphthalene	ND	1.0	0.66	ug/l	
88-74-4	2-Nitroaniline	ND	5.0	0.24	ug/l	
99-09-2	3-Nitroaniline	ND	5.0	0.29	ug/l	
100-01-6	4-Nitroaniline	ND	5.0	0.18	ug/l	
98-95-3	Nitrobenzene	ND	2.0	0.25	ug/l	

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

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Report of Analysis

Client Sample ID:	1103504 800MW02		
Lab Sample ID:	JA67704-3	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
Method:	SW846 8270C SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

BN TCL42 List

CAS No.	Compound	Result	RL	MDL	Units	Q
621-64-7	N-Nitroso-di-n-propylamine	ND	2.0	0.44	ug/l	
86-30-6	N-Nitrosodiphenylamine	ND	5.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	91%		25-112%
321-60-8	2-Fluorobiphenyl	87%		31-106%
1718-51-0	Terphenyl-d14	59%		14-122%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Semi-Volatile		0	ug/l	

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

Report of Analysis

Client Sample ID:	1103504 800MW02		
Lab Sample ID:	JA67704-3	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
Method:	SW846 8270C BY SIM SW846 3510C	Percent Solids:	n/a
Project:	Building 800		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4M23602.D	1	02/10/11	NAP	02/09/11	OP48047A	E4M1032
Run #2							

	Initial Volume	Final Volume
Run #1	1000 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	0.10	0.011	ug/l	
208-96-8	Acenaphthylene	ND	0.10	0.011	ug/l	
120-12-7	Anthracene	ND	0.10	0.0084	ug/l	
56-55-3	Benzo(a)anthracene	ND	0.10	0.0098	ug/l	
50-32-8	Benzo(a)pyrene	ND	0.10	0.016	ug/l	
205-99-2	Benzo(b)fluoranthene	ND	0.10	0.0095	ug/l	
191-24-2	Benzo(g,h,i)perylene	ND	0.10	0.010	ug/l	
207-08-9	Benzo(k)fluoranthene	ND	0.10	0.013	ug/l	
218-01-9	Chrysene	ND	0.10	0.011	ug/l	
53-70-3	Dibenzo(a,h)anthracene	ND	0.10	0.019	ug/l	
206-44-0	Fluoranthene	ND	0.10	0.0081	ug/l	
86-73-7	Fluorene	ND	0.10	0.0090	ug/l	
118-74-1	Hexachlorobenzene	ND	0.020	0.010	ug/l	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.10	0.016	ug/l	
91-20-3	Naphthalene	0.150	0.10	0.012	ug/l	
85-01-8	Phenanthrene	0.136	0.10	0.0094	ug/l	
129-00-0	Pyrene	ND	0.10	0.012	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	96%		32-135%
321-60-8	2-Fluorobiphenyl	87%		31-121%
1718-51-0	Terphenyl-d14	62%		10-130%

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

TAL
METALS

(ACCUTEST)

Report of Analysis

Client Sample ID:	1103502 FIELD BLANK		
Lab Sample ID:	JA67704-1	Date Sampled:	02/04/11
Matrix:	AQ - Field Blank Water	Date Received:	02/08/11
		Percent Solids:	n/a
Project:	Building 800		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	< 200	200	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Antimony	< 6.0	6.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Arsenic	< 3.0	3.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Beryllium	< 1.0	1.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Cadmium	< 3.0	3.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Calcium	< 5000	5000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Copper	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Iron	< 100	100	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Lead	< 3.0	3.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Magnesium	< 5000	5000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Manganese	< 15	15	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Mercury	< 0.20	0.20	ug/l	1	02/21/11	02/21/11	JW	SW846 7470A [2]	SW846 7470A [4]
Nickel	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Potassium	< 10000	10000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Sodium	< 10000	10000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Thallium	< 2.0	2.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Vanadium	< 50	50	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Zinc	< 20	20	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA25806
(2) Instrument QC Batch: MA25851
(3) Prep QC Batch: MP56805
(4) Prep QC Batch: MP56901

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1103503 DUPLICATE		
Lab Sample ID:	JA67704-2	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
		Percent Solids:	n/a
Project:	Building 800		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	300	200	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Antimony	< 6.0	6.0	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Arsenic	4.1	3.0	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Beryllium	< 1.0	1.0	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Cadmium	< 3.0	3.0	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Calcium	13800	5000	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Copper	< 10	10	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Iron	8710	100	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Lead	3.7	3.0	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Magnesium	5570	5000	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Manganese	180	15	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Mercury	< 0.20	0.20	ug/l	1	02/21/11	02/21/11	JW	SW846 7470A [2]	SW846 7470A [4]
Nickel	16.9	10	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Potassium	< 10000	10000	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Sodium	35500	10000	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Thallium	< 2.0	2.0	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Vanadium	< 50	50	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]
Zinc	130	20	ug/l	1	02/10/11	02/10/11	VC	SW846 6010B [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA25806
(2) Instrument QC Batch: MA25851
(3) Prep QC Batch: MP56805
(4) Prep QC Batch: MP56901

RL = Reporting Limit

Report of Analysis

Client Sample ID:	1103504 800MW02		
Lab Sample ID:	JA67704-3	Date Sampled:	02/04/11
Matrix:	AQ - Water	Date Received:	02/08/11
		Percent Solids:	n/a
Project:	Building 800		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	290	200	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Antimony	< 6.0	6.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Arsenic	4.1	3.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Beryllium	< 1.0	1.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Cadmium	< 3.0	3.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Calcium	13300	5000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Cobalt	< 50	50	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Copper	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Iron	8220	100	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Lead	3.5	3.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Magnesium	5190	5000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Manganese	172	15	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Mercury	< 0.20	0.20	ug/l	1	02/21/11	02/21/11	JW	SW846 7470A [2]	SW846 7470A [4]
Nickel	16.0	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Potassium	< 10000	10000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Selenium	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Sodium	35600	10000	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Thallium	< 2.0	2.0	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Vanadium	< 50	50	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]
Zinc	125	20	ug/l	1	02/10/11	02/11/11	VC	SW846 6010B [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA25806
(2) Instrument QC Batch: MA25851
(3) Prep QC Batch: MP56805
(4) Prep QC Batch: MP56901

RL = Reporting Limit

LABORATORY DELIVERABLES CHECKLIST AND NON-CONFORMANCE SUMMARY

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

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

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

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

Laboratory Manager or Environmental Consultant's Signature [signature] 4/1/11
Date: 4/1/11

Laboratory Certification # 13461

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

Laboratory Authentication Statement

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

Dean Tardiff
Laboratory Manager

4/1/11